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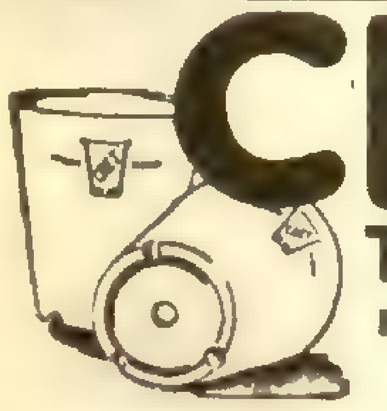

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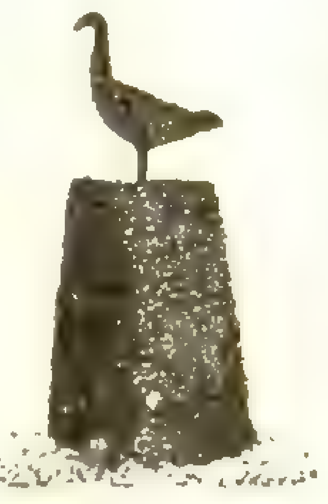

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"BLUE" ORCHIDS.

TO respond literally to an invitation to write on "Blue Orchids" would be a simple task, for I know of no truly Blue Orchid save the lovely Vanda coerulea, and even this seems so self-conscious of its solitary isolation or fearful of being thought a freak, that its colour is but fleeting, possibly even artificial. A new species may yet be discovered to surprise the Orchid world and help the hybridist; or, to the marvels of hybridisation already accomplished, a cross may be added between this beautiful Vanda and some other species, resulting in a series of genuinely blue Orchids. But if Vanda coerulea is the only "blue" amongst Orchids, it is a truly magnificent representative, admired by all. Some regard as blue the pretty Dendrobium Victoria Regina, but it requires the imagination of Shakespeare, who wrote of "Daisies pied and Violets blue," or of the author of "The Rose is red, the Violet blue."

But, no doubt, I am expected to include the more nebulous forms usually designated "coerulea" or "coerulescens." To attempt to arouse amongst the fraternity of Orchid experts appreciative enthusiasm of these would be a hopeless task—about as easy as to enthuse an active-service hero by an article upon the merits of the non-combatant corps, with special reference to the Conscientious Objector! These so-called Blue Orchids are not in fashion. The expert fixes a standard which includes size, substance and, with the exception of the albino, strong, striking, or gorgeous colourings—just the qualities which the "blues" lack. Nevertheless if, as a consequence of arbitrary fashion, they are not allowed their place in the sun, and find themselves unable to live amongst their giant and coloured relatives, their flowers are unique and delicate, and they produce most beautiful effects in floral decoration. One of my Orchid houses, in which were arranged numerous flowering varieties of the type last November, proved a revelation to some of my Orchid friends. Still, I am under no misconception as to the Orchid world's estimate of these coerulean types, and when Orchid groups have to be submitted to the judgment of the expert it is prudent to leave one's Blue Orchids in lone glory at home. But they have their friends and admirers amongst lovers of flowers, if not amongst lovers of Orchids, as I have proved by the test of an occasional group at Vincent Square. However, let no one introduce Blue Orchids into their gardens in the fond hope that they will bring fame or fortune. Their very name invites disappointment, although appropriate enough if we remember that skies are as often leaden or silvery as blue. Perhaps "heavenly" was intended by the designation coerulean. They must be numbered amongst the many beauties in nature which are lovable for their modesty: subdued and delicate in colour and graceful in pose, they are essentially flowers for those of aesthetic and refined tastes, who find joy and rest in the contemplation of the unobtrusive. Perhaps it is on the principle of homoeopathy that the atmosphere of the Blue Orchid can be prescribed as a cure for a fit of the "blues."

To the hybridist Blue Orchids are of distinct interest. Crossed together, the resulting hybrids usually come true to colour. I have raised in quantities Cattleya Portia coerulea (Bowringiana violacea × labiata coerulea), C. Ariel coerulea (Bowringiana lilacina × Gaskelliana coerulescens), and C. Alcimeda coerulea (labiata coerulea × Gaskelliana coerulescens), with the usual variation in shape and size, but little variation in colour. But, as might be expected, when

FIG. 1.—CATTLEYA BOWRINGIANA LILACINA.

crossed with coloured varieties they lose their individuality of colour, e.g., I have raised C. labiata Amesiana crossed with C. labiata coerulea, and the resulting hybrid, although coerulean to a degree, evidences a warmth foreign to the true coerulean type. In other ways they are proving good parents. C. Blanche, raised in my collection between C. labiata coerulea and C. maxima gigantea, although it has completely lost all trace of coerulean tint, has acquired a beauty of shape and refinement which makes it highly attractive. I have recently seen a C. Blanche raised by an Orchid friend from a C. labiata of the recognised type, which gives a flower of fine size and substance at the expense of beauty. But Brasso-Laelio-Cattleya Antoinette (C. Portia coerulea × B.-L. Helen), raised in my collection, which recently secured the R.H.S. First-class Certificate and was illustrated in *Gard. Chron.*, December 7, 1918, provides an agreeable surprise. Unique in comparative size of lip and petals, the result is remarkable and unexpected, the bright, rosy-mauve colour giving at a glance no suspicion of "blue," but a close inspection suggests that under the surface-colour is a ground of blue, which may account for its superior richness of colour. A further peculiarity is the almost complete disappearance of Brassavola. If hybridists attempt to rival this novelty they should not forget that the C. Bowringiana parent of the C. Portia used is distinct and fine, but the result achieved would suggest that when the finer C. Ariel coeruleas are used, we may look for a series of desirable hybrids with broad petals and open lips, although there seems no reason why the ordinary reds should not produce equally good results, provided the parents are well chosen and similarly shaped. What may result from crossing the "blues" with yellows and whites has not yet been satisfactorily proved. One would not be sanguine of avoiding a muddy colour.

Just as there are albino forms of most species, so blue types are by no means rare. In my collection I have three quite distinct blue forms of C. Bowringiana (one of these is illustrated in fig. 1), differing from each other in size, colour and shape. In many species the blue appears only as a blotch on the lip, or merely a pencilling in the throat. Every Orchid grower will be familiar with various blue forms of C. Mossiae, C. Mendelii, C. Trianae, C. labiata, and Laelia pumila. As with the albinos, these varietal forms often prove difficult subjects in cultivation, following the law of nature, which creates the delicate and refined more wayward than the robust. No comprehensive list of blue Orchids can be given, with the uncertainty of what to include and what to exclude. For instance, should the pretty and floriferous Odontoglossum Edwardii be included? It is as blue as a Violet and as many other Orchids designated blue. Many of the Odontoglossums, too, have a suspicion of blue. But amongst the so-called blue which occur to me, besides those already mentioned, are: Vanda coerulescens, Bollea coelestis, Rhyncostylis coelestis, Aspasia odorata, Galeandra devoniana, Calanthe Masuca, Schlimmia trifida, and Miltonia Phalaenopsis. So far as my collection is concerned, we treasure a Cattleya Trianae with a very dark lip, Dendrobium Phalaenopsis Schröderiana Gatton Park var., Laelia pumila Gatton Park var., and the very lovely Cattleya Mendelii Lady Colman.

I have endeavoured to write something interesting, something practical, and something historic. For beauty and refinement the Blue

Orchids have no superiors. Certain of the types are so floriferous and easy to grow that they would prove a valuable acquisition to those who supply florists' flowers. Were these coerulean types procurable, the florist would find them invaluable, as, in combination with suitable flowers and foliage, novel and varied effects could be produced in bouquets and decoration which would never fail to harmonise with their surroundings, as is too frequently the case where rich colours are introduced. *Jeremiah Colman (Chairman of the R.H.S. Orchid Committee), Gatton Park, Surrey.*

THE ROSARY.

A NEW DISCOVERY CONCERNING BLACK SPOT DISEASE.

My recent article on the control of Rose diseases has produced a crop of correspondence which seems to show that disease was particularly prevalent in 1918 in many gardens. None of my letters, however, has proved more interesting than one I received from Mr. N. L. Alcock, of Kew, who has very kindly forwarded to me a paper which he contributed to the *Kew Bulletin* (No. 6, 1918) on the life-history of the Rose Blotch Fungus, which is known to most of us as Black Spot.

Many rosarians have endeavoured to ascertain how the fungus of this disease lives through the winter, in order that steps may be taken to destroy it before it begins its baleful work in the following summer. The view most commonly accepted is that the spores of the disease which appear on the leaves fall to the ground with them and are left dormant in the soil until the warm weather of the next summer wakes them to life, and on this hypothesis attempts have from time to time been made, not, I think, wholly without success, to get rid of the disease either by wholesale removal of the top 3 inches of soil; by sterilising it mechanically, or by burying it deeply below the surface. The collection and burning of all diseased leaves has also been frequently recommended.

Mr. Alcock throws some doubt on the effectiveness of these methods. At the same time he finds that infected leaves which had remained green throughout the winter may preserve abundant spores of the disease, and he therefore considers that the collection and burning of these green leaves constitutes a valuable measure for controlling the disease.

He has, however, made an important discovery in the life-history of the fungus.

When pruning Roses in the spring patches of discoloured tissue were noticed on the young wood of the previous season, apparently caused by some fungus. On examination these were found to contain abundant mycelium and compact masses of fungus tissue bearing spores of Actinonema rosae (i.e., Black Spot).

The infected parts present a blackened, blistered appearance, dotted wih pustules; the mycelium was itself colourless and was confined to the cortex, where it developed considerably and killed the tissues. In spring the mycelium gives rise to conidiophores, which bear spores precisely similar to those formed on the leaves. Mr. Alcock considers that his discovery of the winter stage of the disease on the wood necessitates a modification in the methods of controlling the disease, and that something may be done by careful pruning. He points out that the requirements of different groups of Roses will have to be studied, in addition to the necessity of removing all affected wood.

So far as he has observed, the old pustules on the two-year-old wood become effete and do not bear spores. It follows, therefore, that attention need only be concentrated on the wood of the previous season. He warns us also to remember that it is not all brown specks and spots on Rose-wood that are caused by Actinonema (Black Spot), and suggests that in case of doubt they should be examined under the microscope.

Moreover, he wisely recognises that in spite of careful pruning some pustules on affected trees are almost certain to escape detection, and, further, that spores might be brought by the wind from neighbouring gardens. It is therefore important not to omit spraying or dusting with fungicide and to begin doing this early, to prevent the fungus obtaining entry into the leaves, as when once this has been effected the mycelium continues to grow between the tissues and the blotches inevitably follow.

Mr. Alcock's discovery of the winter stage of the disease is undoubtedly of considerable interest and importance to Rose growers, and if it should turn out to be the case that this is the chief or sole method of the preservation of the fungus from one season to another it should be of great assistance towards enabling us to free our gardens from this troublesome pest, which is so fatal to our autumn Roses. But most of us have discovered that there is no royal road to success in Rose-growing that will supplant unremitting attention and observation. *White Rose.*

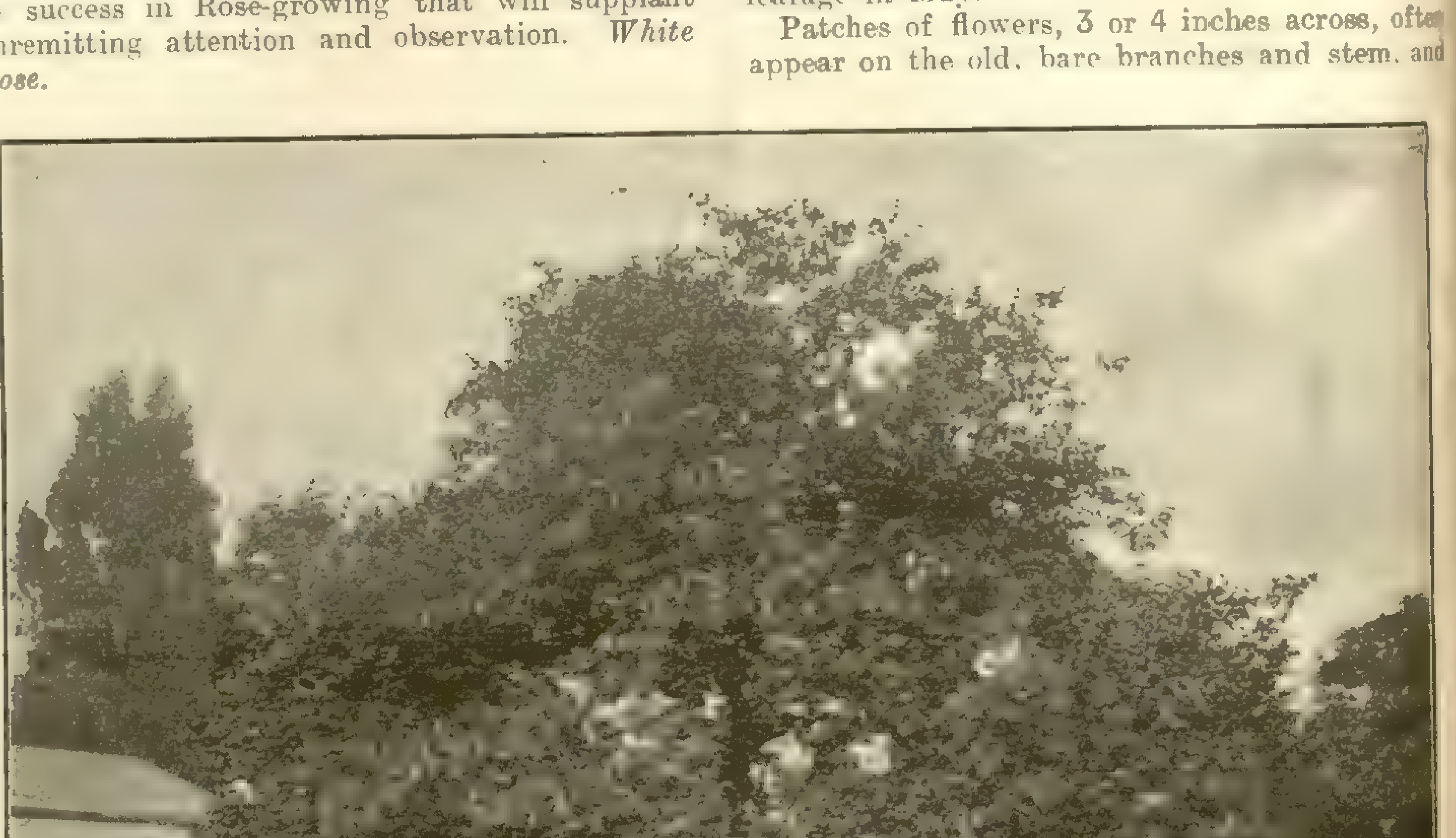

FIG. 2.—CERCIS SILIQUASTRUM IN THE GARDENS AT DOVER HOUSE, ROEHAMPTON.

TREES AND SHRUBS.

THE JUDAS TREE IN LONDON.

That the comparatively rare and strikingly distinct Judas Tree (Cercis Siliquastrum) is suitable for culture in every part of the metropolis is proved by the size and age to which specimens have attained in the grounds at Fulham Palace, in Battersea and Waterlow Parks, Golder's Green, and in several parts of the City and East End. By far the largest tree that I have seen is growing in the grounds attached to the Picture Gallery, Dulwich; it is 40 feet high, the stem girthing 7 feet 11 inches at a yard from the ground. This magnificent specimen has a tall, clean trunk, well preserved and in perfect health. Another fine tree is at Charlton House, Blackheath, the residence of Sir Spencer Maryon-Wilson; the tree has a branch-spread of 30 feet, the trunk girthing 4 feet 9 inches at a yard from ground level. Though semi-procumbent—for it was partially blown over many years ago—and the heavy branches bound together, yet this giant specimen of its kind is in perfect health and produces flowers in great abundance. Attaining in favourable conditions to a height of 30 feet, the Judas Tree in old age is often a weirdly picturesque object, the thick, usually crooked branches shooting out in all directions, and somewhat resembling those of the Catalpa and Mulberry, though in other cases it forms a comparatively broad, round, and flattish head, but its general outline can rarely be said to be either regular or ornamental. Both in shape and colour the leaves are unlike those of any other tree that I can call to mind, being of a peculiar pale, bluish-green tint above and pea-green beneath and distinctly heart or kidney shaped. They assume rich scarlet tints in autumn. The purplish-pink flowers appear before the leaves; they are clustered in small bunches on the twigs and branches, and even spring from the trunk itself sometimes downwards to near ground level. So thickly are the flowers produced that in many instances the branches seem wreathed with the conspicuous, pinky buds at the end of March and continue attractive until the tree is in full leafage in May.

Patches of flowers, 3 or 4 inches across, often appear on the old, bare branches and stem, and give the impression of having been nailed in position.

The Judas Tree was cultivated in this country as early as 1596, at which date a good illustration of it is given by Gerard, who, with reference to the popular name, remarks, "It may be called Judas Tree, for it is thought to be that on which Judas hanged himself and not on the Elder as it is vulgarly said." There is a white-flowered form and one named carnea, with beautiful, deep pink flowers. For ornamental effect in spring the Judas Tree ranks as one of the most attractive trees, owing to the beautiful and unique appearance that it presents, when both old and young wood of branch and stem is thickly studded with the purplish-pink flowers before the leaves appear. The Judas Tree likes a rich soil, and, judging from old trees at Holwood, one of Lord Derby's Kentish estates, it thrives well beneath the shade and drip of other trees. *A. D. Webster.*

[The illustration in fig. 2 shows the fine specimen of Cercis Siliquastrum in the gardens at Dover House, Roehampton.—EDS.]

SOME IMPRESSIONS OF FRENCH AND ELCIAN HUSBANDRY DURING THE WAR.

On previous visits to Belgium and France I d often admired many features of the husandry practised in those countries; during the ar I have been impressed more strongly than er by certain characteristics which I think ight to throw a light upon the problems which ce us when we come to consider the question settling soldiers upon the land. The fact at I speak as an unskilled observer and not a farmer should lend weight to my conclu-ons. The agitation in favour of a back-to-e-land policy is mainly that of people ignorant practical farming. The secret of the success farming in the countries which I have men-med—for successful it undoubtedly is—lies in e exercise of those old-fashioned qualities hich Virgil emphasises so strongly, and above things in that unremitting toil which is apt to lost sight of, or at least left in the back-und of, popular agitations concerning land. would be the worst possible service to our re-rning soldiers were we to deceive ourselves or m into supposing that the earth will yield up r riches to anything short of that *labor im-obus* which alone *vincit omnia.* Women and ildren worked upon the soil of France and soil of Belgium before the war; during war y worked harder than ever. Whether or no excessive and premature burden cast upon shoulders of the very young, the very old, d the women during the past four and a half ars prejudicially affects them is a grave ques-n; it remains that their labour unquestionably yed an important part in the salvation of ir country in her hour of need. I lived in ny a score of farm houses and cottages during e war, but in every case I found the same te of affairs prevailing, namely, the complete sence of able-bodied men, vast numbers of men and children working upon or in con-ction with the land, and old men keeping their cond foot out of the grave until their sons me home to release them. I never came into ficiently close contact with the rural popula-n before the war to understand intimately eir outlook upon life, their ideals and ambi-ns. Their single-hearted purpose in war was conquer. What mattered amusement, what attered *joie de vivre* so long as the Hun re-ained unvanquished? During the whole of y sojourn I encountered one solitary example unfettered joy in life: "C'est la guerre." remarked to an extremely ragged urchin in . Omer. "For you, yes, but not for me," re-lied the urchin. For him the war was an unend-g pageant, fraught with glorious possibilities holding officers' horses.

Second only in importance to the quality of heer hard work was that of economy of labour. never saw anything in the nature of voluntary sistance from amateurs. Yet I never saw an ich of ground left uncultivated through lack labour. The peoples of those countries possess mething which we have lost in England: one ight almost call it the earth spirit. Again and gain I wondered at and admired the magnitude the tasks accomplished by women of gentle irth. They wore no picturesque uniforms; when hey visited their friends or went to the town hey took off their working clothes and donned heir finery. In place of their coarse wooden abots they wore small and well-made boots. he transformation was so great that had one ot seen these girls actually working on the and or in the farmyard one would not have ecognised them on state occasions. It is the niversal custom for the family to live in the itchen. But what a kitchen! The memory of hose superb kitchens, with their polished brass nd copper utensils their long tables and their neffable air of homeliness and of home makes et more atrocious the wretched places where we expect our domestic servants to be happy and contented. Let it not be thought that I am following the traditional method of Englishmen in glorifying the foreigner at the expense of his fellow-countrymen; far from it. But I do seriously contend that to be a successful tiller of the soil you must be of the earth: you must know and you must, however unconsciously, love it. And you must have a constant succession of workers, from father to son, and from mother to daughter. The earth is jealous of her secrets, and does not yield them up to the chance-comer.

Is it merely a matter of habit and tradition that farm carts in England are so radically different from those of France or Belgium? Many and many a time I have wondered how those enormous vehicles which are so familiar to fighters on the Western front can be efficient. But if one of these carts will hold four or five times as much as the ordinary single-horse, two-wheeled English cart, it does not require a Solomon to see that a single carter with a team of three or even four horses will actually shift as much and usually more than four carters each of them driving one horse. When it is remembered that the distances to be traversed are great it will readily be seen how well adapted these huge farm wagons are to their particular function, and what a large number of men they set free.

But now, to mention another aspect of this important problem of economy, anybody familiar with the two well-defined types of husbandry on the Continent, namely, small holdings tilled by peasant proprietors, and large farms worked by well-to-do farmers, cannot have failed to be impressed with essential weaknesses in the former. It does not require a farmer to realise that a lot of little fields must necessarily absorb more labour than a few large ones, nor that for all purposes of distribution of produce, supply of materials, and so forth, the system of small holdings is a bad system. The only means of making it an efficient one is to pool labour and appliances. What I actually saw everywhere during the summer of 1918 was numberless small fields being assiduously hand-reaped by numberless small-holders. The result was disastrous, for speed in gathering the harvest was essential that year, as many a year before, and there was not and could not be any unity of effort in gathering it.

Few sights have ever impressed me more forcibly with the sheer mastery of man over his compeers in the animal kingdom than that of a heavily laden timber wagon drawn by a team of three horses manœuvring a sharp, narrow corner at the bottom of a steep hill in winter under the guidance of a single carter using the persuasion of voice alone. I do not know sufficient of the breeding of draught horses in this country to be able to make any useful comparison between them and those of the French and Belgian farmer. But the most casual observation could not fail to bring home to the observer of the latter their amazing efficiency, that is to say their effectiveness, in carrying out their functions. The single rein is universal, and control is exercised very largely by the voice.

One-way ploughs were also, so far as I could see, practically universal, and a very large proportion of the ploughing was done by women.

The almost entire absence of trees and hedges in the arable regions of Flanders perhaps accounts for the extraordinarily forbidding aspect of the country during the war. So long as I live I shall never forget the intensity of the longing which I felt for the green hedges and the full-grown trees of England as I lay wounded in a foreign country, nor the intensity of the satisfaction which I felt when at last I saw them again.

Are we going to make this England dear to those who come back from the war, a country where every man who is prepared to work hard and steadily can earn a decent living? Men who have survived the incredible horrors and hardships of the last few years will not shrink from toil if the future is full of promise and the present of possibilities. Our thoughts are naturally with our own kith and kin, in the first place, but one cannot help thinking also of brave, patient men and women across the water, of that endless procession of refugees streaming back as the Hun advanced in the hour of his pride; of ruined farmsteads, fruit trees systematically cut down by the ruthless invader, and of rich lands devastated by the havoc of war. Our consolation, such as it is, must lie in the irrepressible thrift and recuperative power of the Flemish peasant and the indomitable spirit of the French agricultural population. Now, if those people can, in the face of almost incredible difficulties, reclaim their lands from the flood of war, as they have proved they can, surely it is reasonable to expect that it will be our own fault if England does not once again, as of yore, nurture a race of sturdy yeomen, people born on and bred to the Earth. *Raymond E. Negus (Lt.-Col.).*

CULTURAL MEMORANDA.

WINTER WORK AMONGST SMALL FRUITS.

At this season of the year Gooseberry, Currant, and Raspberry plantations should be manured, and the bushes should be pruned at the same time. Gooseberries grown on the bush system should have the leading growths shortened about half their length and pruned to an outside bud, as this tends to keep the bushes open. Other growths should be pruned back to two or three buds from the base, but where the growths are crowded some branches should be cut out altogether. A distance of 6 or 8 inches between the branches is not too much, as this allows better facilities for gathering the fruit, and admits sunlight and air. Suckers and any growth near the ground should be removed, as berries borne near the soil become splashed and spoilt in wet weather. Some varieties of Gooseberries have pendulous growth, and these are usually supplied on longer stems than the upright growers. Plants trained as cordons or espaliers should have the leaders shortened, the laterals pruned to two or three buds, and the spurs thinned if necessary.

Red and White Currant bushes require pruning in very much the same way as Gooseberries, and should always be kept well thinned in their centres. The side growths may be cut back hard. Much finer fruit is produced on young, vigorous plants, and it is always well to have a few young bushes at hand to replace old plants that have grown too large.

With regard to Black Currants the pruning is on altogether different lines. In these the old wood should be cut out and all young wood of the previous year's growth retained, especially the shoots from the base of the plant. The great trouble with Black Currants is the mite which causes Big Bud. Where there is an attack of this pest all enlarged buds should be removed by hand and burnt, and the trees afterwards dressed with an insecticide. This will keep the pest in check, but will not altogether eradicate it. Black Currants make strong growth, and their shoots should be kept well thinned.

The Raspberry is a useful and popular fruit, and is often grown in the same quarters as Currants. The stems are usually trained to wires or poles, and the pruning consists in cutting out all canes which have fruited, preferably as soon as the fruit has been gathered. Autumn-fruiting varieties are pruned in the spring, and these fruit on the current season's growth. A space of about one foot is desirable between the shoots when they are tied, as nothing is gained by overcrowding. The Raspberry often produces

suckers some distance from the parent plant, and if these are strong and healthy it is a good plan to lift them and use them for filling bare spaces, thus keeping the rows uniform and more profitable. If new plantations are made the canes should be cut to within 1 foot of the ground, but those who desire to obtain fruits the following summer may retain every alternate plant its full length. The merits of the autumn-fruiting varieties must not be overlooked.

In the past season of fruit scarcity the small fruits proved useful and productive over nearly all the country, hence my reason for these few hints to encourage others to plant them more freely.

As all the fruits mentioned are vigorous growers and gross feeders, the ground between them should receive a heavy dressing of well rotted manure, and this should be dug in after the pruning is completed, except in the case of the Raspberry, which is surface rooting, and should have a top-dressing of manure placed on the surface, and occasionally a good dressing of old potting soil or loam. All small fruits are improved in colour and growth by the application of soot and lime, and it is a very good plan to apply these materials one season and farmyard manure the next. Too much animal dung is apt to make the ground sour, but the lime will counteract this trouble, thus keeping the ground beneath the bushes sweet and reducing the caterpillar plague. I have proved this to be the case, as our bushes were attacked by the Gooseberry caterpillar during the summer of 1917, and though they were hand picked I have no doubt many pests dropped to the ground and hibernated. Last winter, after pruning was finished, I had the ground well dressed with lime, and was much relieved to find little trace of the plague in 1918. A few caterpillars were noticed on one bush, and as these were promptly dealt with we had no further trouble. It would be interesting to know if other growers have had a similar experience. Work among bush fruits is best done when the ground is in as dry a condition as it can be in winter, and after pruning is completed all prunings and rubbish should be removed and burnt. *R. W. Thatcher, Carlton Park Gardens, Market Harborough.*

COMPOSTS.

In "Notes on Manures for December," issued by the Rothamsted Experimental Station, it is stated that in many parts of the country compost-making is now a lost art, but at one time it flourished vigorously. The type of composts that has persisted longest is the old "lime compost," made by alternating layers of vegetable or animal refuse with lime. From the old directions given by one of the chief experts of his day, it appears that the best results were obtained when lime was composted with materials poor in nitrogen, such as hedge clippings, leaves, old banks of earth, scourings of ditches, road sweepings, weeds gathered from fallows or stubbles, peat, sawdust, and roots of Couch grass. These were well mixed in the proportion of about one of lime to three of the other materials; the heap was left for a time, and then turned. Earth composts were preferred where the material contained more nitrogen than the above-mentioned substances, such, for example, as animal waste and slaughterhouse waste. The proportion of earth varied; as much as 10 cartloads of earth to one of animal waste was sometimes used; in other cases only half this quantity of earth was employed. It was, however, claimed that better results were obtained from the use of earth than from lime or farmyard manure. In the case of a dung compost no earth is used, and the materials are simply thrown into the manure heap; obviously they should be richer in nitrogen than the ordinary vegetable refuse.

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Ventilation.—Much as Orchids of all kinds delight in a full and free ventilation, the admission of fresh air may easily be over-done at this season. Choice kinds, and also many that are found difficult to cultivate, are often placed near the roof-glass, and, in small houses, this means near the ventilators, which is the most suitable place for them without a doubt. In such a situation not only do the plants get the benefit of the ventilation in full, when this is properly carried out, but they are much less liable to damping and other troubles, owing to the amount of light that reaches them on all sides. I have seen it advised to give top and bottom ventilation simultaneously during the winter, but such a proceeding is going rather too far, though doubtless airing is often underdone. When a cold wind is blowing from either side of the house it is always advisable to keep the ventilators closed tightly on the windward side. The ventilation should be continuous; small sashes that are lifted separately nearly always create draughts, and the lifting should be so arranged that the lights can be raised as little as half an inch or less if needed, and this is where geared ventilators have a great advantage over the lever and pin arrangements, which are often fixed so that it is impossible to open the ventilators less than about 2 inches owing to the first hole of the lever being that distance. To admit such an amount of air when cold, dry winds prevail is obviously a great mistake, and the use of much fire-heat to maintain the requisite temperature is equally harmful. All the moisture of the house is absorbed by the upward draught of warm air, and in such circumstances a harsh atmosphere always surrounds the heads of the plants themselves. But, on the contrary, a chink of air at the ridge the entire length of the house keeps the atmosphere of the house moving, and in consequence sweet. The possibility of cold air pressing down through the top ventilator has, of course, to be considered: but anyone with a little experience can soon tell on entering the house if this is operating, and will take measures accordingly. The above remarks apply, to a large extent, to the ventilation of all classes of greenhouses, and differs in detail when Orchids of various kinds are grown. A warm house may have for its occupants heat-loving plants that require a very moist atmosphere, and very little ventilation is needed; there may also be warm growing plants that are all, or nearly all, at rest, and in their case considerably more air is necessary. When the weather is damp and close more air is needed than when the external air is dry and cold, and the worst of all combinations is a bright sun and cold wind. The temperature of a house may rise higher than it should do if the house is closed, but it must be remembered that too much air may mean cold, chilling draughts that would give a check to growing plants, and especially seedlings, and are not without their ill-effects even on those that are resting. In such cases, open the top ventilators very slightly to allow the close, warm air at the ridge to escape, but only if it is possible on the side of the house opposite to where the wind is coming from.

Growth out of season often follows lack of ventilation now; judicious use, therefore, of the ventilators in every house is as important at this season as at any time during the year.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Arrangement of Plots.—A plan of the vegetable garden is very useful, and can readily be made, with the sites of the future crops indicated. It then becomes a simple task to prepare each plot to suit the requirements of the particular crop. If such a system is adopted

the areas reserved for tap-rooted vegetables will require no farmyard manure, provided a good dressing of burnt garden refuse and soot is applied when the ground is trenched.

Trenching.—Most gardeners realise the great value of trenching ground, in bringing the mass of earth into a friable and fertile condition quickly. Where labour is scarce for trenching proper, double digging, or bastard trenching should be practised, as deep tillage favours lasting and regular growth in the crops throughout the most adverse seasons. Both long and decayed manure should be used; the fresh dung together with rough grass and fallen tree leaves should be incorporated with the lower spit, placing the decayed manure under the top spit as the work proceeds. When the plot is dug a dressing of soot on the surface will be very beneficial. Ground treated in this manner is suitable for growing Peas, Beans, Onions, Cauliflowers, and other gross-feeding plants. When land is trenched in winter the surface should be left in the roughest state, to expose it as much as possible to the action of the weather. Trenching or digging should be done in fine, settled weather; it is much better to defer this important operation for weeks than to attempt it at inclement times.

Broccoli.—Late Cauliflowers have hearted well during the mild weather of the past weeks, but sharp frosts are occurring, and a shortage may occur from now onwards. Precautions should therefore be taken to maintain a regular supply by lifting the more forward plants of Broccoli with a good ball of earth at the roots, and planting them thickly in pits. In open weather draw the lights off entirely, unless "curds" are scarce, when every assistance should be given the plants to maintain a steady growth. It is remarkable what nice heads are obtained in this way. Winter Mammoth and Snow's Winter White are two excellent winter varieties.

Hot-Beds.—Owing to the present fuel restrictions hot-beds will be more in demand than ever. They are essential where early vegetables and salads are required. They are so easy to construct that the smallest garden need not be without one. Better results are obtained with many vegetables by forcing them on hot-beds than in heated houses. Materials for a hot-bed should consist of two parts long stable manure and three parts leaves, and they should be well mixed. The height of the beds should be not less than 4 feet, and the width should exceed the frame by 2 feet all round.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Flower Beds. — All unoccupied flower-beds should be thoroughly examined, and where the soil is known to be exhausted some of it should be removed and replaced with fresh compost, adding manure or leaf-mould, more or less according to the requirements of the plants in

tended to fill the beds during the coming season. In many gardens during the past four years very little if any flower bedding has been attempted, the majority of the beds being occupied by vegetables. When digging beds, it is not advisable to bring up the cold, clayey subsoil, but this should be disturbed to a good depth and mixed with plenty of leaf-mould, grit, or decayed vegetable refuse. The drainage of the soil should always receive the greatest attention, as ground in a sodden, sour state is most detrimental to plant life.

Renovations.—Any intended improvements or renovations in the flower garden should be taken in hand when the weather is suitable; now that other work is less pressing, labour will be available for these operations. Trenching land for the planting of trees and shrubs is most important, and is necessary if good results are expected.

Bulb Garden.—Beds which have been planted with bulbs should be kept clean and free from weeds. In very severe weather apply a layer of well-decayed leaf-mould or coconut-fibre refuse over the surface. Guard against mice damaging the bulbs, and set traps should they prove troublesome.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

The Fuel Problem.—The cultivation of plants under glass, and particularly exotic species requiring very high temperatures and those used for the decoration of dwelling-rooms, has been neglected to a very large extent during the period of the war. A shortage of labour

has been largely responsible for this circumstance, and now a serious shortage of fuel makes it more difficult than ever to maintain tender plants in glass-houses. Fortunately there are large numbers of plants that may be kept, healthy and serviceable, under glass, even although on nights of severe frost the temperature in the plant house is only a little above freezing-point. An absolute necessity during this period of restricted fuel allowance is to use the watering-pot as little as possible. I take the risk of the plants being over-dry at the roots rather than wet, and keep the interior of the plant house dry, taking advantage of sunshine to ventilate. When it becomes necessary to spray or syringe plants with an insecticide in houses with a low temperature first place the pots on their sides in order to reach the under-surfaces of the leaves, and keep the soil in the pots dry. Plants suitable and serviceable for the exceptional conditions under which plant houses are managed at the present time, affording decorative subjects for the greenhouse or conservatory, and also for cut flowers, are the giant-flowered forms of Primula obconica, P. malacoides (lilac and white), and P. kewensis; these Primulas, if grown in 24-sized pots, staged near the roof-glass, watered only when dry at the roots, and given a weak solution of plant fertiliser, will make a good show at the present season. In similar conditions, but in 9-inch pots, the radiata and stellata hybrids of Cineraria give a good display of flower. Bulbs, potted and prepared in autumn for forcing, may be brought indoors as required, the pots plunged in a bottom heat of 60° and forced in a temperature of 55°. The latest-flowering varieties of Chrysanthemums are still in flower. Cuttings of the decorative varieties, if not already inserted, should be planted now. A successful method of rooting the cuttings is to insert them in small pots filled with light soil, and place the pots in a box frame with a glass covering in a cold vinery or greenhouse, near the roof-glass.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to C. H. BERNERS, Esq., Woolverstone Park Gardens, Ipswich.

Early Peaches and Nectarines. — The long continuance of wet, sunless weather has not been favourable for forcing operations. The mild weather of late autumn considerably lessened the need for fire-heat, but there was a lack of bright, sunny days, which the trees needed. As soon as

the blooms show colour the amount of atmospheric moisture in the house should be reduced, and especially keep the house dry and free from moisture during the early part of the day until the blossoms are fertilised. Rub off the blooms on the back parts of shoots on wall-trees and a fair number of those on the under-side of trees growing on trellises. By means of a soft feather brush pollinate the blossoms at midday to assist the fruits to set. Increase the temperature by a few degrees during the flowering period, ventilate the house freely on warm days, and open the ventilators a little at the top of the house both night and day till the flowers are set. Maintain a temperature of 45° to 50° at night, allowing a rise of 10° by sun-heat. This treatment will, provided the trees are healthy, ensure a satisfactory set of fruit.

Early Vines.—Vines in pots, or planted out in borders, that have made sufficient growth for the bunches to be seen, should be grown in a night temperature of about 60°, with a rise by day in accordance with the weather. During very dull days, and when the weather is cold, do not attempt hard forcing, but on bright days the temperature may be allowed to rise to about 80°. On such occasions the amount of atmospheric moisture should be increased, but not to an excessive amount, for this would cause the foliage to be flimsy and encourage the growth of tendrils and aerial roots, to the detriment of the bunches. Stop laterals at two or three leaves beyond the bunches according to the space at command, and pinch sub-laterals at one leaf.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Apple Trees.—Where the pruning of Apple trees has not been completed advantage should be taken of every favourable opportunity to get the work finished. Pruning requires to be done with great care, and the necessary knowledge can only be gained by practical experience. For

example, certain varieties of Apples, including Irish Peach, fruit at the ends of the shoots, and the operator must have a knowledge of such behaviour of varieties to accomplish the work successfully. Where summer pruning was practised not much winter pruning will be needed beyond thinning the spurs, removing all dead wood, and shaping the trees. Very hard pruning in winter has a tendency to cause the trees to make gross growth. Do not prune in frosty weather, as at such times the wood often splits and the bark dies back a considerable distance.

Mulching.—If fruit trees were not mulched in the autumn the sooner the work is done now the better. Use well-decayed manure that has been heaped during the past summer and treated liberally with manure-water from the farmyard. The dung should be spread evenly about 2 inches thick as far as the roots extend.

Pears.—The pruning of Pear trees should be completed as soon as possible. In the case of those trained on walls or trellises the ties should be examined and replaced if necessary. If time permits it is advisable to renew all clips, as these are often harbours for insects. In tying the growths, and especially young shoots, allow plenty of room for the wood to expand. After the tying is finished the borders should be cleaned, lightly pricked up with a fork, and mulched as recommended for Apples.

Winter Spraying.—Apple and other hardy fruit trees infested with insects, mosses and lichens should be sprayed whilst the buds are dormant, with concentrated alkali wash, and the work should be done during calm, dry weather. The operator should wear an old suit and rubber gloves. For Apples and Pears use the specific at the rate of 1 lb. to 5 or 6 gallons of water, and for Peaches, Cherries and Apricots 1 lb. to 8 or 9 gallons of water. I strongly recommend the use of alkali wash to all fruit growers as one of the best means of cleansing trees; it is not necessary to spray annually. I recommended that an old orchard in this district should be sprayed with winter wash last year, and the trees now would hardly be recognised as the same.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

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Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 37.8°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, January 1, 10 a.m.: Bar 29.8; temp. 41°. Weather—Dull.

A French "Kew Gardens." Our well-informed French correspondent, *A. M.*, sends us the interesting news that the project of establishing a great Botanical and Horticultural Garden rivalling Kew, which has been proposed by Messrs. G. Truffaut & Clément, is being actively supported by the powerful French Touring Club. The proposal is to create a French Kew in the park of Versailles, between the Trianon and the forest of Marly. The area in question is of 1,500 acres, and is already enclosed.

The new garden would consist of about 100 acres, devoted to botanical collections, and in the first place, at all events, would include those subjects which are absent from the gardens of the Museum of Natural History. About 80 acres would be devoted to collections of fruit trees, and 250 acres to flowers and cultivation under glass. Some 80 acres would be set apart for the installation of laboratories and for providing land for experimental purposes.

It is to be hoped that this admirable project may be realised, and that France, which has done such great work in Horticulture, may possess at Versailles a National Botanical Garden second to none in the world. The Jardin des Plantes at Paris has become so enclosed by the growth of the city that plants no longer flourish. The soil is exhausted, and the smoke of the city slowly poisons all but the most robust subjects.

We trust that the establishment of a Kew Français will commend itself to the recently appointed Council of Agricultural Stations which Monsieur Boret, the energetic and far-sighted Minister of Agriculture, has recently called into being for the purpose of co-ordinating the agricultural researches carried out in existing Experiment Stations in France. The Kew of Versailles would make an admirable central station, combining the virtues of Kew and Rothamsted, and would be comparable with the Arlington Farm established and maintained by the Department of Agriculture at Washington.

Near Paris, in a horticultural region, not far from Grignon, the site in the Park of Versailles would appear to be an ideal one. The soil is fertile, the land belongs to the State, and offers almost unlimited facilities for expansion. Furthermore, there are already at Trianon considerable collections of trees, dating from the time of Michaux.

We understand that only a year or so ago, whilst yet preoccupied with war, Germany established at or near Berlin a new station for genetical studies, called its most distinguished student of genetics to assume the direction of the station, and insisted only on one condition, that the station should be for pure research, and should not engage in work of a utilitarian nature. It would not seem too much to expect, now that peace has been restored, that France should seize the opportunity and found a botanic garden and experiment station at Versailles, which shall be worthy of her horticultural reputation and a sure guarantee that that reputation shall be maintained and made even yet more eminent. Why, moreover, if this fine project shows signs of materialising, should not some of the funds collected with the object of restoring French horticulture and agriculture be devoted to the establishment of the Research Station? For it is probable that, used thus, these funds would be of more permanent benefit to French horticulturists than if they were all expended in the detailed work of assisting individuals.

Food Imports into Ceylon, 1913-1917. The fact that so fertile an island as Ceylon is a food-importing country, and not a self-supplier—though no news to those who make it their business to watch Imperial progress—will come as a surprise to the ordinarily well-informed person. The facts of the situation are disclosed in an article* on the food supplies of Ceylon, which records in the table of imports, imports of Rice and Paddy alone amounting in 1913 to over 400,000 tons. Whilst remaining about this figure during the intervening years, they actually exceeded it in 1917.

There is, however, evidence that in some cases home food production was practised in the island during the war. Thus the importation of Potatos fell from 9,200 tons in 1913 to 4,900 tons in 1917; from which it may be inferred that Ceylon grew the odd 4,300 tons in the latter year; or it may be that Ceylon went without Potatos when transport and supplies became scarce.

The imports of sugar showed also a reduction from about 26,000 tons in 1913 to 18,000 in 1917; but here, evidently, it was not a case of self-supplying, but of doing without.

Condiments, including Chillies, Coriander, Cumin, Fennel, Garlic, Turmeric, Ginger, Pepper, Mustard, and Onions, totalled 24,000 tons in 1913 and 23,000 tons in 1917, and yet it is observed by the writer of the article from which these figures are quoted that, at all events in the case of Chillies, of which 4,500 tons were imported in 1913 and 4,300 tons in 1917, the island could supply the whole of its requirements of this condiment.

The facts as indicated would appear to call for a full inquiry. It is certain that at the call of the Mother Country many of the managers of estates joined the Imperial Forces, and that the white population was thereby so depleted that no new measures of cultivation could be adopted. Be this as it may, the result of the inquiry should suggest means for the encouragement of food production, at all events as a measure of insurance against the recurrence of the need for all parts of the Empire to be self-suppliers.

* "Food-stuffs: The Food of the Island," by F. A. Stockdale, *The Tropical Agriculturist*, Sept., 1918.

Chelsea and Holland House Shows in 1919.—Towards the close of the past year the Royal Horticultural Society circularised its usual amateur and trade exhibitors and asked them whether they would be in a position to exhibit at Chelsea in May and, or, at Holland House in July, also if able to show, what amount of space they proposed to occupy. The possibility of holding the two shows appears to depend on the tenting available, and as an alternative to two exhibitions, in May and July respectively, one show in June, either at Chelsea or Holland House, is suggested. We have no official information regarding the support promised, but, so far as we are able to judge, the trade generally will do all that lies in its power to make a horticultural success of either one or two shows, and the promptitude with which the Royal Horticultural Society has attempted the revival of its great exhibitions is generally approved.

Gift of a Park to Cheshunt.—To commemorate the end of the war Admiral of the Fleet Sir HEDWORTH MEUX has offered the property known as The Cedars, in Theobalds Park, Waltham Cross, which comprises about 10 acres, to the inhabitants of Cheshunt as a public park.

National Chrysanthemum Society. — The annual general meeting of the National Chrysanthemum Society will be held at Essex Hall, Strand, on Monday evening, February 3. The exhibition will be held on November 4, in conjunction with the Royal Horticultural Society's meeting of that date, and the Floral Committee will meet in the morning. Other meetings of the Floral Committee are fixed for September 22, October 6 and 20, November 17, and December 1, at 3 p.m., at Essex Hall.

Reopening of the Natural History Museum.—The exhibition galleries of the Natural History Museum, Cromwell Road, South Kensington, are now open to the public on week-days as before the war. During January and February admission will be from 10 a.m. to 5 p.m.

Queensland Fruits. — Almonds, Apricots, Plums, Nectarines, Quinces, Passion fruit, Papaws, Cherries, Peaches, Guavas, Persimmons, Figs, Custard Apples, Pineapples, and Pears are largely grown in Queensland, and a considerable trade is done with these in the Southern States. The adaptability of the soil and climatic conditions of Queensland to the cultivation of all varieties of Citrus fruits such as Oranges, Shaddocks, Citrons, Cumquats and Lemons is

THE LAWRENCE MEDAL OF THE R.H.S.

A portion of our Exhibit of Vegetables grown from seeds sown and Potatoes planted July 15, and staged at the Royal Horticultural Society's Meeting September 24, 1918. For full particulars see Sutton's Catalogue of Food Production Seeds for 1919. Post free on application.

AWARDED to SUTTON & SONS, READING

The Rev. W. WILKS, M.A., writing on December 11, 1918, said:—

"It is with no little pleasure that I am able to write at the request of the President and Council, to tell you that the Lawrence Medal has been awarded to your firm for the excellent quality and great educational value of your frequent exhibits of Summer-sown Vegetables at the Society's Meetings held since war broke out. The exhibits themselves have shown such a high standard of cultivation, and have been so widely influential in increasing the food production of gardens during the years of the war, by demonstrating what could be done along the lines of this new system of cultivation, that the Council feel that the least they can do, now that the war has been brought to a happy termination, is to place with you this high mark of their high appreciation. As I think you know, the Lawrence Medal represents the highest award of the Society, and it is one which is never given more than once yearly."

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The Gardeners' Chronicle

THE DATES OF MEETINGS HEREIN GIVEN, SUPPLIED BY THE SECRETARIES OF THE RESPECTIVE SOCIETIES, ARE AS COMPLETE AS CIRCUMSTANCES

During the operation of the Daylight Saving Bill the times given

JANUARY.

1	W	Sun rises 8h. 8m.
2	Th	New moon 8h. 24m. morn.
3	F	
4	S	
5	**S**	*2nd Sunday after Christmas.*
6	M	Southampton Hort. Soc. Ann. Meet.
7	T	*Old Christmas Day.*
8	W	*St. Lucien.*
9	Th	Moon: First quarter 10h. 55m. morn.
10	F	Bath Gard. Soc. meet.
11	S	
12	**S**	*1st Sunday after Epiphany.*
13	M	Nat. Dahlia Soc. Ann. Meet. at 35, Wellington Street, Strand. United Hort. Ben. and Prov. Soc. Com. meet. Bath Gard. Soc. meet
14	T	Roy. Hort. Soc. Coms. Meet.
15	W	Wargrave Gardeners' Soc. Ann. Meet.
16	Th	Manchester and N. of England Orchid Soc. meet. Full Moon 8h. 44m. morn.
17	F	Rt. Hon. D. Lloyd George b. 1863.
18	S	Brighton Hort. Soc. meet.
19	**S**	*2nd Sunday after Epiphany.*
20	M	John Ruskin d. 1900.
21	T	*St. Agnes.*
22	W	Eastbourne Allot. Soc. lecture.
23	Th	British Florists' Federation Ann. Meet. at Essex Hall 2.30 p.m.
24	F	Moon: Last quarter 4 h. 22m. aft.
25	S	
26	**S**	*3rd Sunday after Epiphany.*
27	M	
28	T	Roy. Hort. Soc. Coms. meet: Lecture at 3 p.m. by Dr. Daydon B. Jackson on "Pritzel and the Necessity for a Revision of His Work, and the Call on Horticulturists to Support It" Bolton Hort & Chrys Soc. Ann. Meet.
29	W	Royal Soc. of Arts Lecture by Dr. F. W. Keeble on "Food Production by Intensive Cultivation." Wargrave Gard. Soc, lecture.
30	Th	Hatfield Allot. Soc. lecture.
31	F	New Moon: 11h. 7m. aft.

FEBRUARY.

1	S	Partridge and Pheasant Shooting ends.
2	**S**	*4th Sunday after Epiphany.*
3	M	Nat. Chrys. Soc. Ann. Meet.
4	T	Bolton Hort. & Chrys. Soc. meet.
5	W	John Lindley b. 1799.
6	Th	Royal Gardeners' Orphan Fund Ann. Meet. and Election of Orphans at Simpson's Restaurant, Strand, at 3 p.m. Manchester and N. of England Orchid Soc. meet.
7	F	Moon: First quarter 6h. 52m. aft.
8	S	Half Quarter Day.
9	**S**	*5th Sunday after Epiphany.*
10	M	United Hort. Ben. & Prov. Soc. Com. meet. Bath Gard. Soc. meet.
11	T	Roy. Hort. Soc. Ann. meet.: Coms. meet. at 12 p.m. Hort. Club Ann. Meet. and Dinner.
12	W	Wargrave Gard. Soc. meet.
13	Th	
14	F	Full Moon 11h. 38m. aft.
15	S	Sun rises 7h. 18m.
16	**S**	*Septuagesima Sunday.*
17	M	Sun rises 7h. 14m.
18	T	Sun sets 5h. 17m.
19	W	
20	Th	Manchester and N. of England Orchid Soc. meet.
21	F	Verdun, 1916.
22	S	Brighton Hort. Soc. meet.
23	**S**	*Sexagesima Sunday.* Moon: Last quarter, 1h. 48m. morn
24	M	*St. Matthias.*
25	T	Roy. Hort. Soc. Coms. meet: Lecture by Capt Arthur Hill, M.A., at 3 p.m. on "The Care of Our Soldiers' Graves."
26	W	Wargrave Gard. Soc. meet.
27	Th	
28	F	Hare hunting ends.

MARCH.

1	S	Bolton Hort. & Chrys. Soc. meet.
2	**S**	*Quinquagesima Sunday.* New Moon: 11h. 11m. morn.
3	M	
4	T	*Shrove Tuesday.*
5	W	*Ash Wednesday.*
6	Th	Manchester & N. of England Orchid Soc meet.
7	F	Sun rises 6h. 36m.
8	S	Sun sets 5h. 49m.
9	**S**	*1st Sunday in Lent.* Moon: First quarter, 3h. 14m. morn.
10	M	United Hort. Ben. & Prov. Soc. Ann. meet. at R. H. S Hall. Bath Gard. Soc. meet
11	T	Roy. Hort. Soc. Coms. meet: Open class for early flowering bulbs in pots. Lecture by Mr. James Whitton at 3 p.m. on "The Glasgow Public Parks."
12	W	Wargrave Gard. Soc. meet.
13	Th	
14	F	Robert Hogg d. 1897.
15	S	
16	**S**	*2nd Sunday in Lent.* Full Moon: 3h. 41m. aft.
17	M	*St. Patrick's Day.*
18	T	Eastbourne Hort. Soc. meet. and lecture.
19	W	
20	Th	Manchester & N. of England Orchid Soc. meet.
21	F	
22	S	Brighton Hort. Soc. meet.
23	**S**	*3rd Sunday in Lent.*
24	M	Moon: Last quarter 8h. 34m. aft.
25	T	Roy. Hort. Soc. Coms. meet.: Lecture by Mr. Edward White at 3 p.m. on "The Study of Economic Botany and the Professional Openings it Offers."
26	W	Wargrave Gard. Soc. Meet.
27	Th	Sun rises 5h. 51m.
28	F	Sun sets 6h. 23m.
29	S	
30	**S**	*4th Sunday in Lent.*
31	M	New Moon: 9h. 5m. aft.

JULY.

1	T	Roy. Hort. Soc. Coms. meet. Nat. Sweet Pea Soc. Combined Show. Lecture by Dr. E. J. Russell at 3 p.m.
2	W	Nat. Rose Soc. Exhibition at the Royal Botanic Gardens, Regent's Park. Southampton Roy. Hort. Soc. Rose Show.
3	Th	Sun rises 3h. 50m.
4	F	Sun sets 8h. 17m.
5	S	Nat. Viola and Pansy Ex. at Birmingham. Moon: First quarter 3h. 17m. morn.
6	**S**	*3rd Sunday after Trinity.*
7	M	Old Midsummer Day.
8	T	
9	W	Cardiff and County Hort. Soc. Show (2 days) (provisional).
10	Th	
11	F	
12	S	Prince John b. 1905.
13	**S**	*4th Sunday after Trinity.* Full Moon 6h. 12m. morn.
14	M	United Hort. Ben. & Prov. Soc. Com. meet. Bath Gard. Soc. meet.
15	T	Roy. Hort. Soc. Coms. meet. Nat. Rose Soc. Ex. of Seedling Roses: and Nat. Carnation and Picotee Soc meeting. Lecture by Mr. A. D. Webster at 3 p.m. on "Afforestation."
16	W	
17	Th	
18	F	Birmingham Floral Fete (2 days).
19	S	Brighton Hort. Soc. Outing.
20	**S**	*5th Sunday after Trinity.* Moon: Last quarter 11h. 3m. morn.
21	M	Sun rises 4h. 8m.
22	T	Sun sets 8h. 2m.
23	W	
24	Th	Gibraltar captured, 1704.
25	F	Midland Carnation and Picotee Soc. Ex. at Birmingham (2 days).
26	S	
27	**S**	*6th Sunday after Trinity.* New Moon 5h. 21m. morn.
28	M	
29	T	Roy. Hort. Soc. Coms. meet.: Exhibition of British grown bulbs. Lecture by Mr. George Monro at 3 p.m.
30	W	Lord Haldane b. 1856.
31	Th	Trinity Law Sittings end.

AUGUST.

1	F	*Lammas Day.*
2	S	Blenheim, 1704.
3	**S**	*7th Sunday after Trinity.* Moon: First quarter 8h. 12m. aft.
4	M	England declared war on Germany, 1914.
5	T	Sun rises 4h. 30m.
6	W	Sun sets 7h. 40m.
7	Th	
8	F	
9	S	
10	**S**	*8th Sunday after Trinity.*
11	M	United Hort. Ben. & Prov. Soc. Com. meet. Full Moon 5h. 40m. aft.
12	T	Roy. Hort. Soc. Coms. meet.: Lecture by Mr James Hudson at 3 p.m. on "Fruit Trees in Pots."
13	W	Southampton Hort. Soc. Summer Show.
14	Th	
15	F	Sun rises 4h. 45m.
16	S	Sun sets 7h. 21m.
17	**S**	*9th Sunday after Trinity.*
18	M	Moon: Last quarter 3h. 56m. aft.
19	T	
20	W	
21	Th	Roy. Hort. Soc. of Aberdeen Ex. (3 days). East Oxford Hort. Soc Ex.
22	F	Sun sets 7h. 9m.
23	S	*St. Bartholomew.*
24	**S**	*10th Sunday after Trinity.*
25	M	New Moon 7h. 35m. aft.
26	T	Roy. Hort. Soc. Coms. meet.: Lecture by Mr. H. Burns at 3 p.m. on "Allotment Development in and Around Leicester."
27	W	
28	Th	Heligoland Bight, 1914.
29	F	
30	S	Bridgend Hort. Assoc. Show.
31	**S**	*11th Sunday after Trinity.*

SEPTEMBER.

1	M	Partridge Shooting begins.
2	T	Moon: First quarter 2h. 22m. aft.
3	W	Glasgow and W. of Scotland Hort. Soc. [illegible]
4	Th	Sun sets 6h. 41m.
5	F	Marne, 1914.
6	S	
7	**S**	*12th Sunday after Trinity.*
8	M	United Hort. Ben. & Prov. Soc. Com. meet. Bath Gard. Soc. meet.
9	T	Royal Hort. Soc. meet. Nat. Dahlia Soc. Combined Show. and Nat. Rose Soc. Autumn Exhibition. Lecture by Mr. Vincent Bank at 3 p.m. on "Bottling and Drying Fruits."
10	W	Needham Market Hort. Soc. Ex. Full Moon 3h. 54m. morn.
11	Th	
12	F	Mr. Asquith b. 1852.
13	S	
14	**S**	*13th Sunday after Trinity.*
15	M	
16	T	Moon: Last quarter 9h. 32m. aft.
17	W	Sun rises 5h. 38m.
18	Th	Sun sets 6h. 9m.
19	F	
20	S	Brighton Hort. Soc. Outing.
21	**S**	*14th Sunday after Trinity.*
22	M	Nat. Chrys. Soc. Floral Com. meet at [illegible], 3 p.m.
23	T	Roy. Hort. Soc. Vegetable Exh. Lecture by Mr. Ronald G. Hatton at 3 p.m on "Fruit Tree Stocks."
24	W	New Moon 4h. 34m. morn.
25	Th	Loos, 1915.
26	F	Sun sets 5h. 50m.
27	S	Sun rises 5h. 54m.
28	**S**	*15th Sunday after Trinity.*
29	M	*Michaelmas Day.*
30	T	Earl Roberts b. 1832.

Almanac, 1919.

Telegrams — "GARDCHRON, RAND, LONDON."
Telephone:—GERRARD 1543.

...ILL ALLOW, BUT SOME APPOINTMENTS ARE NOT MADE AT THE TIME OF PUBLICATION, AND OTHERS ARE LIABLE TO ALTERATION.
...ar Astronomical and other notes must be altered accordingly.

APRIL.

1	T	*All Fools' Day.*
2	W	
3	Th	Manchester & N. of England Orchid Soc. meet
4	F	*St. Ambrose.*
5	S	
6	**S**	*5th Sunday in Lent.*
7	M	Moon: First quarter 0h. 39m. aft.
8	T	Roy. Hort. Soc. Coms. Meet.: Special Daffodil Show. Lecture by Rev. J. Jacob at 3 p.m. on "Freesias and Lach nalias."
9	W	Wargrave Gard. Soc. meet.
10	Th	
11	F	Sun rises 5h. 17m.
12	S	Sun sets 6h. 48m.
13	**S**	*Palm Sunday.*
14	M	United Hort. Ben. & Prov. Soc. Com. meet. Bath Gard. Soc. meet.
15	T	Dr. Maxwell T. Masters b. 1833. Full Moon 8h. 45m. morn.
16	W	Aisne II., 1917.
17	Th	Manchester & N. of England Orchid Soc. meet.
18	F	*Good Friday.*
19	S	Brighton Hort. Soc. meet.
20	**S**	*Easter Day.*
21	M	Bank Holiday.
22	T	Ypres II., 1915.
23	W	Wargrave Gard. Soc. meet. Moon: Last quarter 11h. 21m. morn.
24	Th	
25	F	Sun rises 4h. 48m.
26	S	Sun sets 7h. 11m.
27	**S**	*Low Sunday.*
28	M	
29	T	Roy. Hort. Soc. Coms. meet. and Nat. Auricula and Primula Soc. (Southern Section) Combined Show. Nat. Rose Soc. Spring Meeting. Lecture by Dr. F. W. Keeble F.R.S., at 3 p.m., on "Horticultural Education and Research."
30	W	New Moon 5h. 30m. morn.

MAY.

1	Th	Duke of Connaught b. 1850.
2	F	Sun sets 7h. 21m.
3	S	Sun rises 4h. 32m.
4	**S**	*2nd Sunday after Easter.*
5	M	
6	T	Moon: First quarter 11h. 34m. aft.
7	W	
8	Th	Manchester & N. of England Orchid Soc. Ann. Meet.
9	F	Half Quarter Day.
10	S	
11	**S**	*3rd Sunday after Easter.*
12	M	United Hort. Ben. & Prov. Soc. Com. meet. Bath Gard. Soc. meet.
13	T	Roy. Hort. Soc. Coms. meet. Nat. Tulip Soc.'s Combined Show. Lecture by Mr. Vincent Banks at 3 p.m. on "Bottling and Drying Fruits and Vegetables"
14	W	
15	Th	Full Moon 1m. morn.
16	F	
17	S	Brighton Hort. Soc. meet.
18	**S**	*4th Sunday after Easter.*
19	M	*St. Dunstan.*
20	T	Sun sets 7h. 49m.
21	W	Sun rises 4h. 3m.
22	Th	Moon: Last quarter 10h. 4m. aft.
23	F	
24	S	Empire Day.
25	**S**	*5th Sunday after Easter.*
26	M	Queen Mary b. 1867.
27	T	Roy. Hort. Soc. Coms. meet. Nat. Tulip Soc. Combined Show. Lecture by Mr. J. G. Weston at 3 p.m. on "Some Irish Gardens."
28	W	
29	Th	New Moon 1h. 12m. aft.
30	F	Dr. Maxwell T. Masters d. 1907.
31	S	Jutland, 1916.

JUNE.

1	**S**	*Sunday after Ascension.*
2	M	General Buller d. 1908.
3	T	King George b. 1865.
4	W	Lord Wolseley b. 1833.
5	Th	Moon: First quarter 22m. aft
6	F	Easter Law Sittings end
7	S	Oxford Term begins.
8	**S**	*Whit Sunday.*
9	M	United Hort. Ben. & Prov. Soc. Com. meet. Bath Gard. Soc. meet
10	T	Sun sets 8h. 13m.
11	W	Robert Hooper Pearson d. 1918.
12	Th	Sir Harry Johnston b. 1858.
13	F	Full Moon 4h. 28m. aft.
14	S	
15	**S**	*Trinity Sunday.*
16	M	
17	T	Roy. Hort. Soc. Coms. meet.: Lecture by Mr. H. E. P. Hodsoll at 3 p.m. on "The Care of the Plant"
18	W	Waterloo, 1815.
19	Th	Sun rises 3h. 44m.
20	F	Sun sets 8h. 18m.
21	S	Brighton Hort. Soc. meet. Moon: Last quarter 5h. 33m. morn.
22	**S**	*1st Sunday after Trinity.*
23	M	Prince of Wales b. 1894.
24	T	Midsummer Day.
25	W	Roy. Soc. of Arts Ann. Meet.
26	Th	Sun sets 8h. 19m.
27	F	New Moon 8h. 53m. aft.
28	S	Windsor, Eton and Dist. Rose Show.
29	**S**	*2nd Sunday after Trinity.*
30	M	Sir Joseph Hooker b. 1817.

OCTOBER.

1	W	Glasgow and W. of Scotland Hort. Soc. Lecture.
2	Th	Moon: First quarter 8h. 37m. morn.
3	F	Sun rises 6h. 3m.
4	S	Sun sets 5h. 32m.
5	**S**	*16th Sunday after Trinity.*
6	M	Nat. Chrys. Soc. Floral Com. meet at Essex Hall, 3 p.m
7	T	Royal Hort. Soc. Ex. of British Grown Fruits. Lecture by Mr. E. A. Bunyard at 3 p.m. on "The Winter Study of Fruit Trees."
8	W	
9	Th	Full Moon 1h. 39m. aft.
10	F	Sun sets 5h. 19m.
11	S	Camperdown, 1797.
12	**S**	*17th Sunday after Trinity.*
13	M	United Hort. Ben. & Prov. Soc. Com. meet. Bath Gard. Soc. meet.
14	T	Hastings, 1066.
15	W	
16	Th	Moon: Last quarter 5h. 5m. morn.
17	F	Sun rises 6h. 27m.
18	S	*St. Luke.*
19	**S**	*18th Sunday after Trinity.*
20	M	Nat. Chrys. Soc. Floral Com. meet at Essex Hall, 3 p.m.
21	T	Roy. Hort. Soc. Coms. meet.: Lecture by Mr. Peter Veitch at 3 p.m. on "Magnolias."
22	W	
23	Th	New Moon 8h. 40m. aft.
24	F	
25	S	
26	**S**	*19th Sunday after Tri ity.*
27	M	
28	T	*S.S. Simon and Jude.*
29	W	Sun rises 6h. 48m.
30	Th	Sun sets 4h. 37m.
31	F	Y res I., 1914.

NOVEMBER.

1	S	Moon: First quarter 1h. 45m. morn.
2	**S**	*20th Sunday after Trinity.*
3	M	
4	T	Roy. Hort. Soc. Coms. meet. Nat. Chrys. Soc. Combined Show. Lecture by Mr. John Snell at 3 p.m. on "The Ormskirk Potato Trials."
5	W	Glasgow and W. of Scotland Hort. Soc Ann. Meet
6	Th	
7	F	Full Moon 11h. 35m. aft.
8	S	
9	**S**	*21st Sunday after Trinity.*
10	M	Gloucestershire Root, Fruit & Grain Soc. Ex. United Hort. Ben. & Prov. Soc. Com meet.
11	T	*Martinmas.*
12	W	
13	Th	
14	F	Bradford Chrys. Show (2 days). Moon: Last quarter 3h. 41m. aft.
15	S	
16	**S**	*22nd Sunday after Trinity.*
17	M	Nat. Chrys. Soc Floral Com. meet at Essex Hall, 3 p.m.
18	T	Roy. Hort. Soc. Coms. meet.
19	W	Sun rises 7h. 25m.
20	Th	Sun sets 4h. 4m.
21	F	
22	S	New Moon 3h. 20m. aft.
23	**S**	*23rd Sunday after Trinity.*
24	M	
25	T	Sun rises 7h. 35m.
26	W	Sun sets 3h. 57m.
27	Th	
28	F	
29	S	John Ray b. 1628.
30	**S**	*Advent Sunday.* Moon: First quarter 4h. 47m. aft.

DECEMBER.

1	M	Nat. Chrys. Soc. Floral Com. meet at Essex Hall, 3 p.m.
2	T	Roy. Hort. Soc. Coms. meet.
3	W	Glasgow and W. of Scotland Hort. Soc. lecture
4	Th	
5	F	Admiral Jellicoe b. 1859.
6	S	
7	**S**	*2nd Sunday in Advent.* Full Moon 10h. 4m. morn.
8	M	United Hort. Ben. & Prov. Soc. Com. meet. Bath Gard. Soc. meet
9	T	
10	W	
11	Th	Sun rises 7h. 56m.
12	F	Sun sets 3h. 49m.
13	S	
14	**S**	*3rd Sunday in Advent.* Moon: Last quarter 6h. 2m. morn
15	M	
16	T	
17	W	
18	Th	
19	F	
20	S	Michaelmas Law Sittings end.
21	**S**	*4th Sunday in Advent.*
22	M	New Moon 10h. 57m. morn.
23	T	Sun rises 8h. 6m.
24	W	F. W. Burbidge d. 1905.
25	Th	*Christmas Day.*
26	F	*Bank Holiday.*
27	S	
28	**S**	*1st Sunday after Christmas.*
29	M	
30	T	Moon: First quarter 5h. 25m. morn.
31	W	

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D. & R.'s "PREMIER" ONION. Monster bulb, and distinctly handsome. Colour, a pale straw. Pre-eminent among Onions. The prize-taker wherever shown. First Prize, R.H.S.'s Vegetable Show, 1918. 1/6 and 2/6 pkt.

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MANCHESTER.

demonstrated by the fact that no fruit, unless perhaps the Mango, is more generally distributed or has a wider range in the State than the Citrus family, even on the table-lands, where heavy frosts are experienced. The Banana is universally grown on the coastal lands of Queensland, and Bananas thrive and bear well in North Queensland several hundred miles inland.

Presentation.—At the meeting of the Coventry Gardeners' Federation, held on the 16th ult., a presentation, consisting of an engrossed letter, framed in Oak, together with a wallet containing Treasury notes, was made to Mr. E. G. MORRELL in recognition of his work in connection with the allotment movement in Coventry and neighbourhood during the past seven years. The presentation was made by Ald. H. MANDER, in the presence of representatives of the different societies affiliated to the Federation, of which Mr. W. B. RAINBOW is the secretary. Mr. MORRELL suitably acknowledged the presentation, and spoke of the pleasure it had given him to assist in the furtherance of the allotment movement.

£15,000,000 Worth of Produce from Allotments.—At a Conference of the Southern Section of the National Union of Allotment Holders held at Essex Hall recently, Mr. J. FORBES, the secretary, stated that there were one and a half million allotment holders in the country, and the estimated aggregate value of the produce from the allotments was £15,000,000. The Conference passed resolutions urging the Government to place the allotment movement on a permanent basis, and to provide for allotments in connection with any housing scheme brought forward.

Sale of Red Cross Tree for £1,300.—A fine tree, presented by the Duke of BUCCLEUCH, has realised £1,300 for the Red Cross Gift Tree Sale which is being voluntarily organised by Messrs. RICHARDSON, of Stamford. A tree given by the Duke of RICHMOND AND GORDON has sold for £100. The KING'S tree, from Windsor Park, will, it is hoped, be purchased and re-offered for sale by generous people who desire to assist in augmenting the Red Cross funds.

Flowers in Season.—The receipt of a few fine flowers of Iris unguicularis (so well known in gardens as Iris stylosa) from Mr. JAS. A. PAICE, Aldenham Vicarage Gardens, Watford, serves as a reminder of the beauty and usefulness of this winter-flowering species. Mr. PAICE informs us that the plants under his care are flowering magnificently, and, owing to the mild weather experienced, they commenced to bloom earlier than usual this winter. He writes: "I am never tired of praising this beautiful winter-flowering Iris. At Aldenham Vicarage it has been established for several years close to a south wall, where it flowers from November to March without intermission. Very hard frosts and snow check continuity of flowering a little, but for no length of time. The flowers are best cut while in the bud state and placed in water indoors to open; when cutting the blooms the knife should be inserted as low down as possible, to secure a long stem; cut in this way they last longer than when removed carelessly a little above the ground. When planting, no manure should be used, as the plants flower best in poor, somewhat stony soil. Plants of this Iris may be grown fairly closely together and should not be disturbed more often than is absolutely necessary. I have noticed that I. unguicularis blooms freely after a dry summer, thus proving that it requires a thorough rest. Large numbers of flowers must not be expected until the plants have been established for a year or two. There is a beautiful white variety which will succeed if treated in the same way as the type."

Food Production in the Panama Canal Zone.—Everything possible is being done by the United States Government to make the Panama Canal zone self-supporting, especially as regards food production. Large areas of land have been laid out for the cultivation of fruits and vegetables, sufficient grazing land has been cleared and fenced to provide for the fattening of 25,000 head of cattle, and cold storage provided for the preservation of meat, fruits and vegetables.

Grevillea Thelemanniana.—Grevillea Thelemanniana (see fig. 3) has just claim to be placed among the most beautiful of cool greenhouse plants, and it is a regrettable fact that it is so seldom seen in cultivation. The plant is of comparatively easy culture, and, unlike most Grevilleas, it proves particularly useful for growing in small pots. Of neat and graceful habit, the plant produces its racemes of flowers with such freedom that it compares most favourably with any other occupant of the greenhouse; moreover, it flowers over a very long period and is rarely out of bloom. Grevillea Thelemanniana is readily raised from cuttings or seeds. The cuttings should be moderately firm shoots and

FIG. 3.—GREVILLEA THELEMANNIANA: FLOWERS PINK, TIPPED WITH GREEN.

inserted in a sandy compost in the autumn. The blooms are borne in terminal racemes about 4 inches in length; they are coloured pale satiny-pink, tipped with green, and are rendered additionally attractive by the long, red, protruding style. The pinnate leaves are highly decorative, from 1 to 2 inches long, and slightly ribbed. This species is figured and described in *Bot. Mag.*, t. 5,837, under the name of G. Preissi, and was first flowered at Kew in 1870 from seeds sent by Mr. DU BOWLEY, of Perth, Australia, where the species was found by PREIS and other collectors. G. Thelemanniana is usually in flower in the Greenhouse (No. 4) at Kew during the greater part of the year.

American Control of Hawaiian Sugar Production.—Sugar production, the most important industry in the Hawaiian Islands, has long been very largely under the control of the Messrs. H. HACKFIELD Co., a German-owned corporation which controlled at least ten other companies. Now, as a result of the action of the Alien Property Custodian of the United States, the powerful German interests have been eliminated and the business taken over by a new American company known as AMERICAN FACTORS, LTD., financed by 640 American residents of Hawaii. All shareholders have to satisfy the authorities as to their loyalty, as it is believed the HACKFIELD COMPANY was the centre of German propaganda in the Pacific.

Life in the Arctic.—A recent issue of the *Daily Express* contains an interesting account of an interview with Mr. V. STEFANSSON, who has just returned to New York after spending five and a half years in the American Arctic archipelago at the head of an expedition sent out by the Canadian Government to explore the islands and seas north of Alaska. Mr. STEFANSSON says that, contrary to popular impression, the Arctic regions are not barren of life, and that there is no place on earth where it is easier for a man to support himself if he knows how. There is abundance of game everywhere, he said; there are polar bears and seals on floating ice in the lanes of open water. On land there are musk oxen and reindeer or caribou. "Every polar island that I have seen is covered with grass and vegetation, upon which fat herds of reindeer and musk oxen feed." Mr. STEFANSSON and his party traversed about one-quarter of an unexplored region embracing some one million square miles 400 miles from the Pole. It had always been considered the most inaccessible part of the northern hemisphere. The members of the expedition travelled on an average more than 2,000 miles a year for five years and never missed a meal and never lost a dog from hunger.

Hydrogen cyanide in Burma Beans. — As some cargoes of Burma Beans were found to be of a poisonous character, the Burma Department of Agriculture was urged to encourage the cultivation of Beans containing less cyanide than Phaseolus lunatus. As the result of experiments, reviewed in Bulletin No. 79 of the Agri-

cultural Research Institute, Pusa, it has been found that Madagascar Beans are not suitable for replacing the Pe-gya and Pe-byungale Beans so largely grown in Burma, and, moreover, after two years' cultivation their prussic acid content increased. From tests made with special cultures of the common Pe-gya Bean it is concluded that those with a low hydrogen cyanide content give low figures when grown in different localities, but the content varies considerably with different soil and climatic conditions.

Agricultural and Horticultural Training for Soldiers in France.—2nd Lieut. W. HALL and Sergt. A. H. RIDOUT write from the 49th Division School of Agriculture and Horticulture, at Douai, as follows: "We should be pleased if you will allow us to state in the *Gard. Chron.* that we are just starting agricultural and horticultural courses in this Division, pending demobilisation, which, of necessity, may take some time. Our aim is to give practical instruction both in farming and gardening, and we have been given the use of the French Agricultural and Horticultural School, close to Douai. In the case of farming little will be possible at present except the preparation of the land for Potatos and root crops, which will constitute the practical side, with lectures dealing with the scientific side. Regarding horticulture, we have some good material to work on, notably a finely laid out garden of about 4 acres, well stocked with a splendid lot of trained fruit trees in first-rate condition. Here we shall be able to do practical work, in conjunction with lectures, all of which we hope will be very beneficial to the students, who will have good billets and a lecture and recreation rooms. The most difficult things to obtain at present are suitable books and papers on farming and gardening, hence we venture to appeal to the generosity of your readers who may have any spare copies of either books or papers on these subjects, or any spare reading matter, which we could add to the stock of our library and reading-room. If such literature is made into a parcel, addressed to the 49th Division, School of Agriculture and Horticulture, B.E.F., France, and handed in at the nearest Post Office, it will be greatly valued by the lads who have done their bit in the fighting and are looking forward to doing equally well in helping to make the land of 'Old Blighty' more productive."

Canadian Apple Package and Grading.—As a result of action taken at a convention of representatives of the Canadian fruit industry, the Canadian Government has passed an Act raising the standard of Apple grading, and also providing for certain changes in the legal size of Apple barrels and boxes. The following regulations, which came into force on January 1, 1919, prescribe the dimensions of Apple packages: All Apples packed in Canada for sale by the barrel, in closed barrels, shall be packed in good and strong barrels of seasoned wood of the following dimensions, as nearly as practicable: length of stave, 28½ inches: diameter of head, 17⅛ inches; distance between heads, 26 inches: circumference at bulge, 64 inches outside measurement, representing as nearly as possible 7.056 cubic inches. All Apples packed in Canada for sale by the box shall be packed in good strong boxes of seasoned wood, the inside dimensions of which shall be: length, 18 inches; width, 11½ inches; depth, 10½ inches, representing as nearly as possible 2,174 cubic inches. It may be explained that these regulations have the effect of assimilating Canadian to American box and barrel standards. The American box, 18 inches by 11½ inches by 10½ inches, holding 1 bushel, will take the place of the long British Columbia box, 10 inches by 11 inches by 20 inches, of about the same capacity, previously seen on the market. The larger Ontario and the smaller Nova Scotia barrel will give place to the American standard barrel, holding 3 bushels. The following grading regulations are now in effect:—Grade 1.—No person shall sell, or offer, expose or have in his possession for sale, any fruit packed in a closed package upon which package is marked "No. 1" unless such fruit includes no culls and consists of well-grown specimens of one variety, sound, of not less than medium size and of good colour for the variety, of normal shape and not less than 90 per cent. free from scab, wormholes, bruises and other defects, and properly packed. Grade 2.—No person shall sell, or offer, expose or have in possession for sale, any fruit packed in a closed package, upon which package is marked "No. 2," unless such fruit includes no culls and consists of specimens of not less than nearly medium size and some colour for the variety, sound, and not less than 85 per cent. free from scab, wormholes, bruises and other defects, and properly packed. Domestic Grade.—No person shall sell, or offer, expose or have in his possession for sale, any fruit packed in a closed package, upon which package is marked "Domestic," unless such fruit includes no culls and consists of fruit of not less than medium size for the variety, sound, and not less than 80 per cent. free from wormholes (but may be slightly affected with scab or other minor defects), and properly packed. Grade 3.—No person shall sell, or offer, expose or have in his possession for sale, any fruit packed in closed package, upon which package is marked "No. 3," unless such fruit includes no culls and is properly packed. Culls, which are excluded by the preceding regulation, are defined as follows: "Culls" means fruit that is either very small for the variety, is seriously deformed, or has 15 per cent. or more of its surface affected by any of or by the combined injuries caused by Apple scab (Venturia pomi), insects, cuts, bruises, or other causes, or the flesh of which is not in an edible condition, or the skin of which is broken so as to expose the tissue beneath. The attention of importers is called to the fact that, by these amendments, the standard of No. 2 Apples is raised by the requirement of 85 per cent. freedom from defect instead of 80 per cent. as formerly, and by the prescription of a colour requirement heretofore not called for, that the unofficial grade known variously on the British market as Large No. 3, Paper Label No. 3, or Co-op. No. 3 is now legalised as the new Domestic Grade, and that the standard of No. 3, formerly interpreted as anything merchantable, not included in the higher grades, is considerably raised by a careful definition of "culls," which must be excluded.

Eucalyptus.—The 35th part of MAIDEN's *Critical Revision of the Genus Eucalyptus* deals with the following species: E. Lehmannii, E. annulata, E. platypus, E. spathulata, E. gamophylla and E. argillacea. These are all confined to West Australia, except E. gamophylla, which has also been collected within the south-western border of South Australia and perhaps in the Northern Territory. All the species are shrubby or trees of only small dimensions. E. Lehmannii is remarkable in having the flowers and seed vessels embedded in the thickened stalk, forming a concrete mass in the fruiting condition. The handsome cultivated plant figured in the *Botanical Magazine* (plate 6140) as E. cornuta, Mr. MAIDEN refers to E. Lehmannii. E. platypus (HOOKER's *Icones Plantarum*, plate 894), of this affinity, is distinguished by its singularly flattened, usually curved peduncles, bearing from 3 to 7 sessile flowers. E. gamophylla is one of the few species of Eucalyptus having opposite leaves through all stages of its growth, and these vary greatly in size and shape, even in the fruiting stage. The broader conditions resemble the connate upper leaves of Lonicera Caprifolium.

"Plant Immigrants." — Several interesting plants are cited in No. 138 of *Plant Immigrants*, U.S.A. Actinidia arguta is stated to be an excellent climbing shrub suitable for planting in the neighbourhood of New York. A very vigorous grower, it will cover a trellis 20 feet long and 10 feet high in two or three years, but the plant does not (at least in Maryland) flower freely until six to eight years old. The flowers are attractive, with their white petals and dark stamens, and the flavour of the fruits is sweet, pleasant, and Fig-like. A hybrid between Berberis Wilsonae and B. aggregata is of even more spreading habit than the former species, and has dense foliage which turns deep purple at the approach of frost and remains on the plant till mid-winter; a handsome and hardy plant. Brassica pekinensis (Pai ts'ai), from China, is said to be a rapid grower, coming to maturity in four, or at most six weeks from germination. It has a "buttery" flavour, and is prepared by dropping into boiling water after cutting into large pieces. Phaseolas aureus, also from China, produces edible sprouts when grown in a moist, warm, dark place. A Chinese race of Pea, Pisum sativum, is grown as a winter crop on Rice lands in the Yangtze Valley. It is sown in October and harvested in April; a variety with which hybridists in search of a hardy Pea for winter sowing should experiment. Rubus bogotensis, from Columbia, is said to excel all Blackberries in flavour. A Broad Bean (Vicia Faba) also is grown as a winter crop in China, and its seeds make a nutritious and palatable dish.

Publications Received. — ***British Rainfall, 1917.*** By Hugh Robert Mill and Carle Salter. (London: Edward Stanford, Ltd.)

ORCHIDS IN 1918.

ORCHIDS were extensively and consistently exhibited at the meetings of the Royal Horticultural Society in 1918. Messrs. Armstrong and Brown, Messrs. Charlesworth and Co., Messrs. Stuart Low and Co. staged large exhibits of excellent quality. Messrs. Armstrong and Brown were awarded a Gold Medal at the closing meeting of the year for a specially fine collection. Of the many and interesting plants submitted to the Orchid Committee for awards seventy-seven gained that distinction, twenty-one received First-class Certificates, thirty-three Awards of Merit, twenty-one Preliminary Commendations for seedlings flowering for the first time, and one a Certificate of Appreciation. The pictures of certificated Orchids, each with its name, date of award, derivation, and other data, in the Society's collection number 2,439. These illustrations form a valuable source of reference, and serve to demonstrate the progress of Orchid hybridisation. In the aggregate the awards are equal to those of 1917, but it is satisfactory to note that the number of First-class Certificates is more than double that of the previous year's record, and the general character of the exhibits show good progress.

Of the plants which were awarded the First-class Certificate Sir Jeremiah Colman, Bart., exhibited two of the best in Brasso-Laelio-Cattleya Antoinette Gatton Park variety and Brasso-Cattleya Gatton Lily; C. J. Lucas, Esq., in Sophro-Laelio-Cattleya warnhamensis, showed the best and brightest Sophronitis cross; Dr. Miguel Lacroze, in Cattleya Monarch Bryndir variety, had a massive variety of a very showy Cattleya; and John Hartley, Esq., in Cypripedium John Hartley, showed great progress in this class. Messrs. Armstrong and Brown excelled among nurserymen, their Laelio-Cattleya President Wilson, Odontoglossum Lady Veitch, Miltonia Lady Veitch, and Odontoglossum promerens xanthotes, all of which received First-class Certificates, being noble plants. The firm were also awarded twelve Preliminary Commendations for seedlings of great promise.

Messrs. Charlesworth had as their best plants the very fine Odontoglossum St. James, Cattleya Clotho var. General Pershing and C. Britannia Majestica.

Messrs. Flory and Black produced several very

fine novelties, including Cattleya Hardyana alba var. President Wilson and Brasso-Cattleya Princess Mary; Messrs. J. and A. McBean showed the pure white Cymbidium Alexanderi album and the richly blotched Odontoglossum eximium Le Papillon.

The list of plants for which Awards of Merit were given includes many destined for the higher Award when mature, and the Preliminary Commendations show that, especially in Odontoglossums and Odontiodas, the work of evolution is being continued satisfactorily.

It is to be regretted that but few species or varieties of species were entered for awards, and not a single award to a species was made, whilst only three varieties of Odontoglossum crispum (home-raised seedlings), viz., O. c. Oakwood Triumph, from Mrs. Cookson; O. c. The Britisher, from Mrs. Ogilvie; O. c. Beauty of Ashtead, from Mr. Ralli, secured Awards of Merit. The perfectly shaped O. c. The President from Messrs. Charlesworth and Co. gained only a Preliminary Commendation. There are sufficient reasons why Orchid species should be scarce, and importation for some time will be difficult, but it is to be hoped that the importation of Orchids from their native habitats will be taken up again at the earliest opportunity, for it must be remembered that a very large class of gardeners still require showy, imported Orchids, and there are many lovers of pretty botanical species. The importation of plants in the near future will probably be handicapped by restrictions of freight and collecting, but against that it may be said that access to new countries opened up during the war gives better prospects of discovering new species.

In *The Gardeners' Chronicle* lists of new hybrids during the past year two hundred and fourteen new crosses have been registered, compared with two hundred and sixty in 1917. The methods disclosed are similar to those of the past, and old favourites, such as Cattleya Dowiana aurea and Odontoglossum crispum and their descendants are largely used as parents, but the crossing generally is regulated, necessarily, by the plants in flower at the same time, advantage being taken, when possible, of a desirable kind flowering out of season.

Those who are engaged in the work continuously must have acquired many interesting facts which would tend to throw light on the subject of hybridising, and they would aid in making the methods adopted more scientific by communicating their observations to the horticultural Press. Facts of great interest have been recorded relating to the production of albinos, yellow hybrids, and on the possibility of the labellum, generally the richest in colour, taking part in heightening the colour of the other segments in the progeny under certain conditions. In *Gard. Chron.*, March 28, 1914, under Epi-Laelia Medusae, were given interesting particulars of the manner in which deep laceration in the lip of one parent was filled with membrane in the hybrid, quite changing its character. The crumpled, fimbriated lip of Odontoglossum Hunnewellianum, in successive crossings with plain-lipped species, has resulted in an abnormal, almost circular, development of the lip (Odontoglossum crispothello) (*Gard Chron.*, May 11, 1918, p. 194), evidently from the expansion of the many folds in the lip of one species by the firm structure of the other. The crumpled lip of O. Hunnewellianum, O. Adrianae and O. luteo-purpureum were thought to be floral defects by many Orchidists, but the art of the hybridist, if correctly exercised, may get advantages even from so-called defects.

In the early days of hybridising the male and female parents were always noted. This record is very important if results are to be accurately estimated, and even if the male parent is unknown, the name of the seed-bearer should be carefully stated when plants are sent for registering. The following new and noteworthy Orchids have been illustrated in *The Gardeners' Chronicle* during 1918:—

Aerido-vanda Mundyi, March 2, p. 93.

Brasso-Laelio-Cattleya Antoinette Gatton Park variety, December 7, p. 229.

Catasetum Darwinianum, male and female flowers, August 10, p. 61.

Cattleya Iris Ansaldo's variety, September 7, p. 101.

Cattleya Venus The Knowle variety, October 5, p. 136.

Cirrhopetalum ornatissimum, September 28, p. 131.

Coelia macrostachya, August 31, p. 91.

Cynorchis purpurascens, March 23, p. 122.

Cypripedium Eurybiades Shillianum, February 16, p. 72.

Doritis pulcherrima, February 9, p. 57.

Laelio-Cattleya J. F. Birkbeck Fowler's variety, May 18, p. 209.

Laelio-Cattleya Linda, November 9, p. 189.

Laelio-Cattleya Oenius Bryndir variety, January 19, p. 27.

Lycaste Deppei, April 13, p. 154.

Lycaste Imschootiana, August 24, p. 77.

Miltonia Lady Veitch, June 22, p. 257.

Neomoorea irrorata, March 30, pp. 134, 135.

Odontioda Memoria F. M. Ogilvie, February 23, p. 81.

Odontioda Windsor, March 16, p. 115.

Odontoglossum Corona, February 9, p. 53.

Odontoglossum crispum Oakwood Triumph, April 27, p. 174.

Odontoglossum Gatton hybrids, variation in, July 20, p. 22.

Odontoglossum Hamlet, June 29, p. 262.

Odontoglossum Jasper var. Roehampton, April 13, p. 160.

Odontoglossum Lady Veitch, November 30, p. 216.

Odontoglossum Peerless var. Jas. MacNab, June 22, p. 252.

Odontoglossum Victory The Baroness, May 4, p. 184.

SOIL CULTIVATION.

In the case of medium and strong loams, as well as clays, autumn and winter tillage are preferable to spring cultivation, for rain and frost are valuable agents of soil-disintegration and hence of soil-fertility. This work may be carried to three degrees, and it is for the individual cultivator to decide which is best suited to his particular circumstances. The first is ordinary digging, which should give a depth of 12 inches; the second is bastard trenching, with a depth of 20 inches or more; and the third is trenching with an equal or greater depth. Of these the last-named is the best if the subsoil is sweet; the second if there is any doubt as to the condition of the subsoil, whilst the first should only be done where the land is very shallow or overlies rock. Whichever system is chosen for adoption, the top soil should be turned as roughly as possible and left to the action of the weather. On no account should heavy land be wheeled over, unduly trampled on, or dug during wet weather, or when water is standing on the surface, as this would of a certainty lead to its working very badly for at least one season, and most probably for some time longer. In the case of light soils that lack the necessary power of holding plant food, loosening is undesirable, and efforts should be directed towards consolidation. As autumn loosening would encourage the percolation of water through the soil, it is wise to defer working such ground until the spring, and then do it as early as the condition of the land will permit. After manuring, to which attention will be drawn forthwith, the soil should be carefully and thoroughly firmed before sowing or planting. This matter is worthy of attention from growers, for if the digging is done when the soil is in the proper condition of moisture, it cannot be productive of anything except good to the plants that are grown. The preparation of the soil is the first and most important factor; all experienced growers understand the value of thoroughly working the soil in autumn or early winter and again before planting. Re-digging may be necessary, if the soil be stiff, before it is brought to a proper tilth. The deeper light, sandy soil may be worked the longer will it hold moisture, and, as a consequence, the longer will plants continue to grow in dry weather. We can therefore realise at once the paramount importance of deep trenching.

As strong soils are cultivated in the autumn so also must they, wherever possible, be manured in the autumn, and the finest manure is horse-dung which has been kept for some time. If the soil is simply dug the manure should be put at the bottom of the trench, but if either bastard trenching or full trenching is adopted the manure should be thoroughly incorporated with the second spit. In this form of manuring the entire plot of ground allocated to such crops as Cabbages, Onions and Leeks would each receive a portion, and I am convinced that this is the correct system to adopt, but where manure is scarce it can be placed either in stations or trenches, according to fancy, and it should be be mixed with the second spit and not laid in solid masses.

The depth at which the manure will lie depends upon the nature of the soil, but, as a rule, it should not be nearer than a foot to the surface nor deeper than 2 feet. Soils of a light nature are worked and manured in the spring, and the object should be to incorporate such materials as will add to the retentiveness of the ground, and for this purpose nothing is better than well-decayed cow manure, as it is naturally cool and moisture-holding.

We have still, however, to consider the indispensable special or concentrated fertilisers. Generally speaking, the finest results that accrue upon their use follow spring application, but at the same time there are one or two that are best applied in autumn. Basic slag is very slow in action, and is practically valueless applied after the end of January, and only of full value when worked in the soil before the end of December. It should be used at the rate of 5 ozs. to the square yard. Kainit may also be applied early because it is not readily washed out of the soil. It should be used at the rate of 4 ozs. to the square yard.

For spring application superphosphate of lime is the best form of phosphatic fertiliser; the best form of potassic food is sulphate of potash; and the best forms of nitrogenous food nitrate of soda and sulphate of ammonia. For pricking into the surface of strong soils about the end of February or early in March use a mixture consisting of three parts of superphosphate, two parts of sulphate of potash, and half a part each of nitrate of soda and sulphate of ammonia; the quantity used should be 2 or 3 ozs. to the square yard.

The materials should be mixed thoroughly, and when worked in the soil with a spade the operator should endeavour to get them evenly distributed over the whole area of the ground. Nitrate of soda or sulphate of ammonia alone will have not the slightest value at that early time of dressing; if it is inconvenient to obtain both do not use either as a food, but reserve it for application as a stimulant at a later stage of the plant's progress. The best time to apply lime is in the autumn. It is worth while also to give another dressing of lime early in the spring. Soot is a valuable fertiliser, and should be applied several times during the season. *James A. Paice.*

ON INCREASED FOOD PRODUCTION.

SUNFLOWERS FOR SEED.

THE note by *A. N.*, on p. 220, Vol. LXIV., on the growing of Sunflowers for seed interested me. The planting of Sunflowers for this purpose was strongly advocated last spring by the Food Production Department. I planted about 4 rods of land with Sunflowers; the seeds were sown the last week in April on a newly broken up tennis lawn; the soil, a sandy loam, was well manured and prepared. The rows were made 3 feet apart and the plants thinned to 2 feet asunder in the rows. They grew splendidly, many of them reaching a height of 14 feet, and most of them developed large flower-heads. In September we had a heavy gale (as we generally do), which laid more than half of the plants. A few seeds matured on those that were left upright, which the tits and finches finished off for us. Thus the result of my Sunflower patch was nil. Had I planted Potatos, as I did on the other part of the ground, I should have had another 8 cwt. of tubers. This recommending of experiments with Sunflowers, Sugar Beet, Maize, or, as it was boomed by some firms, Sugar Corn, was a great disappointment to many small growers who take their gardening hints from daily papers. It would have been far better if the experts had advised them to concentrate on well-tried subjects, which would have given them good returns for their labour, and have added to the food supply of this country in a time of scarcity. *W. H. Fraser.*

SEAWEED.

I CAN substantiate the experience and opinion of *Yorkshire* (p. 220, Vol. LXIV.) as to the value of seaweed for certain vegetable crops, and would go further, to say that most crops would be benefited by it, but especially those that readily respond to an application of a manure containing potash. Much seaweed was formerly burned for kelp, which is rich in soda and potash. On the shores of the Moray Firth and other parts of Britain it is much used for growing Potatos, whilst in the northern district named it was much used by local farmers. In some cases it was procured in summer and mixed with soil till the time of ploughing, but in many other cases it was carted directly on to grass land, spread and ploughed in without any preparation. Its use gave heavy crops of Corn, Turnips and grass for a number of years, after which the weight of produce lessened considerably. This was thought to be due to sand on the seaweed, that made the soil too light. I think the excess of potash was responsible for depleting the store of other necessary plant foods in the soil, and that superphosphates, and nitrates, or even farmyard manure, applied alternately with the seaweed, would have restored the balance. A plentiful supply of seaweed would indicate a rocky sea bottom, not far from a low or shelving beach, where the tides would cast up the old and detached plants of Fucus, Chondrus crispus, Rhodymenia palmata, and others, in quantity. *J. F.*

SEWAGE AS MANURE.

IN these days of scarcity of stable manure prejudice as to the use of home resources will have to be abandoned, and gardeners should begin to realise that sewage sludge is a valuable winter manure.

Sewage alone is not, perhaps, a complete manure. It needs potash, and this can be added in the form of flue dust, which also has the advantage of possessing pest-killing properties, if quite fresh. About a one-eighth part of flue dust should be added, and the material dug in as soon as possible. If flue dust is not available, wood ash might be mixed with the sludge. The sewage should be spread on the ground at the rate of about 1 ton or a little more per 300 yards, and dug in.

I do not advise the use of what is known as unpressed tank sludge. As a rule it contains too much water to be of use, and its unpleasant odour makes it objectionable for spreading on the land unless it can be dug in immediately or stored in an out-of-the-way place. The material to which I refer is that which has been precipitated and pressed, and which does not contain a large percentage of water. The water content is not nearly so great as in fresh cow manure, so that a ton of the sludge will contain more manurial value than a ton of fresh cowdung.

Potatos and Peas yield excellent crops when this manure is used, and also most tap-rooted crops, especially Globe Beetroot, Swedes, and Sugar Beet. Parsnips are not quite so good, but, on the contrary, fanging is not so common with sewage manure as when animal manure has been used. *E. T. Ellis.*

PRECOCIOUS PLANTS AT ALDENHAM.

I HAVE just returned from a visit of a few hours to Aldenham, and in spite of heavy showers, a cold north wind, and sodden soil, many things were looking very bright and pretty there.

All plant life is in an unnaturally forward state for the time of year, and by no means in the dormant condition which ought to be prevailing; it is bound to experience a heavy setback and unpleasant reverse of fortune before many days have passed. I noticed Ribes speciosum, a sheet of tender green; almost all the buds had opened and were disclosing half-developed leaves the size of a threepenny-bit. The Winter Aconite was already showing splashes of vivid yellow here and there under the trees, a pleasant sight which I never remember to have enjoyed before until the New Year was well begun.

A large mass of the Sweet Coltsfoot, Tussilago fragrans, growing among a lot of old tree stumps, gratified the eye with its pale lilac colouring, and even more the nose, by its delicious Heliotrope-like smell. I noticed, too, Hamamelis vernalis and several other Wych-Hazels covered with their pink, brown and gold rosettes of flower, which twinkled in the occasional sunbeams on their bare twigs. On the bushes of Cotoneaster Simonsii hundreds of scarlet berries still showed gaily, the birds having kindly spared them.

However, perhaps the prettiest thing to be seen in the garden was a good-sized bush, about 5 feet high, of Lonicera Standishii lanceolata, one of Wilson's introductions from China.

This was covered with white blossoms, some fully and some half open, but all sufficiently advanced to develop completely if gathered and brought into a warm room. Although the shrubby Honeysuckles are not so valuable here as they are in the United States, where they can be counted upon to produce annually a full crop of showy red fruits, yet it surprises me that the better kinds are not more often to be seen in English gardens, especially when it is considered that they are perfectly hardy, accommodating as to almost any kind of soil, tolerant of the smoky atmosphere of big cities, easy to reproduce, quick-growing, and inexpensive. Surely there are not so many shrubs that will supply a pretty nosegay in midwinter that one can afford to neglect them. *Vicary Gibbs.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Austrian Briar Hybrids.—I protest against the term Austrian Briar hybrids being given to the "Pernetiana" Roses. Mons. Pernet Ducher, the raiser of Soleil d'Or, has worthily earned the honour of having his name bestowed upon a group of Roses that owes its origin to the offspring of Soleil d'Or, and the National Rose Society has adopted the name "Pernetiana." The writer of the Notes on Some of the Newer Roses in *Gard. Chron.* used the name Austrian Briar hybrids, and some few nurserymen still call these Roses by that term. To Mons. Pernet Ducher, who has lost two gallant and clever sons in the war, we owe a large debt of gratitude for his many wonderful creations in new Roses. *Walter Easlea, Eastwood, Leigh-on-Sea.*

The Loss of the Clematis in Gardens (see p. 253, Vol. LXIV.).—Mr. Robinson should do us the honour of reading our remarks before replying to them. We stated that our plants, raised from cuttings, were so badly affected by "dying back," that we had to give up this method of propagation. We are now told that we write as if this serious problem did not exist! The statement that we object to is that this disease is due to grafting. If it can be substantiated, we are quite open to conviction; if not, we suggest it should be withdrawn. *George Bunyard and Co., Ltd., Royal Nurseries, Maidstone.*

Fruit Trees in Shrubbery Borders.—Trees growing in association with shrubs need manuring somewhat more liberally than those grown in ordinary conditions. After the shrubbery has been cleaned give the fruit trees a liberal top-dressing of rich material. See that the shrubs, if over-exuberant, are not overgrowing the trees. As the fruit trees are planted in conjunction with shrubs for their ornamental character they should not be pruned severely. I remember, some years back, a Dumelow's Seedling or Wellington Apple (one of the prettiest when in flower) which was not pruned. This tree, almost without exception, produced heavy crops of good fruit. The shelter afforded by a belt of shrubs will in some localities be congenial to both Pears and Plums. As such trees are, in all probability, standards, with supports, see that the latter are in a sound condition before there is a danger of damage from a heavy fall of snow or strong winds. *James Hudson, Gunnersbury House Gardens, Acton.*

Sterilisation of Leaf-Mould. — We make the best use of leaf-mould at Keele. Beech and Oak leaves are kept separate to provide material for plunging purposes, making hot-beds, and for use in various composts. I agree with *W. W.* in his remark on p. 223, Vol. LXIV., as to the need of a machine for sterilising soil. Leaf-mould here, at one time, was badly infested with eelworms. Our method of sterilising soil and leaf-mould is rather crude, but effective. Over a large wood-fire are placed galvanised iron sheets supported by roughly built walls about 2 feet high. A large quantity of leaf-mould is placed on the sheets and kept continually turned with shovels to prevent burning. In a few minutes the whole bulk is steaming, and heated through sufficiently to destroy all insect life. After this treatment the leaf-mould is wheeled under an open shed for future use. Two men can sterilise a large quantity of mould in a day. *W. J. Guise, Keele Hall Gardens, Newcastle.*

Romneya Coulteri (see pp. 227, Vol. LXIV.).—I am doubtful if Romneya Coulteri is worth growing. I have a strong plant, and last year (the first of flowering) it had only two blooms, and this year only one, ill formed, and a very belated one that came to nothing. This is not encouraging, though the plant grows at least 3 feet high and puts up a great number of strong branches. I have seen it stated somewhere that R. trichocalyx is more floriferous, but after my experience I hardly feel inclined to try it. My plant of Romneya Coulteri has had no special attention, as I am nothing but an amateur. *T. J. Hicks, Bridge Road, Maidenhead.*

Silver Leaf (see pp. 178, 210, 215, 243, Vol. LXIV.).—I have read with great interest the opinions of the various correspondents, and also the advice of the Food Production Department, in your pages on this disease. I am in agreement with much that has been written, but a few remarks call for comment. No other fungous pest has spread so rapidly amongst fruit as Silver Leaf. I am not very old, but I remember when it was comparatively rare even amongst stone fruits. Now I think it may be said truly that few trees are immune from the complaint, and I include ornamental as well as fruit trees. I have seen all stone fruit, Apples, Lilac (in a

hedge), Pears, and common Thorn affected with the complaint. The two last-named I am not so certain of, as I am writing from memory, being in hospital, where I have been for the past fourteen months recovering from wounds. I do not think that grafting has anything to do with Silver Leaf, as I am convinced from much experience amongst young trees that it starts at the root. In every case I have examined I have found, whether affected little or much, that the stock below the "union" has had a brown centre right down to the root. Also, if "working" has to do with it, how is it that stocks which are raised from seed, layers or cuttings are attacked? I think that no woody matter should be buried in the ground, or even stacked or stored near plantations. The fungus (Stereum purpureum) can be found in its purple state upon rotting wood. Like Mr. E. Molyneux, I am puzzled why it suddenly appears upon some healthy trees in plantations that were always free from the disease. Is it from some prunings which have been left about and then buried near the roots, or does part of the root decay and so start the disease? I feel certain that the safest plan is to destroy trees if they show the slightest sign of Silver Leaf, being careful to take the whole stump out. We must still either bud or graft our fruit trees, or we shall find ourselves in a terrible muddle as to varieties, besides having many fruitless trees. *L.-Cpl. W. Radford, "The Buffs," Wenyngton Ward, 2nd Northern General Hospital, Becketts Park, Leeds.*

—— I do not think it will be found that Mr. Bates (p. 243, Vol. LXIV.) is correct in his suggestion that Silver Leaf occurs only where Plum trees are growing in stiff, clay soils. I find the disease bad in trees on light land, both where the subsoil is sand and where it is clay, but I must acknowledge that in each case the subsoil is very wet in winter. As for the age at which trees are attacked, I have no record of the disease appearing on any younger than eight years from planting. It is quite likely that the silvering of the leaves does not occur until some years after the fungus has gained access to the tissues of the branch or stem. With Mr. Hayward's opinion, that the tree must be attacked at or below the ground level, I cannot agree. The silvering may often be noticed at the end of a branch only, and the disease may be traced down through the wood until healthy tissue is reached. I cannot see that there is any escape from the accepted theory that it is a wound parasite (like canker), due to the fungus Stereum purpureum. As to the suggestion that grafted trees are more liable to the disease than those on their own roots, I think this is quite likely to prove correct, because the junction between scion and stock forms a wound through which the fungus can enter. Moreover, I have often seen Silver Leaf on Apple trees that have been top-grafted, but never on other Apple trees, which seems to be good evidence that the fungus entered by the wound made in grafting, and had nothing to do with the roots. With regard to Plums, I have seen it stated by a well-known nurseryman that trees on the Myrobalan stock are more liable to the disease than those on St. Julien. Can any correspondents confirm this? *Market Grower.*

American Blight (see pp. 50, 77, 92, 142, 180, 210, 220, Vol. LXIV.).—Some 15 years ago we were very badly troubled with American Blight, especially on Apples King of the Pippins and Ribston Pippin. They were standard trees about 40 years old, and trunk and branches were simply white with American Blight. I grafted the tree of King of the Pippins with Golden Noble on the extension system, just the main branches, leaving all the smaller branches of the Pippin variety remaining. The result is most gratifying, for it has put new life into the trees. We have had excellent crops of Golden Noble and King of the Pippins this year. We had about 2 cwt. of Golden Noble and 1 cwt. of King of the Pippins, and, what is more, the American Blight has entirely disappeared, and without spraying. We have grafted many of our old trees that had become weak in constitution by continuous bearing, with Bramley's Seedling mostly, and Golden Noble. Newton Wonder has also done well, but has not grown quite so strongly as the other two varieties. We graft all on the small branches, putting as many as 200 grafts on the large trees, then, in about four years, we have a full bearing tree. We grafted an old Ribston with Bramley's Seedling, and it is now the healthiest tree we have. In 1917 this tree bore 7 cwt. of fine, clean fruit, and in 1918 about 3½ cwt. of very fine fruit. Much might be done to improve old orchards by regrafting with these strong-growing varieties on the extension system, and all our best fruits are obtained from trees thus treated. The varieties I have found to do best are Bramley's Seedling, Golden Noble (the two best), Newton Wonder, Hector Macdonald, and Lady Henniker. I have tried many other varieties, but not with such good results as the above. They succeed for a few years and then die off, and sometimes the old trees die outright. The above varieties I have found immune from American Blight. *James Harris, Blackpill Nurseries, Swansea.*

SOCIETIES.

WINDSOR, ETON, AND DISTRICT HORTICULTURAL.

THE annual general meeting of this Society was held on Wednesday, the 11th ult., at the Town Hall, the Rev. H. Tower (chairman of the committee) presiding.

The hon. treasurer, Mr. E. J. H. Rice, submitted the balance-sheet for 1918, which showed receipts amounting to £136 10s. 6d., made up as follows: Balance in hand from 1917, £72 13s. 7d.; subscriptions, £60 17s.; dividends, Leeds three per cent. stock, £2 3s. 6d.; ditto five per cent. National War Bonds, 16s. 5d. The payments included: Purchase of National five per cent. War Bonds, £50; donation to Windsor, Eton and District Horticultural Show, £25; balance in hand, £56 9s. 4d. Mr. Rice said he thought it was a source of satisfaction to the supporters of the Society that they had been enabled to subscribe £25 for the increased production of food in Windsor and District, as shown by the wonderfully successful show held at the Albert Institute in the autumn.

On the proposition of Mr. Romaine, seconded by Colonel Jackson, it was decided to alter the rule as to the number of committee men. It now stood at 20, and he proposed it be enlarged to 25. This was carried.

The names of Mr. C. Frail and the Rev. F. G. A. Phillips (Vicar of Taplow) were then added to the committee.

Mr. Ward Frost wrote resigning his position as assistant hon. secretary of the Society, owing to want of time to carry out the duties, and it was accepted with regret.

On the proposition of Colonel Jackson, seconded by Mr. Cowley, the president (Canon Sheppard), hon. treasurer (Mr. E. J. H. Rice), the hon. secretary (Rev. L. G. Reed) and the committee were unanimously re-elected.

The Rev. M. F. Foxell was elected assist. hon. secretary.

The Society will hold a show on Saturday, June 28, 1919, and it was decided that the assistant hon. secretary should write to Canon Sheppard asking him to approach the King, with a view to obtaining permission for the show to be held in the Slopes of Windsor Castle.

ROYAL HORTICULTURAL OF IRELAND.

THE eighty-ninth annual general meeting of the Royal Horticultural Society of Ireland was held on the 17th ult. at 5, Molesworth Street, Dublin, for the purpose of receiving the report and statement of accounts for the year ending December 1, 1918.

Sir John Ross of Bladensburg presided.

Letters of regret for absence were received from the Marquis of Headfort, president of the Society, Viscount Powerscourt, Lord Frederick FitzGerald, and Mr. D. L. Ramsay.

In the report of the Council it was stated that two successful exhibitions were held during the year. Owing to the support given to the Society by the officers and men of the Grand Fleet, by presenting valuable prizes in recognition of work done by the Irish branch of the Vegetable Products Committee, under its auspices, the Council considered the advisability of extending the originally proposed private winter show into a two days' public exhibition, the results of which fully justified the alteration. The Winter Show also was a notable success. The work of the Irish branch of the Vegetable Products Committee, for the sailors, commenced four years ago, had, thanks to the support of the public, been consistently maintained, and there was still urgent need for this good work, for a few months more.

Sir Frederick Moore, hon. secretary, said that the report was satisfactory, inasmuch as the Society was in debt to the extent only of £33 17s. 6d.

The chairman, moving the adoption of the report, said that nearly all societies of this kind had suffered during the war, but, now that the war was over, they should exert themselves to recover lost ground. It was a pleasure to be able to allude to the work done by the Vegetable Products Committee in providing fruit and fresh vegetables for the gallant men of our Navy. One thousand tons of fruit and vegetables had been sent by the Committee during the four years. Their president had given the Society good advice when he suggested that they should turn their attention to forestry, and he had no doubt that it would be taken up energetically, for there was much need of growing timber in Ireland.

Mr. D'Olier seconded, and the report was adopted.

On the motion of the chairman, seconded by Mr. Miley, it was resolved to instruct the Council to incorporate in the title of the Society the word "Arboricultural."

The members of the Council were re-elected, Mr. James Toner being added.

Obituary.

M. Roe.—We regret to record the death of Mr. M. Roe, late bailiff and fruit manager for Capt. Owen Croft, Pomona Farm, Withington, Hereford. Mr. Roe passed away on the 21st ult., after a month's illness; he leaves a wife and young family.

James Besant.—Many gardeners, especially in Scotland, will learn with regret of the death of Mr. James Besant. Born in Hampshire, he went to Scotland at an early age, and began his professional career in the nurseries of Messrs. D. Stewart and Sons, Broughty Ferry. After serving in several local gardens for a number of years, including four years at Rossie Priory under the late Mr. Doig, he was appointed gardener at Mylnefield, where he remained for ten years before he went to occupy a similar position at Castle Huntly, Longforgan, in which place he remained about 30 years. Mr. Besant was a most successful exhibitor at horticultural exhibitions, and particularly at Dundee and Edinburgh. While he was an enthusiastic and successful cultivator of Chrysanthemums, he scored his greatest successes with indoor fruit, notably Grapes. He won the £50 Challenge Cup offered for Grapes at the Edinburgh International Show, while for the same exhibit he was awarded the King's Cup, the R.H.S. Medal and £15, also on the same day the first prize—a silver tea service—for six bunches of Grapes, no mean achievement. For five years in succession he won the first prize for the best collection of orchard house fruits at Edinburgh. Retiring in the spring of 1914 he returned to England to be near some of his family. Three of his sons followed gardening: James is head gardener to Lord Hastings at Melton Constable; William, head gardener to Mr. Craig Sellars, Ardtornish Towers, Morvern; and John, an old Kewite, is foreman of the outdoor department in the Royal Botanic Gardens, Glasnevin. His daughter, who took the M.A. degree at Dundee University, was for a time Assistant Registrar to the British Legation at Berne. To his widow and family the sincerest sympathy of many old friends will be extended. *Jas. Whitton.*

CROPS AND STOCK ON THE HOME FARM.

THE FUTURE OF FARMING.

As so many changes have come over the whole industry of farming, consequent upon the war, the prospect of success on a farm of any pretensions to size is none too rosy. At present, the selling of Wheat at the maximum price is not easy; millers hold large stocks, and are not keen to buy, except at a reduced figure. The farmer may be requiring money or straw, therefore he meets with difficulty in two ways. During the early threshing season, with continual wet weather and a shortage of threshing machines, farmers experienced much difficulty in getting their seed corn ready in time for sowing, apart from any question of selling corn to others. Further, the plague of rats and mice is all against keeping cereals in the ricks, where in normal conditions it keeps better than in bulk, no matter how suitable the store places are. Grain in bulk requires repeated turning to prevent it becoming musty; this means labour.

The Government has fixed the price of all grain up to June 1, allowing only 1s. advance per quarter from October 1 last; such a sum is not likely to encourage the retention of cereals at the risk of distinct loss. Farmers should thresh the bulk of their corn and turn it into cash.

The whole success of farming hinges upon future prices; if these are maintained as now, in all spheres, the farmer will be content, and will gladly pay the increased wages and augmented cake and manure bills. He can then reasonably demand a good day's work for the wages paid. I regret to say there does not appear to be any tendency to over-exertion amongst employees, and farmers will do well to adopt further systems of piecework.

I fear extra smart farming will not predominate in the near future, as time will not admit of so much clearing up as many of us have practised in the past. The arable and cattle farmer on a large area will be compelled to drop many of the side lines of culture, such as Onions, Carrots, Cabbages, Mangold, Sugar Beet, Sunflowers, and edible Peas, and must reduce his crop of Potatos under certain conditions.

The making of butter, too, is one of the doubtful assets of the future. At the present time a loss of eighteenpence is incurred on every pound of butter made, apart from the labour in storing and preparing the cream and making it into butter. Two gallons of milk are required for 1 lb. of butter; at a low price the milk is worth 4s., while the maximum price of butter is 2s. 6d per lb. for all grades. I think it will be admitted that best butter is worth more than double the price paid for poor butter, but there is no difference in the control price. No one can truly say the butter industry receives encouragement from the authorities.

The up-to-date farmer must put all his energy into improved methods of farming. He must cultivate the land thoroughly well and use motor ploughs, self binders, and grass cutters. With a good type of a motor-driven plough six acres per day can easily be ploughed on ordinary light land—equal to the work of fourteen horses. In harvest work, too, much may be done with machinery; an 8-foot self-binder drawn by a tractor will quickly clear acres of standing corn. With about 600 acres of arable land, a threshing machine driven with the motor is a profitable investment, and pays for its cost in three years at the present price of hire for threshing.

The increased use of artificial manures must follow now that it is known how much their discriminate use adds to the crop yields. Oats and Barley can easily be grown successively on the same land, which facilitates cropping. With the extensive ploughing up of poor grass land in the past and the probable further reduction of such pastures, the remaining grass will need to be further enriched to provide the hay and feeding space for an increase of cattle, which all should encourage.

Some farmers regret the reduction of the grass area. I do not, because land that only produces half a ton of hay per acre is not "doing its bit." The ploughing up of such plots need not limit to a serious extent the supply of hay, because from improved arable culture and the excellent grass and Clover seeds obtainable much heavier crops of hay of better quality can be secured in quite a short period. Clover, Sainfoin, and mixtures of grasses arranged on the various methods of seeding produce the best of hay, especially for horses. Meadow hay is more valuable for dairy cows, but there is less bulk.

On no part of a farm can such rapid improvement be seen as in pasture fields when a practical system of manuring is followed, especially on hilly down land, which has in the past been regarded as more or less derelict land. Too little attention is paid to the draining of wet pastures, but many would not need draining if the natural watercourses and ditches were kept free. *E. Molyneux, Swanmore Farm, Bishop's Waltham.*

TRADE NOTES.

THE annual meeting of the British Florists' Federation will be held at Essex Hall, Strand, W.C., on Thursday, January 23, at 2.30 p.m.

THE British Florists' Federation and the National Chrysanthemum Society have decided to attach themselves to the Chamber of Horticulture.

COVENT GARDEN FLOWER MARKET was closed on Boxing Day, to the delight of very many growers and salesmen. Now that a precedent has been created it is hoped the Flower Market will always be closed on Christmas and Boxing Days. A few sale-rooms around the market were opened for an hour or two on December 26 to allow of the disposal of a small consignment of French flowers.

REMOVAL OF CONTROL OF RAFFIA.

MR. CHAS. H. CURTIS, the secretary of the British Florists' Federation, received the following letter from Dr. F. W. Keeble, of the Food Production Department, under date of December 31, 1918: "In further reference to your letter of November 14 regarding the release of Raffia, I have to inform you that the Raffia (Control) Notice, January, 1917, and the Raffia (Prices) Order, July, 1917, have been cancelled. The position, however, has not changed greatly for the better, although in the near future it may be expected that the usual wholesale houses will be importing from Madagascar. Now that the Order in question has been rescinded, there should be no difficulty in securing by next May, or perhaps earlier, an adequate supply of Raffia, and I hope that it may not be impossible to obtain the release of the small military supply. This matter is receiving attention."

PROHIBITION OF PLANT IMPORTS INTO AMERICA.

MR. R. WYNNE, secretary of the Chamber of Horticulture, writes: "I beg to inform you that I have received a copy of a General Notice issued by the American Horticultural Trade, and addressed to the Foreign Horticultural Trade and Allied Branches. This notice states that the Department of Agriculture approved on November 18 the drastic proposals of the Federal Horticultural Board to exclude importations from all foreign countries of plants, with the exception of such as are required for propagating purposes in the States. Bulbs and bulbous roots, with some small exceptions, are also excluded.

"As this matter will be prejudicial to trade interests in this country, I have considered it expedient to call an early meeting of the Committee of this Chamber to consider it fully, and in the meantime I shall be very glad to receive the views of any of your readers who may consider it vital for steps to be taken for their benefit. I am also placing myself in communication with the Foreign Office and the American Embassy, to ensure obtaining the latest official information on so important a subject."

DEBATING SOCIETIES.

READING GARDENERS'. — "The Culture of Tomatos under Glass" was the subject arranged for discussion at the fortnightly meeting of the above association held in the Recreation Room, Abbey Hall, on Monday evening, December 9, 1918. This was introduced by Mr. W. Chislett, The Gardens, Bill Hill, Wokingham. Mr. H. C. Loader, The Gardens, Erlegh Park, exhibited fruits of Sutton's Princess of Wales Tomatos. Mr. G. Tovey, The Gardens, Leighton Park, was awarded the association's Award of Merit for a specimen plant of Chrysanthemum.

LAW NOTE.

ILLEGAL USE OF WHEAT.

AT Thorpe, Essex, a lady farmer of Great Holland, near Clacton, was recently fined £227 for using Wheat for poultry feeding. It was stated that defendant had disregarded repeated warnings, saying she would obey the laws of God, but not of man.

GARDENING APPOINTMENTS.

Mr. W. Wood, for more than 6 years Gardener to Major HAWKSWORTH SMYTH, Ballynegall, Mullingar, as Gardener to MAYNARD SINTON, Esq., Ballyards House, Armagh.

Mr. F. Bailey, as Gardener to Sir GUY SEBRIGHT, Beechwood, Dunstable, Bedfordshire.

Mr E. Mathews, as Gardener to Sir ERNEST CASSEL, Moulton Paddocks, Newmarket, Cambridgeshire.

R. Onslow, for 12 years at Dogmersfield Park Gardens, Winchfield, Hants, as Head Gardener to J. L. WADDILOVE, Esq., The Elms, Spaniards Road, Hampstead.

Mr. A. Matthews, for 10 years Gardener at Everley Manor, Marlborough, as Gardener to Capt. A. S. WILLS, Thornby Hall, Northampton. (Thanks for 2s. 6d. for R. G. O. F. Box.—EDS.)

Mr. C. Ridler Dutton, for the past seven years Gardener-Bailiff to C. S. CLARKE Esq., Tracy Park, Wick, near Bristol, as Gardener-Bailiff to Lieut.-Col. CAPEL, The Grove, near Stroud, Gloucestershire.

Mr. E. Matthews, for the past 3½ years Gardener to His Grace the Duke of WELLINGTON, K.G., Stratfieldsaye, Mortimer, as Gardener to the Right Hon. Sir ERNEST CASSEL, Moulton Paddocks, Newmarket.

CATALOGUES RECEIVED.

SEEDS.

DICKSON & ROBINSON, Manchester.
JOHN PEED & SON, West Norwood, London
GEORGE FAIRBAIRN & SONS, English Street, Carlisle.
STEWART & Co., 13, South Street, Andrew Street, Edinburgh.
LITTLE & BALLANTYNE, Carlisle.

Foreign.

SLUIS & GROOT, Enkhuizen, Holland.—Flower seeds.

ANSWERS TO CORRESPONDENTS.

FRUIT TREES AND TENANTS: *J. P.* Unless an agreement exists to the contrary a tenant is not permitted to remove any standard, bush or cordon fruit trees from his landlord's property on giving up his tenancy, even though he has planted them himself.

GARDENERS' WAGES: *G. P.* Considering the accommodation, we think the weekly wages for such a position as you suggest should be not less than 35s. or 40s.

HYBRIDS OF CITRUS TRIFOLIATA: *J. C.* We hope to be able to obtain the information required in a few days and to send it you by post.

LAVENDER CULTIVATION: *L. M. B.* Lavender grows well in deep, well-drained soil, rather light in texture but fairly rich. Planting should be deferred until early spring, and if year-old plants, i.e., those rooted as cuttings late in 1917, can be obtained, a good start may be made. The position you have in view should prove suitable. Rosemary should succeed under the same conditions. The price of dried Lavender per pound can be obtained from a wholesale chemist, perfumier, or fancy-soap manufacturer; it varies with the season and the quality of the produce.

PIG MANURE: *S. T.* Pig manure is quite suitable as a fertiliser, especially for light soils. On heavy, moist land it should not be used until partly decomposed, as it is wet in a fresh state and would tend to make heavy land cold and moist. Drainings from pigsties are suitable for established fruit trees, and during the winter may be poured on the soil occupied by the roots of the trees.

REPORT OF ORMSKIRK POTATO TRIALS: *W. M. S.* As the Potato trials held at Ormskirk in 1918 were conducted partly under the auspices of the Board of Agriculture it is probable that body will issue the report. Mr. J. Snell had charge of the trials for the Board of Agriculture and the Ormskirk Potato Society.

Communications Received.—H. F.—A. D. B.—D. and Co.—S. A.—H. E. D.—W. P.—S. J.—E. I. P. M.—F. W. S.—E. T. E.—W. T.—G. C. J.—W. Y.—J. G. W.—A. D. W.—G. H. C.—M. S. A.—T. D. A. C.

MARKETS.

COVENT GARDEN, January 1.

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d
Arums— — (Richardias), per doz. bl'ms.	8 0-10 0	Gardenias, per box (12's)	12 0-15 0
Azalea, white, per doz bunches...	8 0-10 0	— (18's)	9 0-10 0
Bouvardia, white, per doz. bun.	30 0-36 0	Heather, white, per doz. bun .	6 0-10 0
Camellias, 12's-18's per box ...	4 0- 6 0	Hyacinths, Roman, 12's, per doz. bun.	3 6- 4 0
Carnations, per doz. blooms, best American var	2 0- 9 0	Lilac white, per bunch	2 6- 5 0
Christmas Roses, per doz. ...	1 6- 2 0	Lilium longiflorum long .	15 0-18 0
Chrysanthemums, per doz. blooms—		Lily-of-the-Valley, per bun. ...	3 6- 5 0
— white	6 0-10 0	Orchids, per doz:—	
— yellow	5 0- 6 0	— Cattleyas ..	18 0-24 0
— pink	5 0- 6 0	— Cypripediums,	6 0- 8 0
— bronze	5 0- 6 0	Pelargonium, double scarlet, per doz bunches...	10 6-12 0
— per doz. bun.—		— white, per doz. bunches	10 0-12 0
— white .	30 0-48 0	Poinsettias, per doz.	21 0-24 0
— coloured ...	31 0-48 0	Roses, per doz. blooms—	
Croton leaves, per bun. ..	1 6- 2 0	— Madame Abel Chatenay ...	8 0-12 0
Daffodils, single, per doz. bun...	30 0-36 0	Violets, single, per doz. bun. ...	6 0-10 0
Freesia, white, per doz. bunches...	5 0- 6 0		

French and Guernsey Flowers: Average Wholesale Prices.

	s. d. s.d.		s. d. s. d.
Anemones— — double pink, per doz. bundhes ...	4 0-5 0	Narcissus, paper white, per doz. bunches ...	4 0- 4 6
— fulgens, per doz. bunches...	5 0- 6 0	— Soleil d'Or, per doz. bun. ...	4 0- 6 0
Mimosa, per pad ...	18 0-21 0	Roses, Safrano, per packet .	2 6- 3 6

REMARKS.—Since the market closed on Christmas Eve only small consignments have reached the salesmen up to this morning. Many growers have doubtless practically cleared their stocks of Chrysanthemums, Carnations and Roses for the Christmas trade. Business appeared to be more brisk on Saturday last for the New Year's festivities. Single Daffodils, Scarlet Carnations, and Violets were principally in demand. Consignments of Daffodils and Yellow and White Narcissus are arriving from the West of England. The consignments of cut flowers from the Channel Islands are becoming more plentiful and consist of Yellow and White Narcissi, a few scarlet Anemones, single Violets, Freesias, and Smilax. The consignments of French flowers are very irregular, and mostly consist of paper-white Narcissus and Soleil d'Or; a few pink Anemones, Ranunculus, and white Narcissi have arrived in excellent condition during the past week. There is also a good supply of Lily of the Valley and Roman Hyacinths.

Fruit: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Cranberries, per case	55 0 —	Nuts:— — Almonds, per cwt.	200 0-220 0
Grapes:— — Almerias, per barrel (about 3½ doz. lbs.)	70 0-100 0	— Barcelona, per cwt.	160 0-180 0
— Alicante, per lb.	2 0- 5 6	— Brazils (new), per cwt ..	230 0 —
— Gros Colmar, per lb.	3 6- 6 0	— Cobnuts, per lb.	1 9 —
— Muscats, per lb.	8 0-14 0	— — Messina, per bag	140 0-150 0
		Walnuts, kiln dried, per cwt. ...	160 0-200 0

Vegetables: Average Wholesale Prices.

	s. d. s.d.		s. d. s.d
Artichokes, Jerusalem, per bus.	3 0- 3 6	Leeks, per doz. bun.	3 0- 6 0
Asparagus, Paris Green, per bundle	10 0-12 6	Lettuce, Cabbage and Cos. per doz	3 0- 3 6
— Sprue, per bundle ..	1 6 —	Mushrooms, per lb.	3 0- 3 6
Beans, French, per lb.	1 8- 4 0	Mustard and Cress, per doz. punnets	1 0- 1 3
Beetroot, per bus.	3 0- 4 0	Parsley, per bunch	0 4- 0 6
Brussels Sprouts, per bus. ...	4 0- 5 0	Parsnips, per bag	6 0- 7 6
Cabbage, per tally	8 0-12 0	Potatos, new, per lb.	2 0 —
Carrots, per bag ..	9 0-12 0	Radishes, per doz. bunches .	2 6- 4 0
Cauliflowers, per doz	2 0- 4 0	Rhubarb, forced, per doz. ...	4 0- 4 6
Celery, per doz ...	4 0- 5 6	Savoys, per bag ...	4 0- 5 0
Cucumbers, per doz	18 0-24 0	Seakale, in boxes (6-8 lb.), per lb.	1 2 —
Endive, per doz. ...	1 0- 2 0	Shallots, per lb.	0 6- 0
Garlic, per lb.	0 6- 0 8	Spinach, per bus....	3 6- 5 0
Greens, per bag ...	2 6- 4 0	Tomatos, per doz lb.	24 0-30 0
Herbs, per doz bun.	2 0- 4 0	Turnips, per bag	5 0- 6 0
Horseradish, per bun.	2 6- 4 0	Watercress, per doz	0 10- 1 0

REMARKS.—Supplies of black Grapes are equal to the demand, but the crops of Muscat varieties are finishing. There are some fine samples of Almeria Grapes on offer. Nuts are very scarce. Forced vegetables now obtainable consist of the following:—Dwarf Beans, Mushrooms, New Potatos, Asparagus, and Seakale. Forced Rhubarb is also available. Winter Greens and roots from out-of-doors are all plentiful. Cucumbers are a limited quantity. A few Tomatos are being sent by growers. *E. H. R., Covent Garden Market, January 1, 1919.*

—Harrods—
SEED POTATOES

Immune Scotch Seed Potatoes.

	112 lb.	56 lb.	14 lb.
Edzell Blue (Early)	40/-	21/6	5/6
Witch Hill (Early)	40/-	21/6	5/6
Great Scot (Second early) ...	18/9	10/6	3/-
King George (Second early) .	17/6	10/3	2/9
Majestic (Maincrop)	40/-	21/6	5 6
Ally (Maincrop)	20/-	11 6	3/-
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PRIVATE.

WANTED, HEAD FORESTER; must have had practical experience and possess a knowledge of Ornamental as well as Commercial Forestry.—Apply, G. F. HEMPSON, Estate Office, Gatton Park, Surrey.

WANTED, HEAD WORKING GARDENER; experienced in all branches; married; cottage provided. Also UNDER GARDENER. Third man kept.—Apply, stating experience and wages, to F. I. PITMAN, Braymead, Bray, near Maidenhead.

WANTED, a HEAD WORKING GARDENER; married man; cottage and coal; wife laundress; experience and good references required; good wages for suitable man.—MRS. A. WRIGHT, The Grange, Butterley, Derby.

WANTED, experienced HEAD WORKING GARDENER for Cheshunt, Herts.; three under.—Apply, with copies of references, state age, married or single, experience, wages required, earliest date disengaged, to S., Box 7, 41, Wellington Street, Covent Garden, W.C. 2.

HEAD WORKING and Two UNDER GARDENERS required. Also GIRL, to milk and look after poultry.—Apply, stating experience and wages, CROPPER, Mount Ballan, Chepstow.

WANTED, a WORKING GARDENER, in charge of two men and boy; large walled Garden, with some Glass, Pleasure Grounds, Orchards, &c.—Reply, stating fullest particulars, experience, age, and wages asked.—"O. X.," c/o Willings, 33, Knightsbridge, S.W. 1.

WANTED, WORKING GARDENER; thorough knowledge, Inside and Out; help given; age not over 37; good cottage.—C. J. FLIGHT, Southdown House, Shawford, near Winchester.

WANTED, WORKING GARDENER, for Flower Garden and Pleasure Grounds.—Apply, stating past experience and with copy testimonials, J. MURRAY, Wrest Park, Ampthill.

WANTED, SINGLE-HANDED GARDENER; small Garden; some extra jobs; married man, without family, preferred; cottage available. Full particulars on application.—HEAP, Coldharbour, near Wallingford, Berks.

WANTED, a good SINGLE-HANDED GARDENER; lad kept; good cottage.—POWELL, Harmer Green, Welwyn, Herts.

WANTED, experienced GARDENER; single-handed at present, with help given; good wages, cottage, fuel.—Apply, HON. E. LISTER, The Manor, Ham, Hungerford, Berks.

GARDENER wanted; married man; thoroughly experienced in Herbaceous and Hardy Plants, Lawns, &c.; wages 32s. to 35s.; cottage and garden found.—Apply, with references and experience, to HEAD GARDENER, Wittington, Marlow.

WANTED, WORKING GARDENER, with experience; help given; wages 32s. to 35s. and cottage.—ARCHDEACON OF WORCESTER, Rectory, Hartlebury.

GARDENER wanted; Kitchen Garden and two cows; pretty four-roomed cottage; laundry work for wife if desired.—Apply, stating wages required, to MR. T. M. E. ARMSTRONG, Lunchwood, Limpsfield, Surrey.

WANTED, KITCHEN GARDENER; able to prune Hardy Fruit Trees. Also two JOURNEYMEN; one for Inside and Out, one for Lawns and Pleasure Grounds. State wages, with Bothy, milk, and vegetables found. — HAND, Wixenford, Wokingham, Berks.

WANTED, good KITCHEN GARDEN HANDS. Also MEN for Pleasure Ground work, and INSIDE JOURNEYMEN. Good wages, Bothy, &c.—Apply, W. G. CLEAVER, Blankney Hall, near Lincoln.

WANTED, Two MEN, for Kitchen Garden and Pleasure Grounds; wages £2 week; half-day Saturdays.—R. ONSLOW, The Elms, Spaniards Road, Hampstead.

GARDENER wanted, Glos.; not a skilled man, but a man capable of doing rough work in a new Garden (no Glass) and general work about the place; cottage found. State wages. — COL. BURGES, Chipping Sodbury.

WANTED, near Chester, experienced TOMATO GROWER and GARDENER.—8, Burford Avenue, Whalley Range, Manchester.

WANTED, SECOND GARDENER; must have good knowledge, both Inside and Out; would have to take his turn; either married or single man would do; cottage on estate for suitable married man.—Write, stating experience, &c., together with copies of references and wages required, to A. E. LLOYD, Manor House, Woodmansterne, Surrey.

WANTED, UNDER GARDENER, for Kitchen Garden and Pleasure Grounds; must have some experience.—Apply, F. DRABBLE, The Gardens, Wykeham Rise, Totteridge, N. 20.

WANTED, UNDER GARDENER, for General Garden work; take turn duty; 1 o'clock Saturdays; good wages.—WEBB, Rockcliffe House Gardens, Bacup, Lancs.

WANTED, FOREMAN, for Herbaceous Borders, and to look after Flowering Shrubs; also take charge of some Plant Houses in a large place in Kent; must be well up in his work and have first-class experience; good wages offered.—STEWART & CO., 13, South St. Andrew Street, Edinburgh.

WANTED, FOREMAN; experienced Inside and Out; wages 35s. to 40s. per week; preference given to Army discharge.—Apply, T. J. NELSON, Ashgate Lodge Gardens, Chesterfield.

WANTED, FOREMAN or experienced JOURNEYMAN for Inside, chiefly Fruit, some Orchids; 34s. per week; Bothy, milk, and vegetables; duty and overtime paid.—Full particulars to H. CHANDLER, Coombe Abbey Gardens, Coventry.

WANTED, for these Gardens, JOURNEYMEN, for both Inside and Out; discharged soldiers and sailors preferred. State experience and wages expected, with Bothy, milk, and vegetables.—Apply, FORESTER & GARDENER, Kingston Hall, Derby.

WANTED, JOURNEYMAN, to take lead in Fruit and Plant Houses.—State particulars of experience and wages, with Bothy, &c., to J. HARRIS, Woodhatch Gardens, Reigate, Surrey.

WANTED, Two JOURNEYMEN, for Inside and Out; experienced in Hardy Plants and Fruit; duty every three weeks; Bothy and vegetables.—Apply, stating wages and experience, to A. COATES, Wakehurst Gardens, Ardingly, Sussex.

WANTED, JOURNEYMAN; Inside and Out; married or single; cottage and garden or Bothy. State wages. — GARDENER, Packington Hall, Coventry.

JOURNEYMAN wanted, with some knowledge of Orchids.—Particulars as to age, experience, and wages required to GARDENER, Morley Manor, Derby.

WANTED, Two young MEN, used to Gardening; one for Inside and Out, and the other for Outside work; wages 38s. and 36s. per week, with Bothy and fire; light duty every three weeks; 1 o'clock Saturday.—Apply, GEORGE COLEMEN, The Gardens, Yniscedwyn, Ystalyfera.

WANTED, young MAN; Inside and Out; Bothy, milk, and vegetables. State wages.—Apply, A. TOMLINSON, Farnham Castle Gardens, Surrey.

WANTED, MAN and WIFE, without encumbrances, as PORTERS, at the Borough Sanatorium, Bempton Lane, Bridlington; wages 35s. weekly, together with house and garden, coal and light. For further particulars, apply to the Town Clerk. Applications, stating ages, and accompanied by copies of two recent testimonials, to be sent to me not later than 6th January, 1919.

A. E. MATTHEWMAN, Town Clerk.
Town Hall, Bridlington.
20th December, 1918.

TRADE.

REPRESENTATIVE WANTED.

FIRST-CLASS Export Nursery in Holland wants for England a REPRESENTATIVE, well introduced to Florists and Nurserymen, at high provision; London or neighbourhood preferred.—Letters, "P. O. G.," NYGH & VAN DITMAR, Adv. Agency, Rotterdam.

WANTED, an energetic MAN as NURSERY FOREMAN for small Nursery near London; one who has a good knowledge of General Nursery requirements; abstemious, and a good leader of men; good house provided. State age, experience, and wages required. — A. C. E., Box 27, 41, Wellington Street, Covent Garden W.C. 2.

WANTED, FOREMAN, for Indoor Department, with good general knowledge of the culture of Cucumbers, Tomatos, Pot Vines, Chrysanthemums, Bedding Plants, Clematis, &c.—Particulars as to age, experience, and wages required, to KING'S ACRE NURSERIES, LTD., Hereford.

WANTED, FOREMAN, with good knowledge of Forest Trees and Shrubs.—Particulars as to age, experience, and wages required, to KING'S ACRE NURSERIES, LTD., Hereford.

THE LAKELAND NURSERIES, Windermere, have vacancies for capable LANDSCAPE FOREMEN.—Apply as above, giving copies of reference, and stating experience and wages required.

WANTED, FOREMEN, for Trees and Shrubs and Alpines; also MEN with knowledge of Nursery work; preference given to those who have served in His Majesty's Forces.—T. SMITH, Daisy Hill Nursery, Newry, Ulster.

WANTED, for Outdoor Department, a good MAN as FOREMAN, principally Roses and Fruit; also several good Spade Hands. Also good Propagator of Chrysanthemums, Geraniums, &c., for under Glass. — State wages and when at liberty to THOS. ROBINSON, Porchester Nurseries, Nottingham.

LANDSCAPE GARDENING. — Several SUB-FOREMEN wanted, aged about 30, capable of taking charge of operations under Superintendent Foreman, and willing to be trained into Landscape Garden Foremen of the highest class. Continuous occupation and good wages to men of the best character and high ability. — Write to MESSRS. MILNER, SON & WHITE, Westminster Chambers, 7, Victoria Street, London, S.W.

GARDENER wanted, with general knowledge of West End Florist's business, window boxing, furnishing, &c. — Apply, stating experience and wages required, to M. & H. CHILTON, 29/31, Craven Road, Lancaster Gate, W. 2.

SEVERAL GARDENERS wanted at once for Government Food Production Scheme. Wages offered for men 21 years of age and over, 45s. per week for a working week of 48 hours in winter months and 52 hours summer; overtime made during week paid at the rate of time and quarter; after 1 o'clock Saturdays and Sundays time and half.—Apply, stating age, GARDEN SUPERINTENDENT, Messrs. White & Poppe, Ltd., Holbrooks Lane, Coventry.

WANTED, energetic MAN, for Tomatos, Cucumbers, and General Nursery Work, under Glass; near London; able to take charge.—Particulars, &c., R. FERGUSON, The Nurseries, Northolt, Southall, Middlesex.

GENERAL GLASSHOUSE MAN wanted for Market Gardens; good and permanent post for suitable man.—Apply, stating particulars of experience, wages required, &c., to S., Box 27, 41, Wellington Street Covent Garden, W.C. 2.

WANTED, thoroughly experienced MEN in Grape, Peach, and Tomato Growing.—State full particulars of experience in either department and wages required, to E. BOURGAIZE & CO., Leigh Vineries, Wimborne, Dorset.

WANTED, at once, young MAN as SECOND, in the Rose Department; good budder, &c. Age, reference, and wages required.—A. J. & C. ALLEN, Rose Department, Norwich.

SEED TRADE. — Wanted, an ASSISTANT for the North of England, with a thorough knowledge of Vegetable and Flower Seeds; used to a brisk counter trade; capable of taking charge of staff.—Apply, with particulars and salary required, M., Box 15, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, LADY FLORIST, to take management of Florist's shop in Bournemouth.—Apply, with references, stating age, experience, and salary required, T. K. INGRAM, Parkstone Nurseries, Dorset.

WANTED, a young LADY ASSISTANT, for the Fruit and Flower Department; a knowledge of making-up a recommendation. State age, wages, &c.—SIMPKIN & JAMES, LTD., Granby Street, Leicester.

WANTED, Two LADY IMPROVERS; Potting, Ferns, Tomatos, Bedding Stuff, and Pricking of Seedlings; wages 6d. per hour; 1 o'clock Saturdays; near Streatham.—C. E., Box 1, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, FLORIST'S ASSISTANT (lady).—61, Marchmont Street, W.C. 1.

SITUATIONS WANTED.

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PRIVATE.

ADVERTISER seeks engagement as HEAD GARDENER and BAILIFF on an estate, or any position of trust; thoroughly experienced in all branches, Inside and Out; good organiser of labour, accounts; highest references; age 48; married. — J. GRIDGER, Upper Woodcote, Purley.

HEAD GARDENER and MANAGER, small estate; thoroughly experienced; excellent references; service in the Gardens of the late Dukes of Norfolk and Westminster, &c.; age 45.—BOMBARDIER MOORE, 334601, B. Administrative Battery, Weymouth.

BAILIFF - HEAD GARDENER will be shortly open to re-engagement; highest references as to experience, &c., from present and previous employers.—W. WILSON, "East Dene," Bonchurch, Isle of Wight.

HEAD GARDENER, of several, seeks re-engagement; 24 years' first-class experience gained in all branches, both under Glass and Outside, of Plants, Fruits, and Vegetables, &c.; also Landscape, Rockwork, &c.; energetic and industrious, taking a keen interest all round; first-class certificate, R.H.S. examinations; age 37; married (two boys).—F. R. H. S., Box 14, 41, Wellington Street, Covent Garden, W.C. 2.

ORCHID GROWER or HEAD GARDENER and ORCHID GROWER seeks re-engagement; life experience in both branches; age 42; well recommended; had charge for many years of one of the best collections in the North; practical, energetic.—O. F., Box 24, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD); thorough practical experience past 18 years all branches Horticulture, on well-kept establishments, choice Plant, Fruit Culture under Glass, Floral work, Pleasure Grounds, Fruit, Vegetable Culture, &c.; excellent testimonials to character and ability; age 34; married; London or South preferred.—T. KING, 13, Reginald Road, Northwood, Middlesex.

A FIRST-CLASS HEAD GARDENER, with excellent references, seeks re-engagement; thoroughly experienced in all branches, Orchids included; practical and energetic worker; age 45. — FLETCHER, Gables Cottage, Surbiton.

H. MANFIELD, Esq., wishes to highly recommend his HEAD GARDENER as a first-class man; life experience in all branches; used to large establishments; thoroughly energetic. — GARDENER, Moulton Grange, Northampton.

GARDENER (HEAD); age 47.—GEO. W. HAGON offers his services as above in large establishment; competent to manage for pleasure or profit. —11, High Street, Leamington Spa.

GARDENER (HEAD); experienced in all branches; age 49; married (no family); released immediately when suited.—PTE. REID, No. 303434, A. Group, Hut 21, Milton Camp, Steventon, Berks.

GARDENER (HEAD or good SINGLE-HANDED); experienced all branches; permanent; good references; married; age 48; one lad (17½); wife help in house if required.—GARDENER, The Cottage, Culcheth Hall, Broom Road, Teddington.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; age 34; married; life experience in all branches, Inside and Out; 3½ years as Head at present address; past 20 months on Food Production Scheme at Coventry; well recommended; disengaged. — W. H. MATTHEWS, The Gardens, Wootton House, near Bedford.

GARDENER (HEAD WORKING); 30 years' experience, Inside and Out; good references; 5½ years last situation; age 45; married (no family).—C. DOMAN, 55, Agamemnon Road, West Hampstead, N.W.

GARDENER (HEAD WORKING) seeks re-engagement; life experience all branches; 11½ years last situation as Head; good personal recommendation from last employer; age 44. Please state wages. — T. E. REYNOLDS, Stream Cottages, near Mitcheldean, Glos.

GARDENER (HEAD WORKING). — Sir IAN H. AMORY, Bart., highly recommends his TEMPORARY HEAD GARDENER to any lady or gentleman requiring the services of a first-class, competent man; good organiser; experienced all branches; exceptional testimonials; previously Foreman at Bowood; age 29; married when suited.—F. BUSH, Knightshayes Court Gardens, Tiverton, Devon.

GARDENER (HEAD WORKING); life experience; efficient in the requirements of a good establishment for high-class Vegetables, choice Fruits, Flowering Plants, Orchids, Carnations, Roses, Herbaceous Alpines, Lawns, &c.; economy and discipline; 18½ years' Head late situation; excellent references; age 46; married; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

H. GREER, Esq., M.P., can highly recommend his HEAD WORKING GARDENER, H. LIST, to any lady or gentlemen; life experience in all branches; 10 years last situation; 2½ present; married; age 45; disengaged.—H. LIST, The Old Cottage, Walton-on-Hill, Surrey.

GARDENER (HEAD WORKING), where several are kept; thorough practical experience in all branches, both Inside and Outdoor work, including Orchids, Carnations, and Chrysanthemums; age 41; married. Please state wages.—HEAVER, 14, Elton Road, Kingston-on-Thames.

GARDENER (HEAD WORKING). — Lady thoroughly recommends her late HEAD GARDENER, who has been with her nine years, where several are kept; thorough practical experience of Gardening in all branches; excellent references; age 42.—E., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where six or more are kept; 23 years' first-class practical experience in all branches; age 38; married (no family); excellent references.—WREN, 3, Row, Platt Lane, Felbridge, East Grinstead.

MR. H. H. MILLS, Fonthill Gardens, Tisbury, Wilts, can confidently recommend his present FOREMAN to any lady or gentleman requiring a HEAD WORKING GARDENER, where five or more are kept; experienced in all branches; age 30; married when suited.

GARDENER (HEAD WORKING), where four or more are kept; 20 years' first-class experience in all branches; good Carnation grower; age 35; married (no family); excellent references.—RIDGEWELL, "Buckthorpe," Chertsey Road, Addlestone, Surrey.

GARDENER (HEAD WORKING), where four or more are kept; life experience all branches; six years as Head; references; age 33; married.—BEAMES, The Knapp, Thornbury, Glos.

GARDENER (HEAD WORKING), where four or more kept; 21 years' experience, Inside and Out; good references.—W. B., Box 3, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where three or more are kept; life experience in the cultivation of Fruit, Flowers, Vegetables, and management of well-kept Garden; good manager of men; highest testimonials; age 36; disengaged when suited; one child.—R. F., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where three or four are kept; life experience in all branches, Inside and Out; married (one child, age 3); 4 years last situation as Head; excellent references. — HARBERT, Cricklewood, Dormansland, near Lingfield, Surrey.

GARDENER (HEAD WORKING of three or four); thoroughly experienced in all branches of Garden work, Inside and Out; also in the En-Tout-Cas Tennis Court; Dorset or Wilts preferred.—W., Tower Cottage, Pinewood Road, Bournemouth.

GARDENER (HEAD WORKING), where others are kept; life experience in all branches, Inside and Out; 17 years as Head; age 42; married (no family); well recommended.—L. CHANTLER, Rockley Manor, Marlborough, Wilts.

GARDENER, where another is kept, or other help given; 26 years' good all-round experience, Inside and Out; age 41; married (no family); good reference. — G. ANSELL, Southwood, Harpsden, Henley-on-Thames, Oxon.

GARDENER (HEAD WORKING); life experience Orchids, Flowers, Fruit, Vegetables, Bedding, and Pleasure Grounds; age 42; married (no family); highly recommended.—State particulars, BAILEY, Bryn Lupus, Llandudno.

CAPTAIN MOWBRAY ALLFREY recommends his HEAD WORKING GARDENER, where two or three kept; life experience, Flowers, Fruit, Vegetables. State wages.—T. BRINKLOW, Greenways, Chippenham, Wilts.

MRS. BEALE highly recommends E. HAZELL as HEAD WORKING GARDENER where others are kept; over two years in present place; thoroughly capable and experienced; good Fruit and Vegetable grower; Inside and Out; age 32; married (no family).—HAZELL Standen, East Grinstead, Sussex.

GARDENER (HEAD WORKING); life experience in all branches, Inside and Out; 7 years in present situation as Head; good character; highly recommended; age 35; married (one child).—EDWARD BALL, The Budds, Blackboys, Sussex.

GARDENER (HEAD WORKING); life experience all branches; electric light; land and stock if required; 16 years last situation; well recommended; free now; age 44; married; Surrey preferred. —J. COOPER, Park House, Colnbrook, Bucks.

GARDENER (HEAD WORKING) seeks appointment; well recommended as competent and reliable; Midlands preferred.—WM. BURNS, Sandy Lane, Tettenhall, Wolverhampton.

GARDENER (HEAD WORKING); age 43; married; life experience in all branches; 12 years' reference from last place; disengaged.—STAPLEY, Punnett's Town, Heathfield, Sussex.

GARDENER (SINGLE-HANDED or with help) seeks situation; thoroughly experienced, Inside and Out; good references; married.—L. FORSTER, 4, Court Farm Cottages, Warlingham, Surrey.

GARDENER (single) seeks situation; single-handed preferred; thoroughly understands Vegetables, Outside Fruits, Roses, and Herbaceous Borders; near London preferred.—Address, W. PARKER, 39, Wincott Street, Kennington, S.E.

GARDENER, life experience all branches, requires situation in private establishment, or charge of small Market Garden; good references; age 39; married; cottage essential.—H., Box 14, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (experienced) seeks situation, Kitchen Garden and Lawns; 8 years' last place; good references; age 44; single. Please state wages.—H. DAVIS, 42, West Street, Lilley, Luton, Beds.

GARDENERS. — Situation wanted for married man, well up in Fruit and Vegetable growing. Also IMPROVER, age 17. — Apply, stating wages, &c., WATSON, Gardener, Gravel Hills, Sandon, near Chelmsford, Essex.

GARDENER seeks situation or INSIDE ODD MAN; married; age 33; one child (11 years); good reference.—Apply, FRANK SLATTER, Whitminster House, Gloucestershire.

MAN (30), married (one child), desires permanent situation; slight experience in Vegetables and Fruit; very willing, trustworthy, and reliable; excellent character. Please state wages.—B. F., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

INSIDE FOREMAN wants situation; 16 years' all-round experience.—Apply, B. E., Box 22, 41, Wellington Street, Covent Garden, W.C. 2.

JOURNEYMAN seeks situation, Inside, or would take the lead, Kitchen Garden; age 24; 10 years' experience in good Gardens. Please state wages.—Address, H. M., Box 17, 41, Wellington Street, Covent Garden W.C. 2

TWO LADY GARDENERS require Post together; one over 4 years' experience in all branches: excellent testimonials: the other 18 months' general experience; would take charge of small place, or Assistants under good Head.—S. W., Box 8, 41, Wellington Street, Covent Garden, W.C. 2.

TWO LADY GARDENERS (certificated) want Post as HEAD and UNDER, near London; good experience all branches; furnished cottage, coal, vegetables; £2, 30s.—BARTON, Heronsgate, Rickmansworth, Herts.

LADY GARDENER, experienced, desires Post, January; Inside preferred; take duty.—MISS K. HARVEY, The Gardens, Duffryn, Cardiff.

LADY, young, untrained, wishes to take up Gardening (Outside); salary 18s., or comfortable home; within 30 miles London.—M. SAVAGE, 11, Avonmore Road, W. Kensington, London.

TRADE.

RETIRED NURSERYMAN and SEEDSMAN; age 47; would represent Wholesale Seed Merchants as TRAVELLER or act as English Agent for Belgian or Dutch Nurserymen; bankers' and private references.—C. W., Box 23, 41, Wellington Street, Covent Garden, W.C. 2.

TRAVELLER.—GEO. W. HAGON desires re-engagement as REPRESENTATIVE of first-class house. Highest references.—11, High Street, Leamington Spa.

POSITION of trust required; MANAGER or REPRESENTATIVE; Kent preferred; practical experience in first-class establishments, private and trade; all branches; special experience in supervision; well educated.—P. H., Box 5, 41, Wellington Street, Covent Garden, W.C. 2.

MANAGER or FOREMAN. R. F. MARTIN, for many years Alpine and Herbaceous Foreman to Messrs. T. S. Ware and other noted Alpine Nurseries, seeks position as above; age 56; married.—5, Richville Road, Shirley, Southampton.

WORKING MANAGER or FOREMAN of Market Nursery; thoroughly sound, practical experience, and best of references; Tomatos, Cucumbers, Grapes, Peaches, &c., Carnations, Lilies, Roses, Chrysanthemums, Foliage, &c. Please write in confidence, stating particulars, wages offered (can be disengaged in one week), to H. J., Box 18, 41, Wellington Street, Covent Garden, W.C. 2.

MANAGER or FOREMAN; 24 years' general experience; have grown largely Tomatos, Chrysanthemums, Grapes, Cucumbers, Carnations, Ferns, Bedding and Forcing.—Offers to F., 17, Graham Street, Penrith.

MANAGER or FOREMAN requires re-engagement in Market Nursery; life experience in Cucumbers, Tomatos, Grapes, Chrysanthemums, and General Market work under Glass; highest references. State wages.—D. H., Box 6, 41, Wellington Street, Covent Garden, W.C. 2.

NURSERY FOREMAN (WORKING); practical experience in all Outside Nursery work, Budding, Grafting Fruit Trees and Roses; good propagator of Flowering Trees and Shrubs and American Plants; good references.—C. A., Box 26, 41, Wellington Street, Covent Garden, W.C. 2.

WORKING FOREMAN; well up in the cultivation of Tomatos, Cucumbers, Pot and Cut Flowers, and Bulb Forcing. — B. BLOMBERG, 2, Laurel Villas, St. Dunstans Road, Hanwell, Middlesex.

FOREMAN (WORKING); Inside; well up all round, also Floral work; age 50; single.—KEYTE, Heath End, Farnham, Surrey.

FOREMAN GROWER; life experience in growing Tomatos, Cucumbers, Roses, Ferns, Chrysanthemums, Arums, Marguerites, Hydrangeas, and all Bedding Plants.—T. C. SKEGGS, Dutton's Villas, Iver, Bucks.

FOREMAN GROWER (32), married, requires situation; Cucumbers, Tomatos, Chrysanthemums, Ferns, Bulbs, Bedding, and General Stuff; good references.—A. BARNARD, 3, Rosslyn Cottages, Cadmore Lane, Cheshunt, Herts.

FOREMAN or GROWER seeks re-engagement, Market Nursery; Cucumbers, Tomatos, Chrysanthemums, Bulbs, and General Nursery work; married. —H. G., Box 4, 41, Wellington Street, Covent Garden, W.C. 2.

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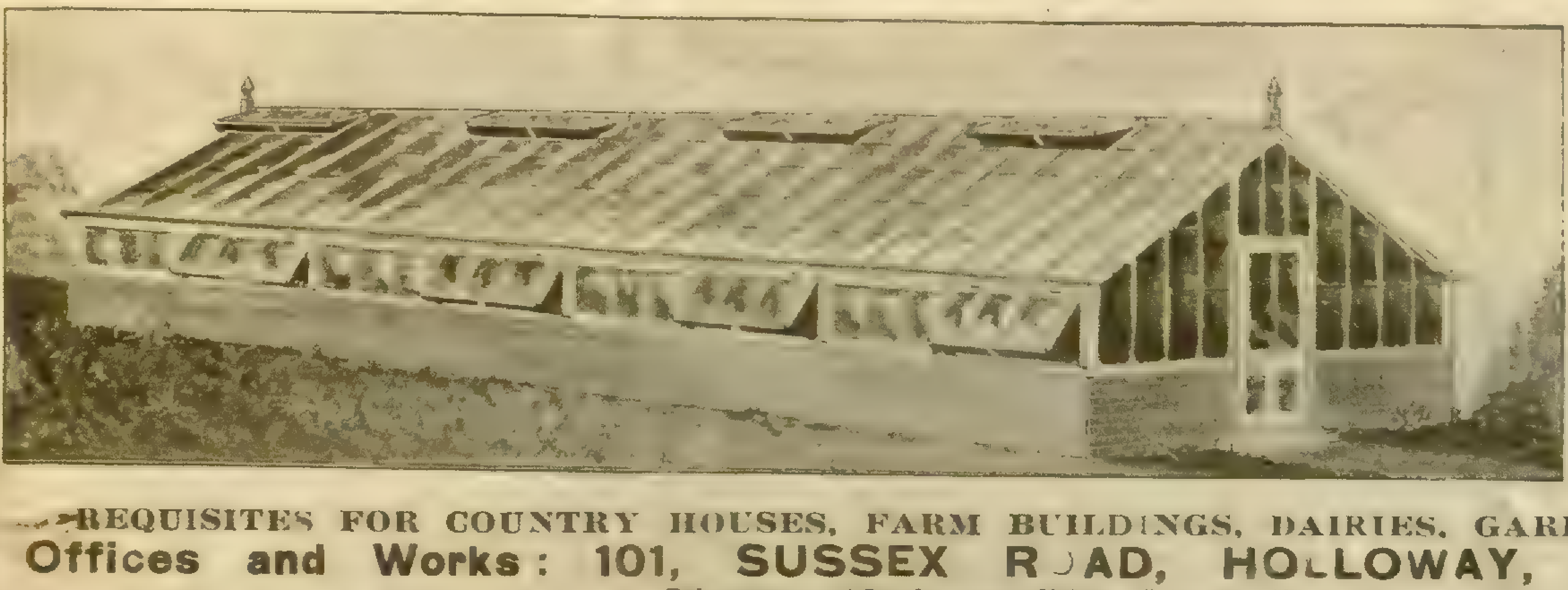

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THE CELEBRATED XL ALL SPECIALITIES. BEEN ON TOP FOR 25 YEARS AND STILL THERE!—XL ALL CAUSTIC WINTER WASH (in powder). 1lb. tin makes 8 to 12 gallons. It thoroughly cleanses Fruit Trees and Bushes, both buds and bark. Can be used any time before the buds begin to swell in the spring. XL ALL NICOTINE LIQUID INSECTICIDE. The gardeners' favourite Wash for the absolute destruction of Thrip, Scale, Mealy Bug, &c. If this wash is used occasionally, a total absence of insects, both on Fruit Trees and Plants, can be secured in any garden. XL ALL NICOTINE SHREDS. The most potent, safe, and effectual Fumigant. Used without any apparatus, simply burn on the floor of the Greenhouse. XL NICOTINE FUMIGATING COMPOUND. Both in liquid and cake, these old favourites are still as popular as ever. Many other XL ALL Preparations are indispensable in the garden. Get a complete list from your N.S. or Florist, or send to me for one and name address of your nearest Agent.—G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E. 1.

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GISHURST COMPOUND has over half a century's reputation for effectiveness in preventing and destroying Red Spider, Scale, Mealy Bug, Thrip, American Blight, Green and Brown Fly, &c. Sold in boxes about 1lb. 3lb., and 12lb. by Dealers in Garden Sundries. Wholesale: PRICE'S PATENT CANDLE CO., LTD., Battersea, London, S.W. 11.

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For Advertisement Charges see page vi.

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Early Vegetables for Present Sowing.

SUTTON'S PIONEER PEA.—The largest podded Dwarf Pea, per pint 3s.

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1,000 Rose Trees, 500 Fruit Trees and Bushes, named Rhododendrons, Herbaceous Plants, and Spring-flowering Bulbs.

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On Wednesday, January 15th, at 1 o'clock

Catalogues had. Commissions executed.

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17,000 STANDARD AND PYRAMID FRUIT TREES,

well rooted, and mostly APPLES AND PLUMS, of the best known and popular varieties, and a few trained trees.

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MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at

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(on land the tenancy of which expires at Lady Day next) and at

The High Beech Nursery, Loughton, Essex,

On Thursday and Friday, January 16th and 17th, at Cheshunt, and Saturday, January 18th, at High Beech, at 11.30 each day.

By order of Messrs. Paul and Son (Cheshunt), Limited.

May be viewed. Catalogues can be obtained at the respective Nurseries, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C. 2.

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Six well-built Greenhouses, each about 100 feet in length, containing 15,000 feet of glass and woodwork, glass mostly 16 x 20 size, 2,170 feet 4-inch piping, guttering, three boilers, Peach Trees and Vines.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the premises,

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in lots, by order of F. P. Wilson, Esq.

May be viewed one week prior to sale.

Catalogues of Mr. Aldridge, The Gardener at West House, and of the Auctioneers, 67 and 68, Cheapside, E.C. 2.

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WANTED, Market Garden, with Glass and cottage.—Write, T. S., Box 10, 41, Wellington Street, Covent Garden, W.C. 2.

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FOR SALE, good Florist's business, in first-class provincial town, 20 miles London; long lease; good reason for selling.—Write, "FLORIST," Box 10, 41, Wellington Street, Covent Garden, W.C. 2.

NOTICE.

HARLINGTON, MIDDLESEX.

MR. ROBT. NEWMAN will Sell by Auction at Dawley Manor Farm (1 mile from Hayes Station, G.W.R.), on Monday, January 6th, 1919, at two o'clock, about 250 tons of Arran Chief Potatos, in clamps as they rose, in 13 lots.

May be viewed the morning of sale, but samples can be had any time before the sale.

Auction Offices: Harlington, Middlesex.

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WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free. — SMITH, London Fern Nursery, Loughborough Junction, London, S.W. 9.

WANTED, for a small holding, Narcissus Tulips, any sort of bulbs, Fruit Trees, also Currants, Gooseberries, Strawberries, Fowls, Ducks, Geese. —Description and price to WESTON, Manor Farm, Wolvercote, Oxford.

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Secure your bulbs at once; they are scarce, and will be difficult to procure later on.

Strong flowering bulbs, per 100 17s. 6d., per 1,000 £8, carriage free for cash with order.

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"PESTITE" kills wireworms, rookworms, cockchafer grubs, Julus worms, and other soil pests; also "club root" and other fungoid diseases. Price: 28lbs. 5s. 6d., 56lbs. 7s. 6d., 112lbs. 10. 6d., 1 ton £8, all carriage paid, from G. LANG & SONS, LTD., Hounslow, Middlesex.

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BANSTEAD or WALTON HEATH LOAM.—A splendid soil for all purposes; fresh cut or rotted.—Particulars of YOUNG BROS., Betchworth, Surrey.

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WANTED, HEAD GARDEN INSTRUCTOR; £105, rising to £115, plus £15 for evening work, together with house, fuel, and uniform.—Apply in writing to THE GOVERNOR.

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GARDENER wanted; SINGLE-HANDED; extra help when required; good all-round experience; middle age; no family; highest references; able to milk; comfortable cottage and vegetables, &c. Wages £2.—Apply, H. GREEN, Warfield Dale, Warfield, near Bracknell, Berks.

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WANTED, WORKING GARDENER, to take charge; one kept; Fruit, Vegetables, and General; for factory Garden and grounds; must be experienced.—Write, stating full particulars and wages, TURNER'S COCOA WORKS, Wallington, Surrey.

GARDENER wanted; married man; thoroughly experienced in Herbaceous and Hardy Plants, Lawns, &c.; wages 32s. to 35s.; cottage and garden found.—Apply, with references and experience, to HEAD GARDENER, Wittington, Marlow.

GARDENER wanted, for Herbaceous and Hardy Plants, Lawns, &c.; no Glass or Vegetables; wages 30s. to 35s., with good cottage and garden.—Apply, with references or experience, to J. DOUGLAS WATSON, Warley Lodge, Little Warley, Essex.

WANTED, experienced GARDENER for small private Garden in London; if a married man wife can work as housemaid; references required. State age, experience, and salary.—Reply, M., Box 10, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, experienced WORKING GARDENER; Oxfordshire village (2 miles from Bicester); cottage. State age, wages, experience, references, &c.—BAKER, Chesterton, Bicester.

WANTED, experienced GARDENER; Indoor and Outdoor work.—Apply, with references, to MR. E. M. HANN, The Rise, Llanishen, near Cardiff.

GARDENER wanted at once for gentleman's Garden; active, strong; age about 30-35; chiefly for Kitchen Garden and Grounds at present, but knowledge of all Garden work necessary; Church of England; married; state age, experience, and all particulars; gentleman's recommendation preferred; two other men working with him; cottage given.—Apply, MRS. TEESDALE, Whitminster House, Whitminster, near Stonehouse, Gloucestershire.

WANTED, a thoroughly experienced all-round GARDENER; cottage and garden provided. —W. HOWARD-FLANDERS, Latchingdon, Essex.

WANTED, active WORKING GARDENER, who knows his job, and is capable of making large Garden pay; good wages; considerate treatment; interest in results.—Send full particulars as to age, experience, capabilities, &c., to COUNCILLOR J. W. EASON, J.P., Scartho House, Grimsby.

WANTED, good WORKING GARDENER, with a boy under him; wages 35s. and a good cottage.—Apply, J. RIPLEY, Ampney Crucis, Cirencester, Glos.

WANTED, WORKING GARDENER; Flower, Vegetable, Tennis Lawn; single; if married no children, wife employed house; good home and wages; rooms and board found.—KIRK, St. Catherine's End, Ruislip.

WANTED, GARDENER; all-round knowledge; small Garden, little Glass; help given; good lodge; suit married couple.—Apply, stating wages and experience (good references essential), WARDEN, Wessex Hall, Reading.

WANTED, experienced KITCHEN GARDENER; also three MEN for Pleasure Grounds; Alpines and Herbaceous Borders.—Apply to A. ROBBINS, Canons, Edgware, Middlesex.

WANTED, near Chester, experienced TOMATO GROWER and GARDENER.—8, Burford Avenue, Whalley Range, Manchester.

WANTED, GARDENER, for Pleasure Ground and Kitchen Garden; several others kept; £2 per week; permanent place to suitable man.—Apply, HEAD GARDENER, "Heathlands," Parkside, Wimbledon Common, S.W.

WANTED, MAN, for Lawns and Pleasure Grounds; also two MEN for General Garden work; good cottages on estate.—Apply, stating wages, to HEAD GARDENER, Trosley Towers, Wrotham, Kent.

WANTED, a good MAN, for Lawns, &c., take turn with duty; Bothy, coals, vegetables.—Apply, with full particulars, to HEAD GARDENER, Nonsuch Park, Cheam, Surrey.

WANTED, SECOND GARDENER; must have good knowledge, both Inside and Out; would have to take his turn; either married or single man would do; cottage on estate for suitable married man.—Write, stating experience, &c., together with copies of references and wages required, to A. E. LLOYD, Manor House, Woodmansterne, Surrey.

WANTED, SECOND GARDENER, for Pleasure Grounds and Kitchen Garden; cottage provided.—Write, stating experience, age, family, together with copies of references and wages required, E. A. CHETTLE, Brackenber Lodge, Sunningdale, Berks.

WANTED, at once, SECOND GARDENER, where several are kept; principally Inside.—Apply, stating wages, with references, to J. G. WATTS, Stargroves Gardens, East Woodhay, Newbury.

UNDER GARDENER as SECOND; Inside and Out, with good knowledge of both.—Write, stating experience, with copies of references and wages, to HEAD GARDENER, Parkfield Kenilworth, Warwickshire.

WANTED, UNDER GARDENER, second of six; must be experienced; Inside and Out. State wages, references, &c. Also JOURNEYMAN, for Outside. Preference given to Army discharge.—COPEMAN, Cliveden, Shenfield, Essex.

UNDER GARDENER required on Hampshire estate; good wages to suitable man; furnished rooms or unfurnished cottage provided.—Write, W., 6, Melbury Road, Kensington, W. 14.

WANTED, UNDER GARDENER, for Glasshouses; thoroughly experienced; good wages to competent man.—Apply, H. LLOYD, Ewell Place Gardens, Surrey.

WANTED, UNDER GARDENER, principally for Inside work; cottage for suitable man. —Apply, HEAD GARDENER, Basset Wood, Southampton.

WANTED, temporary or permanent UNDER GARDENER; must understand pruning Fruit Trees and Roses; 35s. a week. — Apply, "Woldhurst," Chichester.

WANTED, Two UNDER GARDENERS, single; experienced, Inside and Out.—State wages required, with particulars, to HEAD GARDENER, Hanstead House, Bricket Wood, near St. Albans, Herts.

WANTED, immediately, experienced FOREMAN; one able to take full charge Outdoors, in good establishment, until Gardener freed from Army; permanent situation as Inside Foreman afterwards.—Full particulars to MRS. CLUTTERBUCK, Putteridge, Luton.

WANTED, GENERAL FOREMAN; must thoroughly understand Vegetable Culture; very little Glass at present. Also good OUTSIDE JOURNEYMAN wanted.—Apply, stating experience and wages required, to HEAD GARDENER, Houghton Hall, King's Lynn, Norfolk.

WANTED, experienced GENERAL FOREMAN GARDENER; married; no children or one child only.—LADY MURIEL WORTHINGTON, Maple Hayes, Lichfield.

FOREMAN or good JOURNEYMAN wanted. Full particulars of experience and wages, with Bothy, &c.—C. GARRATT, Oanwell Hall Gardens, Sutton Coldfield.

WANTED, JOURNEYMAN, for Fruit and Plant Houses.—State particulars of experience and wages to W. WARD, Canford Manor Gardens, Wimborne, Dorset.

WANTED, JOURNEYMAN; experienced in Fruit and Plant Culture, to take lead. State particulars of experience and wages, with Bothy, &c., to GARDENER, Woodhatch Gardens, Reigate, Surrey.

JOURNEYMAN wanted at once for Houses. State wages and experience. 1 p.m. Saturdays.—T. BIRKINSHAW, Caldecote Towers, Bushey Heath, Watford.

WANTED, for these Gardens, JOURNEYMEN, for both Inside and Out; discharged soldiers and sailors preferred. State experience and wages expected, with Bothy, milk, and vegetables.—Apply, FORESTER & GARDENER, Kingston Hall, Derby.

WANTED, Two JOURNEYMEN; one Inside and one Outside; good wages offered, with Bothy, milk, and vegetables; 1 o'clock Saturday; duty and overtime paid extra.—Apply, with particulars, to H. PRINCE, The Gardens, Polesden Lacey, Dorking.

TWO JOURNEYMEN wanted; Inside; good experience with Fruit and Plants. Also MAN for Lawns. Good Bothy. State wages and experience.—C. JENNINGS, Littlegreen Gardens, Petersfield, Hants.

WANTED, young MAN, 20 to 22, for Inside and Out; able to do potting, pricking off, and fires; duty alternate weeks; lodge in village.—Apply, stating experience and wages expected, COL. ORLEBAR, Hinwick House, Wellingborough.

WANTED, Two young MEN, used to Gardening; one for Inside and Out, and the other for Outside work; wages 38s. and 36s. per week, with Bothy and fire; light duty every three weeks; 1 o'clock Saturday.—Apply, GEORGE COLEMEN, The Gardens, Ynisodwyn, Ystalyfera.

SITUATIONS VACANT continued on page ix

BY APPOINTMENT.

FOOD PRODUCTION

IN THE
GARDEN
and
FLOWERS
FROM
SEED

Sutton & Sons 1919.

Published in accordance with the provisions of the Order issued by the Board of Trade.

POST FREE ON APPLICATION.

Horticulture and the Cessation of Hostilities

DURING the past four years gardeners' thoughts and energies have been devoted entirely to food production, with the consequence that great developments have been made in the raising of home-grown vegetables. None who have had the pleasure of sowing and gathering their own crops will in the future wish to give it up.

Now that the sterner uses of the garden are passing, owners will turn their attention once more to beautifying their homes with the old English Flowers which have been brought to such perfection, and for which the homes of England were so renowned during the long years of peace. But the reconstruction of the garden must be gradual, like all other works of reconstruction which lie before us, and we must not expect during 1919 to be able to restore our flower beds and borders to the full glory of the Spring and Summer of 1914.

Much, however, can be done by the sowing of annuals for the Summer beds, such as Asters, Stocks, Antirrhinums, Godetias, Clarkias, and others enumerated in our Catalogue. Primulas, Begonias, and Cinerarias sown this Spring will again make the greenhouse a source of interest and delight during the winter months, while Wallflowers, Polyanthus, and Pansies sown and transplanted this year will ensure a bright display in the spring of 1920.

Time, thought, and money devoted to Flower Seeds in 1919 will give no less satisfaction and even greater pleasure than was derived from the vegetable garden in the war years.

One of the beneficial results of the war will be that vast numbers will find new pleasures in life that had never before occurred to them, and one of the chief of these will be their flower and vegetable gardens.

Sutton & Sons

THE ROYAL SEED ESTABLISHMENT,
READING.

January 1, 1919.

THE
Gardeners' Chronicle
No. 1672.—SATURDAY, JANUARY 11, 1919.

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SOME EXPERIMENTS ON GROWING MAIZE IN ENGLAND.

MANY people in this country grow a small quantity of Maize, but almost always with the object either of using it in the green state as fodder, or adding it to the resources of their vegetable produce in the form of unripe cobs. For the former purpose some tall, luxuriantly-growing variety is used, in which the cob never approaches ripeness in this country. For the latter purpose one has the choice of several of the early varieties of Sugar Maize, principally those which have lately been improved by the American raiser. But these, of course, are hardly suitable for the production of a ripe grain crop. The recent scarcity of poultry food has induced some people to attempt Maize cultivation on a small scale for the sake of the ripe grain, a purpose for which a flint or a dent Maize is required. The only variety suitable for this is Sutton's Quarantain, a dwarf form of Yellow Flint. It ripens very well, but the cob is a tiny one, and the yield is low. If a flint Maize, giving a good yield and ripening well in our climate could be evolved, it would undoubtedly be a boon to the small-holder, and possibly also to the agriculturist. Maize needs so little attention during growth, and is so easily garnered and stored, that it should make a ready appeal to the small cultivator if a suitable variety were forthcoming. Such a variety has, I believe, been found, and it is with the object of bringing it to the notice of those who are interested in the matter that I propose to give an account of some experiments that I have made at the Institute of Genetics in Cambridge during the past few years.

The possibility of growing Maize as a grain crop in this country occurred to Professor Biffen some years ago, and with this idea he made trials of some early varieties. Among these were two kinds called Gehu and Eighty-day White. Apparently they were grown closely together, so that free crossing occurred, and the mixture resulting was subsequently sown. Owing to pressure of other work Professor Biffen was unable to continue this experiment, nor at that stage did it appear very promising. I had watched this Maize growing on the Cambridge University Farm, and it struck me that it would be useful material for demonstrating Mendelian inheritance in connection with my lectures. At my request Professor Biffen very kindly gave me a few cobs in 1914. Heads ripened well in 1915, and I determined, for the sake of my fowls, to grow a larger quantity in the following year. I selected the earliest and largest cobs for this purpose, and in 1916 the yield was evidently a good deal higher than it had been the year before. The improvement was sufficiently striking to suggest that further work along the same lines might evolve a Maize that ripened well in our climate, producing at the same time a good yield. This was accordingly taken in hand, and I may now go on to give some account of the results obtained during the past two years.

On May 10, 1917, about 3½ lbs. of seed from the best of the 1916 cobs were grown on two patches measuring in all 187 square yards. The seed was sown closely in drills 2 feet apart, the amount of seed used being rather over 1½ bushel per acre. An interval of about 3 inches was allowed between each seed in order to guard against possible poor germination. As it turned out such a precaution was unnecessary, since the seeds germinated extremely well. However, the crop was not thinned, and the only attention paid it was to hoe once when the young plants were

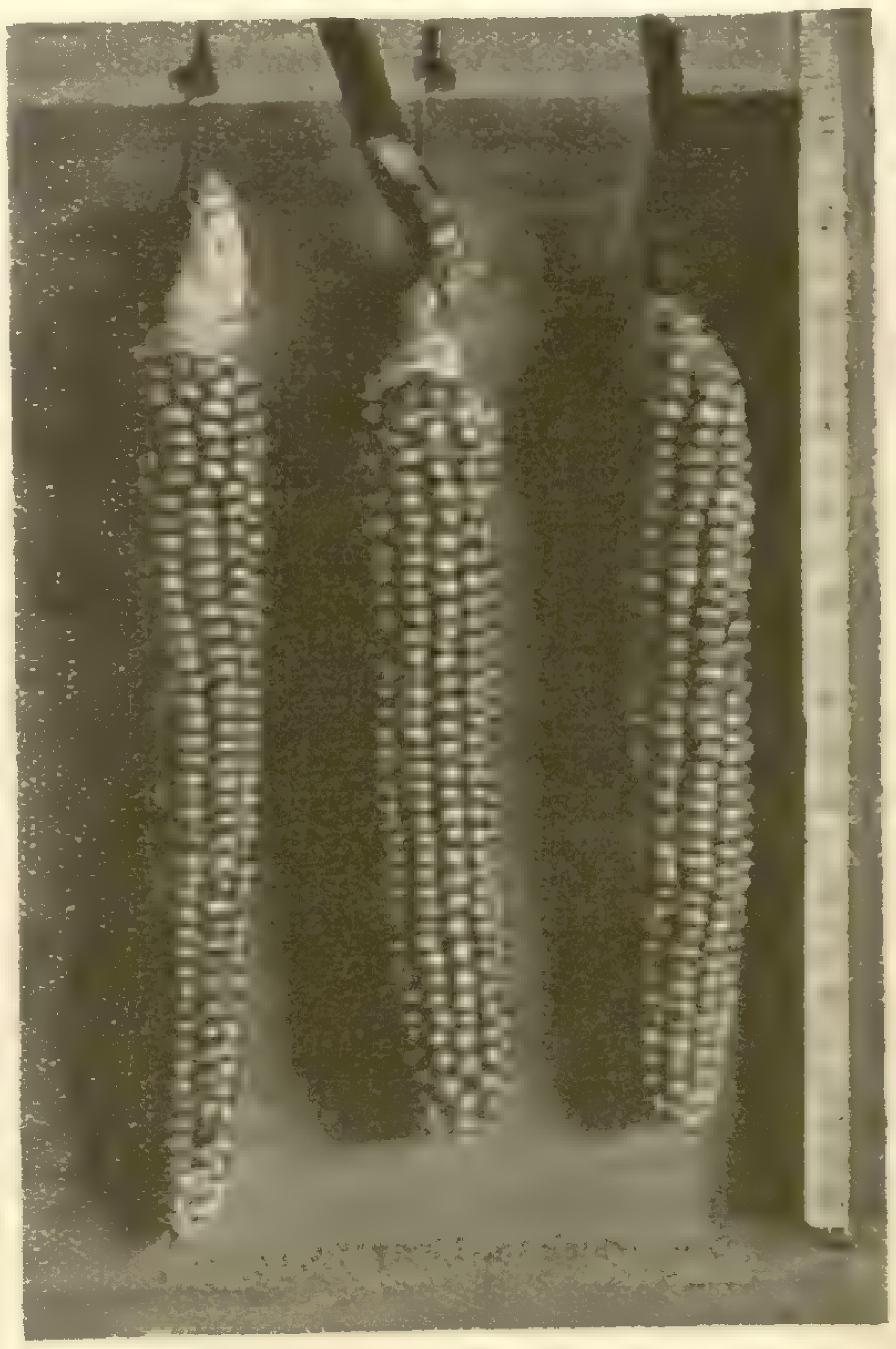

FIG. 4.—THREE LARGE MAIZE COBS GROWN IN 1918; THE FOOT RULE INDICATES THEIR SIZE.

about 4 inches high. The wet weather experienced in August evidently told against the plant, for when the crop was gathered, many cobs were found either not to have set at all, or to have set only a few seeds. I am inclined to attribute this to the lack of good pollen owing to the continuous wet weather. The cobs were eventually picked at the end of September and beginning of October, after which they were stored under cover preparatory to shelling them out. Before this was done they were examined in order to separate the thoroughly ripened cobs from those in which the ripening was not quite so good. The object of this was, of course, to ensure that the earliest and best cobs only should be used for seed in the following year. From the picked cobs 49 lbs. 4 ozs. of grain were obtained, while the inferior ones yielded 34 lbs. 13 ozs.—in all 84 lbs. 1 oz. from 137 square yards of land. This works out to a yield of 2,180 lbs. per acre, i.e., 39 bushels.

And here I may say a few words about the land on which the plants were grown. It is of a stiff nature, tending to pack closely after rain. The depth of soil is about one foot, the subsoil being untractable blue gault. Before being taken over for garden purposes in 1913 it had been much neglected, and for a year or two before that date had been allowed to be derelict. Since it was taken over a good deal of manure has been put into it, but although this has effected a marked improvement, it is still heavy and difficult to work when at all wet. Whether such land is favourable or unfavourable to the growth of Maize I cannot say, as I have not yet had the opportunity of growing it upon really good soil. I can state, however, that the soil of my garden is certainly not unduly favourable to the growth of most of the crops that I have hitherto attempted to raise on it.

Of the original parents of the Maize one was yellow and the other white. No selection was made in respect of colour, and the majority of cobs comprised a mixture of various shades of yellow, and of white seeds. Yellow, however, greatly predominated. During the present year seed was, as hitherto, retained from the best cobs of the year before, but this year I also selected a certain amount of white seed, and sowed this separately from the rest, which were principally yellow. The drills were 2 feet apart as before, but as previous experience had shown that germination was good, the seed was put about 6 inches apart in the drills. The patch on which the yellow was sown was 350 square yards, and that into which the white was put was 114 square yards. In either case the amount of seed used was at the rate of ½ bushel per acre. The season was unfavourable; in fact, my friend Dr. Guillemard, of Trumpington, told me that although he had grown Maize here for 27 years he had never known a worse one. Yet in spite of this the Maize cannot be said to have done badly. The yellow patch yielded 190 lbs. 10 ozs. of grain—equivalent to about 47 bushels per acre. The white did even better. From the smaller area sown with it 81 lbs. 2 ozs. were obtained, which is equal to a yield of over 61 bushels per acre. The patch of land used for the white was rather better than that on which the yellow was sown, but whether the increased yield of the white-seeded form was due to this, or to some other cause, it is impossible to say without further experiment. But as the largest cobs obtained (see fig. 4) were produced on the white patch, I am inclined to think the white form would prove a heavier yielder even under the same conditions.

In reckoning the yield the produce of all cobs giving grain was weighed. In some of these the grain, though quite fit for feeding to stock, was probably not sufficiently ripened to have germinated well. The seed became somewhat shrunken in the process of drying off, and lacked the glossy, semi-transparent appearance of well-matured grain. Such "tailings" amounted to somewhere between 10-20 per cent. of the total.

The results of 1918 constitute a distinct advance over those of 1917, and I feel little doubt that, if the process of selection be continued, a still higher yield can be realised in the future.

It occurred to me last year that it would be interesting to compare the yield of this early flint Maize with that of the early sweet corns grown in America. Accordingly I obtained from Messrs. Burpee, of Philadelphia, seed of four of the earliest and highest yielding of the sugar Maizes, viz., Catawba, Golden Bantam, Extra Early Cory, and Howling Mob. For the test a small piece of light, gravelly soil on the Cambridge University Farm was selected. It had been given no manure for two years, and then only a light dressing. A light crop therefore was to be expected, but as the experiment was designed to test the comparative yield of the varieties used this did not matter. The important point was that the patch was homogeneous, giving all of the varieties an equal chance. On May 14 the seeds of the four American varieties and of the yellow form of the early flint Maize were sown 6 inches apart in drills drawn at intervals of 2 feet. Germination was good except in the case of Golden Bantam, where

about 30 per cent. failed. In the poor soil used the plants of the Yellow Flint did not reach a height of more than about 4 feet, at least a foot less than they attained in the garden in the experiments already recorded. Golden Bantam reached about the same size; Catawba proved to be a little taller; while Howling Mob and Extra Early Cory made distinctly larger and more luxuriant growth. Of the sugar Maizes the purple Catawba ripened earliest, though somewhat later than the Yellow Flint. Of the rest, Howling Mob, with its larger cobs, was much the latest to ripen. None of the sugar Maizes, however, was so ripe as the flint when gathered at the beginning of October. After being dried and shelled out the seeds were weighed in each case, and from these results the yield in bushels per acre was calculated. They were as follows:—

	Bushels per acre.
Golden Bantam	12.7
Howling Mob	13.4
Catawba	20.9
Extra Early Cory.	25.2
Yellow Flint	41.8

The yield from the Yellow Flint was very much heavier than that from any of the sugar Maizes, while at the same time the seed, taken as a whole, was much better ripened. Though grown on light soil without manure, the yield of nearly 42 bushels is only 5 bushels short of the 47 bushels given by the same sample of seed grown in my garden. It would have been interesting to have had the yield of the white variety for comparison, but unfortunately I did not think of this at the time of sowing. It is evident, however, that from the standpoint of grain yield the flint is far in advance of the best of the early American sugar Maizes.

From the foregoing facts it is clear that in the south-eastern part of this country, at any rate, it is possible to grow flint Maize which ripens well and gives a good yield. Nor is the grain inferior in quality to that grown in such huge quantities in warmer climates. An analysis very kindly undertaken for me by Mr. F. W. Foreman, of the Cambridge University School of Agriculture, showed the protein content to be about 10.5 per cent., and that of oil 5.2 per cent. The oil content, upon which the high feeding value of Maize so largely depends, is about the same as that of the American flint Maizes taken as a whole, and is, of course, several times as great as that of the three staple cereals grown in this country.

A Maize yielding 50 bushels per acre, and I do not see why this should not be materially exceeded under favourable conditions, ought to be of considerable value to the small holder. It offers many advantages. Since it does not require sowing until the second week in May it can follow immediately upon a crop of winter vegetables. Once in the ground it requires very little attention. I have found that a single hoeing when the plants are about 4 inches high is all the notice that need be taken of the crop until the ripe cobs are picked. The plants make such rapid growth that all weeds are kept well in check, and when the stalks are eventually removed the land is found to be remarkably clean. Again, garnering the grain is a simple process. The stems of the ripe cob are brittle and easily snapped off as one walks down the rows collecting them. The husks are then stripped off and the cobs placed in an airy place under cover to dry off for shelling. For this operation, when dealing with small quantities, I have found an oyster knife to be a handy and efficient implement. As soon as the first row is loosened the rest will generally come off easily with the pressure of the thumb. I have kept no data as to the time taken by the operation, but from personal experience I should say that an average person should have no difficulty in shelling out about 5 lbs. per hour. In the case of the smallholder growing a few cwt., this part of the work can be done at any odd time, e.g., on wet days or during the long winter evenings. If larger quantities were grown it would be advisable to have some form of machine for the purpose. I gather from Burtt-Davy's book on *Maize* that there are many forms of machine in use, from small hand ones costing about a couple of pounds, up to large power-driven ones for dealing with big crops. A further advantage of Maize is that it is not attacked by birds—at any rate at present. So far as I know, its only enemies are rats, and perhaps rabbits and hares. Rats are apt to be troublesome where they are abundant, for they nibble the grain off the nearly ripe cobs where these are close to the ground. It is as well in such cases to walk down the rows about once a week from the early part of September onwards, and to pick off cobs which show signs of being nibbled. As they do not appear to be attacked until nearly ripe, such cobs will dry satisfactorily.

Taking all things into consideration it may be fairly claimed that there is no cereal crop so suited to the small-holder who wishes to grow a few sacks of grain for feeding to poultry or pigs. A plot of ¼ acre requires but 7 lbs. of seed, and should yield 12 bushels of grain, or even more. The cultivation is simple, and every operation from start to finish can be performed without the aid of either skilled labour or of machinery. Moreover, the feeding value of the grain, owing to the oil content, is higher than that of other cereals.

Whether Maize could be grown profitably as a farm crop is another consideration. A yield of 40-50 bushels compares favourably with any of the other cereals, especially in view of the fact that it is all pure food, without the indigestible husk that goes to swell the yield of Oats or Barley. One must remember, too, that Maize requires less than half the amount of seed as compared with the other cereals, so that the net yield is really a bushel or so greater than the apparent one. But although a heavier crop of grain may be produced, there remains the problem of the straw. Maize straw is certainly unsuitable for many of the purposes to which the straw of other cereals is put. But the problem might be solved if it could be used for paper-making. For this purpose Maize straw offers possibilities. It is less siliceous than that of other cereals, it bleaches well, and it has not the hard nodes which render the latter objectionable. Maize straw appears to have been used with some success for the manufacture of paper, both in Southern Europe and in the United States. I write without experience, but in view of the timber shortage which is likely to be with us for many years to come, the use of Maize straw as a source of raw material for paper might well be worth serious consideration. If it were found suitable I see no reason why Maize should not become a profitable crop for British agriculture. *R. C. Punnett.*

THE ALPINE GARDEN.

PRIMULA ACAULIS VAR. RUBRA.

THIS plant has proved a stumbling-block in the way of nomenclature. The name Primula acaulis var. rubra is that of Sibthorp and Smith, but it has been sent out from different sources as P. Sibthorpii, Hoffmannsegg; as P. amoena; and also as P. altaica. To enter upon a full discussion of the nomenclature is needless, but we have it on the highest authority that P. acaulis var. rubra is the correct title, and that it differs from Bieberstein's P. amoena by being scapeless. It is a red, or, rather, purple-flowered Primrose of much beauty, and deriving a high additional value from its precocity of flowering. It even surpasses in this respect our common Primrose, and well repays being planted in a sheltered spot, where it may continue to give a few flowers throughout late autumn and winter, breaking forth into a good display in early spring. The plant appears to like a moist bank, and in my garden is highly prized in such a position as well as on the level.

Although said to be the parent of the various red, purple, pink, and blue Primroses, I am not prepared to assent to this statement, as I have come across wilding Primroses of allied tints, but paler, in haunts of our wilding where there could be no influence of P. acaulis rubra. However this may be, P. acaulis rubra is a beautiful flower deserving the little care it demands.

PRIMULA PALINURI.

ONE of the European Primulas rarely met with in cultivation is the Italian species named P. Palinuri. It comes from Southern Italy in the Apennine regions. It is a remarkable species, allied to P. Auricula, but of very different appearance. It has an underground woody stem spreading over a good length, and very large, broad, light green, fleshy, oblong or ovate leaves serrated at the margin and without farina. The tall scape rises well above the large leaves and bears a one-sided umbel of drooping golden-yellow flowers on powdered pedicels and with leafy outer bracts which are also covered with white meal.

This distinct Primula is shy of flowering, and generally delays coming into bloom until the plants have attained a considerable size. It is not considered generally hardy, but may survive in a sheltered situation in the milder localities. It is therefore desirable to cultivate it in a cold frame or alpine house, where it will give satisfaction. P. Palinuri is increased by seeds or division. *S. Arnott.*

NOTES FROM LAMELLEN.

MY garden is, as my friend Mr. Farrer has described it in his book, *In a Yorkshire Garden*, "a glen in the hills" facing north-west, and is about six miles from the north coast of Cornwall. It is sheltered by high ground from the north, east, and south, but open to the prevailing north-west wind, though a high hill on the other side of the valley cuts off some of its force in the lower part.

The soil is a heavy loam overlying shale, except in the centre, where blue clay is beneath, and we suffer much from damp, through which we lose several Rhododendrons every year.

The garden is a chaos suffering from a plethora of seedlings and a perennial lack of labour, which results, when the owner is ill or away from home for any length of time, in heavy casualties among these seedlings.

Hybridisation is being worked at a good deal, chiefly among Rhododendrons and Daffodils, but in the latter case I am only a beginner, and have so far only produced two really good flowers from Bianca × triandrus. I have also made one or two attempts on Roses, Irises, Lilies, and Primulas, without much result, and so far have resisted the insidious invitation in Mr. Bowles' book to add Crocuses to the list.

In mid-February of 1918, Rhododendron 1,521, Wilson, flowered for the first time; 9 flowers in a loose truss, violet-rose (*Répertoire de Couleurs*), with a few darker spots. Corolla 6-7-lobed, 2¼ × 2½ inches. Filaments white, stamens black, stigma same colour as corolla. This is supposed to be R. strigillosum, but if so is not nearly so good a form as a scarlet flower sent me last spring by a friend in Sussex.

Rhododendron 1,435, W., gave 12 flowers in a loose truss, crimson-red without spots. Corolla 5-lobed, 1½ × 2 inches, filaments and stigma paler than corolla, stamens black. I have had no name for this plant.

R. maculiferum, 8-10 flowers in a loose truss, mauve-rose with a blotch of crimson at the base, and spots of the same colour on the three upper segments. Corolla 5-lobed, 1⅔ × 1¾ inch, stigma and filaments white, stamens brown.

R. Ririei, 7-9 flowers in a loose truss, pale heliotrope. Corolla 5-lobed, $2\frac{3}{4} \times 3$ inches. Filaments and stigma dark at base, paler at apex, stamens rich brown. A large flower of a beautiful and uncommon colour.

R. haematocheilum var., 6-7 flowers in a loose truss, pale violet-rose, paler within, unspotted. Corolla 7-lobed, 2 by $2\frac{1}{2}$ inches. Filaments white, stamens dark brown, stigma greenish-white.

R. haematocheilum var., 6-9 flowers in a loose truss, violet-rose, not quite so pale as above, unspotted, but with a small blotch of crimson at the base. Corolla 7-lobed, $1\frac{3}{4} \times 2$ inches.

End of February: R. polylepis × lutescens sent me by M. Mottet from M. de Vilmorin's garden at Verrières. A very pleasing little flower of pale flesh-colour merging into creamy-yellow, short in the tube and wide open. The flowers are in twos in the axils of the leaves, and are $1\frac{1}{2} \times 2\frac{1}{4}$ inches, 5-lobed, filaments and stigma creamy-white, stamens pale brown, the upper segments of the corolla being spotted with bistre-green. The leaves are midway between those of the two parents. I was puzzled to account for the pleasing colour being derived from the usual poor purple of R. polylepis (Harrovianum), until one of my seedlings from Wilson's seed (4,278 W.) produced flowers of a lovely shade of pink without a trace of purple in it.

First week in March: In the greenhouse another plant of M. de Vilmorin's, R. 7,710, flowered; 4 in a truss, white, with a large blotch of yellow shading into rich brown on the upper segment. Corolla 5-lobed, $3 \times 3\frac{3}{4}$ inches. Sweet-scented. Filaments and stigma white, stamens pale brown. Very like R. Veitchianum in appearance, but differing in the colour of the blotch, which is much darker, in not being so deeply cleft into segments, and in having oblong lanceolate leaves about $4\frac{1}{2}$ inches long. Also, it is very much hardier, two plants having stood the hard winter of 1916-17 unprotected out-of-doors without any injury, when several other species, such as R. Edgeworthii, were killed.

Middle of March: R. 10,071, Forrest, cuneatum, 5 in a truss, pale violet-rose with a few yellowish spots. Corolla 5-lobed, $1 \times 1\frac{3}{4}$ inch, almost salver-shaped, divisions deeply cleft. Filaments same colour as corolla, stamens pale brown, stigma yellowish-white.

R. 10,423 F., ravum, 4 flowers in a truss, violet-rose, rather darker than above, with a few crimson spots. Corolla 5-lobed, $1 \times 2\frac{1}{4}$ inches, almost salver-shaped, divisions deeply cleft. Filaments same colour as corolla, stamens pink and brown, stigma yellowish-white.

End of March: R. 5,848 F., hylothreptum, 10 flowers in a truss, second shade of rose-Neyron, with a deep blotch of black crimson at the base. Corolla 7-lobed, $1\frac{1}{2} \times 1\frac{1}{2}$ inch. Filaments rather paler than corolla, stamens brown, stigma yellowish-white. I had only one flower on a sickly plant.

Second week in April: A most remarkable flower appeared on a plant raised under the number 9,048 F. (habrotrichum), and almost exactly resembling that species in leaf, though the flower buds were quite different. 12-14 flowers in a truss, purple-rose, with a dark blotch at the base, and two broad lines of red spots at the junction of the topmost 3 segments. Corolla 5-lobed, campanulate, $1\frac{1}{2} \times 2$ inches. Filaments and stigma very pale pink, stamens brown.

The feature of the flower, however, was the extraordinary size of the calyx, which was quite half-way up the corolla on the upper side, of the same colour, and profusely spotted with red, almost giving the appearance of a hose-in-hose flower. Professor Balfour has named this species R. diphrocalyx.

Third week in April: A Rhododendron flowered, which had appeared as a rogue among seedlings of R. adenogynum (5,868 F. and 5,871 F.). 10-12 flowers in a truss, pale lilac-rose, darker outside, with a dense marking of crimson spots on the three upper segments. Corolla 7-lobed, $2\frac{3}{4} \times 4$ inches, openly campanulate. Filaments white, stamens light brown, stigma greenish-white. Leaves $1\frac{3}{4} \times 4\frac{1}{2}$ inches.

This plant seems likely to prove one of the best Chinese species, for it is a rapid-spreading grower of good garden habit, very hardy, and with an exceptionally fine flower.

Two of my friends, to whom I sent a truss, expressed the opinion that, since there was nothing like it among Forrest's dried flowers, it must be a Fortunei hybrid raised here or elsewhere. But I know that in the first place it appeared among the adenogynum seedlings, and has been grown here ever since, and, in the second, that I have never raised any Fortunei crosses. Also it is utterly unlike that series both in leaf and flower-bud.

R. prostigiatum (prostratum × fastigiatum). Several plants of this cross flowered in April and again in August. So far, the best of them

Fig. 5.—Tecophilaea cyanocrocus.

(See p. 16.)

was almost 2 inches across, 2 in a truss, bright violet-purple, stamens and stigma the same, unspotted, salver-shaped, and very floriferous.

R. 1,526, W., argyrophyllum, 12-16 flowers in a truss, violet-rose, unspotted. Corolla campanulate, 5-lobed, $1\frac{1}{2} \times 1\frac{1}{2}$ inch. Filaments paler than corolla, stamens dark brown, stigma yellowish-white.

Fourth week in April: R. Faberii, 6-8 flowers in a truss, white, with two patches of crimson spots from the base to about half-way up the two upper segments, and a tinge of light crimson inside and out of the centre of each segment from the middle to the extremity, giving an unusual appearance. Corolla 5-lobed.

R. 8,923, F., zaleucum. So far as I could judge from this, a first bloom, the flowers are in twos in the axils of the leaves at the end of the shoots. Individually, they are white-flushed violet-rose, with two broad groups of dark violet-rose spots on the upper segment. Corolla 5-lobed, $2 \times 2\frac{1}{2}$ inches, openly campanulate. Filaments white, stamens bright chestnut-brown, stigma greenish-white. In another plant which opened later the flowers were violet-rose.

First week in May: R. 1,885, W., = hypoglaucum, 9 flowers in a truss, 5-lobed, campanulate, 1 2-5 × 1 3-10 inch, white, with a thick spotting of crimson on the upper segments. Filaments white, stamens pink, stigma greenish-white.

Third week in May: A plant labelled 1,539 W. Taliense, flowered, but I am not sure that the name is right. Eight flowers in a truss, 6-7-lobed, broadly campanulate, 1 9-10 × $2\frac{1}{2}$ inches, blush-white, with a shading of rose outside the middle of the lobes, and a thick spotting of crimson at the base. Filaments white, stamens dark brown, stigma greenish-white.

R. 6,761 F., dichroanthum, 6 flowers in a loose truss. Corolla 5-lobed, rather narrowly bell-shaped, opening at the mouth, 1 7-10 × 1 4-5 inch, orange-red. Filaments pale orange, stamens dark brown, stigma yellowish-green.

A compact dwarf-growing plant with a whitish tomentum between the leaves and on the young shoots, and flowers of a remarkable colour.

Seedlings from R. Mrs. Butler. Apparently this is a natural hybrid × ponticum, being much of the colour of the latter, but larger, and with 6 lobes to the corolla. One of these plants was better than the others, and quite an acquisition.

Last week in May: R. 9,055 F., callimorphum, 6-7 flowers in a truss. Corolla 5-lobed, campanulate, and rather resembling R. Souliei, but smaller, and not opening so widely. Colour peach-blossom, 1 1-5 × 1 3-5 inch, with a blotch of crimson inside at the base. Filaments paler than corolla, stamens light brown, stigma tinged with pale yellowish-red. A very neat and pretty little plant.

First week in June: R. 6,762 F., pholidotum, 6 flowers in a truss, reddish-violet. Corolla 5-lobed, 1 1-10 × 1 7-10 inch. There is a dense spotting of brownish-crimson on the three upper lobes. Filaments and stigma white, stamens light brown. A distinct and pleasing colour.

June 6: Whilst weeding in one of the seedling beds, I became aware of a small Rhododendron in flower, which would otherwise have certainly escaped notice. It proved to be R. 7,857 W. = Tschonoskii. Four flowers in a truss. Corolla 5-lobed, 2-5 × 3-5 inch, pure white, campanulate, with a narrow tube, and very deeply cleft segments. The outside of the

tube was slightly flushed with rose. Filaments white, stamens light brown, stigma white with a slight tinge of green.

Second week in August: R. auriculatum flowered here for the first time. Nine flowers in a truss. Corolla 7-lobed, sweet-scented, white tinged with yellow at base, and with two lines of crimson blotches fading into pale yellow at the base of the upper segments, a rather narrow tube opening widely at the mouth, 3¼ × 4 inches. Stigma and filaments greenish-white, stamens very pale brown.

Miss Brennand's admirable picture in Mr. Millais' book gives a very good idea of the flower, but hardly shows how large it is. I put its pollen on to R. hippophaeoides, since, unfortunately, I had none of the larger Rhododendrons in flower, but the two are so far apart that the cross is hardly likely to have taken. Also, I fertilised it with the pollen of R. Cunningham's Yellow, kindly sent by a friend, but no seed resulted.

October: An imperfect flower of what is probably haematodes came out. It is a beautiful ruby-crimson on a dwarf, spreading plant.

The third week in December, Nobleanum, parvifolium, mucronulatum, and atrovirens were in full flower; micranthum was also just going over. Smith's Early Scarlet and barbatum had 6 or 8 flowers out. I have never known barbatum so early; there were also isolated flowers on Keiskei, lutescens, neriiflorum, haematocheilum, and ambkeys (ambiguum × Keysii), a queer little hybrid, raised here, which strongly resembles the pollen parent Keysii. Even a bud on R. zeylanicum was showing colour.

The most difficult problems to deal with in the way of seedlings in 1918 have been R. auriculatum and R. 6,777 F., sulfureum microform, formerly called brachyanthum, the former being woefully prone to damping off, and the latter strongly resenting the process of pricking out.

The beautiful blue Tecophilaea cyanocrocus (see fig. 5) was flowering in the greenhouse in December. I once saw it growing out-of-doors in the kitchen-garden at Enys, but should be grateful if anyone could tell me what conditions suit it best in the open.

Primulas do not do very well here—probably it is too damp—but Cockburniana grows and seeds itself profusely, and one year produced a natural hybrid or two with pulverulenta. Last year a lovely rose-coloured plant appeared, probably Bulleyana × pulverulenta, and this year I rather think P. saxatilis has crossed with obconica indoors.

Yearly some plants of P. nutans and P. spicata flower, but others die off, and I expect they need more attention than I can give them. Nor have I succeeded in saving seed from spicata. P. vincaeflora flowered in two years from seed, but slugs will go miles for it and eat out the whole crown, so it is difficult to keep alive.

Of other plants in the garden, Embothrium coccineum (the Chilean fire bush) is about 30 feet high, and happily does not seed here, but throws up a few suckers, one of which has now almost reached the top of the temperate-house at Kew. Magnolia Campbellii is also about 30 feet high, and growing rapidly, but has not yet produced a flower, whilst M. Delavayi flowered this year for the first time. The leaf is magnificent, but the flower is not so good as that of M. exoniensis, and appears to last only one day.

There are one or two very good trees of Cryptomeria japonica, and two fine Cupressus funebris over 40 feet high.

Podocarpus Totara stood the winter of 1916-17 and is growing well. The rare Athrotaxis selaginoides is now represented by three specimens, the tallest about 8 feet high. They were all raised from seed from the old plant, now unfortunately dead, which was 26 feet high, and a very pretty sight when at Christmas-time it was covered with its orange cones. *E. J. P. Magor, Lamellen, St. Tudy, Cornwall.*

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Asparagus.—This excellent vegetable may be forced early in frames on a hot-bed. If hot-beds have been made as I advised in my first calender the fermenting materials will have settled, and the frames may be placed in position, with a brick under each corner to allow them to stand evenly on the bed. Inside the frame place a layer an inch or so deep of old leaf-mould. Place the Asparagus roots on the leaf soil, just touching each other, and cover the crowns with about 4 inches of sifted soil. Give a good watering to complete the operation. Keep the lights closed, unless the temperature rises above 60°, when a little air should be admitted. Close the frame early, and use the syringe in favourable weather. Place fresh fermenting materials around the lights as the manure sinks; this advice applies to all hot-beds for the next three months.

Seakale.—This vegetable may be regarded as almost indispensable throughout the early months of the year. When frosts are holding other choice vegetables in check, the value of Seakale is enhanced. At this season the roots may be forced easily if they are placed in light soil in pots, boxes, or beds. If a forcing house is not available the roots will do equally well in a warm greenhouse, provided the crowns are covered and kept dark, using pots or boxes, or even a rough batten frame, with bags thrown over to exclude the light. Insert the required number of crowns at intervals of ten days, and syringe with tepid water when moisture is necessary.

Tomatos.—Tomato plants raised from seed sown in the autumn of 1918 have made steady growth, the mild weather having suited them. They will be greatly benefited by shifting them into 5 and 6-inch pots, according to their size and strength. Use a compost of loam, leaf-mould, and a dash of sand. Do not pot too firmly at this season; when potted grow the plants near the roof-glass in a house having a temperature of 50° to 55° by night. Be sparing with the water-can for some time to come.

Carrots.—Short-rooted forcing varieties of Carrots should be sown at intervals of a month for the next three months on prepared hot-beds or in heated pits. Sow the seed in 6 inches of prepared soil; that from under the potting bench is ideal for the purpose, adding some burnt garden refuse when mixing it. Sow the seed in drills made half an inch deep and let the rows be 9 inches apart. Water and syringe when needed. Inimitable, Parisian Forcing, and Champion Scarlet Horn are excellent first early varieties, with Early Gem and Favourite for later sowings.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Seasonable Remarks.—One of the chief difficulties the Orchid grower has to contend with in winter is the maintaining of proper atmospheric conditions in the houses owing to the changeableness of the climate. The quarter opened with a touch of wintry weather over the greater part of England, and following this cold, damp, foggy weather has been general, a state of conditions prevailing at the time of writing. The most severe weather is, more often than not, experienced during the early part of the year, and we may look forward to a soaking rain one day and the ground frozen quite hard the next; indeed, changes come so suddenly that there is no time to prepare for them. It is obvious, therefore, that a considerable amount of care and attention is necessary in order that the temperatures may not fluctuate greatly. In all Orchid houses there should be sufficient radiating surface to maintain the requisite temperature without having to overheat the pipes, and thus cause a dry atmosphere. If, in these days of fuel shortage, the heating apparatus is not able to afford sufficient warmth to meet the demands, much may be done to keep the houses at a comfortable temperature by the judicious use of protecting materials, such as mats or stout canvas nailed over all exposed ends and sides of the houses. These materials may be allowed to remain fixed in position until the end of February or middle of March. In severe weather similar materials may be employed to cover the lower portion of the roof-glass at night, but they should be removed in the morning when the temperature commences to rise. The stoke-hole, if of convenient size, will be found the most suitable place for storing these protective materials during the day, as there they may be spread out to thaw and dry ready for use again.

Temperatures.—There is little doubt but that the houses, speaking generally, are often kept too warm. At this season all Orchids require more or less fire-heat, but many would be far better in cooler atmospheric conditions than are often maintained. Taking Orchids as a whole, the plants are very sensitive to atmospheric influence, and no matter how careful the treatment is in other respects, they cannot long continue in a satisfactory condition unless suitable atmospheric conditions are maintained about them. I never advise the rigid observance of a stated temperature, but give the following figures as a guide for the present, the higher temperature to be reached about mid-day, and the lower ones in the early morning. East Indian or stove houses, day, 65° to 70°; night, 60° to 65°. Cattleya houses, day, 60° to 65°; night, 55° to 60°. Intermediate houses a few degrees lower, and cool or Odontoglossum houses, day, 55° to 60°; night, 50° to 55°. The outside conditions must be considered at all times, and in very severe weather the thermometer should show but little variation during the 24 hours.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Cyclamen latifolium. — The florists' Cyclamen, now represented in six distinct types, is one of the most useful mid-winter flowers for either the plant houses or furnishing cut blooms. One-year-old plants now in flower require to be grown in a house having a mean temperature of 55°. Guard against excessive watering, and give the roots weak manure water occasionally. Cyclamens raised from seed sown last August or September should be pricked out in 2-inch pots; the soil should consist of a mixture of loam, peat, and rough sand. Grow the plants near the roof-glass in a temperature of 55° to 60°. Use an insecticide occasionally to keep the plants clear of insect pests.

Sweet Peas.—Sweet Peas raised from seed sown in 3- or 6-inch pots last October, and intended for early flowering under glass, should be potted in 9 or 10-inch pots filled with good loam, to which has been added a 7-inch potful of plant fertiliser to each barrowful of loam. Birch twigs will provide suitable supports in the early stages of growth. Stand the plants in a cool, airy place near the roof-glass.

Schizanthus.—Large flowering hybrids of Schizanthus are indispensable for the early decoration of greenhouses and conservatories. Plants raised from seed sown last August in small pots should now be ready for transferring to the pots in which they will flower. Place the plants near the roof-glass in a cool, airy greenhouse, and when rooted sufficiently in the fresh soil, water them occasionally with liquid manure.

Camellias.—These showy plants are in less favour now than formerly for supplying cut blooms and for decorative purposes generally. The plants will be very valuable in these times of fuel shortage, for they grow and flower well in a cool greenhouse. Large specimens planted out need only sufficient warmth to exclude frost. Care should be taken not to allow the roots to become dry; when watering, first sprinkle the border with a plant fertiliser. When weather

permits admit plenty of air to prolong the flowering period.

Preparations for Propagating.—The propagating houses should be got in readiness for seed sowing and rooting young stock. Let the interior of the house be thoroughly washed with water in which soft-soap and a little paraffin has been added. Provide fresh material for plunging pans or pots in, whether the bottom heat is furnished by hot-water pipes or fermenting material.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to C. H. BERNERS, Esq., Woolverstone Park Gardens, Ipswich.

Second-Early Vinery.—By this time the Vines in second-early vineries should have been pruned and cleansed, the borders top-dressed with fresh compost, and every portion of the house made as clean as possible. When these operations have been completed the house may be closed for the purpose of obtaining successional bunches. Vines with their roots in inside borders are most suitable for starting at this date. If the borders are outside sufficient fermenting material to impart gentle warmth to the roots should be placed thereon and protected from heavy rains or snow. If the soil of the inside borders is at all dry it should be given sufficient tepid water to moisten it thoroughly. Maintain a fairly moist atmosphere and, on bright days, syringe the Vines when closing the house. Use sufficient fire-heat to maintain the night temperature at from 45° to 50°, allowing a slight rise by day. Young rods should be bent down in order to assist the buds to break evenly throughout the whole length of the shoot.

Strawberries.—A batch of Strawberry plants may be introduced into a forcing house which is about to be started. The plants should be top-dressed with a compost of loam, soot, and dry, pulverised horse-manure, or manure from a spent Mushroom-bed, first removing a layer of the surface soil. Make the new material firm in the pots. A position near the roof-glass at the apex of the house is suitable for Strawberry plants at this season. Growth should not be unduly hurried in the early stages of forcing, and close attention must be paid to watering, for the soil needs to be in a uniform condition of moisture.

Melons.—The present is a suitable time for sowing seeds of Melon. The plants will have the benefit of lengthening days, and, with the assistance of favourable weather, should yield ripe fruits by the end of April or early part of May. Sow the seeds in 2½-inch pots filled with fine loam mixed with a small quantity of leaf-mould. Plunge the seed-pots in a gentle hot-bed and cover them with a sheet of glass. Water is not required until the seeds germinate. As soon as the seedlings appear place the pots containing them on a shelf near the roof-glass where there is no danger from cold draughts. A mild hot-bed formed of leaves and stable litter (previously prepared) should be made in the house, and on it should be placed a firm ridge of stiff loam mixed with a fair quantity of wood-ash and old plaster-rubble. When the plants are sufficiently advanced in growth set them out 2 feet apart. Maintain a night temperature of 60° to 65°, with a suitable rise by day.

Late Vineries.—All bunches of Grapes hanging on the Vines should be cut and stored in a Grape-room where the atmosphere can be kept dry and a temperature of 45° to 50° be maintained. The bunches should be examined carefully and all injured or decaying berries cut out. Prune the Vines forthwith, shortening each lateral to two good basal buds—that is, if the spur method of pruning is adopted. This method is suitable for free-fruiting varieties, but for certain sorts, including Lady Hutt and Duke of Buccleuch, it is advisable to leave an extra bud or two to ensure a fruitful shoot; should a growth from the basal buds produce a suitable bunch the extra buds can be removed; usually, however, it will be found that the end bud will be stronger in growth and produce the finest bunch. The objection to long and unsightly spurs can be obviated by training up young rods as occasion requires. To afford the Vines the benefit of a perfect rest allow the ventilators to remain fully open (except when frosts are very severe or during stormy weather). If the water-pipes are emptied the Vines will not be injured by frost, which would kill many insect pests. If the Vines are infested with mealy bug or red spider, remove all loose bark, particularly from about the spurs, and then thoroughly wash them by means of a suitable brush with fairly strong insecticide. Cyaniding is the most effectual method of eradicating mealy bug, but the inexperienced operator had better obtain expert advice before carrying out this dangerous operation. The house should be thoroughly cleansed, including every portion of the wood, ironwork and glass. Thoroughly wash the walls with fresh lime mixed with flowers of sulphur. After removing the surface soil of the borders top-dress them with fresh compost made of good loam, freely mixed with wood-ash, fine mortar-rubble and concentrated Vine-manure.

Cucumbers.—Seed of some approved variety of Cucumber should be sown forthwith. Insert one seed in each pot, which should be of small size and filled with light soil mixed with leaf-mould. Plunge the pots in a mild hot-bed and cover them with a sheet of glass. Let the young plants receive plenty of sunlight as soon as they appear. Fermenting material should be prepared for planting-time, and the required amount of fibrous loam placed under cover in readiness for use.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Apples that Cropped Well in 1918.—It may interest readers to give the names of a few varieties of Apples which bore heavy crops here last season, when nearly all the rest were total failures. Of cooking varieties Bramley's Seedling and Lord Grosvenor gave heavy crops; Bismarck and Stirling Castle gave good yields; Bess Pool and Lane's Prince Albert fair returns. Among dessert varieties trees of Rival were very heavily fruited, whilst Blenheim Pippin, Boston Russet, and King of Tompkins' County all carried good crops. As the Apple crop was so light generally it behoves those who have fruits in the fruit-room to keep a constant watch over them with a view of removing at once all which are not keeping well; admit a little air to the fruit-room whenever conditions are favourable.

Peaches.—If the cleansing and tying of Peach trees out-of-doors has not been done, the work should be completed before the buds begin to swell, otherwise there will be a danger of breaking many of them from the branches. The trunks and main branches should be scrubbed with a stiff brush, and the young shoots with a soft paint-brush. Gishurst compound is the best specific to use, unless mealy bug is present, when XL All insecticide should be employed. If the trees are clean and labour short, it is not necessary to untie all the branches, provided they are syringed with alkali wash before the buds begin to swell. Examine all ties to see that the wood has room to swell, and remove as much of the old wood as can be spared. When this work is completed, take away the trellis or boards which have been used by the operator for standing on; remove all sour soil from the border, and substitute a mixture of old loam, lime rubble, bone meal, and wood ash, at the rate of 8 parts loam, 1 part lime rubble, 1 part wood ash and 4 stone of bone meal. Much depends on the nature of the loam: if it is very heavy in texture, use more lime rubble. The whole of the materials should be mixed thoroughly two or three times by turning with a spade. Any trees that are making gross shoots, and have not yet been root-pruned, may still receive this attention, but it is not advisable to root-prune more than one-half of the tree at one time. The work may be completed next autumn, which is the best time to root-prune.

Apricots.—All work, such as tying the shoots and top-dressing the roots, necessary for Apricots, should be completed forthwith. As a rule the trees do not need much cleansing in winter, but they occasionally get infested with scale, which may easily be removed by washing with Gishurst compound. Apricots are probably the most difficult of all fruit trees to manage, for sometimes half the number of shoots die, from no apparent cause. Much of the trouble may be traced to unsuitable rooting conditions, and I find that dying of the branches does not occur where there is good, deep drainage, and suitable compost, which should consist of loam, lime rubble, brick rubbish, and chalk, if procurable. A porous border is essential to success, and the trees will not tolerate a stagnant border. It is not advisable to give rich mulchings; a covering of dry litter is useful in winter, as it protects the borders from frost and rain. The best time to apply the mulch is after the crop is set.

Top-dressing.—Rank manures should not be used for this purpose: a mixture of well-decayed leaf-mould and manure provides the best mulch, and in addition the borders should receive a good sprinkling of burnt refuse and mortar rubble.

Liming Fruit Trees.—Soils deficient in lime should receive a good dressing of quicklime. I prefer to use it after it has been slaked. Apples, Pears, and berry-bearing bush fruits are all benefited by a dressing, but lime is especially desirable for stone fruits.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Roses.—The present is a suitable time to secure Briars for budding during the coming season. Select those with young, healthy, clean stems ranging from 3 to 6 feet in height, trim the roots and plant when the weather is suitable, allowing sufficient space between the rows to do the work of budding with comfort.

Protecting Plants.—Owing to the mild weather, many bulbs are making precocious growth, and should a change to severe weather occur serious damage may result unless protection is afforded the plants. I know of no better protective materials for bulbs and similar plants than leaf-mould or Coconut fibre refuse; and these should be scattered over the shoots peeping through the ground before the plants get injured and before the frost penetrates deep in the soil. Keep a watchful eye on all choice bulbs planted in nooks and recesses, protecting these very carefully should there be signs of very severe weather. Have an abundance of suitable material in readiness for protecting choice and tender shrubs, there being several kinds that will withstand a reasonable amount of frost but would succumb to a rather sharp winter.

Wichuraiana Roses.—There are many very excellent varieties of this class of Rose which can be utilised in a variety of ways to give a good and pleasing effect. They are suited for covering old, unsightly buildings and fences. A few varieties planted in good soil with ample drainage will grow quickly, and in a very short time clothe what was formerly an eyesore with a mass of both foliage and flower. Alberic Barbier, Elisa Robichon, Excelsa, Francois Guillot, Hiawatha, Jersey Beauty, Joseph Billiard, Paul Transon, René André, and others, may be planted, and will withstand many degrees of frost without being injured. Fully established plants which have already covered much space should be thoroughly mulched or liberally fed with liquid manure at intervals during dry weather in the growing season.

Dwarf Roses.—In order to maintain in vigour and health Roses which have occupied the same position for several years, the roots should be fed and top-dressed with decayed farmyard manure. Where the soil is close and sour the plants may be lifted entirely, the roots pruned with a keen-edged pruning knife, and replanted in a fresh, sweet, suitable compost, resting on perfect drainage. The improvement in many cases will be most marked. In preparing beds for planting, pay great heed to the drainage, and take every care to have the soil prepared thoroughly.

Plants in Tubs.—Agapanthus, Myrtle, Agave, and other tender plants growing in large pots or tubs should be kept safe from frost. A temperature of 45°—a little more or less, according to the weather—is suitable to keep the plants healthy. Keep the roots just moist, but do not allow the soil to become excessively dry.

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SALES FOR THE ENSUING WEEK.

WEDNESDAY, JANUARY 15—
Sale of Roses, Fruit Trees, &c., at 67, Cheapside, by Messrs. Protheroe & Morris, at 1 o'clock.

THURSDAY and FRIDAY, JANUARY 16 and 17—
Sale of 17,000 Fruit Trees, Ornamental Trees, &c., at Cheshunt Nurseries, Cheshunt, by order of Messrs. Paul & Son (Cheshunt), Limited, at 11.30 o'clock.

SATURDAY, JANUARY 18—
Sale of Hollies, Rhododendrons, &c., at the High Beech Nurseries, Loughton, by order of Messrs. Paul & Son (Cheshunt), Limited, at 11.30 o'clock.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 37.9°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, January 8, 10 a.m.: Bar. 38.2; temp. 47°. Weather—Dull.

Senecio saxifragoides and S. lagopus. An interesting phenomenon in plant distribution is exhibited by these two species of New Zealand Senecios. The one, S. lagopus, occurs in the main mass of the Banks Peninsula, on the E. coast of South Island; the other, absent from the peninsula, occurs in the Port Hills.

This problem has recently been investigated by Prof. A. Wall,* who shows that the two species are identical in all respects save one. Even this one differentiating character is quantitative, and not qualitative, and concerns the location of the so-called "bristles"—actually glandular hairs which occur on the leaves. Though present in both species, the distribution of the hairs is consistently different in the two species, and a similar difference of distribution in the other, silky hairs, characterises S. saxifragoides and S. lagopus.

Yet—and herein is the point of interest—the two forms have distinct stations.

That they are members of one species cannot be doubted, in view of their general identity of characters, but why they should exhibit this remarkable spatial segregation is a puzzle. The only plausible explanation is that they represent geographical, or rather, climatic, varieties, each representing the state of hairiness concordant with the special climatic conditions of their several habitats. In support of this view, Prof. Wall draws attention to the fact that the Port Hills, on which S. saxifragoides flourishes, are nowhere higher than 1,800 feet, whereas other peaks on the peninsula reach to 800 feet above this level. The rainfall in the former station is about 25 inches per annum: that of Akaroa, on the peninsula, and a station of S. lagopus, is 44 inches. Hence it may be that it is to the drier climate of the Port Hills and to the wetter climate of the higher parts of the peninsula that the differences in hairiness exhibited by the two species are to be referred.

It is to be hoped that Prof. Wall will investigate this problem experimentally, and it would be particularly interesting to know whether seed or plants of the one species transplanted and raised in the habitat of the other would or would not remain constant to their several types.

Examples of a similar nature among animals have been investigated by Loeb and other zoologists. For instance, "The two species of salamander, Salamandra atra and S. maculosa, occupy distinct stations. The former occurs in dry alpine regions of relatively low temperature; the latter, in lower regions, with plenty of water and higher temperature. In the dry alpine regions S. atra deposits eggs, which hatch out as land animals; in the wet lowlands the eggs laid by S. maculosa contain embryos in a less advanced stage of development. The young when born are gill-bearing, and complete their development whilst leading an aquatic mode of life. Thus each species is adapted to the physical conditions of its environment.

"But if S. atra is exposed to lowland conditions, that is, to a moist atmosphere and relatively high temperature, it lays its eggs earlier, the young hatch out in the gill-bearing stage, and development is completed during their life as independent aquatic animals. Conversely, if S. maculosa is exposed to alpine conditions, oviposition does not take place till the embryos have passed beyond the aquatic gill-bearing phase.† " It would seem, therefore, as though a pretty piece of experimental work is waiting to be done on the two species of Senecio which form the subject of Prof. Wall's paper.

* "On the Distribution of Senecio saxifragoides Hook. f. and its Relation to S. lagopus, Raoul," *Trans. N.Z. Institute*, L., 1917. (Issued June 10, 1918.)

† *Plant Animals.* The Cambridge Manuals of Science. By Frederick Keeble. (Cambridge Univ. Press.

Gardeners' Royal Benevolent Institution.—The seventy-ninth annual general meeting of the members and subscribers of this Institution will be held at Simpson's Restaurant, 101, Strand, London, on Thursday, January 23, at 2.45 p.m., for the purpose of receiving the report of the committee and the accounts of the Institution (as audited) for the year 1918; electing officers for the year 1919; and for the election of fifteen annuitants on the funds. The chair will be taken by Sir HARRY J. VEITCH, F.L.S., V.M.H., treasurer and chairman of committee, at 2.45 p.m. The poll will be open at 3 p.m. and close at 4 p.m.

Honour for Major F. B. Pulham.—The Order of the British Empire has been conferred on Major F. B. PULHAM, of Messrs. PULHAM AND SON, Newman Street, Oxford Street, London, and Broxbourne, for "meritorious service during the war." Major PULHAM obtained his commission in 1914.

Orchids in France.—Writing from Brunoy, Seine et Oise, France, last week, Monsieur CHAS. MARON states: "After an anxious time, during which I had to shut off the heat from half my Orchid houses and make shift as best I could to accommodate my collection by turning out of pots some of the largest specimens, I am now glad to be able to inform you that we are coming out of this dreadful war in much better condition than I had expected. There have been regrettable losses, of course, but we are thankful for having been able to save the greater part of the good hybrids, and later I hope to tell you of some very interesting plants. My son has passed through his Army duties in good health."

Agricultural Wages.—Employers or workers who do not understand their position under the Orders issued from time to time by the Wages Board can usually obtain the information they need by writing to the Secretary of the Board, 80, Pall Mall, S.W. 1. Attention to the following points will facilitate correspondence: (1) Mention the county to which your question refers, (2) give a full address on your letter, (3) state your question as clearly and as shortly as possible, and (4) letters to the Wages Board may be sent unstamped.

The Surveyors' Institution.—The next ordinary general meeting of the Surveyors' Institution will be held in the Lecture Hall of the Institution on Monday, the 13th inst., when a paper on "The Second Report of the Committee dealing with the Law and Practice relating to the Acquisition and Valuation of Land for Public Purposes" will be read by Mr. EUSTACE HILLS. The chair will be taken at 5 o'clock.

County Marketing Schemes.—The Framlingham Egg Collecting Society—one of the most successful of its kind in the world—is in negotiation with the Horticultural Sub-Committee of West Suffolk with a view to undertaking a marketing scheme in co-operation with the Sub-Committee. In East Suffolk the Horticultural Sub-Committee is negotiating with the Ipswich Industrial Co-Operative Society in reference to improved market facilities. A Cumberland Fruit and Vegetable Society has been successfully launched, and is stated to have an exceptionally well arranged central dépôt.

New Steamers for Overseas Fruit Trade.—Messrs. ELDERS AND FYFFES, who occupy a prominent position as importers of Bananas and other exotic fruits, have placed an order for three new steamers with Messrs. CAMMELL LAIRD, of Birkenhead. The vessels are to have a speed of 15 knots, and they will be built so as to secure the maximum amount of space for fruit carriage.

Double Wedding at Newry. — On St. Stephen's Day, 1918, two interesting weddings were solemnised in St. Mary's Church, Newry. At 10.30 a.m. Miss E. S. SMITH was married to Mr. THOS. GRILLS, of Fermoy; and at 11 o'clock Second Lieut. NORMAN SMITH, Royal Flying Corps (a recently returned prisoner from Germany), married Miss G. C. LOCKE. Second Lieut. N. SMITH and Miss E. S. SMITH are the son and daughter of Mr. GEO. NORMAN SMITH, and grandson and granddaughter of Mr. THOS. SMITH, Daisy Hill Nurseries, Newry. St. Mary's Church was decorated for the weddings and the Christmas festivities by Miss HETTY SMITH, with material largely obtained from the Daisy Hill Nurseries.

Wolverhampton Floral Fête.—Mr. GEORGE W. A. MARTIN, secretary of the Wolverhampton Floral Fête, informs us that his committee has decided to resume the Floral Fête this year, and that it is to be held on two days, Wednesday and Thursday, July 9 and 10, 1919, instead of three days, as in former years.

Nitrate of Soda.—The Government is offering a certain amount of nitrate of soda for delivery in the early months of 1919, at the price of £20 per ton, in bags. This price is for quantities of not less than 2 tons, delivered to purchaser's nearest railway station in Great Britain. The minimum order accepted for delivery direct from Government store to purchaser's or consumer's station, according to the Food Production Department, will be not less than 2 tons, but smaller quantities may be bought from the stores of agricultural merchants or co-operative societies. In these cases, special additions to the above-mentioned prices have been authorised.

Gardener's Death from Tetanus.—A verdict of "Death from tetanus" was returned at an inquest recently held at the Royal Devon and

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"EVERYTHING FOR THE GARDEN."

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Exeter Hospital on the body of Mr. Joel H. Crosscombe gardener at Belmont Pleasure Ground. The deceased man cut one of his fingers, and four days later complained of stiffness of the neck; two days afterwards he went to the hospital, and had his finger dressed. The following morning, being unable to swallow or move his jaw, he was taken to the hospital. The widow said at the inquest that before her husband cut his finger with a pruning hook he might have been engaged in potting, in which he would have soil mixed with manure to deal with. The house surgeon considered deceased came to the hospital too late for serum to be of any value.

Japanese Rice Crop.—The production of Rice (uncleaned) in Japan is estimated at 209,959,000 cwt., or 8.1 per cent. above last year and 4.4 per cent. above the average of the five years 1912-16.

Wart Disease of Potatos.—A survey of the whole of the counties of England and Wales was undertaken lately by the Food Production Department in order to ascertain in what areas wart disease exists. As a result 68 districts have had to be certified as infected areas under the Wart Disease of Potatos Order, 1918. Among the areas so certified are a district including the county of Glamorgan and parts of the county of Monmouth, Carmarthen, and Brecon; the whole of Lancashire south of the River Ribble, and a number of parishes in the counties of Nottingham and Derby. The county of Stafford is to be declared an infected area as and from January 1, 1920.

Land Drainage.—During the past two years the subject of improving the main drainage channels has been taken up with great enthusiasm in Yorkshire, among other counties, and remarkable results have been achieved at a comparatively small cost. The low-lying lands around Doncaster and on the North Bank of the Humber are provided with long-existing drainage systems, but many of these were in a state of great neglect when the Agricultural Executive of the East and West Ridings turned their attention to this matter in the spring of 1917. In the East Riding the cleansing of the Groenoak Goit was completed in 1917, and about 2,000 acres were greatly improved thereby at a cost of £600. Work on the Bellasize Drain was completed in October, 1918, in spite of difficulties caused by the shifting nature of the sandy clay soil. The drain is now said to be working more efficiently than it has done for 70 years past, and an area of approximately 4,000 acres has been greatly benefited at an expense of about £1,200. The water in the Market Weighton Canal (which forms the outlet of the River Foulness) has been substantially lowered by the regulation of the lock gates giving on to the Humber, and the cleansing of the canal is being carried out; the area which will ultimately be benefited by this work extends to about 20,000 acres. The Committee have commenced work upon the clearance of the Howden drainage system. The following is a brief summary of the principal work carried out by the West Riding Agricultural Executive Committee: West Moor and Parks Drains.—Area improved, 3,327 acres; area reclaimed, 700 acres; estimated cost, £1,365. Tickhill.—Area improved, 2,750 acres; area reclaimed, 200 acres; actual cost, £364 18s. 4d. Thorne.—Area improved, 13,000 acres; area reclaimed, 200 acres; estimated cost, £2,700. Gowdall.—Area improved, 700 acres; estimated cost, £250. River Don.—Area improved, by clearing a short and much-congested reach, 40,000 acres; estimated cost £500. Awkley Bridge (River Torne).—Area improved, 2,000 acres; actual cost, £17; arches altered by County Council and other work undertaken by private owners. Awkley and Blaxton.—Area affected, 2,500 acres; estimated cost, £50. Doncaster and Balby Car.—Area improved, 300 acres. Lower Anker Drain.—Area improved, 250 acres; estimated cost, £140. Tranmoor Drain.—Area improved, 150 acres; estimated cost, £50. Little Went Drainage.—On representation by the committee the Little Went has been cleaned out by co-operation of adjoining owners; this is not known to have been done before at any time, and the improvement is considerable. Similar work has been done (to give only a few instances) in counties so far apart as the North Riding of Yorkshire, Norfolk, Berkshire, Cheshire, Lancashire, and Flintshire.

ROSA MOYESII VAR. FARGESII.

A handsome Rose has appeared in cultivation under the name of Rosa Fargesii, the botanical source of which I have been unable to trace. In any case its characters agree so closely with those of the now well-known Rosa Moyesii, Hemsl. and Wils. (*Bot. Mag.*, t. 8,328) that it can only be considered as a variety of that striking Rose. There are bushes of both in the Kew collection, which I carefully compared when in bloom, and found an almost complete agreement in habit, armature, foliage, and in the large flowers with deep crimson petals—characters which are found in no other species of Rose. A fruiting branch of the so-called Rosa Fargesii, illustrated in fig. 6, shows the graceful character of the fruits and foliage. The fruits are about 2 inches long, bright red in colour, clothed with numerous slender, glandular bristles, and crowned with the persistent sepals, which are united at the base into a short cup. As to the origin of this Rose, we may assume that it is an introduction of the Rev. Paul Farges, a French missionary, who made extensive collections in North-east Szechuen, near the borders of Shan-si and the Ta-pa-shan Mountains, though it is not included in a list of his novelties described by Franchet. According to the latter author, Farges' collections in 1896 amounted to about two thousand in number, and he was still collecting in the same mountainous region, which, by the way, is within the area of Rosa Moyesii. His collections are at Paris, and duplicates of some of them are at Kew, though I find no specimen of this particular Rose in the Kew Herbarium. The Kew plant of R. Fargesii was received from Messrs. James Veitch and Sons in 1913, which is all that I have been able to ascertain of its history. It is a graceful and beautiful plant, whether in flower or fruit. *R. A. Rolfe.*

Fig. 6.—Fruits of Rosa Moyesii var. Fargesii.

THE MARKET FRUIT GARDEN.

December was an exasperating month, owing to the frequent interruptions to work in the open by rain. It was not that the rainfall was heavy, only 2.48 inches being recorded here, but there were only five days quite clear of rain. The ground was always wet, so that practically no progress could be made with digging or horse cultivation. The weather was remarkably mild, frost seldom holding long after sunrise, so that the ground was at no time frost-bound. For this reason weeds and grass have continued to grow, and land that was fairly clean when hoeing finished in autumn now looks quite green, and will have to be dug. Good progress has, however, been made with pruning, considering the shortage of skilled labour.

Rabbits and Fruit Trees.

I did not have to wait long to learn whether a low band of wire netting would suffice to prevent rabbits from gnawing fruit trees. Although there has been no severe weather, rabbits appear to be unusually troublesome this winter, and they have done considerable damage amongst newly-planted trees. So far from being afraid of the netting, the rabbits evidently find it a convenience, resting their fore-feet on it and gnawing any part of the tree within reach. They have done this even where the netting is 18 inches high, which has hitherto been considered a sufficient safeguard. Apparently nothing under 2 feet affords complete protection. This means that, if bush trees are to be planted, a rabbit-proof fence must be erected around the plantation—a very expensive business, and practically impossible in present conditions. One other plan has been recommended to me by a market-gardener of life-long experience, who affirms that it has proved successful in his case and that of others to whom he has given the hint. This consists of a low fence of tarred string, one strand about 6 inches from the ground and another 4 inches higher. He affirms that, so long as the tar is fresh, rabbits will not pass such an obstacle, and that tarring three or four times a year is all that is required. This simple plan seems too good to the true, but I am giving it a trial. Stakes 2 feet long have been driven in around the plantation, 12 feet apart, and the string dressed by drawing it through a watering-can full of tar, a stick being pushed into the spout to prevent the string from

carrying out too generous a coating. It was dirty work, but very soon done. Possibly some reader has tried the plan and can report on the result. Mr. Davis (p. 261, Vol. XLIV.) advises me to use Bentley's tree-protecting paint instead of wire netting. This, however, could hardly be applied to bushes, as branches as well as stems would, I assume, have to be painted.

AMERICAN BLIGHT.

This pest has spread so seriously during the past year that an unusual amount of interest is being shown in its eradication. Local applications brushed into affected spots on the branches are all very well on a small scale, but are almost out of the question where large plantations have to be treated, particularly where the young shoots are attacked. A correspondent, who realises this difficulty, asks whether there is any more effective way of dealing with this pest than by spraying in winter with a caustic solution and in summer with a suitable aphis wash. I do not think there is, and that is the plan I mean to adopt. It is known that a solution of $2\frac{1}{2}$ lbs. caustic soda (98 per cent. pure) in 10 gallons of water, used on the dormant trees, will kill any of the insects it touches. The Woburn winter wash, which contains a paraffin emulsion in addition to caustic soda, is said to be rather better for the purpose, but the makers could not supply me this winter. For summer use, any good aphis wash answers, provided that it touches the insects, but preference should be given to one containing nicotine or a paraffin emulsion. Another wash that has been used with marked success, as stated by Mr. R. P. Brotherston in a recent issue, is Gishurst compound at the rate of 2 oz. to the gallon of water. A more important point than the selection of the wash, however, is the thoroughness of its application. About this there is general agreement. The insects are killed only if they are thoroughly wetted, and they are well protected, both by their woolly covering and by the position they take up on the tree. For this reason a coarse nozzle must be used, the trees thoroughly drenched, and the spray directed with force into affected spots. One application of the winter wash should suffice, but the summer treatment must be repeated as required. Persistent treatment can hardly fail to hold the pest in check, though it is probably too much to expect that it can be completely eradicated.

So far I have dealt only with American blight above-ground. When it occurs also on the roots the matter is much more serious. The advice has been given to uncover the roots in winter and apply a caustic wash, and my correspondent asks whether this is practical. On a large scale it certainly is not. The only alternative is to use injections of carbon bisulphide. Four or more injections are made in the ground around each tree 2 feet from the stem, using 2 to 4 oz. of the liquid in a Vermorel injector. Theobald, who advises this treatment, says that it must be done before April and whilst the soil is fairly dry. I have no experience of this practice, but I believe that it would be much too expensive to apply on a large scale. So far, however, I have had no trouble with the blight below-ground. Several trees were recently lifted because the branches were hopelessly attacked, but no sign of the trouble could be found on the roots. There is no doubt, however, that the root form does occur in other places. Even then it would appear that persistent treatment above-ground must clear the roots in time, for Theobald says that no eggs have ever been found below-ground, and that the colonies of insects on the roots can only be replenished by migrants from the head of the tree.

WINTER SPRAYING.

Since we are approaching the season chosen by most growers for winter spraying, it will be well to consider what results we may reasonably expect from the operation. When the practice first came into common use, very extravagant claims were made for it. The trees were to be cleared entirely of insect eggs and fungus spores, and clean, healthy crops would be produced. It was soon found that these claims were not justified. Authorities now hold out little hope that we can do more than rid the trees of mossy growth, for which purpose spraying once every three years is sufficient in most districts. At the same time, of course, any exposed insects are killed; but insect eggs apparently resist the strongest washes we can use without injury to the trees, whilst it is doubtful whether anything can be done against fungi in their winter resting stages. On this latter point Massee states that "no known fungicide can cure a disease, neither can a fungicide kill fungous spores. All that it can do is, when properly deposited on a leaf or a fruit, to kill the germinating spores that alight on the surface." This means that fungicides are of no use in winter, but only as a preventive when the trees are in active growth. This seems reasonable, since the mycelium of such a disease as scab or brown rot is within the tissues of dead spurs, young shoots, etc., in winter, where it cannot be touched by spraying. If we accept this theory, there is no object in going to the expense of making our winter wash a fungicide. Winter spraying simply to cleanse the trees of moss and loose bark is, however, well worth while, as these encumbrances are against the well-being of the tree, and they serve to protect insect pests.

HOW OPINIONS DIFFER.

It is worthy of mention that growers are by no means all in agreement with mycologists and entomologists as to the limitations of winter spraying. They also differ very much amongst themselves. For instance, Mr. A. Mirkin, a well-known Kent grower, affirms that he very largely controls Apple scab and brown rot by spraying with lime-sulphur whilst the trees are dormant, also that it has some action on the eggs of aphis and psylla. Mr. W. P. Seabrook, on the contrary, writes that lime-sulphur "is of very little use as a fungicide in winter apparently," but he always uses it in January or soon after because he finds it to be "of great efficacy in enormously minimising aphis attack." Yet Theobald, after careful experiments, has declared lime-sulphur to be of little value for destroying aphis eggs. As a winter fungicide Mr. Seabrook is a great believer in sulphate of copper, 4 to 10 lbs. to 100 gallons of water, stating that it is usually efficacious in the cases of canker, brown rot, black scab, and coral spot. He has had little success with Bordeaux mixture applied in summer at the usual strength. Thus it is seen that scientists and growers differ widely. On paper the former can produce the more convincing evidence, but it is impossible not to attach some weight to the opinions of experienced growers, who are also keen business men and unlikely to continue practices unless they were convinced that they paid. There is, I consider, a wide field for further investigations in the use of insecticides and fungicides. *Market Grower.*

ON INCREASED FOOD PRODUCTION.

BEST USE FOR TURVES.

MANY allotment holders, when making their plots, skimmed off the turves and piled them to rot. In a large number of cases also allotment holders used their turves to make rough tool-sheds, seats, dividing walls or barriers, frames, and so on. It cannot be too strongly urged upon such allotment holders that the best purpose to which they can put decayed turves is to break them up and dig them into their plots. Farmyard manure and similar bulky manures are very scarce, and the best substitute where these cannot be obtained is rotted fibrous matter, such as turves. According to reports recently received there seem to be many thousands of tons of these stacked turves standing in one form or another on the allotment grounds of the country. It is of the utmost importance that this material should be got into the soil at an early date. Certain experts have expressed the opinion after a survey of many allotments that on a great deal of allotment ground the crops would have been practically doubled during the past season had it been possible to get the turves which were stacked dug in early in the year. Where allotments were made in late spring this course would not have been practicable, and the turves were accordingly stacked to rot. They should be returned to the land as soon as convenient.

POTATO MAJESTIC.

IN response to Mr. Cuthbertson's request (p. 260, Vol. LXIV.) for growers of Potato Majestic to record their experience with cut seed of this variety I give the following particulars. Last season I purchased $\frac{1}{2}$ cwt. of "seed" as grown, and they were mostly large tubers. Having read Mr. Cuthbertson's lecture recommending this variety, I decided to make as many sets as possible of them, and cut every tuber into as many portions as there were eyes. A few I cut some time before planting, placing the seed in boxes with a slight covering of sifted leaf-mould, and stood them in a late seed-house; the bulk was cut at planting time. They were left till the very last, when I found myself pressed for space, the only available land being ground on which stood several lines of Late May, and June King Broccoli; these had been earthed up, and I decided to plant the Potatos in the bottom of the drills between the rows of Broccoli. I ran a Planet Junior hoe up and down the drills with the cultivating set in the tool frame, merely placing the Potatos in the bottom of the drills, covering each set with a handful of sifted potting soil, with which a little humogen had been mixed. As the Broccoli matured I pulled them up, and as each row was cleared off I earthed the Potatos up with the small plough sent out with the Planet Junior. The old men working in the garden here said I should get no Potatos with such treatment, but, pressed for space and labour, I saw no alternative. I did my best, and left the Potatos to do theirs. When in growth they were a picture, and when lifted yielded a bumper crop; many tubers weighed $1\frac{1}{2}$ lb. each. I cut the seed myself, and took the leading part in planting them, and personally attended to them thereafter. A farmer can hardly expect to succeed with cut seed. The cutting may be carelessly performed, and, with horse cultivation and field planting shoots are apt to get rubbed off; a cut tuber then has little chance of success. I may add the sets were planted some on the 15th and the rest on the 29th of May. *T. A. Summerfield.*

SEED POTATOS.

DURING 1918 the Food Production Department distributed to allotment holders, small-holders, and others in England and Wales 32,000 tons of seed Potatos—13,000 tons being varieties immune from wart disease. In addition 9,200 tons were shipped to the British Expeditionary Forces for planting in France or at Salonica, and 1,600 tons were supplied to the Allied Governments.

ALLOTMENTS.

FIGURES published this week by the Food Production Department showing the expansion of the allotment movement in 1918 are of considerable interest. It appears that up to April 30, 1918, about 31,000 acres of allotments, representing just under 377,000 plots, had been provided under the Cultivation of Lands Orders. Between April 30 and mid-December, 1918, 403 local authorities agreed to acquire 4,370 additional acres, representing nearly 57,000 plots. In the closing weeks of 1918 twelve local authorities decided to lay out a further 154 acres of allotments (2,235 plots).

FRUIT REGISTER.

APPLE EDWARD VII.

APPLE Edward VII. (see fig. 7) proved a most valuable variety in a year noted for a scarcity of fruit. A free and clean grower, it can, on our heavy soil, be depended on to give a good crop of first-grade fruit annually, provided late frosts do not destroy the blossom. So far the variety has proved to be immune from canker and American Blight, which was so prevalent in 1918. The fruit is of a splendid shape, being very regular in outline, and of a good average size. It is coloured yellow, with a tinge of red on the sunny side. The keeping qualities of this Apple cannot be too highly praised, for it ranks with Annie Elizabeth as one of the best very late culinary varieties, useful also as dessert to anyone liking a firm, crisp eating Apple. *John T. Tubb, Bear Wood Gardens, Wokingham.*

tury, who professed to cure every evil under the sun by decoctions of weeds.

The Board of Agriculture, in London, issued a very remarkable leaflet in the autumn of 1914, which indiscriminately advocated the cultivation and collection of all sorts of plants for medicinal use. No serious attempt at a practical classification was made. Prices were given at the market quotations then ruling, which led the reader to imagine that immense fortunes were to be made out of weeds, and it was inferred that no skill or experience were necessary for the cultivation of these plants. Prices were given for ton rates when only hundredweights were required; undried material was confused with dried material; market requirements and cost of package and transport were absolutely ignored. This had a dire result, because throughout the land a large number of people started an indiscriminate campaign of weed collecting, and in consequence manufacturers were inundated with parcels of rubbish. A society was formed

stock and prepare for the purpose of dispensing prescriptions. These books were called *Pharmacopoeias*, and the three volumes were the forerunners of the present-day *British Pharmacopoeia*, which is issued by a conjoint board of the various medical colleges and other kindred associations, and is officially sanctioned by His Majesty's Privy Council. These *Pharmacopoeias* had a far-reaching effect upon the use and manufacture of drugs. All uncertain and doubtful ones were excluded, and only those which according to the knowledge of the period were considered to be reliable, efficacious and potent were included in these publications. The outcast ones were not, however, neglected, for public opinion is always essentially conservative where use and wont are concerned. Their use was continued by a new group of would-be medical curers—the unlicensed and untrained herbalists and quack medicine-mongers who provide the domestic medicine chest and other remedies which are chiefly prepared from herbs.

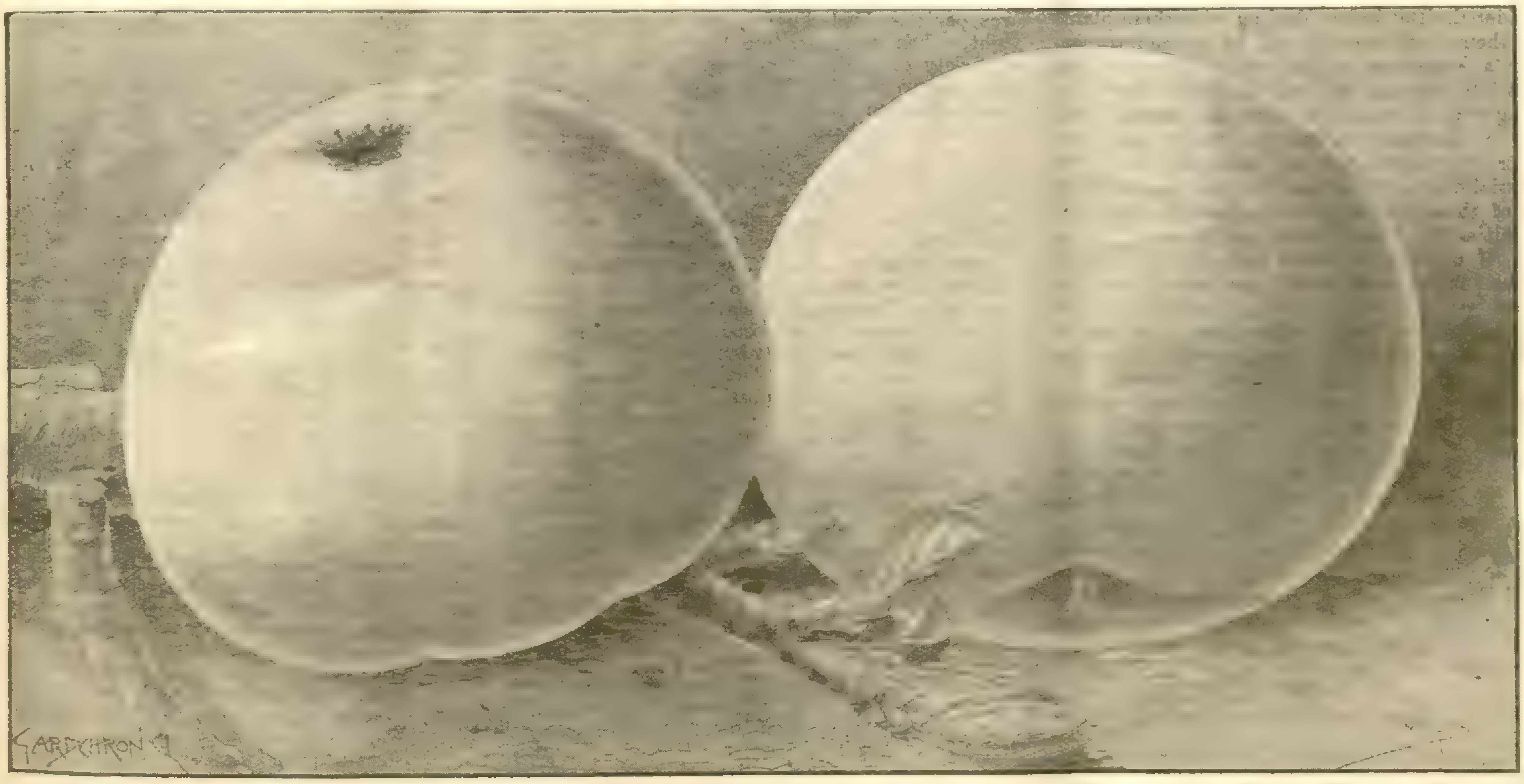

FIG. 7.—APPLE EDWARD VII.; A LATE CULINARY VARIETY.

MEDICINAL PLANTS.*

THE cultivation of medicinal plants has recently become a matter of great interest and distinct importance. Since the commencement of the war the subject has been very prominently brought before the public, but, unfortunately, the position has been incorrectly stated, and a wrong impression as to our present and future needs has been inculcated. A great deal of romance seems to linger round the subject in the minds of many people. Some apparently have poetic visions of delightful gardens of sweet-scented herbs, reminiscent of olden days. Others have conceived the idea that there are practically no drugs to be had, and that medical men are at a loss to find medicines for the alleviation of the sufferings of humanity. All this is totally erroneous, and apparently has arisen through a threatened shortage of a few very important drugs. There is no romance or poetry attached to the work any more than there is to the growing of Potatos. There are quite sufficient drugs in the country, and medical men are not going to revert to the semi-primitive state of the herbalist and quack doctor of the eighteenth cen-

to co-ordinate and organise this rush to the Klondyke of weeddom, and it is to be hoped that the benefit of the experience will lead to success by the natural process of evolution, in which the law of the survival of the fittest will rule, and that out of all this chaos a home industry will become established for the purpose of collecting and preserving the wild plants of our countryside for medicinal purposes.

In order to obtain a correct perspective of this important subject, a brief retrospect must be taken. In the mid-Georgian days the doctor was an apothecary, as well as a physician, and concocted his own medicines, which were largely derived from the vegetable kingdom. In order to obtain these the apothecarian doctor was accustomed to either grow or collect the herbs as his requirements demanded. In process of time, by the development of medical knowledge, both clinical and pharmaceutical, these two branches became separated, and the present-day chemist and druggist came into existence. In consequence of this, doctors had of necessity to state their requirements specifically to the chemist, and ultimately each of the medical corporations, the Royal Colleges of Physicians of London, Edinburgh, and Dublin, drew up and published a book which contained a full description of the drugs and chemicals and their pharmaceutical preparations which the chemist had to

Their use is also continued by that ever-increasing army of patent medicine makers who are continually flaunting their advertisements before the gullible public. A great quantity of herbs are therefore constantly employed in this range of business. The herbs used have been for many years imported from Germany, Belgium, Holland and other Continental countries in immense quantiies, and it was largely due to the lack of the supply of these somewhat questionable drugs that the cry arose about the shortage of medicines when the war broke out, for these quackmongers foresaw that their trade was likely to be seriously endangered. But whilst a large number, in fact the majority, of herbal remedies became confined to the herbalist and patent medicine maker, a comparatively small group of very valuable and important medicinal plants received official recognition by these *Pharmacopoeias*, and by virtue of their incorporation among the official drugs their chemical and medical properties have been most carefully studied, and their use as medicinal agents greatly extended.

For many years farms have existed in England for the cultivation of medicinal plants, notably at Hitchin, Long Melford, Mitcham, and Banbury. These farms are carefully and scientifically managed, and generally they are the properties of manufacturing chemists, so that only the surplus of their raw material is offered on the

* By R. Glode Guyer, Edinburgh. Reprinted from the *Transactions of the Scottish Horticultural Association*, Vol. III., Part 2.

market. Other manufacturers have relied in the past upon another source for the supply of their requirements of raw material for the manufacture of pharmaceutical preparations. This source has hitherto been the Continent—Germany in the vanguard, followed by Belgium, Holland, and France. Germany was a particularly strong supplier, because in that country drug farms are conducted on a large scale, producing immense quantities of raw material for the home manufacturer, and the balance was placed on the open market in London.

From this brief retrospect it will be seen that there are two distinct groups of vegetable drugs which have hitherto been imported, and of which an extended cultivation in this land has been advocated as remunerative and patriotic. One group belongs to those who provide for the requirements of the medical profession; the other is for the quackmonger and patent medicine maker. The former group is the one to which attention is called, and the question of their cultivation and propagation must be rationally considered. But before dealing with these plants and their cultivation it will be as well to consider a somewhat misleading factor which has crept into the problem, and for which the Board of Agriculture pamphlet must be blamed, and that is the inclusion among strictly medicinal plants of herbs which are only used for their essential oils, such as Lavender and Peppermint, and of those plants which are used in enormous quantities for the production of condiments. This is quite a separate and distinct branch of the subject, and should not have been connected with medicinal plants. Essential oils are certainly very widely used in pharmacy, but to only a fraction of the extent to which they are used in perfumery and other manufactures. And likewise with the condiment-producing plants. Here again these are used pharmaceutically, but only a very small proportion of what is produced is required for medicinal purposes. Possibly there may be a great future for such work, and it is a class of work which is quite worth investigation, but when compared with the general consumption their pharmaceutical uses are so small that they cannot be correctly embraced in the category of medical plants any more than Mustard, and therefore cannot be considered in this paper.

(To be continued.)

HOME CORRESPONCENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Silver Leaf Disease (see p. 10).—Mr. Molyneux, writing on Silver Leaf disease in *Gard. Chron.*, Dec. 28, 1918, p. 261, quotes my remark that "It is true that the spores germinate and attack the trees through a wound," and asks "What proof have we of this beyond supposition? Has Mr. Lynch ever detected such wounds, clean at first, watched the inception and progress of the spores in their germination and growth, and seen the result in actual Silver Leaf affection?" A reply is due from me, and I would say that there has been no supposition, that I have seen experimental proof of infection by spores, and that if I had not done so my note would not have appeared. When one has seen a healthy young tree, that was not in the least degree likely to have Silver Leaf disease, inoculated, and within a comparatively short time dead with a development of Stereum, one can hardly fail to believe that Stereum is the cause. But the experiment was not mine, and I am hardly at liberty to refer to it. May I suggest that Mr. Molyneux should do some infecting, using controls of course, and see the result? He would then get a positive result worth more than any number of merely negative results and conclusions, upon which nearly all letters are written. It is a great mistake to suppose that the disappearance of Silver Leaf disease after some particular treatment is any guide to the direct cause. It does not in the least show that Stereum is not the cause, because Silver Leaf disease does disappear of itself, and Mushroom spawn, I believe, has been known to fail. Why not the spawn or mycelium of Stereum? Almost anything might be more or less favoured or discouraged by the alteration of conditions. It is the cause rather than cure that is now in question, but as to cure I have not gathered that any specific can be pointed out from any evidence that has been obtained—nothing, indeed, upon which any reliance could be placed. Mr. Brooks remarks in the same issue that Silver Leaf disease is a general pathological condition which may be induced by various causes, and in my note I could have referred to this view, but preferred to make a clean-cut statement upon what I had myself seen, because from my own experience I should expect that pathological conditions due to different causes would be distinguishable. Mr. Brooks, however, having studied the subject in this connection, may undoubtedly be relied upon. It is conceded, I believe, and for practical purposes it is sufficient, that Stereum is the one cause to be reckoned with, and I have no doubt that we are now in the stage of acceptation that I remember with regard to Potato disease. The cause of Potato disease was perfectly well known, and as clear as daylight, when some writers were still discussing a variety of unnecessary suppositions. I wrote then an article that brought me an interesting communication from the late Mr. Worthington G. Smith, and perhaps for that reason I am interested now in this discussion. Whatever the difficulty was then, the difficulty now is that few people understand anything about wound-fungi. I had rather expected to be taken to task with regard to my suggestion that the fungus Stereum should be exterminated. I believe it would be quite possible if trouble were taken, because the mature Stereum always comes out upon dead wood. In conclusion, I wish to make the suggestion that fruit growers should report to the *Gardeners' Chronicle* at what distance from a possible source of infection they find themselves free or not free from Silver Leaf disease. The spores, - expect, might come from a great distance, but it is possible that at a certain distance the liability to infection might be negligible. A shrubbery should always be regarded with suspicion. A point I do not quite understand is that Silver Leaf disease should be reported as increasingly common, for Stereum has always been common enough. I can only believe that the prevailing weather of the seasons must be an influence, or can it be that more notice of it is taken than formerly? In comparatively recent years we have frequently read of diseases and remedies that were never heard of in the previous period: indeed, a new trade is practically dependent upon them. I cannot believe that the majority of the diseases to which I refer are new, though some are of course. Remedies and explanations were not easy to get, and probably it was that people cut their losses and said nothing. *R. Irwin Lynch, Botanic Garden, Cambridge.*

—— Having read with considerable interest Mr. Bates' remarks (see p. 10) on Silver Leaf disease, it will, I hope, be helpful to readers to know that from experience I find young trees are as equally subject to the disease as old ones. Having planted all the fruit trees in these gardens during the past 12 years, and purchasing them from good nurserymen, none is more than 15 years old; which is not a great age for a fruit tree. The first appearance of Silver Leaf here was on a Royal George Peach planted in the Peach house in the usual way, the border having thorough drainage of about 1 foot of brick ends and similar material. (This tree was also lifted once to check rank growth, so that all chances of a tap-root getting into bad soil were prevented.) I removed diseased branches as soon as detected, but eventually had to grub the tree out. At the same time, Morello Cherries and Plums growing on outside walls in these gardens are badly affected. Of Plums, the variety Victoria is the worst affected. Our soil is a medium loam on calcareous limestone, and in some parts red sand, but in no case can the roots reach clay. I think my experience will show that tap-root and undesirable drainage are not necessarily the causes of Silver Leaf disease; my theory is that the disease is constitutional, and is not so much due to extraneous causes. *F. Spencer, Tockenham Manor Gardens, Wootton Bassett.*

Romneya Coulteri (see p. 10).—Mr. Hicks is doubtful if Romneya Coulteri is worth cultivating because his plant is evidently not growing, but only languishing. Let him dig a hole at least $2\frac{1}{2}$ feet deep and fill it with ashes to within 1 foot of the top, making all firm; then fill the remaining space with earth to which about one-eighth of broken peat and one-quarter of sharp sand has been added, and on this site replant the Romneya early in April. There are two plants of R. Coulteri in a garden between Tunbridge Wells and Pembury that were thus replanted about seven years ago, and now they are quite 3 feet in diameter at the base, and produce scores of blossoms every year. My own plants are not so old as the above, but have flowered freely the last two most unfavourable years, and I know of no summer flower that is more generally admired or more fragrant when cut. In this exposed district the Californian Poppies are usually protected in winter with ashes or Heather, though there is an old plant in the nursery grounds of Messrs. Russell (late Cripps') that flourishes unprotected. With me R. trichocalyx bears a smaller flower than R. Coulteri, but is not noticeably more floriferous. *T. of Kent.*

—— Romneya Coulteri flowers extremely well in my Suffolk garden. Perhaps *T. J.'s* soil does not suit the plant. The soil in my garden is rather light, and I have plants of Romneya 3 yards across, and they are covered with flowers well into the autumn. I counted more than 100 flowers open at one time on one of my plants, and such numbers of the large, white, crinkly blossoms, with their yellow centres, look very effective. My specimens have been planted about ten years, and they continue to throw up new growths and cover more ground each year. I suppose the soil and conditions suit them, as they never receive any special attention. Our climate is probably colder than at Maidenhead, where your correspondent writes from. *C. S. Schreiber, Marlesford Hall, Suffolk.*

The Loss of the Clematis in Gardens (see p. 10).—I have been interested in the correspondence in respect to the failure of the Clematis in gardens. I hold the opinion that the grafting of Clematis has nothing whatever to do with their death. How is it that years ago they did not fail? About 35 years ago I was an assistant in the propagating department of Messrs. G. Jackman and Sons' Nursery, where we propagated Clematis in thousands, both by grafting and cuttings, and I have no recollection of many failures then. The plants were potted as soon as they were ready for transference into $4\frac{1}{2}$-inch pots, and the pots plunged into convenient-sized beds, where the plants seemed to flourish. A grafted plant makes an abundance of roots from the graft in a very short time, and becomes established on its own roots, quite independent of the stock it was grafted upon. Many failures are due to bad planting, and the Clematis often fails where there is a cold subsoil. I am quite ready to admit that during the past 10 to 15 years Clematis have failed, why I do not know. *Henry Havelock, Hastings.*

Nathaniel Powell, Seedsman.—To the *Gardeners' Chronicle* of June 1, 1918, I contributed some notes on a London seedsman of the name of Nathaniel Powell. As neither of the catalogues to which I referred was dated, I was only able to get at the approximate date of Powell's establishment in business from an undated letter of Richard Bradley's, quoted as a sort of testimonial. In recently turning over a large and miscellaneous collection of excerpta on gardening matters, got together many years ago, I came across an interesting advertisement of this same Nathaniel Powell, which I copied from the *County Journal, or Craftsman*, of October 15, 1737. The advertisement runs as follows:—

"TO BE SOLD.

Imported from Holland and Flanders, fine collections of flower roots, viz.:—Fine Tulips, double Hyacinths, fine Turky Ranunculus, Anemonies, with several other sorts, by Nathaniel Powell, seedsman, at the King's Head, near Fetter Lane, in Holbourn, where you may have all sorts of garden seeds, fruit trees, plants, &c."—*W. Roberts, 18, King's Avenue, S.W. 4.*

SOCIETIES.

BIRMINGHAM HORTICULTURAL.

THE annual meeting of the Birmingham Horticultural Society was held on the 31st ult. at the Council House, under the presidency of Mr. E. H. Weaver. The last show promoted by the Society was held in 1914, and it was stated that the balance in hand at the present time amounted to over £438.

Councillor Johnson proposed that a show should be held at Handsworth Park on July 18 and 19, 1919. He said the Society was a Birmingham society, and if the exhibition were held elsewhere there would be great difficulty in getting the material together for the show. It was desirable that after the suspension of operations for so long they should have time to settle down again into working order. No doubt, in the future, the show would be held at different parks of the city, but it would certainly be wise to go to Handsworth in 1919.

Mr. A. R. Brown seconded the resolution, which was carried unanimously.

It was decided to ask the Lord Mayor (Alderman Sir David Brooks) to accept the presidency of the Society for the ensuing year. Councillor Johnson was appointed vice-chairman, Mr. A. H. Brace hon. treasurer, and Mr. L. W. Webster general secretary.

CROPS AND STOCK ON THE HOME FARM.

QUICK HEDGES.

A SUITABLE subject to plant as a fence against cattle is the common Hawthorn or Quick. Well-managed Quick hedges will last in good condition a hundred years. They can either be grown tall or kept dwarf, at will. A good Quick hedge is impenetrable by cattle, and cattle do not eat Thorn, as they do Hazel, Maple, Hornbeam, Beech or Lime. Success depends upon the treatment received. The soil should be trenched 2 feet deep, to allow of rapid and free root action. Trenching prevents stagnation, and yet conserves the moisture in the soil during a spell of summer drought. I may surprise some farmers by urging a liberal addition of manure as trenching proceeds; the more vigorous the growth, the quicker will the hedge be established. Another advantage in a Quick hedge is the small amount of space required, in width, even for a hedge 6 feet high. The hedge need not be more than 1 foot wide, as the main stems are very rigid. Where the soil is naturally dry the hedge can be planted on the level, but where the site is low or wet, or where the hedge is to serve as a boundary on the roadside, a bank 2 feet high should be formed to ensure a ditch to carry off surplus water from the road, field, or garden.

February is a good time to plant Thorn hedges. If possible, the trenching should be done at least a month before planting to enable the soil to settle down. There is a difference of opinion as to the wisdom of planting Quicks in a single, in preference to a double row. I prefer a single row, with the plants 4 inches apart, because I consider a thicker base can be thus obtained than when a double row 10 inches wide is planted. Rake the surface quite level, and cut out a trench sufficiently deep to allow space for the roots. If any roots are fibreless, they should be shortened back to 6 inches, to induce them to make fibres. Place the Quicks quite upright in the trench, cover the roots with fine soil, and tread firmly on both sides. Cut the plants down to within 4 inches of the soil, to induce them to make strong shoots close to the base, because as the foundation is laid so will the future hedge remain. A 2-inch mulch of manure spread on the soil 1 foot wide on each side of the plants during April will arrest the evaporation of moisture from the soil and act as a stimulant as the manure decays. The soil for 1 foot wide at least on each side of the plants should be kept clear of weeds. If the surface is not mulched, stir the soil occasionally. When the new growths are 1 foot high, nip off the tops. Any time during the following winter the growths should be cut back to within 9 inches of their bases; allow an extension of 1 foot the following year. The sides of the hedge should be clipped repeatedly during the summer. Established hedges should be cut at least twice yearly to improve their appearance and induce sturdy growth.

ESTATE MANAGEMENT.

The successful management of an estate of from 100 to 1,000 acres is no easy matter, even to the experienced. There is no universal rule for guidance, as local circumstances in various counties largely govern the methods of procedure. Even in simple things this diversity is apparent; for example, White Oats are in poor demand while black pigs are prime favourites in certain markets.

Numerous books and the weekly notes in agricultural and horticultural journals do much to disseminate useful information to all concerned, whether they are experienced or otherwise, but I feel we should obtain more information from scientists concerning the causes of disease and insect attacks, and how to provide effective cures.

I have long searched in vain for a plain, simple, and effective method of bookkeeping for an estate and farm. At last I mapped out a method of my own, which appears to meet all requirements in a rough and ready way. I allude mainly to the daily sales and the deposit and use of the cash, recorded in a quickly get-at-able manner. Briefly it is this: All sales are entered in a daily diary, to be weekly copied into a ledger under their various headings, Wheat, Sheep, Eggs, Poultry, and Wood of various kinds. In this way the items are easily collected for the annual balance-sheet. All cash is entered in a weekly column account which shows at a glance how the cash is disbursed, i.e., to the bank or in petty cash. A daily diary is kept of all labour; from a cultural point of view this proves instructive, as it shows the time of sowing and reaping certain crops, apart from the opportunity of checking the cost of any crop. The purchases are dealt with under their various headings in the ledger, and collated quite easily. The dairy is dealt with separately, as we have over 200 registered customers for butter alone. I find these accounts are simplified by being kept distinct from those of other parts of the estate.

WOODS.

In the southern counties many of the woods, plantations, and "rows" are in wide belts between fields, or margins by highways planted many years ago, mainly with Hazel. Those who do not know the value of such "rows" would grub them up and cultivate the land, but to the sheep farmer they are valuable, as they provide material for hurdles, while they furnish spars for thatching and many other items of work on a farm.

At one time coppicing was carried out on a large scale in country districts. Thirty years ago much of this wood—Hazel, Ash, Maple and Alder—was largely employed for hoops for sugar and flour casks, and was then remunerative. New methods of importing flour in bags largely reduced the demand for hoops, and coppicing sank to a quite moderate industry. Coppicers then turned their attention to other branches of industry, consequently experts at this work are now very scarce. This means that where hurdle makers are to be found the industry of hurdle making—if well conducted— is quite an interesting phase of estate management. I find there is a brisk demand for many articles made from underwood.

On the Swanmore estate there are at least 200 acres of woods, mainly of Oaks. The undergrowth is of a mixed character, and all useful for some purpose; even Birch is used for broom making. The various woods are arranged in breadths of so many acres, so that each come in rotation for cutting every nine or ten years, according to the growth of the various kinds of wood. Some twenty years ago the underwood was sold to coppicers at the low rate of £2 to £5 per acre, which, for a ten years' growth, was but a poor return. I decided to take the matter in hand as estate work, and from October to June six men are almost regularly employed in the woods. As many as 300 dozen wattled sheep hurdles are made annually, 10,000 faggots or bunts for firewood and for bakeries in the district, Pea stakes in large quantities, rails for fencing, and now that coal is scarce much of the rougher wood is used for firewood, a quantity being quickly cut into a suitable size with a circular saw. Broom making, where Birch grows freely, as it does here, is a profitable occupation, and a handy woodman quickly learns the art. On the whole, the coppicing phase of estate management is very interesting, and certainly remunerative at the present prices for goods that are necessities in rural disricts, especially in counties where sheep are closely folded and early lambs are bred and reared. Wattle hurdles provide more warmth than the ordinary Ash hurdles so largely used in other districts.

I would impress on landowners and the Government, where timber has been largely cut during the past year, the need for replanting to make good the deficiency. If patriotic owners cut timber they should be compelled by law to plant. *E. Molyneux, Swanmore Farm, Bishop's Waltham.*

TRADE NOTES.

MR. J. GARDINER, M.P. for Perth and Kinross division, is a leading Scottish Potato grower, and well known in circles connected with the trade.

LIEUT. ROBT. W. ASCROFT has resigned his position as Officer in Charge of Spraying under the Food Production Department, and has joined the Mond Nickel Company, Ltd., with a view to the formation of a special horticultural section of the business. Readers will remember that this company's output of sulphate of copper was at one time commandeered for use in connection with the Food Production Department's Potato spraying campaign.

MR. CHAS. H. CURTIS, Secretary of the British Florists' Federation, informs us that in consequence of numerous enquiries received respecting the possible importation of Gladioli corms from abroad, he wrote the Board of Trade Department of Import Restriction on the subject, and received the following reply:—

SIR,—In reply to your letter of January 1 respecting the importation of Gladioli bulbs from U.S.A. and Holland, I have to say that in the case of both countries the importation is prohibited, and that no concession is being granted in respect thereto.

I regret, therefore, that the answer is in the negative in each case.—Yours faithfully,

C. CAREW ROBINSON,
Deputy Controller.

Obituary.

Mr. George Gordon.—We regret to record the death, at his home in Buccleuch Street, Hawick, on December 30, of Mr. George Gordon, who was formerly gardener at Teviotbank, but retired some time ago.

William Henry Bennett.—The late Mr. William Henry Bennett, of Fowey, Cornwall, whose death was announced on December 10, 1918, was for many years gardener at Menabilly, the residence of the late Jonathan Rashleigh, Esq. Mr. Bennett was formerly employed at the Royal Gardens, Kew, and always spoke of these famous gardens with great affection. During his gardenership at Menabilly, which lasted over many years, he enjoyed the complete confidence of his employer, and was held in the highest esteem by his fellow gardeners in the county of Cornwall and elsewhere. He had a wide knowledge of sub-tropical and hardy plants; indeed, the memory of the late owner is associated with those wonderful Rhododendrons of Sikkim and their many beautiful hybrids, which made the garden famous. The genus Eucalyptus was largely represented, and no notice of the late Mr. Bennett would be complete without reference to the collection of Bamboos that was in his care in the heyday of their popularity. Those of us who knew him personally feel that

we have lost a brother in the profession who had the unfailing traits of a worthy man accompanied with a graciousness to which I gratefully bear testimony. *Harry Williams.*

GARDENING APPOINTMENTS.

Mr. John MacLean, late Gardener at Heathcote, Ilkley, previously for more than 6 years Gardener to Lord KNARESBOROUGH, Kirby Hall, York, and to Lord O'NEILL, Shanes Castle, Antrim, as Gardener to Major COATS, Burrough Hill, Melton Mowbray, Leicestershire. (Thanks for 1s. for R.G.O.F. box. EDS.)

Mr. Andrew Pattinson, previously Gardener to T. G. SHORT, Esq., Ashbrooke Tower, Sunderland, as Gardener to the Marquis of LONDONDERRY, Springfield, Oakham, Rutlandshire.

CATALOGUES RECEIVED.

SEEDS.

BROWN & WILSON, 10, Market Place, Manchester.
W. DRUMMOND & SONS, LTD., Stirling.
JAMES CARTER & CO., Raynes Park, London, S.W. 19.
STUART MEIN, Kelso, Scotland.
J. R. PEARSON & SONS, Lowdham, Notts.
THE SUSSEX AND SOUTHERN COUNTIES SEED AND BULB ESTABLISHMENT (Tilley's), 6, London Road, Brighton.
HURST & SON, 162, Houndsditch, London, E. 1 (wholesale).
AUSTIN & MCASLAN, 89, Mitchell Street, Glasgow.
W. SAMSON & CO., 8 and 10, Portland Street, Kilmarnock.
DOBBIE & CO., Edinburgh.
FIDLER & SONS, Reading.

FIG. 8.—THE MAZE AT BLETCHLEY PARK, BUCKINGHAMSHIRE.

Answers to Correspondents.

AUTUMN SOWN LEEKS: *A. S. T.* Leeks raised in August and planted out in spring with a view to producing large specimens in the following autumn are almost certain to run to seed during the summer. The best results are obtained from sowings made in February in gentle heat, and the plants afterwards grown in a cold frame until the time arrives for planting them in the open.

BROCCOLI: *A. S. T.* Veitch's Self-protecting and Snow's Winter White Broccoli. raised from seed sown in August and treated as you suggest, would prove failures. There are many varieties of late Broccoli which, if planted in good time, will produce heads throughout the spring and up to the end of May, when Cauliflower raised in September and wintered in a cold pit in 4 inch pots should be ready to succeed them. The varieties best suited for this purpose are Magnum Bonum, Early London, and Walcheren.

CANKERED APPLE TREES: *C. M.* The specimens received give ample evidence of a very bad attack of canker (Nectria ditissima). Trees so badly affected should be grubbed out and used for firewood. From specimens not so diseased the cankered branches should be cut out and burned, and the wounds coated with tar. Sometimes it is possible to cut out the diseased portion where a stem is not encircled by canker and the attack is a light one; in such cases the cut surface should be made perfectly smooth with a sharp knife and immediately dressed with tar.

FRUIT FARM PLOUGH: *J. W. M.* Full particulars of the sizes and prices of the fruit farm plough mentioned in *Gard. Chron.* of September 7, 1918, can be obtained on application to Messrs. W. Seabrook and Sons, The Nurseries, Chelmsford.

GAS-LIME AND GAS-LIQUOR: *E. R.* Gas-lime is best used in the garden for the purpose of cleansing the soil from insect pests and other enemies, including club-root disease. On open land 20 cwt. to 30 cwt. of fresh gas-lime per acre makes a good dressing. Spread the lime on the ground and let it remain for ten days or so until it can be broken finely, then dig or fork it in. The sulphide in the gas-lime will kill all pests and weeds, and after certain chemical changes have taken place the sulphide is converted into sulphate of lime, which is a valuable fertiliser. Six weeks should elapse between the application of gas lime and the planting or sowing of the land dressed with it. Fresh gas-lime should not be applied in the manner described to land wherein fruit trees are growing; the land must be fallow. Gas-liquor varies in quality, and its manurial value depends upon its ammonia content, which seldom exceeds 2 per cent. On light soils it has a beneficial effect, especially upon Cabbage crops and swelling fruits, but it must be diluted with from four to six times its bulk of water, or its caustic properties may burn the crops. Grass land may be improved by an application of 100 gallons of gas-liquor, suitably diluted, per acre. Gas-lime should be applied in winter; gas-liquor in spring or summer, according to the crop grown.

GLOXINIAS AND ACHIMENES: *C. C.* If Gloxinia tubers are planted too deeply in the soil the growths may damp off at the base, therefore the upper part of the tuber should be about level with the top of the soil when potting is finished. Achimenes may be planted at once and placed in a house having a temperature of 60°-65°; the old practice of placing the little tubers closely together in boxes of soil and transplanting them in pots or large pans as soon as they have made 2 inches of growth is a good one; ordinary warm greenhouse treatment will suffice after the plants are established in the pans or pots in which they are to flower. The compost should be fairly rich and contain sterilised leaf-mould.

LILIUMS AND HELLEBORES: *C. C.* Place the Liliums in a cool greenhouse or pit where they will receive abundance of light and air; if grown in much warmth and a partially shaded position the growths will be elongated and weak and will not produce flowers satisfactorily. When Hellebores are needed for greenhouse decoration the plants should be lifted and potted carefully as soon as the flower-buds have formed, and placed in a frame or pit, so that the blooms may open clean and be uninjured by slugs. Primulas need very little water during the dull winter season; if over-watered they are liable to damp off at the junction of stem and root.

MAZE AND LABYRINTH PLANS: *G. E. P.* In some old gardening books plans of mazes or labyrinths are frequently given, but they are seldom found in modern works of reference. A plan of a maze on St. Catherine's Hill, Winchester (date 1710), is given in Vol. IV. of the *Standard Encyclopaedia of Horticulture* (Macmillan and Co.), with dimensions. Another plan may be found in *The Formal Garden in England* (Macmillan and Co). The illustration in fig. 8, showing the maze at Bletchley Park, Buckinghamshire, may interest you.

NAMES OF PLANTS: *M. A.* Nephrolepis cordifolia.—*L. R. E.* 1, Jasminum nudiflorum; 2, Strobilanthes Dyerianus; 3, Viburnum Tinus; 4, Galax aphylla.—*M. C. G.* 1, Maxillaria picta; 2, Cypripedium insigne; 3, Quercus Ilex; 4, Geonoma gracilis; 5, Iris unguicularis.

PLANTING SCHEME FOR GEOMETRICAL FLOWER BEDS: *H. T.* We assume that you require the beds to be planted to give a good floral effect in summer, and suggest the following as an appropriate scheme, dealing with the eight beds in pairs as marked on the plan, Nos. 1, 2, 3, and 4:—(1) Lobelia cardinalis Firefly at 1 foot apart, filling the remainder of the two beds with a pink-flowered Ivy-leaved Pelargonium (Geranium) such as Mme. Crousse. (2) Lobelia as in (1), and remainder of beds filled with Calceolaria amplexicaulis, or failing this species, C. Golden Gem. (3) Three standard dark Heliotropes planted equidistant along the middle of each bed; edging of dwarf pink Antirrhinums, and remainder filled with coral-pink intermediate Antirrhinum. (4) Heliotropes as in (3), edging of dwarf orange-red Antirrhinum, and remainder filled with such an intermediate Antirrhinum as Fire King. If young plants of Heliotropes are potted into 6-inch pots now and placed in a warm house, they would become sufficiently large for use by June. All side growths should be removed until the plants are 2 feet 6 inches high, then pinch the top lateral shoots to form balanced heads. The Antirrhinums are easily raised by sowing seed in heat towards the end of the present month. Your clear plan of the flower beds was very helpful in enabling us to furnish a reply.

TENURE OF ALLOTMENTS: *T. W.* Particulars of the tenure of allotments were given in the *Gard. Chron.* of December 14, 1918, p. 234. If an effort is being made to evict you without reasonable notice, compensation may be claimed unless the agreement stipulated otherwise. Copies of the Cultivation of Land Order, and the Allotments Act, can be obtained from H.M. Stationery Office, either direct or through your local bookseller; each costs a few pence. Copies of Orders relating to war-time gardens and allotments may be obtained free on application to the Food Production Department, 72, Victoria Street, Westminster, or the Board of Agriculture, St. James' Square, London, W.

Communications Received.—Rev. H F.—E. C. Y. W.—P. E. C.—L. G., Brussels—G. S.—R. F.—W. W.—J. G. W.—J. O.—J. G. B.—H. H.—F. W. C.—N. Y., Mesopotamia—R. A. R.—W. T.—T. C.—V. R.—W. T.—G. C. J.—F. S.—J. F.—P. S. R.—W. F. R.—J. R.—E. M. E.—W. C.—J. H.

MARKETS.

COVENT GARDEN, January 8.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c. Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralias	7 0- 9 0	Ericas—	
Asparagus plumosus ...	15 0-18 0	- hyemalis ...	24 0-30 0
— Sprengeri ...	9 0-10 0	— melanthra 48's per doz. ...	30 0-36 0
Aspidistra, green ...	30 0-60 0	Marguerites, white	18 0-24 0
Begonia Gloire de Lorraine ...	18 0-30 0	Palms, Kentias ...	18 0-24 0
Chrysanthemums .	24 0-36 0	— — 60's	15 0-18 0
Cyclamen	30 0-36 0	— Cocos	24 0 36 0
		Solanums	15-0 18 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum, 48's, per doz.	10 0-12 0	Nephrolepis, in variety, 48's ...	12 0-18 0
— elegans .	9 0-10 0	— 32's	24 0-36 0
Asplenium, 48's, per doz. ...	10 0-15 0	Pteris, in variety, 48's	9 0-12 0
— 32's	21 0-24 0	— large 60's ...	4 0- 5 0
— nidus, 48's ...	10 0-12 0	— small 60's ...	3 0- 3 6
Cyrtomium, 48's ...	10 0-12 0	— 72's, per tray of 15's	2 0- 2 6

REMARKS.—In this department business is very slack, and many stands are still empty. A few Chrysanthemums in pots are still offered. Other flowering plants consist of Cyclamens, Ericas, Begonias, and Solanums. A few Cinerarias were on sale last Thursday and Saturday.

Cut Flowers, &c.: Average Wholesale Prices

	s. d. s. d.		s. d. s. d.
Arums—		Gardenias, per box	
— (Richardias), per doz. bl'ms.	12 0-15 0	(12's)	12 0-15 0
Azalea, white, per doz bunches ..	8 0 10 0	— (18's)	9 0-10 0
Bouvardia, white, per doz. bun.	30 0-36 0	Heather, white, per doz. bun....	6 0-10 0
Camellias, 12's-18's per box ...	4 0- 6 0	Hyacinths, Roman, 12's, per doz. bun.	3 6- 4 0
Carnations, per doz.		Lilac white, per bunch	2 6- 5 0
- blooms, best American var.	2 0- 9 0	Lilium longiflorum long	18 0-21 0
Christmas Roses, per doz. ...	1 6- 2 0	Lily-of-the-Valley, per bun. ...	3 6- 5 0
Chrysanthemums, per doz. blooms—		Orchids, per doz:—	
- white	6 0-10 0	— Cattleyas ...	18 0-24 0
— yellow	5 0- 6 0	- - Cypripediums,	6 0- 8 0
— pink	5 0- 6 0	Pelargonium, double scarlet, per doz bunches ..	10 0 12 0
— per doz. bun.—		— white, per doz. bunches	10 0-12 0
- white	30 0-48 0	Poinsettias, per doz.	24 0-36 0
— coloured	31 0 48 0	Roses, per doz. blooms—	
Croton leaves, per bun. . .	2 6- 3 0	- Madame Abel Chatenay ...	12 0-15 0
Daffodils single, per doz. bun .	24 0-30 0	Violets, single, per doz. bun. ...	6 0-10 0
Freesia, white, per doz. bunches...	4 0- 5 0		

French and Guernsey Flowers: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Anemones -		Narcissus, paper white, per doz. bunches ...	3 0- 3 6
— double pink, per doz. bundhes ...	5 0-6 0	— Soleil d'Or, per doz. bun ...	4 0- 6 0
— fulgens, per doz. bunches...	5 0- 6 0	Roses, Safrano, per packet	2 6- 3 6
Mimosa, per pad...	18 0-21 0		

REMARKS.—The supplies from home growers show little change from last week. White Chrysanthemums are sufficient for the demand, and the quality quite good for January. Richardias (Arums) and Lilium longiflorum are advancing in price. Lily-of-the-Valley is arriving in good condition, and is moderate in price. Daffodils are increasing in quantity, and prices are gradually lowering; the principal varieties are Golden Spur and Henry Irving The short supplies are Camellias, Gardenias, and Orchids. Consignments from Guernsey and Scilly are increasing, and arrive here three times a week; these consist of Yellow and White Narcissi, Freesias, Violets, and Smilax; these sell freely at advanced prices. Two large consignments from France arrived last week, consisting mostly of Paper-white Soleil d'Or Narcissi. Anemones, Ranunculus, and Mimosa so far are very few in number, and very few orders can be executed.

Fruit. Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Cranberries, per case	55 0 —	Nuts:—	
Grapes:—		— Almonds, per cwt.	200 0-220 0
— Almerias, per barrel (about 3½ doz. lbs.)	60 0- 90 0	— Barcelona, per cwt. ...	150 0-160 0
— Alicante, per lb.	3 6- 6 0	— Brazils (new), per cwt	230 0-240 0
— Gros Colmar, per lb. ...	3 6- 6 0	— Cobnuts, per lb.	1 9 —
— Muscats, per lb.	10 0-14 0	— — Messina, per bag	140 0-150 0
		Walnuts, kiln dried, per cwt. ...	130 0-180 0

Vegetables: Average Wholesale Prices

	s. d. s. d.		s. d. s. d.
Artichokes, Jerusalem, per bus.	3 6- 4 0	Horseradish, per bun.	3 6- 4 6
Asparagus, Paris Green, per bundle	10 0-12 6	Leeks, per doz. bun.	4 0- 6 0
— Sprue, per bundle ...	1 6 —	Lettuce, Cabbage and Cos. per doz	3 6- 4 0
Beans, French, per lb.	3 0- 4 0	Mushrooms, per lb.	4 0- 5 0
Beetroot, per bus.	4 0- 5 0	Mustard and Cress, per doz. punnets	1 0- 1 3
Brussels Sprouts, per bus. ...	4 0- 5 0	Parsley, per bunch	0 4- 0 6
Cabbage, per tally	8 0-12 0	Parsnips, per bag	6 0- 7 6
Carrots, per bag ...	9 0-12 0	Potatos, new, per lb.	1 6- 2 0
Cauliflowers, per doz	3 6- 6 0	Radishes, per doz. bunches ...	1 6- 2 6
Celeriac, per doz..	8 0-10 0	Rhubarb, forced, per doz. ...	2 6- 4 0
Celery, per doz ...	21 0-48 0	Savoys, per bag ...	4 0- 5 0
Chicory, Belgian, per lb.	0 10 —	Seakale, in boxes (6-8 lb), per lb.	1 0- 1 3
Cucumbers, per doz	18 0-24 0	Shallots, per lb.	0 6- 0
Endive, per doz. ...	5 0- 7 0	Spinach, per bus....	3 6- 5 0
Garlic, per lb. ...	0 6- 0 8	Tomatos, per doz lb.	24 0-40 0
Greens, per bag ...	3 6- 5 0	Turnips, per bag	5 0- 6 0
Herbs, per doz bun.	2 0- 4 0	Watercress, per doz	0 10- 1 0

REMARKS.—The market is fairly well supplied with black Grapes, and Muscat varieties are available in limited quantities. Forced vegetables include the following:—English and Guernsey Dwarf Beans, Peas, Mushrooms, Seakale, Tomatos, Cucumbers, new Potatos, and Chicory. Forced Rhubarb is plentiful. Grape Fruit from Jamaica is now obtainable. Oranges, including Mandarins, Denias, and Valencias are more plentiful, and there are Lemons from Messina. All seasonable outdoor vegetables are fairly plentiful. *E. H. R., Covent Garden Market, January 8, 1919.*

Continued from page iii.

WANTED, Two young MEN, for Outside; Bothy, vegetables, &c.—Please state wages and particulars to F. T. WOODFIELD, Piggott's Manor Gardens, Letchmore Heath, near Watford.

LADY HEAD GARDENER required; experience in general management essential; four Gardeners kept; Greenhouse for house and Garden plants only.—MRS. T. C. WATERHOUSE, Lomberdale Hall, Derbyshire.

LADY GARDENER wanted; man to help; small place, Belfast.—Apply, D., Box 15, 41, Wellington Street, Covent Garden, W.C. 2.

AN opening for LADY GARDENER, S. Devon (Exmouth), paying guest, with a retired rector and wife.—CENTRAL, 12, The Beacon, Exmouth.

WANTED, married MAN, in high-class young gentlemen's school, with some knowledge of machinery, to run engine for electric light (instruction given), hot-water furnaces, and fill up time in Gardens; wife could be employed in house from time to time; very comfortable quarters, with light and coal. Reply, stating wages and particulars, HEAD GARDENER, Heddon Court, New Barnet, Herts.

HANDY MAN; experienced electric plant, oil engine (Hornsby's), pumps, small car; assist Garden. — Apply, full particulars, ARDERN, Bonishall, Prestbury, Cheshire.

TrADE.

A PROGRESSIVE and well-known Horticultural firm desire the services of a well-educated MAN, primarily as catalogue compiler, for Hardy Shrubs, Plants, and Bulbs, advertisement designer, stock-keeper, &c. Must have up-to-date knowledge of commercial and scientific Horticulture, and be able to correspond on technical trade matters. A good opening for one desiring to associate himself with a go-ahead firm.—Apply, with full particulars, stating salary required, to Box 207, Messrs. W. H. Smith & Son, Kingsway, London, W.C. 2.

WANTED, experienced GROWER for Bedding Plants, Tomatos, Chrysanthemums, &c.; also smart MAN for General Nursery work; must have experience in Herbaceous and Alpines. Good wages and permanency to the right men.—CONWAYS, LTD., Nurserymen and Seedsmen Halifax.

WANTED, a good TREE and SHRUB PLANTER and GROWER, for Nursery and Landscape work. Also GROWER and PROPAGATOR of Alpine and Herbaceous Plants, Nursery. Both must be experienced and hard working.—T. WOOD, 19, Moor Drive, Far Headingley, Leeds.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR, for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden. ROSE GROWER (Outdoor). KNIFESMEN and SPADE HANDS for Fruit and Ornamentals; majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WANTED, GROWER, for Ragworth Nurseries; used to Cucumbers, Tomatos, Ferns, and Flowering Plants, and a GROWER for our Norton Nurseries, for same.—T. FEWSTER & SONS, Norton-on-Tees.

WANTED, PROPAGATOR (stove); man with good experience required.—W. ICETON, Putney.

THE LAKELAND NURSERIES, Windermere, have vacancies for capable LANDSCAPE FOREMEN.—Apply as above, giving copies of reference, and stating experience and wages required.

WANTED, for Outdoor Department, a good MAN as FOREMAN, principally Roses and Fruit; also several good Spade Hands. Also good Propagator of Chrysanthemums, Geraniums, &c., for under Glass. – State wages and when at liberty to THOS. ROBINSON, Porchester Nurseries, Nottingham.

WANTED, FOREMEN, for Trees and Shrubs and Alpines; also MEN with knowledge of Nursery work; preference given to those who have served in His Majesty's Forces.—T. SMITH, Daisy Hill Nursery, Newry, Ulster.

WANTED, FOREMAN, with good knowledge of Forest Trees and Shrubs.—Particulars as to age, experience, and wages required, to KING'S ACRE NURSERIES, LTD., Hereford.

WANTED, FOREMAN, for Indoor Department, with good general knowledge of the culture of Cucumbers, Tomatos, Pot Vines, Chrysanthemums, Bedding Plants, Clematis, &c.—Particulars as to age, experience, and wages required, to KING'S ACRE NURSERIES, LTD., Hereford.

WANTED, an energetic MAN as NURSERY FOREMAN for small Nursery near London; one who has a good knowledge of General Nursery requirements; abstemious, and a good leader of men; good house provided. State age, experience, and wages required. — A. C. E., Box 27, 41, Wellington Street, Covent Garden, W.C. 2.

FOREMAN (WORKING); Glass; North of England; £160 per annum; must be capable, energetic, good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, WORKING FOREMAN; good grower of Tomatos, Cucumbers, and Chrysanthemums; wages 50s; good cottage and commission. Send references and experience.—E. O., Box 9, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, a CLEMATIS FOREMAN; one capable of taking charge of an up-to-date collection; good salary paid.—Apply, X. Y. Z., Box 27, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, for Outdoor Department, a good MAN as FOREMAN; principally Roses and Fruit. Also several good SPADE HANDS. Also good PROPAGATOR of Chrysanthemums, Geraniums, &c., for under Glass.—State wages and when at liberty to THOS. ROBINSON, Porchester Nurseries, Nottingham.

WANTED, thoroughly experienced MEN in Grape Peach, and Tomato Growing.—State full particulars of experience in either department and wages required, to E. BOURGAIZE & CO., Leigh Vineries, Wimborne, Dorset.

GENERAL GLASSHOUSE MAN wanted for Market Gardens; good and permanent post for suitable man.—Apply, stating particulars of experience, wages required, &c., to S., Box 27, 41, Wellington Street Covent Garden, W.C. 2.

WANTED, NURSERY HANDS (two); experienced in Roses and General Nursery stock; one Grower of Bedding and Pot Plants; one Assistant for Retail Seed Department.—PROCTOR'S NURSERIES, Chesterfield.

WANTED, several GENERAL NURSERY HANDS.—Apply, W. ICETON, Putney.

WANTED, energetic MAN, for Tomatos, Cucumbers, and General Nursery Work, under Glass; near London; able to take charge.—Particulars, &c., R. FERGUSON, The Nurseries, Northolt, Southall, Middlesex.

WANTED, young MAN, to grow Bedding Plants, Chrysanthemums, Tomatos, Cucumbers, and other Florist's flowers.—State wages and experience to T. CROSS, Bury St. Edmunds.

WANTED, at once, young MAN as SECOND, in the Rose Department; good budder, &c. Age, reference, and wages required.—A. J. & C. ALLEN, Rose Department, Norwich.

WANTED, respectable MEN as JOBBING GARDENERS; good wages; permanent work; full time all year round; half-day Saturday.—Apply, WILLS & SEGAR, Royal Exotic Nursery, Onslow Crescent, South Kensington.

WANTED, SEEDSMAN or WOMAN for counter trade and seed orders, experienced and capable; also an ASSISTANT, one who has some knowledge of the Seed Trade. Please state wages for permanent post and references.—HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

LADY GARDENERS. — JAMES CARTER & CO. require LADY ASSISTANTS for their Holborn shop as SALESWOMEN.—State particulars and salary required to W. E. MARTIN, c/o J. Carter & Co., 237/8, High Holborn, W.C. 1

SEEDSMAN wanted; well experienced and used to shop sales.—Apply, P. E., Box 13, 41, Wellington Street, Covent Garden, W.C. 2.

SEED TRADE. — Wanted, an ASSISTANT for the North of England, with a thorough knowledge of Vegetable and Flower Seeds; used to a brisk counter trade; capable of taking charge of staff.—Apply, with particulars and salary required, M., Box 15, 41, Wellington Street, Covent Garden, W.C. 2.

SEED TRADE.—Two or three really smart ASSISTANTS required at once by leading firm; experience and capability essential; progressive posts and a wage of from 50s. to 60s. per week offered to the right men.—Apply, "SEEDS," Box 6, 41, Wellington Street, Covent Garden, W.C. 2.

SEED TRADE ASSISTANT wanted; smart young MAN, for execution of orders and assist at counter.—Apply, with full particulars and salary required, FRANK YATES (personal), 22, Pelham Street, Nottingham.

WANTED, smart YOUTH as ASSISTANT, Seeds, Bulbs, Sundries, &c.—Apply, stating particulars, to ARTHUR ROWLES, 14, Market Street, Oxford.

WANTED, FIRST HAND, in London Florist's shop; elderly lady preferred; must be well up in every detail of the florist's business, and able to take charge of staff.—Apply, full particulars, G. F., Box 14, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, FLORIST'S ASSISTANT; must be well experienced in Floral Designs.—Apply, with full particulars, to WILLS & SEGAR, Royal Exotic Nursery, Onslow Crescent, South Kensington, S.W.

SITUATIONS WANTED.

Twenty-six words 1s. 6d., and 6d. for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office, 6d.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

HEAD GARDENER - BAILIFF; keen, energetic, and qualified manager, desires Post; first class all branches; successful exhibitor.—Particulars on application to GEO. MORBEY, Town Hall, Knutsford, Cheshire.

FIRST-CLASS HEAD GARDENER seeks engagement; 27 years' Horticultural training; expert Landscape, Fruit, Roses (including exhibiting), Herbaceous and Alpines, correspondence and book-keeping; age 42.—F. R. H. S., Grindleford Bridge, via Sheffield.

CAPTAIN HIGSON, Oakmere Hall, near Northwich Cheshire, wishes to recommend ARTHUR GREENTREE to any lady or gentleman requiring a HEAD GARDENER; 26 years' experience of Gardening of all descriptions, both Glass and Outside, including Landscape work and alterations; age 42; married (no family).—Please apply to GREENTREE, Warrilows, Hopton, Stafford.

GARDENER (HEAD); thorough practical experience; 18 years all branches Horticulture, on well-kept establishments, choice Plant and Fruit Culture under Glass, Floral work, Pleasure Grounds, Fruit and Vegetable Culture, &c.; excellent testimonials to character and ability; age 34; married; disengaged; London or South preferred.—T. KING, 13, Reginald Road, Northwood, Middlesex.

SCOTCHMAN requires permanent situation as HEAD GARDENER, where several are kept; where a fully competent man is required, for producing in large quantities choice Fruits, Flowers, and Vegetables, Inside and Out; good organiser; highly recommended; age 48; married (two children); Southern Counties preferred. Please state wages, with full particulars of requirements, A. FYFE, 38, Ridler Road, Baker Street, Enfield.

A FIRST-CLASS HEAD GARDENER, with excellent references, seeks re-engagement; thoroughly experienced in all branches, Orchids included; practical and energetic worker; age 45. — FLETCHER, Gables Cottage, Surbiton.

GARDENER (HEAD) seeks re-engagement; excellent references and first-class experience in large establishments, and renovations if necessary; age 41; married (no family); just disengaged from the Army. —Please state wages, &c., to F. WESTRON, Marlston, Hermitage, Berks.

GARDENER (HEAD); experience gained in large establishments, including 8 years' Head at Newbold Revel, Rugby, also 5 years' Head at Whittlebury Lodge, Towcester; Fruits, Carnations, Orchids, &c.; highest references; age 44; married (one child).—A. CHEFFINS, Bell Gate, Stowe Park, Buckingham.

GARDENER (HEAD) seeks situation, where six or more are kept; 23 years' first-class practical experience in all branches; age 38; married (no family); excellent references.—WREN, 3, Row, Platt Lane, Felbridge, East Grinstead, Sussex.

GARDENER (HEAD) seeks re-engagement, where four or five are kept; life experience in all branches; 9 years in present situation, 8 previous; age 48.—P. F., Box 4, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD); life experience in all branches; good references; 8 years last place Head; married; released when suited.—PTE. F. ROBERTS, c/o Mrs. Hambrook, Swingfield, near Dover.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; age 34; married; life experience in all branches, Inside and Out, 3½ years as Head at present address; past 20 months on Food Production Scheme at Coventry; well recommended; disengaged.—W. H. MATTHEWS, The Gardens, Wootton House, near Bedford.

GARDENER (HEAD WORKING); would manage estate; life experience in all branches; highest references; at liberty.—MAY, Marden Cottage, Woldingham, Surrey.

GARDENER (HEAD WORKING), with four under, to take entire charge; Fruit Houses, Greenhouses, &c., Kitchen Garden, Lawns, Flower Gardens; in lovely part of Warwickshire; good wages, with modern cottage; must be experienced; with good references.—Apply D., Box 15, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING); age 46; with life experience; efficient in requirements of good establishment for high-class Vegetables, choice Fruits, Flowering Plants, Orchids, Carnations, Roses, Chrysanthemums, Alpines, Herbaceous Lawns, &c.; economy and discipline; 18½ years' Head late situation; excellent references; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton, Surrey.

H. GREER, Esq., M.P., can highly recommend his HEAD WORKING GARDENER, H. LIST, to any lady or gentlemen; life experience in all branches; 10 years last situation; 2½ present; married, age 45; disengaged.—H. LIST, The Old Cottage, Walton-on-Hill, Surrey.

GARDENER (HEAD WORKING) desires re-engagement; expert in the cultivation of choice Fruits, Vegetables, and Plants, Inside and Out; many years' practical experience in extensive well-kept Garden; energetic, trustworthy, good organiser; first-class references; Home Counties preferred.—W. T., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING) seeks re-engagement; 28 years' experience all branches, Inside and Out; married; recommended by present employer.—E. THOMAS, Cordale Gardens, Renton, Dumbartonshire.

GARDENER (HEAD WORKING), where several are kept; age 32; married when suited; 14 years' practical experience in all branches, gained in good establishment; good reference from past employers; ex-Army man.—Apply, stating wages, &c., to H. A., Box 9, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where several are kept; thorough practical experience in all branches, both Inside and Outdoor work, including Orchids, Carnations, and Chrysanthemums; age 41; married. Please state wages.—HEAVER, 14, Elton Road, Kingston-on-Thames.

GARDENER (HEAD WORKING), where several are kept; experienced in all branches; age 35; married; good references; Home Counties preferred. —F. J. TURNER, Buckingham Road, Holmwood, Dorking, Surrey.

GARDENER (HEAD WORKING); married; age 54; where four to five kept; practical life experience in all branches; Carnations a speciality; good manager and worker; Forcing Fruit, Flowers, Vegetables, and upkeep of Garden; well recommended; Army discharge on engagement.—E. ODDY, Chait's Grove, Bolney, Haywards Heath, Sussex.

GARDENER (HEAD WORKING), where others are kept; 20 years' practical experience in all branches; excellent references; 7 years Head of four. married (three children, 10, 7, 4); age 43 years.—JOHN SAUNDERS, 21a, Clyston Street, Wandsworth Road, Clapham, S.W. 8.

GARDENER (HEAD WORKING of four or more); 20 years' first-class experience in the cultivation of Fruit, Flowers, and Vegetables; Inside and Out, and management of well-kept Garden; excellent references; age 35; married (no family); disengaged.—RIDGEWELL, "Buckthorpe," Chertsey Road, Addlestone, Surrey.

GARDENER (HEAD WORKING) seeks situation where four or more are kept; 20 years' experience in all branches; age 35; single; excellent references; disengaged.—REEVES, Studland, Tolstoy Road, Parkstone, Dorset.

GARDENER (HEAD WORKING), where three or more kept; life experience, Inside and Out; 5½ years last situation; good references; age 45; married (no family).—DOMAN, 55, Agamemnon Road, W. Hampstead, N.W.

GARDENER (HEAD WORKING), where three or four are kept; life experience in all branches, Inside and Out; married (one child, age 3); 4 years last situation as Head; excellent references.—HARBERT, Cricklewood, Dormansland, near Lingfield, Surrey.

GARDENER (HEAD WORKING), where three or more are kept; life experience in all branches; age 37; one child (age 7 years).—A. NORTON, The Gardens, Goldicote, Stratford-on-Avon.

GARDENER (HEAD WORKING); 30 years' good practical experience, Inside and Out; excellent references; age 46; married (no family).—BROOKER, 8, Portland Terrace, Whetstone, N. 20.

GARDENER (HEAD WORKING); 21 years' general experience, Inside and Out; good references.—W. B., Box 3, 41, Wellington Street, Covent Garden, W.C. 2.

DISCHARGED Soldier seeks re-engagement as HEAD WORKING GARDENER, where three or more are kept; life experience gained in good establishments; last situation 6 years as Head; age 36; married (one girl, age 7); Somerset preferred.—Apply, TAYLOR, 4, Cross Ways, Carhampton, Somerset.

GARDENER (HEAD WORKING); life experience in all branches; 9 years as Head; 6 years present situation; leaving through no fault; excellent references; married (two children).—R. MOUNSDON, Orchard Gardens, Williton, Som.

GARDENER (HEAD WORKING), where one or two under kept; experienced Fruit, Flowers, Vegetables, Inside and Out; 6 years last situation.—PALFREYMAN, 68, Lydgate Lane, Crookes, Sheffield.

GARDENER (HEAD WORKING), where two or three are kept; life experience Inside and Out; good references; married (age 46); one son (12).—E. MARTIN, 19, Great Enton, Witley, Surrey.

GARDENER (HEAD WORKING), disengaged; first-class grower, Flowers, Fruit, Vegetables, and Conifers; good manager of men; 10 years as Head; highest testimonials; age 37; one child (age 8).—Please state wages, &c., F. REEVES, Main Street, Barton-under-Needwood.

GARDENER (HEAD WORKING) seeks re-engagement; life experience all branches; 11½ years as Head last situation; good personal recommendation from last employer; age 44; disengaged.—T. E. REYNOLDS, c/o Mr. Yeeles, Caynham, Ludlow, Shropshire.

GARDENER (HEAD WORKING) seeks situation, where two or more kept; well up in all branches; Inside and Out; 12 years as Head; good references; married; 46; Sussex, Surrey, or Hampshire preferred.—SNOW, Tackley, Oxon.

GARDENER (HEAD WORKING) seeks situation; life experience in all branches; age 35; married; good references.—F. NOBLE, The Lodge, Halliwick, Winchmore Hill, N. 21.

GARDENER (HEAD WORKING) seeks re-engagement; life experience in Fruit, Flowers, Vegetables; Inside and Out; age 46. Also son as UNDER GARDENER, age 18.—Apply, J. FARR, The Gardens, Oakleigh, Edgware, Middlesex.

GARDENER (HEAD WORKING), Scotch, desires situation, where a competent, trustworthy man is required; thorough practical knowledge of Gardening in all branches; good manager; excellent references; married; age 52.—F., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING); London district preferred; good practical experience; well recommended; married; disengaged when suited. — HOWE, Holmhurst Cottages, Loughton, Essex.

GARDENER (HEAD WORKING); experienced in all branches, including Orchids; cottage provided.—Apply, full particulars, MRS. ARDERN, Bonishall, Prestbury, Cheshire.

GARDENER (HEAD WORKING); age 43; married; life experience in all branches; 12 years' reference from last place; disengaged.—STAPLEY, Punnett's Town, Heathfield, Sussex.

GARDENER (HEAD WORKING), seeks situation; experienced Inside and Out; disengaged second week in January.—Apply, CALEB HICKS, Vilna, Red Hill, Chislehurst, Kent.

GARDENER (HEAD WORKING) seeks appointment; well recommended as competent and reliable; Midlands preferred. — WM. BURNS, Sandy Lane, Tettenhall, Wolverhampton.

GARDENER (HEAD WORKING or SINGLE-HANDED); life experience, Inside and Out; good references; age 48; married.—T. A., Vine Cottage, Addlestone Moor, Addlestone, Surrey.

EX-SERVICE MAN desires Post as SINGLE-HANDED GARDENER or CARETAKER, or any place of trust, where house is provided; married (no family); age 39; good testimonials. Please state wages.—W. H., Box 13, 41, Wellington Street, Covent Garden, W.C. 2.

MR. W. BUTLER, The Gardens, Wilton House, Salisbury, Wilts, will be pleased to recommend CECIL COOL to any lady or gentleman requiring a thorough good all-round GARDENER, where several are kept; age 30.

GARDENER, life experience all branches, requires situation in private establishment, or charge of small Market Garden; good references; age 39; married; cottage essential.—H., Box 14, 41, Wellington Street Covent Garden, W.C. 2.

GARDENER seeks situation, where help given; life experience in all branches, including Vines and Carnations; age 30; married (no family); up-country preferred. Please state terms.—W. OSBORNE, Goodworth House Gardens, Clatford, Andover.

GARDENER requires situation; life experience in all branches; good references; age 33; married when suited. Please state wages. — L. KNIBBS, Shawford Place Gardens, Shawford, Hants.

SITUATION wanted as GARDENER; a good all-round man; inside and Out; life experience; married; good references. — W. CARPENTER, 4, Addison Road, Kensington, London, W.

ADVERTISER wishes to meet lady or gentleman requiring a thorough practical, good all-round GARDENER; life's experience all branches; highest references.—G., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

ORCHIDS.—Advertiser would pot or assist to pot collection of Orchids for a few months. Please state wages, &c.—G. CYPHER, Rose View, Queen's Road, Cheltenham.

SITUATION required as KITCHEN GARDENER; Kitchen Garden, Pleasure Grounds, or SINGLE-HANDED GARDENER; with cottage preferred; married; 32; one child; good references; 16 years' experience. State wages.—JENNINGS, 44, Hampden Road, Norbiton, Surrey.

KITCHEN GARDEN or Pleasure Grounds. Life experience; age 41; married; 4 years here. Please state wages.—H. RANGER, Marden Park Gardens, Woldingham, Surrey.

KITCHEN GARDENER seeks situation, or INDOOR ODD MAN; married; age 33; one child (11 years); good references.—FRANK SLATTER, Bletchington, Oxon.

GARDENER (SECOND); Inside or Inside and Out; 15 years' experience; age 32; single. Please state wages.—A. COUSINS, Elm Cottage, Barnet Lane, Elstree, Herts.

GARDENER (SECOND) seeks situation; experienced, Inside and Out; good references; age 28; married (two children).—J. BROOKER, 18, Scott's Terrace, Chatham.

FOREMAN or SECOND (Inside); age 32; experienced Fruit and Plants; well recommended; Bothy. Please state wages, &c.—F. GIBBONS, 12, Burns Road, Alperton, Wembley, Middlesex.

JOURNEYMAN (SECOND) seeks situation; Inside or Inside and Out; age 18; good references.—Apply, S. CHENNELL, 18, Great Enton, Godalming, Witley, Surrey.

WOMAN GARDENER, college trained, experienced, excellent testimonials, desires position as HEAD; March; easy reach London; Fruit, Flowers, Hardy and under Glass, Tomatos, Cucumbers, Melons, Vegetables, Bees.—M., Box 14, 41, Wellington Street, Covent Garden, W.C. 2.

AS HEAD or SECOND GARDENER.—LADY desires re-engagement; 15 years' experience; Vegetables, Flowers, Glass, Tomatos a speciality; 30 miles London preferred; good references.—MISS F., 16, Albany Road, Bexhill.

WOMAN GARDENER; well educated; 10 years' experience; desires Post January, under good Head; wishes some good Outside Fruit experience; near London preferred; take duty. — G., Box 11, 41, Wellington Street, Covent Garden, W.C. 2.

LADY GARDENER desires re-engagement under good Head; experienced, Inside and Out; good references.—Apply, M. VEITCH, 31, Salisbury Gardens, Jesmond, Newcastle-on-Tyne.

LADY GARDENER (young); 2 years' training, including Glass, seeks situation under Head; Sussex or near London.—Apply to B., Box 8, 41, Wellington Street, Covent Garden, W.C. 2.

TWO LADY GARDENERS, with excellent experience and good references, require job near London; all branches, Outside and In, including Rock Garden and Herbaceous work.—F. R., Box 5, 41, Wellington Street, Covent Garden, W.C. 2.

EXPERIENCED LADY GARDENER (8 years) desires Post, Indoors and Out; within easy distance of London.—A. M. D., 21, Victoria Mansions, Willesden Green, London, N.W.

TWO young WOMEN desire Post together in Gardens or on Fruit Farm; willing workers.—Apply, GARDENER, Piggott's Manor, Letchmore Heath, near Watford.

YOUNG LADY requires Post as UNDER GARDENER; college trained; 15 months' experience in General Gardening, also under Glass.—S., Box 1, 41, Wellington Street, Covent Garden, W.C. 2.

TWO LADY UNDER GARDENERS; 4 years' practical experience, want Post together in Estate Gardens, South or South-East Coast. State salary offered.—D. OAKFORD, Bourton Hall Gardens, Rugby.

FOREWOMAN requires Post under good Head, on large estate, where other trained women are employed; 9 years' experience; college trained.—G. HEBDITCH, The Gardens, Silverlands, Chertsey.

GIRL of 18, accustomed Outdoor work, untrained, wishes to be trained as GARDENER, Inside and Out, under good Head.—MISS DORA SMITH, Stainton, Penrith.

SITUATION required on gentleman's estate as HANDY MAN; carpentering, painting, glazing, and all estate repairs.—Address, A. FANCOURT, Warfield, Bracknell, Berks.

TRADE.

MANAGER or REPRESENTATIVE; Kent preferred; practical experience in first-class establishments (private and trade); all branches, especially Roses and Fruit; special experience in supervision; well educated.—P., Box 9, 41, Wellington Street, Covent Garden, W.C. 2.

MANAGER or FOREMAN requires re-engagement; life experience in growing Carnations for Cut Bloom and Plant trade; highest references. Please state particulars.—W., Box 3, 41, Wellington Street, Covent Garden, W.C. 2.

MANAGER or FOREMAN; life experience in the trade, controlling labour, and producing everything required for up-to-date Nursery.—S. W., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

ORCHID GROWER seeks situation; grower and raiser of the Glebe collection at Sevenoaks for 5½ years; 14 years' experience, including Charlesworth & Co., Sanders & Sons; expert seedling raiser; discharged from Army.—R. F. BUCKNELL, 20, Bonnington Square, Vauxhall, London, S.W. 8.

SITUATION required as ROSE GROWER (Outdoors); thorough experience; able to take charge of men; also experience in Stool Ground (Deciduous Plants); good testimonials from leading Nurserymen.—H. KEMP, 40a, Rodney Place, London, S.E. 1.

NURSERY FOREMAN (WORKING); practical experience in all Outside Nursery work, Budding, Grafting Fruit Trees and Roses; good propagator of Flowering Trees and Shrubs and American Plants; good references.—C. A., Box 26, 41, Wellington Street, Covent Garden, W.C. 2.

FOREMAN seeks re-engagement in Market Nursery; well up in Cucumbers, Tomatos, Vines, Peaches, Mushrooms, Chrysanthemums; good references.—A. J., Box 7, 41, Wellington Street, Covent Garden, W.C. 2.

FOREMAN GROWER (32), married, requires situation, Cucumbers, Tomatos, Chrysanthemums, Bulbs, Ferns, Bedding, and General Stuffs; good references.—A. BARNARD, 3, Rosslyn Cottages, Cadmore Lane, Cheshunt, Herts.

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FOREMAN GROWER; married; 37; life experience in Cucumbers, Tomatos, Vines, Chrysanthemums, Bedding, Valley, and Bulb Forcing; trade or private; good references. Please state wages.—GLENISTER, 96, Vale Road, Harringay, Finsbury Park.

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Send the measurements of your borders to the Retail Plant Department, KELWAY & SON, Langport, Somerset.

For Advertisement Charges see page vi.

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Early Vegetables for Present Sowing.

SUTTON'S PIONEER PEA.—The largest podded Dwarf Pea, per pint 3s.

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For Messrs. Protheroe & Morris' Adverts. see p. vi.

WANTED, Nursery, 2 or 3 acres, with 1,000 feet run of Glass; dwelling-house attached; moderate rental.—Apply, T., Box 25, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, to lease, immediately, about 20 acres, suitable for Nursery; cottage on land preferred. State water supply and distance from rail and town.—C., Box 22, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, to rent, small Nursery, with shop, and Glass suitable for Tomatos; near a town.—Apply, R. N., Box 14, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, to rent, a small Market Nursery, about 2 acres, with 4 or 6 Glasshouses; suitable for Tomato-Cucumber growing; near good market town. — Reply, H. R., Box 13, 41, Wellington Street, Covent Garden, W.C. 2.

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Entries must be accompanied by a signed form of Conditions, which can be obtained on application at the office of the Town Clerk, Blandford.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence, and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W. 14.

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WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free. — SMITH, London Fern Nursery, Loughborough Junction, London, S.W. 9.

WANTED, for immediate planting, 6 doz. Rose Zéphyrine Drouhin, dwarfs. — HEAD GARDENER, Cornbury Park, Charlbury, Oxon.

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HINTON BROS., LTD.,
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GLASSHOUSES for sale; also Garden Lights, Glass, Boilers, Pipes, Fittings, Standpipe Valves Hose, &c.; price against specification.— C. A. CHRISTIANSEN, Southall

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SEASON 1919.—Live Sphagnum Moss, short and broad-headed.—Sample and prices, apply, 3, Brook Row, Bangor, Wales.

100,000 LARGE GARDEN FERNS, 20s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinias, Lilies, Hydrangeas, &c.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W. 9.

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You've yet to learn the bodily comfort that they afford in wet and stormy weather. They are proof against the hardest storms, and have no disagreeable stickiness. We sell them on the understanding that you may have your money returned if BEACON OILSKINS don't satisfy you—there's no risk in dealing with us. We specialise in Oilskins. Men's Black Coats from 25s., Long Leggings from 5s., Sou'-westers from 3s., Children's Oilskins 16s. 6d. upwards. Ladies' Smart Oilskins from 28s. 6d. Send p.c. to-day for Free Beacon Booklet, and choose the style that suits your purpose and pocket. BARBOUR'S, LTD., 66, BEACON BUILDINGS, SOUTH SHIELDS. (6)

WEEDS! WEEDS! WEEDS! Now is the time to destroy them before casting their seeds. If your paths are cleared now they will remain clean for the best part of next year. Our Weed Killer is safe to handle, non-poisonous, will not harm birds or animals, is a powder; only requires sprinkling on the weeds.

1 cwt. sacks, 20s., free on rail, London.
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"PESTITE" kills wireworms, rookworms, cockchafer grubs, Julus worms, and other soil pests; also "club root" and other fungoid diseases. Price: 28lbs. 5s. 6d., 56lbs. 7s. 6d., 112lbs. 10. 6d., 1 ton £8, all carriage paid, from G. LANG & SONS, LTD., Hounslow, Middlesex.

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Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

WOMEN FOR GARDENS.

MEMBERS of the Women's Land Army, who have been working on the land, are available for any form of unskilled work in Gardens during the winter months.

Application should be made to
THE FOOD PRODUCTION DEPARTMENT,
72, Victoria Street,
London, S.W. 1.

THE TORQUAY TOWN COUNCIL invite applications for the appointment of a SUPERINTENDING WORKING GARDENER, to take charge of the whole of the Pleasure Grounds and Open Spaces in the Borough. Candidates must be thoroughly experienced in Horticultural and Landscape work.

It will be considered an additional qualification if a candidate is a member of the Royal Horticultural Society. Any further particulars desired may be obtained on application to the Deputy Borough Surveyor.

Applications, endorsed "Supt. Working Gardener," accompanied by copies of not more than three recent testimonials, stating wages required, age, qualifications, and experience, should be sent to me not later than Monday, 20th January, 1919.

FREDK. S. HEX.
Town Clerk,
Town Hall, Torquay.

Dated 8th January, 1919.

EAST SUSSEX COUNTY ASYLUM.
HELTINGLY, near EASTBOURNE.

WANTED, at the end of January, an ATTENDANT, with a good general knowledge of Gardening; wages (to rank as charge attendant) commencing at £51 per annum, and war bonus of £23 10s. per annum; good conduct money, £2 per annum; also £2 10s. per annum if contributing under the Superannuation Act; total £79 per annum, rising to £85, with board, lodging, washing, and uniform, or payments in lieu of lodging and washing to a married man residing out of the institution. The war bonus is payable during the pleasure of the Committee.—Apply, stating age, details, and experience, with copies of testimonials, to the MEDICAL SUPERINTENDENT.

WANTED, HEAD GARDENER, either man or lady, where three girls are kept; cottage in the grounds is found and vegetables, but no coal. There are two Vineries, Orchid House, Conservatory, and 3 to 5 acres of Garden and Lawn.—Reply, with full particulars, to E. R. WHITWELL, The Friarage, Yarm, Yorks.

GARDENER (HEAD WORKING), with four under, to take entire charge; Fruit Houses, Greenhouses, &c., Kitchen Garden, Lawns, Flower Gardens; in lovely part of Warwickshire; good wages, with modern cottage; must be experienced; with good references.—Apply D., Box 15, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, HEAD WORKING GARDENER for London; under man and boy kept; all-round experience, no quarters.—Write, stating wages, experience, &c., to G. L. F., Alderton, Stanmore, Middlesex.

WANTED, to commence February 1, first-class HEAD WORKING GARDENER for London, N.; married; wife to attend lodge gates; cottage, electric light, milk, vegetables, and coal provided. Also UNDER GARDENER; live out. Also DAIRYMAID, to take entire charge of four cows, good milker, butter maker, and calf rearer; live in or out. State age, wages expected, enclose copies of references.—H. P., Box 27, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, at once, for gentleman's residence, near Builth Wells, WORKING HEAD GARDENER; must be experienced with Herbaceous Plants and Roses; three kept.—Apply, with full particulars, to CHARLES WOOSNAM, Cefnllysgwynne, Builth Wells, Breconshire.

WANTED, HEAD WORKING GARDENER; head of four; must be experienced in Glass, Herbaceous, Rock Garden, and Kitchen Garden; house provided; permanent place for suitable man.—Apply, stating particulars, to F. S. BRICE, Middlemeade, Leicester.

WANTED, WORKING HEAD GARDENER; used to Vines, Peaches, &c.; excellent cottage and good wages to right person. State full particulars.—GORDON, Wonham, Bampton, Devon.

HEAD WORKING GARDENER required to produce Vegetables; large establishment; small Glass and Lawns. Write, stating age, wages required, experience, and references.—MANAGER, Bath Spa Hotel, Bath.

WANTED, HEAD WORKING (reliable) GARDENER; good all-round experience. State full particulars, age, references, and wages required; cottage if married.—Address, MANAGER, Grand Hotel, Baslow, near Bakewell.

WANTED, GARDENER (SINGLE-HANDED); experienced; wife can be employed part time in house, on separate wage; four-room cottage, with ½ acre garden free; wages 35s. per week.—F. BROWN, The Cottage, Old Malden Lane, Worcester Park, Surrey.

SINGLE-HANDED GARDENER wanted; married; liberal wages; two good rooms, wash-house, &c.; poultry.—E. K. CHAMBERS, The Lodge, Pinner, Middlesex.

GARDENER. — Single-handed MAN wanted, absolutely trustworthy, for Hampshire; pony, fowls; help given.—Apply, stating experience and wages, to R. CARTER, 53, Campden Hill Road, Kensington, W. 8.

GARDENER wanted; married man; thoroughly experienced in Herbaceous and Hardy Plants, Lawns, &c.; wages 32s. to 35s.; cottage and garden found.—Apply, with references and experience, to HEAD GARDENER, Wittington, Marlow.

WANTED, experienced GARDENER; Indoor and Outdoor work.—Apply, with references, to MR. E. M. HANN, The Rise, Llanishen, near Cardiff.

WANTED, good WORKING GARDENER, with a boy under him; wages 35s. and a good cottage.—Apply, J. RIPLEY, Ampney Crucis, Cirencester, Glos.

WANTED, active WORKING GARDENER, who knows his job, and is capable of making large Garden pay; good wages; considerate treatment; interest in results.—Send full particulars as to age, experience, capabilities, &c., to COUNCILLOR J. W. EASON, J.P., Scartho House, Grimsby.

WANTED, WORKING GARDENER; age 28 to 35 years; ex-soldier. State experience, wages required; good references essential; good lodge.—Apply by letter, MRS. HOOKER BROOMSLEIGH, Seal Chart, Sevenoaks.

WANTED, experienced WORKING GARDENER; Oxfordshire village (2 miles from Bicester); cottage. State age, wages, experience, references, &c.—BAKER, Chesterton, Bicester.

WANTED, in Midland County, WORKING GARDENER; thoroughly experienced and hard working; two boys kept and help given; wages 35s. and cottage; good references.—Apply, by letter, A., c/o Scotter & Law, 1, Belgrave Mansions, Grosvenor Gardens, London, S.W.

WANTED, near Bath, WORKING GARDENER; good wages to reliable man. LABOURER for digging also required. No house.—Address, GRIFFITH, Portledge House, Bath.

KITCHEN GARDENER wanted; good Vegetable grower, serve kitchen; also Pleasure Ground MAN, knowledge of machines, mowing, Herbaceous Borders; also UNDER GARDENER, Inside and Out; permanency; good wages to single men.—HEAD GARDENER, Honington Hall, Shipston-on-Stour, Worcester.

WANTED, KITCHEN GARDENER; also good MAN for Houses; and two JOURNEYMEN for Pleasure Ground.—Apply, stating wages and experience, HEAD GARDENER, Netherfield House, Weybridge.

WANTED, three or four MEN for Orchid Houses; must be energetic potters and well up to their work; take turn at duty, which is paid for; good Bothy; 1 o'clock Saturdays.—For further particulars, apply J. T. BARKER, Blenheim Gardens, Woodstock.

WANTED, experienced MAN, for Fruit and Plant Houses.—State wages required, no Bothy, to G. BAXTER, Gosfield Hall Gardens, Halstead, Essex.

WANTED, MAN, for Kitchen Gardens and Pleasure Grounds; good cottage provided; family not objected.—Apply, GARDENER, Wilton Park, Beaconsfield.

WANTED, LEADING HAND, for Pleasure Grounds; good knowledge of Rockery, Herbaceous, and Roses. Send full particulars, copy of testimonials, wages expected, with Bothy and vegetables. 1 o'clock Saturdays, to J. HOAD, Colworth Gardens, Sharnbrook, Beds.

WANTED, four MEN, used to Pleasure Ground work, who can use scythe.—Apply to SUPT., St. Mary's Cemetery, Harrow Road, College Park, N.W.

GARDENER and CHAUFFEUR-GARDENER (car little used) required for entire work of Private Garden; chiefly Fruit and Vegetables; excellent qualifications required; cottages with gardens provided.—State age, wages, and full particulars of experience, to R. BURTON, Esq., Longner Hall upon Severn, Shrewsbury.

GARDENER wanted, one with experience of motor-car preferred; good wages, cottage, and fuel.—Apply, "MIDDLESEX," Box 24, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, young MAN, for Fruit and Plants; Inside. State experience, age, wages, with Bothy, &c.—J. T. SHANN, Betteshanger Park Gardens, Eastry, Kent.

WANTED, SECOND GARDENER, for Inside and Out; single; lodgings close to Garden; must have some knowledge of Vines and raising Bedding Plants. — Apply, W. J. BLIGH, Home Farm, South Park, Penshurst, Kent.

WANTED, good SECOND GARDENER, single; to live in Bothy.—Apply, with references, experience, and wages asked, CHARLES WOOSNAM, Cefnllysgwynne, Builth Wells, Breconshire.

CAN any gentleman recommend GARDENER; Second of two; Vegetables, Lawns, no Glass; single; wages 27s. weekly; lodgings and vegetables given.—Apply, CAPTAIN C. M. LEWIN, Fox Hanger, Godalming, Surrey.

WANTED, UNDER GARDENER, single, to live in Bothy; one with good general knowledge of all Outside Gardening, and capable of taking the lead. — Apply, stating age and experience, wages required, to HEAD GARDENER, Priors Court, Newbury.

UNDER GARDENER wanted; good general man; cottage available later. State experience and wages.—CAPT. STEWART SMITH, Heathlands, Kinver, near Stourbridge.

WANTED, UNDER GARDENER; furnished rooms or unfurnished cottage provided; good wages.—Apply to HEAD GARDENER, Bramshott Court, Liphook, Hants.

WANTED, GENERAL FOREMAN; must be well up in the cultivation of Fruits, Plants and Flowers. Also good, strong MAN, for Lawns and Pleasure Grounds; both to do duty one week in four.—Apply, stating age, experience, and wages, with Bothy, &c., to J. HAMMOND, Norbury Hall, Ashbourne, Derbyshire.

WANTED, FOREMAN; experienced in Fruit and Plant Culture; 33s. a week, with Bothy.—S. POPE, Holmewood Gardens, Langton Green, Tunbridge Wells.

WANTED, FOREMAN; experienced Vines, Peaches, Plants, &c.; wages 47s., including bonus, Bothy.—State particulars of experience to W. ANDERSON, Close House Gardens, Wylam-on-Tyne.

WANTED, PLEASURE GROUND FOREMAN; experienced in Roses and Herbaceous Plants, also Flowering Shrubs. Good wages, with comfortable small cottage.—Apply, A. C. SMITH, Farm Cottage, Hatchford Park, Cobham.

WANTED, FOREMAN or experienced FIRST JOURNEYMAN; take charge under Glass; good knowledge of Tomatos, Cucumbers, Peaches, Carnations, and Chrysanthemums essential; four in Bothy.—Full particulars, with wages required, to HEAD GARDENER, Coombe Court, Kingston-on-Thames.

WANTED, JOURNEYMAN, to take charge of Houses in a first-class Midland establishment; comfortable Bothy and good wages. Apply, in the first place, giving particulars of age, experience, &c., to JOHN PEED & SON, The Nurseries, West Norwood.

WANTED, JOURNEYMAN, for Pleasure Grounds, &c.; also Kitchen Garden. Wages 40s., including bonus, Bothy.—State particulars of experience to W. ANDERSON, Close House Gardens, Wylam-on-Tyne.

WANTED, JOURNEYMAN; experienced in Fruit and Plant Culture, to take lead. State particulars of experience and wages, with Bothy, &c., to GARDENER, Woodhatch Gardens, Reigate, Surrey.

WANTED, good JOURNEYMAN, for the Houses; some knowledge of Orchids.—State particulars of experience and wages required, with Bothy, &c., to HEAD GARDENER, Morley Manor, near Derby.

WANTED, JOURNEYMAN, for Fruit and Plant Houses; also an IMPROVER. Good wages and Bothy; duty extra.—Apply, A. J. EAST, Shipley Hall Gardens, Derby.

WANTED, two JOURNEYMEN, for Inside; good experience in Fruit and Plants. Also MAN for Lawns. Good Bothy. State wages and experience. — C. JENNINGS, Littlegreen Gardens, Petersfield, Hants.

WANTED, single young MAN to groom, assist in Garden and warehouse.—Apply, with full particulars, to A. MAJOR, Blyton, Gainsborough.

LADY HEAD GARDENER required; experience in general management essential; four Gardeners kept; Greenhouse for house and Garden plants only.—MRS. T. C. WATERHOUSE, Lomberdale Hall, Derbyshire.

TRADE.

TRAVELLER required for Horticultural Trade to call on private establishments in the West of England; ex-Service man preferred.—State full particulars as to past experience and wages required, to X., Box 15, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, for established Canadian Nursery, near Toronto, by middle March; thoroughly experienced PROPAGATOR; Perennials, Hardwoods, Evergreens; wages 750 dollars per year; free cottage, firewood, and garden.—Reply, giving full particulars, experience, references, age, family, &c.—N. S., Box 1, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, experienced GROWER for Bedding Plants, Tomatos, Chrysanthemums, &c.; also smart MAN for General Nursery work; must have experience in Herbaceous and Alpines. Good wages and permanency to the right men.—CONWAYS, LTD., Nurserymen and Seedsmen, Halifax.

WANTED, a good TREE and SHRUB PLANTER and GROWER, for Nursery and Landscape work. Also GROWER and PROPAGATOR of Alpine and Herbaceous Plants, Nursery. Both must be experienced and hard working.—T. WOOD, 19, Moor Drive, Far Headingley, Leeds.

SITUATIONS VACANT continued on page ix

THE ROYAL VISIT TO SUTTON'S AT READING

From **The Court Circular.**

'BUCKINGHAM PALACE, March 12, 1918.—The King and Queen travelled by special train on the Great Western Railway to Reading this morning, attended by the Dowager Countess of Airlie, Major Reginald Seymour, and the Earl of Cromer. . . . Proceeding to the Royal Seed Establishment of Messrs Sutton & Sons, the King and Queen were received by Mr. Arthur W. Sutton, Mr. Leonard Sutton, Mr. Martin H. F. Sutton, and the Establishment Staff. Mr. C. K. Butler, Divisional Food Commissioner for the Southern Midlands, and Mr. L. Weaver, Director of Supplies, Food Production Department, were in attendance.'

IN THE VEGETABLE SEED ORDER ROOM.

The King has the execution of orders for Food Production Seeds explained to him by Mr. Sutton.

A CORNER OF THE SEED-TESTING LABORATORY.

The King examines the various methods of testing Food Production Seeds for germination and analytical purity.

A PORTION OF THE PEA-PICKING ROOM.

The Queen watches the hand-picking of Garden Peas by women.

From **The Times**, *March 13, 1918.*

'The King and Queen during a Visit to Reading yesterday were able to add to their growing knowledge of the many ways by which the food supplies of the country are maintained. . . . At the establishment of Messrs. Sutton & Sons they were shown how seeds for food production are sent out to the farmer, the gardener, and the allotment cultivator.'

THE

Gardeners' Chronicle

No. 1678.—SATURDAY, JANUARY 18, 1919.

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HYBRIDISATION AND CROSS-FERTILISATION OF FLOWERS.

THE raising of new varieties of flowers by cross-breeding is one of the most fascinating pursuits in gardening, and has resulted in the production of many of the finest flowering plants either for cultivation indoors or for the open ground. During the many years of my life that I devoted to the cultivation and improvement of plants, I made numerous experiments in cross-breeding, chiefly with indoor plants, and succeeded in producing new or improved types of flowers that are now cultivated in many gardens. An account of some of my successes and failures in this work may perhaps prove of interest to others desirous of experimenting in this direction.

Hybridising, or cross-fertilising, consists in transferring by artificial means the pollen of one plant to the stigma of another with a view to combining in the resulting offspring the characters of both parents. The term hybridising is used when two distinct species are employed as parents, and the term cross-fertilising when two varieties of the same species are similarly used. From the plant selected as the mother-parent the anthers should be removed before they burst, as, if allowed to remain, the pollen may fall on the stigma and the flower is then self-fertilised, in which case the seedlings would not be likely to differ from the parent plant.

To obtain successful results the pollen should be applied to the stigma when the latter is in a suitable condition to receive it; this may usually be known by the moist appearance of the stigmatic surface, as when the flower is ready for pollination this part secretes a sticky fluid. Some stigmas are lobed and have two or more stigmatic surfaces that are closed together until they are ready for pollination, when they separate and expose the receptive parts to receive the pollen. In such cases the opening of the stigma gives a ready clue to the time for applying the pollen. The pollen should be as dry as possible when used, and the best time to apply it is on a bright and sunny morning when the air is dry. It should be applied to the stigma as lightly as possible, and I have found a small camel-hair brush best to use for the purpose. Pollen may be preserved by being wrapped in soft tissue-paper and kept in a dry place. It should be carefully separated from the anthers to prevent it becoming damp. I have used Hippeastrum pollen preserved in this way with good results after having kept it from three to four weeks, the pollen of Begonia socotrana after it had been gathered and left in the anthers five weeks, and that of the tuberous section of Begonia preserved under similar conditions for three weeks. I cannot say from personal experience what further length of time pollen may be preserved, as the pollen of some kinds of plants will keep longer than that of others. The plant to be crossed should be removed from others of the same genus, otherwise insects or the wind may carry the pollen of other flowers on to the stigma and thus render useless any attempts at hybridising. But this may be prevented by enclosing the female flower in a fine gauze or muslin bag. Bees successfully fertilise flowers when searching for honey by carrying the pollen from one plant to another, and so impregnating the flowers. If the stock of a particular plant has to be kept true it is necessary to have all plants of an inferior kind removed some distance away, or destroyed, otherwise the stock is liable to be impregnated by bees and may become valueless. Ants also will often pollinate flowers. Plants of Anthurium Veitchii and A. Ferrierense grew side by side; the flowers of A. Veitchii were impregnated with pollen of A. Ferrierense by small ants which carried the pollen; from the seed which resulted I raised a fine batch of seedlings which had the appearance of A. Veitchii until the leaves became about 18 inches in length; but when the spathes appeared they gave evidence of a decided cross between the two parents.

It is a notable fact that certain species will give seed much more freely than others of the same genus, as, for example, Begonia socotrana crossed with varieties of the tuberous-rooted section; the latter seeded much more freely than plants of B. socotrana, and therefore they are best to use as the female parents. Cross-fertilisation nearly always infuses fresh life and vigour into both plant and flower, especially when a species can be used as pollen parent. Whenever an opportunity occurred I always procured fresh "blood" for the purpose of cross-breeding. In crossing the Javanese Rhododendrons I found better results were obtained when true species were used than when both parents were from previous crosses. Many of our florist's flowers have been greatly improved in size, vigour, and colour of the flower by the cultivation of only the finest and best. I always found it a good plan to go through a batch of plants and select the best for cross-fertilising and seed-bearing. These I moved away from the others. I found that the stigma will remain receptive for some time if unimpregnated. Only a few flowers on each plant were pollinated; all the others were removed, so as to throw the energies of the plant into those retained.

The fine strains with large flowers and a distinct range of rich and varied colours of such plants as Gloxinia, Streptocarpus, Primula obconica, and others which have become fixed were obtained by selection.

It is much more difficult to cross-pollinate plants belonging to different genera, and when this is attempted those that are nearly allied to each other should be selected. Even closely allied plants cannot always be effectively cross-fertilised, and even when a cross is supposed to be successful it does not always follow that the progeny will give the results expected. For example, I crossed Agapanthus umbellatus with a variety of Hippeastrum; the anthers were taken from the Agapanthus before the flowers were half developed, and the plant placed in a house in the nursery where there was no other Agapanthus. Seeds were produced, and these, when ripe, were sown. About twelve plants were raised and grown on. The foliage of the seedlings certainly looked as though a cross had been obtained, as it much resembled that of the Hippeastrum, but when the plants flowered they all proved true Agapanthus, although they had Hippeastrum-like leaves. Had these flowers been fertilised again with Hippeastrum, probably a difference in the bloom might have been the result, and I have often regretted I did not try again. I crossed Hippeastrum aulicum with Haemanthus cinnabarinus, and thus produced a plant with a distinct bulb and foliage, and very compact and dwarf habit. This kept alive six years and then died without flowering. A bigeneric cross between the Javanese Rhododendron Lord Wolseley and Azalea indica Stella produced two plants; the foliage and corolla of one plant was very much shorter than that in either of the parents, and was a very interesting cross in many ways, but of no commercial value. The sister plant kept alive nine years, but did not exceed 4½ inches in height; it then died without flowering. A most remarkable result was obtained by self-fertilising a seedling Javanese Rhododendron. Amongst a batch flowering for the first time a single flower on a truss was observed to have one anther slightly petaloid. I removed all the other flowers and impregnated the pistil of this flower with the pollen from the anthers on the same flower. About 18 seedlings were raised; five of these produced distinctly double flowers with colours from pure white, rose-pink, fawn tinted with rose, and flesh colour to yellow. From their resemblance to the double flowers of Balsams they were named the Balsamaeflorum Rhododendrons. The other seedlings flowered, and all had a tendency to petaloidy; these were again impregnated, but all the seedlings reverted to single flowered forms with different shades of colour. It does not always follow that when true species are impregnated with their own pollen that the progeny will prove identical with the parent. In several batches of Rhododendron Veitchianum, a white-flowered species from Moulmein, the seedlings varied very much both in habit and vigour, also in the size and form of the flowers, and in many instances were a great improvement on the parent plant. Seedlings of many other plants vary in the same way, whilst others retain their true character when raised from flowers that have been self-fertilised. There is no general rule whether a hybrid will resemble the male or female parent; it may resemble either or be intermediate between both. I made numerous experiments with several species of Begonias; in some cases the hybrids were similar to the female parent, and many took after the male parent; others proved intermediate between both parents. The following resembled the female parent:—

B. socotrana × with Froebelii.
B. Froebelii × with crimson tuberous variety.
B. crimson tuberous × with B. John Heal.
B. Carrieri × with Schmidtii.
B. yellow tuberous × with Davisii.
B. Madame Leonet × with socotrana.
B. Gloire de Jouy × with socotrana.
B. semperflorens × with tuberous variety.
B. s. atropurpurea × with coccinea.
B. semperflorens × with Davisii.
B. Knowsleyana × with semperflorens atropurpurea.
B. Martiana × with rose tuberous.
B. rose tuberous × with Martiana.
B. weltoniensis × with coccinea.
B. yellow tuberous × with Sutherlandii.
B. pink tuberous × with Sutherlandii.
B. yellow tuberous × with octopetala.
B. Dregei × with Pearcei.
B. Davisii × with Sutherlandii.
B. Sutherlandi × with socotrana.

The following resembled the male parent:—

B. socotrana × with Rex variety.
B. scarlet tuberous × with lineata.
B. goëgoënsis × albo coccinea.
B. crimson tuberous × with lineata.
B. Rex × with Burkei.
B. Martiana × with coccinea.
B. socotrana × with white tuberous.
B. Davisii × with Rex variety.

The following were intermediate between two parents:—

B. Froebelii × with crimson tuberous.
B. yellow tuberous × with Froebelii.
B. rose tuberous × with gracilis.
B. Dregei × with Beddomei.
B. Burkei × with Rex variety.

B. Rex variety × with Burkei.

B. Carrieri × with semperflorens atropurpurea.

B. heracleifolia × with coccinea.

B. picta × with Rex variety.

B. Beddomei × with tenera (Thwaitesii).

B. coccinea × with goëgoënsis.

B. Arthur Mallet × with villosa.

B. socotrana × with octopetala.

B. socotrana × with Pearcei.

Five plants of B. geranioides × with five distinct colours of tuberous varieties; seven distinct colours of tuberous varieties × with geranioides.

I produced the new race of winter-flowering Begonias by crossing B. socotrana, a winter-flowering species, with the summer-flowering tuberous varieties. B. socotrana did not serve as a seed-bearing parent so successfully as a pollen parent, and only a few results were obtained. As the pollen parent B. socotrana produced a distinct race of winter-flowering kinds, having large flowers with the brilliant and varied colours of the female parent. These hybrid varieties commence to flower in October and November, and continue onwards during the greater part of the winter. All these hybrids have proved to be sterile in both the male and female organs, therefore they produce no seed, and have to be increased by cuttings.

Of Cinerarias many distinct "breaks" were made in habit, foliage, and colour of the flower, by fertilising the florist's varieties with pollen of Senecio Heritieri and Senecio multiflora, also with Senecio auriculatissimus. I had no success with the opposite crosses. Amongst Anthurium crosses Anthurium Scherzerianum × with album produced fine spotted varieties; A. Ferrierense × with A. Andreanum produced flowers intermediate; A. Andreanum × with Spathiphyllum cornutum (Minahassae) produced creamy-white spathes: A. Ferrierense × with A. Scherzerianum produced some richly-coloured A. Ferrierense. Hippeastrum Leopoldii, a species from Peru, proved to be the forerunner of all the fine forms with breadth of petal and range of colour from deep maroon-crimson, pure white, rose-pink, crimson-scarlet, and other shades of colour we now possess.

The following Primulas, cross-fertilised, all greatly resembled the female parent: P. Cockburniana × with japonica, obconica, kewensis, and Veitchii. P. deflexa × with Cockburniana, Veitchii, and pulverulenta. P. japonica × with deflexa, kewensis, Veitchii, tangutica, and vittata. P. kewensis × with obconica, japonica, and Cockburniana. P. pulverulenta × with tangutica. P. tangutica × with Cockburniana. P. Veitchii × with pulverulenta, vittata, and Cockburniana. P. obconica × with sinensis and kewensis. P. vittata × with deflexa, pulverulenta, japonica, Veitchii, and tangutica.

P. kewensis, that fine hybrid which originated at the Royal Gardens, Kew, did not yield seed for several years, as it only produced what are termed thrum-eyed flowers, but, by continual watching, what is termed a pin-eyed flower was discovered on a whorl. All the other flowers were removed from the plant, and this was impregnated with its own pollen; this produced seed which was sown; the seedlings when in flower gave seed freely. Finer flowers and more vigorous plants are produced from seed than from original plants increased by divisions.

Many other crosses were attempted on allied genera without any satisfactory results.

The following were failures; the majority were pollinated both ways:—

Phyllocactus × Epiphyllum.

Clivia × Hippeastrum.

Vallota purpurea × Nerine.

Hippeastrum × Nerine, Vallota purpurea, Pancratium, Crinum, Sprekelia, and Narcissus.

Agapanthus × Tritoma and Funkia.

Eucharis × Blandfordia, and Hippeastrum.

Amasonia × Clerodendron, Oxera, and Euphorbia.

Euphorbia × Poinsettia.

Richardia × Caladium, Alocasia, Anthurium, Aglaonema, and Dieffenbachia.

Hedychium × Burbidgea, Globba, Curcuma, and Costus.

Kalanchoe flammea × Rochea (Kalosanthes).

Hibiscus × Abutilon, Pavonia, and Malvastrum.

Diplacus × Mimulus.

Bouvardia × Luculia, Ixora, and Manettia.

Brunfelsia (Franciscea) × Browallia.

Tillandsia × Vriesia, Caraguata, Billbergia, and Oechmea.

Streptocarpus × Gloxinia, Gesnera, Didymocarpus, Chirita, and Achimenes.

Impatiens × Balsams.

Boronia × Eriostemon, Crowea and Correa.

Monochaetum × Tibouchina (Lasiandra) and Pleroma.

Burchellia × Mussaenda, and Ixora.

Rondeletia × Lindenia, Bouvardia, and Ixora.

Vallota purpurea × Belladona Lily.

Maurandia × Rhodochiton.

Diplacus × Mimulus, and Lindenbergia.

Gloxinia × Achimenes.

Amphicome Emodi × Incarvillea Delavayi.

Exacum affine, and E. macranthum × Chironia.

Dipladenia × Mandevillea, and Echites.

Elaeocarpus reticulatus × Crinodendron Hookerianum.

Clianthus puneceus × Swainsonia.

Rhododendron Javanese species and hybrids × Himalayan section.

R. arboreum section × Javanese and Himalayan species and hybrids.

R. Himalayan and Javanese section × Azalea indica, A. mollis, and A. sinensis.

R. racemosus × Azalea, and Himalayan and Javanese species and hybrids.

John Heal, V.M.H.

FIG. 9.—BEGONIA SOCOTRANA: FLOWERS BRIGHT ROSE.

FLORISTS' FLOWERS.

DELPHINIUMS.

AMONG the many plants which have been converted from good into superb garden subjects are the Delphiniums, and to this work of improvement V. Lemoine in France, Kelway and Son and Amos Perry in this country have made notable contributions.

As shown by Mr. Amos Perry in his lecture before the Royal Horticultural Society,* selection and hybridisation have brought about the present superb races. Thus King of Delphiniums, which was introduced about 25 years ago, was the result of many years of selection and is still so popular as to be both grown extensively here and also exported to the extent of 15,000 a year by one firm alone. Among the newest Delphiniums are those produced by Lemoine in 1914 by crossing Delphinium elatum and D. fatsiense, a recently introduced Chinese species.

Of species now in cultivation, Mr. Perry mentions D. cardinale as one of the handsomest; he gives praise also to the pale-yellow flowered D. Zalil, introduced from Afghanistan about 1887. For cutting for market D. formosum is grown exclusively, and for the rockery D. cashmerianum is to be recommended. Of the dwarf D. nudicaule (15 inches), with dazzling scarlet flowers, several varieties exist, including D. n. aurantiacum, with orange-yellow, and D. n. purpureum, with deep rose-purple flowers. As our readers are aware,† Forrest has described vividly the beauty of the Delphiniums of the higher Alps of N.W. Yunnan, near the Tibetan frontier, where species range in height from 4 inches to 6 feet and in colour from palest blue to deep, rich purple. Of the dwarf Chinese species Mr. Perry singles out D. likiangense for special praise. It has been established in the Botanic Gardens,

* *Journ. R.H.S.*, May, 1919.

† See *Gardeners' Chronicle*, Sept. 9, 1916.

Edinburgh. The plant is from 12-15 inches high, forms symmetrical tufts of finely divided, glossy green leaves, and bears numerous erect stems each with 3 to 5 light blue flowers.

The annual Larkspurs are garden races of D. Ajacis and D. consolida. The former, the Rocket Larkspur, occurs in tall (3-4 feet) and dwarf (18-24 inches) forms, and shows a wide range of colours.

D. consolida, the branching Larkspur, is no less valuable and late-flowering. Now that borders are being replanted ample provision should be made for including the best of the perennial and annual Larkspurs.

FRUIT REGISTER.

THE "HIMALAYA" BERRY.

Since writing the note on this fruit which was published on p. 205 I have turned up a further reference in the *Deutsche Obstbauzeitung* for 1910, p. 402, by Paul Dapp-Opplingen, which throws a valuable light on the question. He confirms the origin which I quoted in my previous note, and states that the plant from which the seeds were taken was Rubus arenarius, or, popularly, the "Sand Brombeere." The seedling reproduced the mother-plant exactly. The Sand Brombeere is described and figured in *Illustrirtes Handbuch der Obstkunde*, Vol. 2, page 301. It is there stated that the plant is extraordinarily vigorous, making often 20 feet of growth in a year. The figure of the fruits shows a smaller truss than we know in the "Himalaya" Berry, but this is probably due to the fact that the artist had a very limited space at disposal; the descriptions of foliage and other details agree exactly.

It seems probable that "arenarius" is intended for the Rubus Arrhenii of Lange, and if our Rubi specialists can confirm this we shall have run the "Himalaya" Berry to ground at last. *E. A. Bunyard.*

The origin and botanical status of this prolific Blackberry have long been in doubt. In August, 1915, the Fruit Committee of the Royal Horticultural Society awarded this fruit a First-class Certificate after trial at Wisley. The variety was sent to Wisley by Messrs. Laxton Bros. A fruiting branch was sent to Kew with a view to its determination. On comparison with ample dried materials, and with living plants in the bed, it was identified with a form of Rubus villicaulis, Koehler, having a white felted under surface to the leaves, but as there was some doubt as to the real status of the latter a note on the subject was left unfinished. The popular name presumably afforded a clue to the origin of the plant, but it was found that no such Blackberry was known from the Himalayas, and the point was afterwards confirmed by Mr. J. S. Gamble, who has lost no opportunity of collecting and studying the Rubi of the region in question.

Since then two important works have appeared, Focke's *Species Ruborum* and Sudre's *Rubi Europaei*, while a history of the Himalaya berry has been given by A. T. Erwin in Bailey's *Cyclopaedia of Horticulture*. The date is 1915, and we read that the Himalaya berry is an evergreen Blackberry of Asiatic origin that has been widely planted in the last three or four years. It is said to have been introduced by Luther Burbank in the early nineties, the seed having been received by him from an English traveller who secured it from the Himalaya Mountains. This part of the record is probably erroneous, unless, indeed, it had been first introduced from Europe. As to its botanical status, there is a note that Rubus thyrsanthus, Focke, is included in the work because the plant grown in this country as the Himalaya berry is probably referable to it. This record, however, is not at all borne out by comparison. The status of the plant was under investigation from fresh materials when Mr. E. A. Bunyard's interesting note (page 205) appeared, identifying the so-called Himalaya berry with the Blackberry known as "Theodore Reimers." This is a far more likely history, and we may accept the inference that the fruit found its way to America, and there underwent the rechristening that often follows migrations. It is to be hoped that the erroneous name will now be allowed to drop into oblivion. By the way, is it possible to secure a copy of the figure cited for the Kew Library?

There now remains the question of the botanical status of the plant. Focke, in his recent work, says that Rubus villicaulis is a collective species, fluctuating between R. rhamnifolius and R. gratus, and that it is scarcely distinguishable with certainty from an artificial hybrid obtained by him from R. gratus crossed with the pollen of R. bifrons. The last I have not seen, but from the description I suspect it to be identical with R. villicaulis var. incarnatus, which has the leaves white-felted beneath, as in R. bifrons (and as in the Himalaya berry), not green as in typical R. villicaulis. In a previous account he had explained that this hybrid gave perfect fruits, and that he did not know how to distinguish it from true villicaulis. He also asked, "What is the widely distributed villicaulis?" My inference is that R. villicaulis is a hybrid between R. gratus and R. rhamnifolius, and the variety incarnatus another between R. gratus and R. bifrons, and that the two should not have been combined. The latter must therefore retain its original name of R. incarnatus, Muell. We may therefore conclude that the Blackberry under discussion is a hybrid derivative of R. incarnatus, a bush of which was found by Garteninspector Theodore Reimers in a neighbour's garden, in 1889, and was considered so promising that he obtained a few seeds, from one of which this Blackberry was derived, possibly as an improved race. It might, of course, have been a hybrid direct, but had the bush been simply R. gratus or R. bifrons it would probably not have attracted attention, or the difference in the resulting seedling might have been commented upon. However this may be, it is highly probable that this Blackberry is a hybrid, which opens up a wide field of possibilities. *R. A. Rolfe.*

Fig. 10.—Cypripedium John Hartley.

ORCHID NOTES AND GLEANINGS.

CYPRIPEDIUM JOHN HARTLEY.

This fine hybrid (see fig. 10) between Cypripedium Shogun and C. Reginald Young (Hitchinsiae × insigne Harefield Hall) was fully described in *Gard. Chron.*, Dec. 1, 1917, p. 218. The width of the dorsal sepal of the flower sent us measured 3½ inches. The variety was awarded a First-class Certificate at the meeting of the Royal Horticultural Society on December 3, 1918, when shown by John Hartley, Esq., The Knowle, Morley, Yorkshire.

As with most other hybrids the dominance of a form of a distinct species asserts itself, and in this case it is the insigne Harefield Hall parent.

The parentage of C. Shogun (see fig. 11), for

which Sir Geo. Holford was awarded a First-class Certificate, Sept. 27, 1910, was recorded as unknown. When the plant was described in *Gard. Chron.*, Oct. 1, 1910, it was suggested that probably the parentage included C. Dreadnought (Troilus × insigne Harefield Hall), or C. Aeson giganteum (insigne × Druri), and comparison of the two favours the supposition that C. insigne has been a factor in its derivation throughout.

The lower two-thirds of the dorsal sepal in C. John Hartley is pale greenish-yellow, the side and upper part pure white, the central part having dark chocolate-purple blotches and smaller purple spotting at the sides. The broad petals and lip are greenish-yellow tinged, and slightly veined, with purplish-rose.

and fringed at the margin. The colour is light rosy-mauve, the centre of the lip being of a darker tone and having slight mauve lines. The base of the lip is yellow, and branched yellow lines extend to the centre, merging into yellow blotches on each side of the tube.

CATTLEYA DOUAI.

At the close of the year 1918 flowers of this useful, pure white hybrid between Cattleya intertexta (Warneri × Mossiae) and C. Suzanne Hye de Crom (Gaskelliana alba × Mossiae Wageneri) were sent us by Mr. H. T. Pitt, and Dr. Miguel Lacroze, Bryndir, Roehampton. The form of the flowers and soft texture of the segments are similar to those of C. Gaskelliana alba, and no colour appears except a light chrome-yellow disc to the lip. The flowers are fragrant, and their flowering in the depth of winter in the neighbourhood of London points to them being very desirable for decorative purposes when other flowers, and white blooms especially, are scarce.

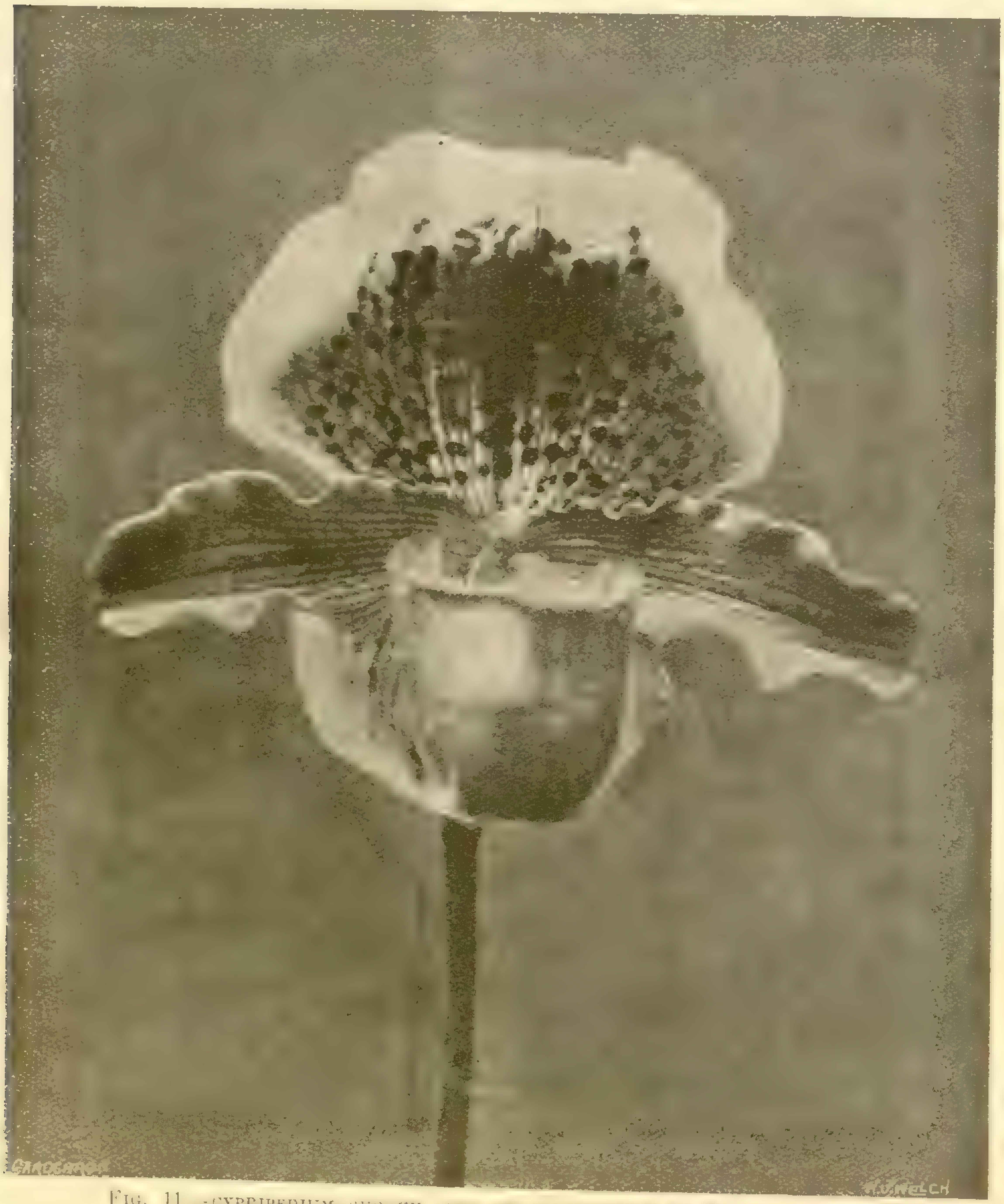

FIG. 11.—CYPRIPEDIUM SHOGUN, ONE OF THE PARENTS OF C. JOHN HARTLEY.

BRASSO-CATTLEYA LLOYD GEORGE.

A noble flower of this new cross between Brasso-Cattleya Marguerite Fournier and Cattleya Lord Rothschild is sent by H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. F. W. Thurgood). The flower is of the largest size, ranking with B.-C. Mrs. Francis Wellesley, of which a supplementary illustration was given in *Gard. Chron.*, June 30, 1906, and Sir George Holford's B.-C. The King, which held the record for size and fine proportions.

In the general character the new hybrid resembles the varieties named. The petals extend 9 inches, and are nearly 3 inches in width. The upper sepal is 5 inches and the lower ones 4½ inches wide. The lip is 3 inches wide, crimped

SOPHRO-CATTLEYA FABORIS ROSEBANK VARIETY.

A flower sent us of this variety appears to be the richest in colour of any of the forms of this pretty cross between C. Fabia and S.-C. Doris. The ground colour is rich orange tinged with vinous purple, the lip being ruby-crimson in front and reddish-orange at the base, which bears many branched yellow lines.

The Week's Work.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Damping.—Damping the houses during the winter is a matter of sufficient importance to justify the most careful attention being paid to it, as at this season most Orchids are in a more or less inactive state. In mild weather, when but a small amount of fire-heat is employed, very little damping is required, while on cold days, when perhaps much fire-heat is needed, more moisture is called for to correct the dryness of the air. At such times the soil beneath the water pipes should be kept thoroughly moistened, but on no account let the water come in contact with the pipes so as to cause vapour to be thrown off, as this is not good for the plants. Damping the bare spaces and walls should be done in the morning when the temperature has commenced to rise, and once a day is usually sufficient at this season.

Preparations for Potting.—It is advisable to obtain a good supply of Sphagnum-moss while the weather remains open, as it sometimes happens at a little later date, when the work of re-potting is daily increasing, the operation is delayed owing to the moss being frozen hard. Also, if obtainable, a good stock of other potting materials should be secured, and a supply of pots, crocks, and other items used in potting cleansed in readiness for the busy season.

Zygopetalum Mackayi.—This is an old, favourite Orchid, and its great merit lies in the fact of its blooming at this season and lasting many weeks in full beauty; it is especially useful where flowers are in demand as cut blooms. The cultivation is not difficult; one of the chief points to observe is cleanliness, as the soft foliage and pseudo-bulbs when young are apt to be attacked by brown scale, a pest which, though easily got rid of, is sure to leave its mark behind after a severe attack. The bloom-spikes appear in the centre of the young growths, and, as the plant is therefore growing and flowering at the same time, considerable moisture is necessary at the roots, even though it is often dull, cold weather at the time. The compost for potting should consist of clean, fibrous loam and leaf-mould, with a liberal addition of coarse sand and finely-broken crocks. The plants dislike being disturbed, and it is important that they be kept in good health, for if once they get into a bad condition they are not easy to bring back to a satisfactory state. Now is the best time, after the flower-spikes have been removed, to renew or add to the compost. The temperature of the Cattleya house suits this Orchid, though a few degrees lower does no harm. The plants need plenty of light throughout the year, and an abundance of water at the roots when in full growth.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Onions.—It has become a recognised rule to raise a goodly portion of the Onion crop under glass, as a great advantage is thereby gained over those sown in the open, the chief points being a longer season of growth, early maturity of the bulbs, and practically no trouble with the Onion fly, which in many districts severely attacks Onions sown in the open. Where large bulbs of the Ailsa Craig type are required, a sowing should be made at once, in boxes for preference. Use a light compost consisting of two parts finely sifted loam, one part leaf-mould, and one part sand. Fill the boxes to within half an inch of the top, press the surface firmly, make it level, and sow the seeds thinly thereon, just covering them with finely-sifted sandy soil. Water the boxes, and place them in a Peach house or vinery that has been recently closed for starting. On no account use an excessive amount of fire-heat.

Cauliflowers.—If seeds of forcing varieties of Cauliflowers were not sown last month, let this be done at once in boxes, using similar soil and adopting similar conditions as advised for Onions. Prick the seedlings off as soon as they are ready for transference, into boxes, at 2 inches apart; at a later date some of the strongest plants may be potted in 2½-inch pots, for an early supply, placing these selected plants in a little more warmth, and repotting them as is needed. The remainder of the seedlings in the boxes should be planted in frames on gentle hot-beds. These plants will be found invaluable, as they will prevent a break in the supply in the late spring should inclement weather occur.

Leeks.—If large plants of Leeks are required for early supplies, sow seed forthwith. In this case, sow the seed in 6-inch pots, filled with light, sandy soil. When the seedlings are ready for pricking off, grow them in a temperature of 50° in a position near the roof-glass. The Lyon and Prizetaker are two first-rate varieties.

Tomatos.—Make a first sowing of Tomato seed where fire-heat is at command; otherwise defer the sowing for a month. Sow in 5-inch or 6-inch pots filled with a moderately sandy compost, just covering the seed; place a sheet of glass or brown paper over the seed pot until the seeds have germinated. Accustom the seedlings to the light gradually, and when they develop the first true leaf, pot them singly in thumb-pots. Grow the plants on a shelf near the roof-glass in a house having a warm temperature. Excess of moisture, both at the roots and overhead, must be guarded against at this season.

Cabbages.—Make a sowing of Cabbage All-heart, Tender and True, and Earliest at various times throughout the year. This plan will do away with the necessity of using autumn-sown varieties for "sprouting." When this system is adopted, ground in which the autumn-sown varieties are grown will be much less exhausted, and ready to receive other crops, such as late Runner Beans and Peas. Heads of autumn-sown Harbinger are ready for cutting here now.

Cucumbers.—Sow seeds of Cucumber singly in small 60-sized pots. Use a light compost that has been warmed. Place the seed pots in an evaporating trough filled with Coconut fibre or leaf-mould. Let the watering be done with extra care until the seeds have germinated.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to C. H. BERNERS, Esq., Woolverstone Park Gardens, Ipswich.

Figs.—Where very early forcing has to be carried out, pot trees are found to give the best results. The early batch of trees introduced into heat during December will require careful attention, and checks of any kind should be prevented. Disbudding will soon become necessary, or crowding of the shoots will occur later. Keep the centres of the trees open, and stop or remove gross shoots likely to rob the others of their vigour. Stopping should be effected by pinching out the points a few joints beyond the fruits. Afford a temperature of 60° by night and 65° by day, maintain a steady bottom heat of 70° to 75°, and when the temperature has risen to 65° ventilate the house, admitting air in small quantities during mild weather to avoid a stagnant condition of the atmosphere. As growth proceeds, feeding may be resorted to, but applications must not be too frequent or excessive in the early stages of growth.

Successional Trees.—Another batch of trees may now be dealt with. Plunge the pots in a mild hot-bed principally composed of leaves, with a slight admixture of short manure, the whole mixed and sweetened previously. The night temperature should range from 55° to 60°, according to the state of the weather; allow a rise of 10° by day. Ventilate freely on all favourable occasions in order that the trees may grow steadily and make firm shoots. Disbud all badly placed and useless growths as early as possible.

Permanent Fig Trees.—Where the supply of early Figs is produced by established trees the house containing them should be closed forthwith. If the borders are in a moderately moist condition it will not be necessary to water them for some time to come, but on no account must they be allowed to become dry. If water is required, give sufficient to soak the soil to the full depth of the border. Provide a temperature of 50° to 55° at night, and allow an additional 10° by day. When the weather is bright and sunny give the trees a good syringing early in the afternoon when closing the house; damp the borders and paths two or three times a day when the weather conditions are favourable, and admit air freely on similar occasions.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Carnations.—For the decoration of plant houses under the present restricted controlled system of heating, Carnations in mid-winter contribute the most serviceable, as well as the most economic, type of flower. Flowering plants of Tree Carnations grown in a temperature of 50° to 55° should be watered with care; allow the soil to become moderately dry, then water it sufficiently to moisten it thoroughly, and feed the roots occasionally with a weak solution of a concentrated fertiliser, preferable of Carnation manure. It is essential the plants be kept clean from insect pests by fumigating or spraying. A simple method used by successful growers is to spray the plants occasionally with a weak solution of salt and water. Tree Carnations are best propagated from strong, healthy, clean cuttings, taken at the beginning of October and inserted in a frame previously prepared, with a layer of litter to provide a mild bottom heat, covering the latter with a thin layer of soil and sharp sand. Cuttings rooted in October last, and now in 3-inch pots, should be grown near the roof-glass, watered carefully, and kept free of insect pests. The next potting of these plants should be done with the best procurable loam, mixed with charcoal and Carnation manure. In favourable climatic conditions cuttings of Tree Carnations may be inserted this month. Choose healthy, stout, clean shoots as cuttings, which may be inserted in 3-inch, deep-drained boxes, filled chiefly with sharp sand, or in a prepared bed in a propagating pit having a bottom heat of 60°, and an atmospheric temperature of 55°. They will root in about a fortnight, when they should be potted in 2-inch pots filled with soil containing plenty of leaf-mould, and grown near the roof-glass.

Souvenir de la Malmaison Carnations.—This type of Carnation is suited to the restricted heating conditions, fire-heat being only necessary when the temperature of the house falls below 40°. Even with cool treatment they need an abundance of fresh air. Great care is necessary at this season in watering both young and two-year-old plants. Err rather in keeping the soil dry than too wet. Give two-year-old plants frequent doses of a weak solution of a good fertiliser. The period they are wished to flower will determine the general course of treatment. Keep the growth clean, fumigating or spraying with an insecticide as is necessary.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Black Currants.—The pruning of Black Currants should be done whenever the weather is favourable. As these bushes fruit on the shoots of the previous year, as much of the old wood as can be spared should be cut out, and the young growths retained; in the case of young bushes it is best to allow the terminal buds to remain. Of late years big bud in Black Currants has become a great evil, and, so far as I know, no remedy has been found to eradicate it. The best thing to do is to continue to plant young, vigorous trees, and grub up badly infested ones. If all the big buds are picked off at this season and the bushes dusted with newly slaked lime the pest will be kept in check. The Black Currant needs rich soil, and if planted in a situation that is shaded by a building during the hottest part of the day they will not be so liable to attacks of aphides.

Red and White Currants.—Both the Red and the White Currant fruit on the old wood, and the young side shoots should be shortened to form spurs, allowing the leading growths to extend according to the size of bush required. Red and White Currants are better for having the shoots thinned in summer. Both are excellent fruits for training on north walls, and they may be grown as cordons with one main stem or more. The best method of propagating these Currants is from cuttings; select strong, well-ripened shoots about 12 to 15 inches long, and rub out the buds at the lower end, leaving about seven or eight eyes above ground. In making a trench for planting the cuttings, level the ground with the back of a spade and cut out the soil on the slant, and place the cuttings about 6 inches apart and about 6 inches deep. They are best inserted in the autumn, but they may still be put in; at this late date they will do best in the shade of a north wall. After pruning operations are finished and all suckers removed, apply a good top-dressing of manure to all berry bushes. If animal dung is not available, apply a dressing of bone meal, 3 parts, and kainit, 1 part; if the trees are growing in poor soil, add 2 parts nitrate of potash and give a larger dressing. Common salt is very beneficial to bush fruits growing on light lands, and should be applied in March at the rate of 4 to 5 cwt. per acre, or about 2 ounces spread around each tree. If the bushes are infested with moss or lichens they should be dusted over with quicklime when damp after rain. The lime will not only keep the bushes clean: it also acts as a fertiliser and keeps the soil sweet. Any planting to be done should be completed, if possible, during the next few weeks, and not later than the end of March. The exceptionally wet weather is against operations amongst hardy fruit, but it offers advantages to determine if the land is insufficiently drained. If this is found to be so, attend to the matter, as all fruits need a free drainage.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Bedding Plants.—Make a close examination of bedding plants raised and wintered in cold frames; remove decayed foliage and weeds, and stir the surface soil between the plants. In the case of such comparatively hardy plants as Pentstemons, Pansies, Carnations, Calceolarias and Antirrhinums, remove the lights entirely in mild weather. In cold weather and when keen winds are blowing, regulate the amount of ventilation accordingly, and afford the plants extra protection in very severe weather to prevent the roots and soil from freezing.

Stock Plants.—Where it is intended to employ Fuchsias, Heliotropes, and similar plants for bedding purposes during the coming season, a few plants should be lightly pruned, watered, and brought into gentle warmth for the purpose of obtaining a plentiful supply of strong, healthy shoots suitable for cuttings. The plants propagated from these shoots and grown on should develop into sturdy specimens by the time they are required for planting out in the open. All stock plants should receive careful attention, and the roots supplied with just enough moisture to keep them fresh and the wood plump. Remove decayed foliage on Pelargoniums and other large plants intended for transferring to vases and large pots for standing in the open during the summer.

The Seed Order. — Draw up a list of the seeds required, both for sowing in the open and under glass, and despatch it to the seedsman forthwith. Certain seeds, such as those of Canna and Acacia, with very hard coats, require a long time to germinate, and may be sown at once in a sweet, sandy compost. Stand the seed-pan on or plunge it in a mild hot-bed. Keep the soil only sufficiently moist to assist the seeds to germinate. When the plants are well through the soil transfer them to other pots. If the seeds appear to be germinating irregularly retain the pans in the same position for some time, as frequently some of the best varieties are amongst the last to come up.

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Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

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AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 38.8°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, Wednesday, January 15, 10 a.m.: Bar. 29.8; temp. 54°. Weather—Dull.

Partial Soil Sterilisation and Vegetable Production. Lieutenant Truffaut, who has a wide circle of friends among British horticulturists, has been able during the war to turn his expert knowledge of intensive cultivation to good use on behalf of his country. In his capacity of Director of National Nurseries he has had under his charge no fewer than 57 nurseries devoted to the raising of vegetable seedlings for distribution among the 7,000 vegetable gardens now being cultivated by French soldiers. In a recent month these nurseries distributed upwards of 25 million plants for "growing on" in the soldiers' gardens.

In a contribution recently presented to the French Academy of Science, Lieut. Truffaut describes the striking results which he has been able to secure in the seedling nurseries by adopting the practice of partial soil sterilisation. His starting point was the discovery by Russell that partial sterilisation produced by heating soil to 98° C. or by the use of antiseptics, augments the fertility of the soil. Lieut. Truffaut's exepriments have been made with carbon bisulphide as a soil-sterilising agent. In one large-scale experiment he obtained the following results:—

CABBAGE (EXPRESS).

Four rods produced in 90 days:—

In unsterilised soil.	In sterilised soil.
13,684 plants	27,894 plants
Weighing 115 lbs.	302 lbs.

The seedlings raised in the soil treated with carbon bisulphide were remarkably healthy and free from disease.

Yet more interesting, in view of the low price of calcium sulphide, are the results obtained by the use of this substance. A trial with Radish harvested in September-October, 1917, gave the following results:—

	Harvest from 4 rods.	Increase in crop.
Untreated soil..	225 lbs.	—
1.320 lbs. of calcium sulphide	378 lbs.	67%
1.760 ,, ,,	495 lbs.	119%
2.200 ,, ,,	506 lbs.	124%

The calcium sulphide used in this experiment was of 50 per cent. purity.

Similarly with Swedes, the use of pure calcium sulphide as a soil sterilising agent gave remarkable increases in yield. Employed at the rate of one-fifth of an ounce to the square yard, a yield of 187 lbs. per 4 rods was obtained. One ounce per square yard increased the yield to 1,000 lbs. (429 per cent. increase); but it is noteworthy that a larger dose of pure calcium sulphide—namely, just under 2 ounces—per square yard, only led to the relatively small increase of 123 per cent. (418 lbs. per 4 rods).

Similar favourable results have been obtained by Lieut. Truffaut with various subjects—Cabbage, Godetias, and Tomatos—grown in pots.

The fact that an increase of yield was obtained in the case of the Tomato is worthy of the attention of those in charge of the Lea Valley Experiment Station, for if calcium sulphide is so useful a soil sterilising agent, it may prove of economic importance to the growers of Tomatos under glass.

Lieut. Truffaut concludes that the best "dose" in which to employ calcium sulphide is one of 230 to 275 lbs. per acre, spread on the ground in February or March, and forked in. Experiments made by using a sterilising mixture of calcium sulphide and naphthaline gave yet more striking results: in the case of Swedes an increase of yield over that of the control plot of 511 per cent.

Honour for Lord Lambourne. — Horticulturists will learn with pleasure that Lord LAMBOURNE, of Bishop's Hall, Romford, has been appointed Lord-Lieutenant of the County of Essex.

Peerage for the Rt. Hon. R. E. Prothero.—We understand that the Rt. Hon. R. E. PROTHERO, who so ably filled the post of President of the Board of Agriculture during the war, in the Coalition Government, is to be honoured with a peerage. His abilities in the late Administration have been recognised by his appointment as President of the Board of Agriculture in the new Government.

British Gardeners in Belgium Under the German Occupation.—Messrs. G. E. CLARKE and ALFRED R. CUMMINS, who have during the past eight years been head and second gardeners respectively in the employ of Monsieur R. PAUWELS, at Everberg, Belgium, have reached their respective homes in Reading and Croydon. Everberg is situated between Brussels and Louvain, and during the war Messrs. CLARKE and CUMMINS experienced many hardships. They were made prisoners by the Germans in 1915, and interned in Brussels for three weeks, eventually being released on parole to follow their employment, having to report regularly twice a week at a German depot in Cortenberg, and on certain dates in Louvain, the Germans frequently giving surprise visits during the night. Owing to shortage of fuel Orchids and other valuable and tender plants were ruined, but all the glasshouses were used for growing vegetables and fruit, and by intensive culture in the kitchen garden they were able to grow—and hide from the Germans—large quantities of produce, much of which went to Belgian people less fortunately placed than themselves.

Land for Soldiers.—According to the Parliamentary Correspondent of *The Times*, it is understood that a Government Bill to provide land for soldier settlers is now ready, and that it will be introduced soon after the assembling of the new Parliament. It will introduce a new system of land acquisition. Power will be given for the public acquisition of land in exchange for an annuity to the present owner, the State having the right at any time to redeem the annuity by awarding Consolidated Stock sufficient to produce a like annual sum. The small holdings committees of the County Councils will be charged with the duty of ascertaining what land is required, and the Board of Agriculture will have power to act in default. The responsibility for acquiring land will rest with the county councils, and again the Board of Agriculture will have power to act in default. Soldiers wanting land will be required to make application to the small holdings committees of the county councils. The former plan of farm colonies has been discarded, and men wanting land are to be given it as near their old homes as possible. The County Councils will be responsible for providing the necessary housing accommodation and farm buildings. Schemes are being prepared for establishing systems of co-operative credit, for furnishing loans to settlers for the purchase of farm implements, etc., for encouraging rural industries, and for village reconstruction generally.

Flowers in Season. — Some very finely flowered branches of Acacia Baileyana and A. decurrens have been sent us by Mr. G. SMITH, Elmers Court Gardens, Lymington, Hampshire. Mr. SMITH informs us that the flowers were cut from plants growing in the open at Lymington, and he writes: "With reference to *W. W.*'s recent 'Notes from Kew' regarding the hardiness of Acacia Baileyana, this species seems to be equally as hardy here as A. decurrens. Both species were planted out in a sheltered position eight years ago, and the specimens are now about 15 feet high and are almost as much through."

Waste Lime.—According to the "Monthly Notes on Manures" issued from the Rothamsted Experimental Station, recent tests have shown that the residues from calcium carbide used to generate acetylene are perfectly safe for application, and constitute a useful source of lime to allotment holders and small consumers. In the fresh state the lime is distinctly wet, but the excess of liquor rapidly drains away, and the lime becomes more or less friable. It may be applied to allotment land at the rate of ½ cwt. per rod now, or within the next few weeks, and left exposed to rain or any frost that may come; later, when it is broken up, it may be worked into the soil. If sufficient waste lime from any source is available it may be used in similar manner—put on at once, left to disintegrate in winter, and harrowed in in spring. A grower purchasing waste lime, however, should always do so on analysis, as otherwise he may be paying more than would be asked for an equal quantity of fresh lime. So far as can be gathered, lime from magnesian limestone appears to answer satisfactorily on heavy soils, but is liable to cause trouble on light soils.

Allotments Organisation in Greater London.—The Agricultural Organisation Society has instituted a Special London District Allotments Committee, representative of organised allotment holders, to assist allotment holders within a fifteen mile radius of Charing Cross to organise themselves into properly constituted Associations, with powers to rent land on lease, sub-let to members as allotments, and to purchase members' seeds, seed Potatos, and other requirements on the best possible terms. An organiser, who is to devote the whole of his time to this work, has been appointed.

National Seed Testing. — At the National Seed Testing Station attached to the Food Production Department, 14,569 samples of seeds were tested in the year 1918. During the first five months of the station's second season, namely, August 1, 1918, to December 31, 1918, 8,185 samples were tested. Of these, 3,397 samples were Wheat; 784 samples were Oats. This season Peas and vegetable seeds are being received in far greater quantity than last sea-

AFISYLLA
FRUIT TREE
WASH

THE OUTCOME OF MODERN SCIENTIFIC RESEARCH IN THE CONTROL OF APHIS, PSYLLA AND ALL SUCKING INSECTS.

Apply for particulars to your nearest dealer.

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Per cwt., 30/-; 56 lbs. 16/-; 28 lbs. 9/-; 14 lbs., 5/-. Tins 9d., 1/3, 3/-.

VAPORISING SUPERSEDED.
No methylated spirit or apparatus required.

1 lb. sufficient for 20,000 feet, 5/-

Supplied by all Seedsmen & Nurserymen, in packets, 9d., 1/3, 3/- & 5/-.

BULL'S PLANT FOOD CO., CHELSEA, LONDON.

Certain destruction of all insect pests on Fruit & Vegetables

GARDENERS' ROYAL BENEVOLENT INSTITUTION.
GEO. J. INGRAM, Sec.,
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SLUGS!

"SANITAS" Powder
INSURES YOUR CROPS
Against SLUGS, WORMS, RATS, MICE, CATS and BIRDS.
(Leaflet and Sample free.)

6d. and 1/- Tins and 15/- per cwt. (f.o.r. London) of all Chemists, Stores, and Nurserymen.

THE SANITAS Co., Ltd., LIMEHOUSE, LONDON, E. 14.
Awarded Medal, Royal Horticultural Exhibition, 1911.

SUSSEX TRUG BASKETS.

	Inches.	
No. 5	about 17 by 9	5s. each
No. 6	„ 20 by 10	6s. „
No. 7	„ 23 by 12	7s. „
No. 8	„ 26 by 14	8s. „
Bamboo Canes	6 ft.	22s. 6d. per 100
„ „	5 ft.	20s. 0d. „
„ Points	5 ft. to 6 ft.	7s. 6d. „

Bone Meal, Bones, Sulphate of Ammonia, Basic Slag, &c.

"EVERYTHING FOR THE GARDEN."

Wm. BIGNELL & SON,
North Road, Highgate, N. 6.

-and again-
Rely on Ryders

That was the watchword of allotment holders and gardeners for 1918—Rely on Ryders.

The past Season proved the wisdom of the watchword. Results were the criterion of the quality of Ryders Seeds.

No efforts have been spared by Ryders organisation to make the coming season's supplies worthy of their high reputation for quality.

Ryders Seeds still at 1½d. per packet.

You can again "Rely on Ryders," confident that your trust in the quality of Ryders Seeds will be completely justified. Orders should be sent early. The demand will be greater than ever.

COMPETITION 1919.

Ryders 1918 Competition was an overwhelming success. The results were so encouraging that an extended competition will be open in 1919. Prizes are to be increased to three awards (1st, 2nd and 3rd) in every class. Make sure you enter.

Send a postcard to-day for a copy — of the 1919 Catalogue. —

RYDER & SON Ltd.,
Seed Specialists,
ST. ALBANS.
(Only Address.)

SALES BY AUCTION.

WEDNESDAY NEXT.

1,000 Rose Trees, 500 Fruit Trees and Bushes, named Rhododendrons, Herbaceous Plants, and Spring-flowering Bulbs.

MESSRS. PROTHEROE & MORRIS will sell the above at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.,

On Wednesday, January 22nd, at 1 o'clock

Catalogues had. Commissions executed.

HANWORTH, near FELTHAM, MIDDLESEX.

Re Thomas S. Ware (1902), Ltd.

In the High Court of Justice.

CLEARANCE SALE.

Large quantities of Begonias, including Ware's celebrated collection of named double varieties, the collection of Dahlias, several lots of Herbaceous Plants.

Several hundred lights.

Tools, Utensils, Office Furniture, Seed Drawers, and Seed Shop Fittings, Flower Pots, Vans, and Sundries.

MESSRS. PROTHEROE & MORRIS, having disposed of the Freehold Estate, will sell the above by auction on the premises

On Monday and Tuesday, February 3rd and 4th, at 12 o'clock each day.

May be viewed one week prior to sale. Catalogues had on the premises of Messrs. Dawson & Co., Solicitors, 2, New Square, W.C.2; F. Hyland, Esq., the Receiver (Messrs. Hyland & Riches), Accountants, 81, Cannon Street, E.C.4; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.2.

LANCING.

Six well-built Greenhouses, each about 100 feet in length, containing 15,000 feet of glass and woodwork, glass mostly 16 x 20 size, 2,170 feet 4-inch piping, guttering, three boilers, Peach Trees and Vines.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the premises,

The Nursery adjoining West House, North Lancing,

On Tuesday, January 21st, at 2 o'clock,

in lots, by order of F. P. Wilson, Esq.

May be viewed one week prior to sale.

Catalogues of Mr. Aldridge, The Gardener at West House, and of the Auctioneers, 67 and 68, Cheapside, E.C.2.

Harrods

TRUSTWORTHY SEEDS

New List sent Free on Application.

Vegetable Seeds

Harrods' collections of Vegetable Seeds for one year's supply. Complete list of contents of each of the following collections sent free.

No. 1	No. 2	No. 3	No. 4	No. 5
25/-	**21/-**	**15/-**	**7/6**	**5/-**

SHALLOTS

All Shallots should be planted now Harrods offer some very fine samples of Red Variety.

28 lbs....**35/-** 7 lbs....**9/6.** Per lb....**1/6**

HARRODS Ltd LONDON SW 1

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ARMSTRONG & BROWN,

Orchidhurst, Tunbridge Wells.

Telegraphic address: "Orchid," Tunbridge Wells. Telephone: 1001. Nearest Station: Southboro', S.E & C.R.

Inspection of our **Model Block of Houses** devoted entirely to **Orchids** invited.

Thousands of **Choice Hybrids, Albino Orchids,** and **Rare Species** to select from.

Advice given about the Erection and Management of **Orchid Houses,** and questions relating to **Orchids** promptly replied to.

Tunbridge Wells Station, 1½ mile.

SOW 'VICTORY' SEEDS

ELSOM'S PEAS - PEAS being scarce should be bought immediately. Pilot, 3 ft., 1/10; Gradus, 3 ft., 1/10; Elsom's Early Gem, 18 in., 2/4; Little Marvel, 2 ft., 2/4; English Wonder, 2/2; all per pint, postage, 1 to 3 pints, 6d. extra.

ELSOM'S BROAD BEANS.—Early Long Pod, 7d.; Exhibition Long Pod, 10d.; Green Windsor, 8d.; Giant Windsor, 9d.; Leviathan Long Pod, 10d.; all per pint, postage, 1 to 3 pints, 6d. extra.

ELSOM'S ONION SEED.—For Monster Onions. Bedfordshire Champion, James' Keeping, Rousham Park, Nuneham Park; all 1/4 per oz. Giant Zittau, 1/8 per oz. Ailsa Craig, 2/3 per oz., post free.

ELSOM'S SELECTED SEED POTATOES. Duke of York, Early Victor, Express, Ashleaf, May Queen, Eclipse, Puritan, all 3/6 stone. The Ally, Evergood, King Edward, Great Scot, British Queen, Up-to-Date, Arran Chief, Scottish Farmer, and Golden Wonder, all 2/6 stone. Bags and carriage (pass. train), 14 lbs., 1/3, 28 lbs., 1/9, and 42 lbs., 2/3 extra; 56 lbs. and over sent by goods, carriage forward.

ELSOM'S TOMATOES for early sowing.—**FILLBASKET,** produces heavy trusses of the nice medium-size fruit so much in request. **AILSA CRAIG,** for earliness, quality, and cropping power, is unrivalled. Both suitable for growing in or out doors. Seed of either (Raiser's Stock), 25, 6d.; 100, 1/6; 250 seeds 2/6, post free.

ELSOM'S SHALLOTS.—Hand-picked, 2 lb., 2/6, post free

ELSOM'S GIANT SWEET PEAS.—Mixed, 1/- oz., post free.

Elsom's Seeds are all Guaranteed of Standard Germination and Purity.

SPECIAL TERMS TO ALLOTMENT SECRETARIES AND SEED AGENTS POST FREE.

GEORGE ELSOM,

Seed Merchant,

SPALDING, LINCS.

Established Three-quarters of a Century.

LITTLE'S WEED DESTROYER

(Liquid).

Double Strength.

Gallon Drum makes 60 Gallons.

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SEED POTATOES

Scotch and Yorkshire grown.

ALL THE LEADING VARIETIES.

SEND FOR LIST.

ISAAC POAD & SONS,

Seed Potato Growers, YORK.

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NEW edition by Horace J. Wright, with chapter on "Sweet Peas for Exhibition" by Thos. Stevenson. Contains 8 plates in colour. Price 3/- post free.

THE PUBLISHER,

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Sow none but GUARANTEED Garden Seeds.

TOOGOOD'S GUARANTEED GARDEN SEEDS cost no more to buy, and ensure every Garden doing its best. Vegetables of much better quality, and a perennially gay display of lovely flowers, equalling in charm the garden of your dreams.

Why risk a season's work with Seeds of unknown quality? If a Seedsman has not confidence enough in his own Garden Seeds to guarantee them, they are not good enough for your garden.

FREE—write To-day.

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Seedsmen to H.M. the King, and Growers of "Better Crops" Seeds only,

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The Gardeners' Chronicle.

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Facing matter and Back Page ...	" "	12	12	0

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The United Kingdom	19/6	per annum.
Abroad	22/-	" "

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41, WELLINGTON STREET, COVENT GARDEN, LONDON, W.C.2.

Telegrams: "Gardchron, Rand, London." Telephone: Gerrard 1543.

CHRYSANTHEMUMS

The celebrations of the Anniversary of Armistice Day, November 11, will in future years cause a bigger demand for flowers than has previously been experienced.

The Chrysanthemum will be the leading feature for supplying the demand, and will be at their best at that time.

We have Large Stocks of the very best sorts for all purposes. Write for our List or advice, or let us know your requirements. Plants in February or March, suitable for this or any other period of flowering, **5s.** per dozen. or **30s.** per **100**, our selection.

Our stocks of the leading Japanese, Incurved, Decorative, Single and Early-flowering varieties are well up to our usual standard, but in view of the enormous demand orders should be given now.

We are also able to supply, from March, the best varieties of Perpetual Carnations in thumb pots, at **15s.** per dozen, **£5** per **100.**

W. WELLS & Co.

MERSTHAM, SURREY.

PLANTING SEASON.

GEO. JACKMAN & SON.

Woking Nurseries,

SURREY,

(Established over a Century)

INVITE INSPECTION OF THEIR LARGE and VARIED STOCK of

FRUIT TREES, ROSES, ORNAMENTAL TREES AND SHRUBS, FOREST TREES, CLIMBERS, HERBACEOUS AND ALPINE PLANTS.

200 Acres of Stock to Select from.

Catalogues Free on Application.

Landscape Gardening a Leading Feature.

ORCHIDS,

Clean, well-grown and cheap; also **Many Rare and Choice Varieties.**

STOVE AND GREENHOUSE PLANTS OF ALL KINDS.

Kindly send for Catalogue.

JAMES CYPHER & SONS,
Exotic Nurseries, CHELTENHAM.

RIVERS'

Fruit Trees, Roses, Vines, Figs, Oranges, AND Orchard House Trees ARE OF First-class Quality.

A Large and Select Stock always on View.

PRICE LIST POST FREE,
Illustrated Catalogue 6d.

THOMAS RIVERS & SON
Sawbridgeworth, Herts.
STATION: HARLOW, G.E.R.

Eckford's

1919
CATALOGUE
NOW READY.

Applications should be made at once, as the number is limited.

The best Catalogue of the Best Seeds—Seeds that give the maximum results. Giant Sweet Peas, Vegetable Seeds, Flower Seeds, and Seed Potatoes. Suitable for all Gardens, Allotments, &c. Write now.

HENRY ECKFORD,
Sweet Pea Specialist
(Dept. 71). **WEM, SHROPSHIRE.**

Once Tried, Always Used.

The "PATTISSON" HORSE BOOTS

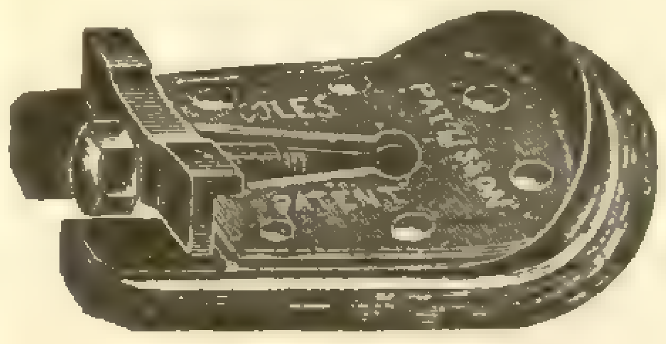

Fig 1.

SIMPLEST! STRONGEST! MOST ECONOMICAL!

SOLES of best **English Sole Leather (Waterproofed),** with Motor Tyre Rubber Studs, or of Solid Rubber. Fig. 1 can be **Refitted repeatedly,** equal to New Boots. **Rubber Soles Strongly Recommended.**

USED FOR MANY YEARS IN THE ROYAL AND IN THOUSANDS OF THE PRINCIPAL GARDENS.

The "PATTISSON" BOOTS are the most durable on the market, outlasting several sets of ordinary boots, and when worn out can be many times refitted and are then *equal to new ones*, but this can only be satisfactorily done by us, the makers.

Fig. 2, A Quality.

Fig. 2, A or B Quality

SILVER MEDALS. Royal Horticultural Soc., 1904 & 1914. Royal International Exhibition, 1912.

Hundreds of Testimonials. The "Field" says:—"As good as anything that could be devised."

Illustrated Price Lists, from the Makers.

H. PATTISSON & CO.,
4-6, Greyhound Lane, STREATHAM, S.W.
CONTRACTORS TO H.M. GOVERNMENT.

CARTERS TESTED SEEDS

CHOICE VEGETABLES AND BEAUTIFUL FLOWERS.

ALL SEEDS 6d. PER PACKET.

PRICE LIST ON RECEIPT OF 2d. POSTAGE.

SEEDS FOR ALLOTMENTS.
Special Varieties in large coloured pockets.
4d. per packet.
Agents everywhere.

JAMES CARTER & CO., *Seedsmen to H.M. the King,* **RAYNES PARK, LONDON, S.W. 19.**
GROWERS OF GARDEN AND FARM SEEDS,
Branches: 237, High Holborn, W.C.1, and 53a, Queen Victoria Street, E.C.4.

Lists Free. **Order Now.**

By Appointment To His Majesty

DICKSON'S "HAWLMARK" ROSE TREES.

Alex. DICKSON & SONS, Ltd., "Hawlmark," Newtownards, Co. Down.

Winter Washing, Spring & Summer Spraying

VARIETY DUMELOW'S SEEDLING.

THE AVERAGE APPLE CROP for 1918 was one of the worst on record. In many districts there was a good set of fruit, and most crops could have been saved had the trees been properly sprayed in time with Nicotine Liquid Insecticide, and the foliage saved from destruction. The above is a photograph representing an average tree in a large plot of young apples grown by the advertiser. The 1918 crop is the finest produced since the trees were planted. Success is entirely attributed to Winter Washing, followed up during the growing season by several sprayings with "XL ALL" Liquid Insecticide, used 1 40 parts of water, the cost per tree being 6½d. for materials. (The cost of spraying will be higher for next season, as the Nicotine Liquid has advanced in price.) The first spraying took place just before the bloom commenced to open, in fact some blossoms were already open. The second spraying was carried out immediately the fruit was set. A third spraying was applied to individual trees and parts of trees where found necessary. The trees were attacked by Black and Green Fly, Apple Sucker, and Caterpillars, and all were soon brought into subjection and destroyed by the Nicotine Wash. Each time the Nicotine Solution was applied, the foliage appeared to improve in colour and substance. The above tree carried splendid Apples, not a single grubby or scabby one. Number of fruit, 102. Weight of fruit, 40 lb. Size of tree: Height, 5 ft. 9 in.; width, 5 ft. 10 in. Considerable thinning was necessary, soon after setting took place, to reduce the crop of fruit to the number here stated.

Particulars of other varieties which carried splendid crops of fine fruit :—

	Number of Apples.	Weight.	
Lane's Prince Albert ..	98	60 lb.	on 5 Cordon Trees, 7 ft. long.

	Number of Apples.	Weight.	Height of Tree.	Width.
King Pippin	160	48 lb.	5 ft. 6 in.	4 ft.
Bramley's Seedling ..	86	40 lb.	5 ft. 6 in.	5 ft. 9 in.
Newton Wonder	105	37 lb.	4 ft. 6 in.	6 ft.

Many other varieties also carried fine crops. All fruits are keeping well!

There is no reason why other Growers who got a good set of fruit this Spring should not have secured similar success had spraying been properly carried out. The remedy was available and only required to be properly used at the right time.

Richards' "XL ALL" Winter Wash: In 1-lb. and 28-lb. tins.

"XL ALL" Nicotine Liquid Insecticide: In 1-pt. bottles; quart, ½- and 1-gallon tins; and 4-gallon drums.

Order through your Nurseryman, Seedsman, Florist, or Sundriesman.

Send for Price List and name and address of nearest Agent.

G. H. RICHARDS, *Manufacturer,*

234, Borough High Street, LONDON, S.E. 1.

NOW IS THE TIME TO PLANT PAEONIES

The War is over and we have kept our stock intact, although many other plants have ceased to exist in our Nurseries owing to the withdrawal of labour. There is no plant so satisfactory as the PAEONY to plant for permanence in a garden. It is essentially perennial and hard to kill by neglect.

The plants we are now offering, owing to the War, are larger than usual and full of bud, and planted now should be in good flowering state next year and for many years to come.

We offer Collections, chiefly English varieties raised in our Nurseries, and comprising all the various colours, strong as well as delicate, for which the Paeony is celebrated.

COLLECTIONS OF KELWAY'S LOVELY HERBACEOUS PAEONIES.

Named Varieties, as advertised, the selection of sorts being left to Kelway and Son.

COLLECTION "A," 21/- per dozen, 2/- per plant net, old named kinds of the commoner colour.

COLLECTION "B," 27/- per dozen, 2/6 per plant net, fine old named kinds, with a wider range of colour.

COLLECTION "C," 36/- per dozen, 3/- per plant net, more recent kinds and the best of the older varieties, and fragrant sorts.

COLLECTION "D," 54/- per dozen, 5/- per plant net, more recent kinds in the most delicate tints and most fragrant sorts.

COLLECTION "E," 70/- per dozen, 6/- per plant net, very recent novelties of finest form and most enchanting colours and fragrance.

COLLECTION "F," 90/- per dozen, 7/6 per plant net, Cream of the collection.

NOT LESS THAN 12 AT THESE PRICES.

WRITE AT ONCE.

Early Planting is Recommended.

KELWAY & SON,

Retail Plant Department,

LANGPORT.

CRETS

The Pots that Drain

PETER BAILEY & SONS, Ltd., Heaton Mersey Pottery, Nr. Manchester.

JOHN. KLINKERT. F.R.H.S.,
ROYAL KEW NURSERIES,
RICHMOND, LONDON. S.W.

Hardy Plant and Topiary Specialist.

LISTS ON APPLICATION

son. As showing the popularity with the trade already obtained by the station, it may be mentioned that upwards of 160 seed firms have opened deposit accounts.

Soldiers as Fruit Pruners.—Under the supervision of the Horticultural Instructor for Somerset soldiers are being utilised in that county for the pruning of orchards, after receiving a period of expert training. The work costs about £1 per acre; 28 acres have been finished; 24 acres are now in process of being pruned; and orders have been received for the pruning of a further 30 acres. The work is said to have been most satisfactorily performed.

Basic Slag Supplies.—The demand for basic slag by growers in England and Wales is unprecedented at present. Deliveries so far are 16 per cent. above those for the same period last year. Those who have not yet been able to obtain their supplies are assured by the Food Production Department that the makers—who have far more orders in hand than they can execute immediately—are doing their best to meet the needs of the situation.

Tomato Production in the United States in 1918.—It is estimated that 18,762,000 cases of Tomatos were packed for commercial purposes by the United States growers in 1918; this amount compares favourably with 14,789,000 cases packed in 1917. In the latter year 672,207 tons of Tomatos were used for canning, as against 852,840 tons in 1918, while the amount used by manufacturers for pulp, puree, and soup in 1917 was 224,069 tons, and in 1918 545,035 tons.

Mr. Frank Reader.—The many friends of Mr. Frank Reader, the popular cashier of the Royal Horticultural Society, will be glad to know he has returned to business at Vincent Square, after a brief illness due to severe strain. As in so many other establishments the staff at the R.H.S. has been depleted during the war, and heavier responsibility has consequently fallen upon those remaining.

Injection of Plants. — Experiments performed by Yasutaro Yendo at the College of Science, Tokio, appear to promise results of the highest importance to horticulturists. While recognising the impossibility of applying methods of injection to plants as effectively as can be done with animals, the author believes* that if particular chemical substances could be made to circulate in a certain measure through the body of plants, it might be possible to stimulate their development, to cure them of diseases, or render them immune to diseases. A large number of widely different species were injected with dilute aqueous solutions of lithium nitrate, copper sulphate, eosin or aniline violet, the best results being obtained from the first two salts. The injected solutions were conducted chiefly through the vascular bundles, but to a less extent through other tissues, the current being mainly in an upward direction; there was, however, a considerable downward current, while transverse conduction was distinctly perceptible. At the end of the experiments the injected substances were found in greatest quantity in the leaves and other organs where transpiration was most active. These results are especially interesting in view of the discoveries made also by E. F. Smith, of the U.S. Department of Agriculture, that galls and other abnormal outgrowths found on plants are due "to an increase in the osmotic pressure due to the heaping up locally of various substances excreted by bacteria." In this case it was found possible to induce small outgrowths by artificial inoculation without the intervention of bacteria. It seems highly probable that further investigations on the same lines may lead to new methods of dealing with plant-diseases, and of promoting normal development, two points of the highest importance at the present time.

* (1) "Injection Experiments on Plants," *Journal of College of Science, Imperial University, Tokio*, Vol. XXXVIII., Art. 6.

(2) "Mechanism of Overgrowth in Plants," *Proceedings of American Philosophical Society, Philadelphia*, Vol. LVI., Art. 6.

Pinguiculas.—The Mexican Pinguiculas appear to be larger flowered than those of other countries. The best of them is P. caudata, which was introduced by Messrs. Sander and Sons, St. Albans, in 1881, and is now fairly common, Orchid breeders growing it in quantity in their seedling houses as a fly-trap to keep down certain midges which lay their eggs on the tiny seedlings, the maggots hatched therefrom being capable of much destruction. Apart from this value the plant has a strong claim to favour in the beauty of its flowers. Next to it, so far as they are known in cultivation, comes P. Rosei, named after Dr. Rose, of Washington, who sent plants of the species to Kew, which flowered in 1911. It differs from P. caudata in having violet-purple, almost blue flowers, and there are other differences. The photograph reproduced in fig. 12 shows P. Rosei as it flowers at Kew, where it is grown in the Cattleya house, and blooms continuously in summer. In winter the leaves assume a different character: they become small, and are arranged in a close rosette, like a little cone, which is the resting condition of the plant. Mr. Elwes, in a note on Mexican Pinguiculas, published in *Gard. Chron.*, May 13, 1911, p. 292, refers to this winter condition, which appears to be usual with the several species mentioned. He found one growing in Mexico at 8,000 feet, "in dry, volcanic sand, on sunny banks outside the forest," the leaves of which had formed a small, close rosette, which was dried up to the size of a Cherry; he sent some examples home by post. No doubt the dry, volcanic sand was wet enough when the plants were in active growth. At all events, Sphagnum-moss and plenty of moisture are what these plants enjoy in this country. There was formerly a handsome yellow-flowered species at Kew, viz., P. lutea, which came from Mexico, but it no longer exists there. Another remarkable species, P. gypsicola, also Mexican, with linear summer leaves suggesting Drosophyllum, and winter leaves like a little Saxifraga, flowered at Kew about five years ago, when hybrids between it and P. caudata were raised, but it has been lost, perhaps because it could not have a wet gypsum rock to grow upon, as it is said to do in nature. P. Rosei is quite easy to cultivate, and it multiplies itself by means of offsets formed about the crown. These plants can also be propagated from leaves, as in the case of Begonias.

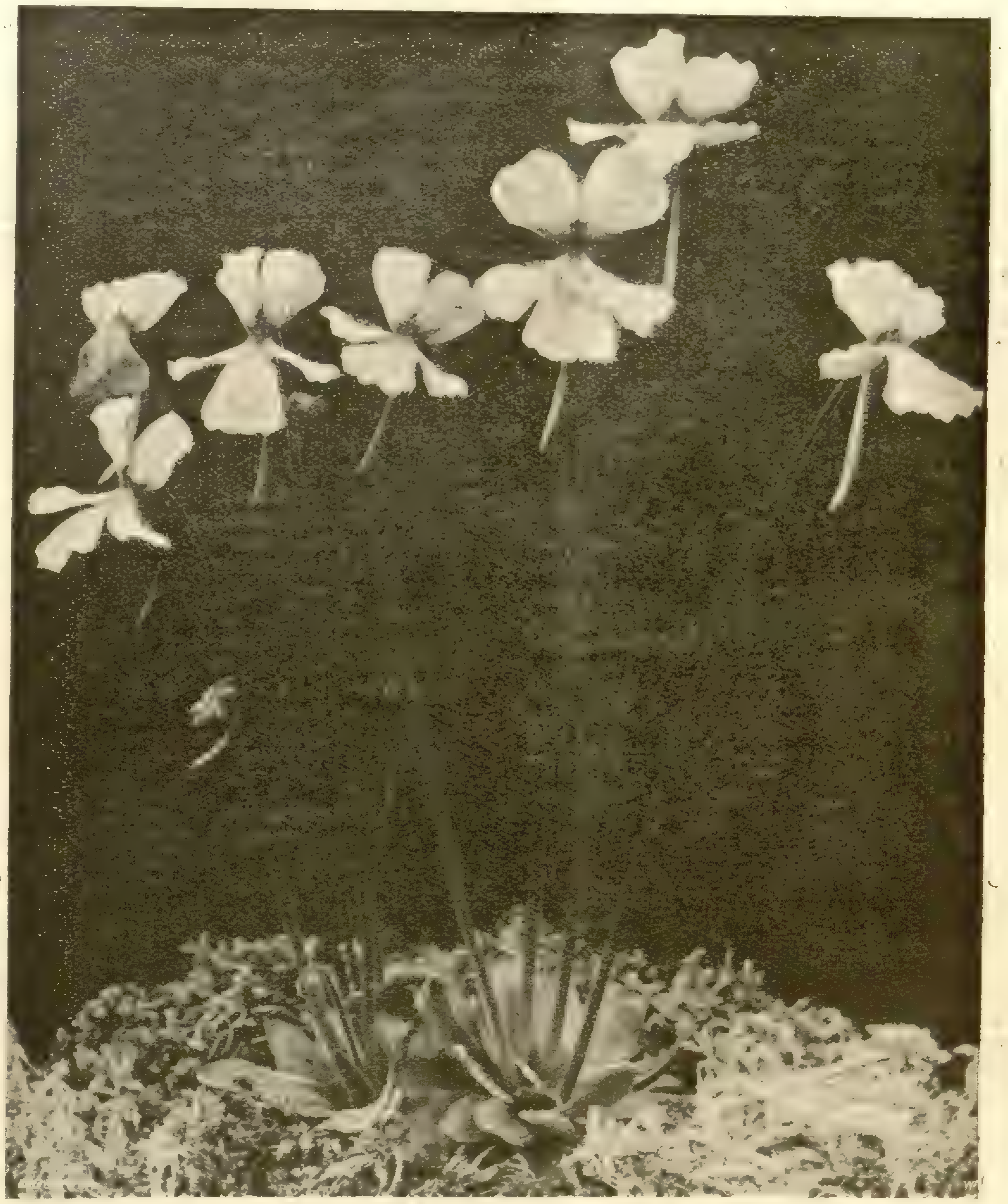

Fig. 12. Pinguicula Rosei: flowers violet-purple.

Publications Received.—*Transactions of the Scottish Horticultural Association.* Second series, Vol. III., Part 2. (Edinburgh: McFarlane & Erskine.) Price 2s. 6d. ***Fungi and Disease in Plants.*** By E. J. Butler. (Calcutta: Thacker, Spink & Co.) Price Rs. 15.

WINTER FLOWERS.

As might be expected from this side of England, Mr. Vicary Gibbs's list of "precocities" could be considerably extended here, and yet it would fall short of such a list compiled at the same date six years ago. Chimonanthus fragrans and Lonicera Standishii are now at their best. Garrya elliptica is laden with a great crop of graceful, silvery-grey catkins, some 8 inches long and still extending, a compensation for last year, when it gave no vestige of flower owing to the damage done in the previous hard winter.

Hamamelis mollis has been in flower for some weeks, and now H. japonica, with branches smothered by its gold-tipped, brown buds, and still carrying many of last year's nuts, is just opening.

Berberis nepalensis, with the native Daphne Laureola and Ruscus aculeatus, are all in flower.

Cornus Mas, Prunus Pissardii, and Rhododendron Nobleanum show coloured buds, but these, with many of the yellow Crocuses, now also showing colour, were flowering in the early days of January, 1913. Violets, Snowdrops, and Primroses are in sufficient numbers to provide a bunch of each.

Eranthis cilicica and E. hyemalis in quantity, with single specimens of Leucojum vernum, Scilla sibirica, and S. bifolia, Hyacinthus azureus, Anemone blanda, A. fulgens (in bud), and Iris reticulata var. Krelagei, are others of the brave little plants which scorn the suggestion that they are sure to suffer for it later. Erica hybrida, and even E. cinerea, with stray flowers of blue-eyed Mary (Omphalodes verna) peeping out from below, testify to an early season and a not unfavourable situation.

I have omitted several things that might be taken for granted to be in flower, such as Cydonias, in variety and quantity, and Iris unguicularis, which another correspondent from Aldenham alludes to as enjoying a hot summer for its rest, but actually it is for its season of growth that the summer heat is needed, though it also likes a sufficiency of thunderstorms, or their artificial substitute, and its short period of rest extends only from the end of its flowering season in March to May. Just before active growth commences in the latter month it can best be transplanted, though even then it resents disturbance. In its Algerian home it delights in the porous red soil of the coastal region.

With reference to the notes in your last issue on the Judas tree in London, the largest tree at Kew was 40 feet high in 1914, and so should now exceed in height (though probably not in girth) the specimen referred to by your correspondent. It may not be generally known that the flowers of Cercis Siliquastrum, and possibly of some of the other species, are edible, having a sweetish acid taste, and are, or may be, used as an ingredient in salads. *R. W. Rickards, Usk Priory, Monmouthshire, January 5, 1919.*

The following plants were in flower in the Happy Valley rock garden, Llandudno, on January 1, 1919: Aubrietia in plenty, Rock Roses, Erigeron mucronatus, Gentiana acaulis, Rosmarinus prostrata, Iberis sempervirens, I. saxatilis, Linaria hepaticaefolia, L. Cymbalaria, Violets, Campanula muralis, C. hirsuta, Saxifraga Burseriana Magna, Hippocrepis comosa, Coronilla glauca (in full flower), Linum flavum, Dianthus hybridus, vars. roseus and salmonea, Achillea rupestris, Tunica Saxifraga, Onosma tauricum, Armeria plantagineum, Arabis procurrens, Anchusa myosotidiflora, Cyclamen Coum, Megasea cordifolia, Myosotis, Pentstemons, and Roses. I have also recorded 83 varieties of wild flowers, found on the Great Orme, on the same date. *A. C. Axtell, Llandudno.*

ON INCREASED FOOD PRODUCTION.

POTATO MAJESTIC.

This variety was the first Potato I dug last year that pleased and surprised me by the size of the tuber and weight of crop. Many tubers were over 6 inches in length, though the soil was only 8 inches deep, with grass roots in the otherwise clean gravel beneath. We had no rain worth mentioning from April till July 9, notwithstanding several sharp thunderstorms. The tops of the Potatos of my neighbours went down flat in many cases long before the end of June, so that the conditions for success were far from being so good as mentioned on pp. 235 and 260, Vol. LXIV.; yet I estimated a yield of nearly 15 tons an acre. The seed I had was medium-sized for this large variety, and I cut all of the tubers, with a failure to grow of only 3.125 per cent. I have always been in the habit of cutting tubers that were too large for seed, and was not at all surprised that a few sets of Majestic failed to grow. Kidney or oblong Potatos always require careful cutting, so that only sets with eyes above the middle, at least, should be used. The basal end of this class of Potato is always weak and unreliable. I had more failures amongst other kidneys, although they came from Ireland, and were all of seed size. I attribute this to the fact that the vendors could not, or would not, let me have them early enough, with the result that the first and best sprouts were broken off, and a large proportion of the eyes looked decidedly doubtful at the time of planting. Owing to this delay, I could not begin planting till April 9, and Majestic was planted on the 24th, which I consider late for the South of England. This meant a bad start for the tubers, followed by a drought of ten weeks' duration, during the critical period of growth. I could not get 14 lbs. of seed size out of my crop, so Majestic is decidedly a big Potato. *J. F.*

Mr. Cuthbertson wonders if I have many seed-sized tubers in the crop of Majestic Potato. I can only repeat what I have already stated, which was that one quarter of the crop was of seed size, which is equal to 5 cwt. per ton.

The preparation of seed of this variety by cutting three days before planting is, in my opinion and experience, wrong. Cutting and planting should be done simultaneously, when the wound is sealed by the soil and air excluded. It is only the largest tubers that bleed after cutting, and by following my suggestion this loss can be reduced considerably.

Moss litter I find is a good manure for this vigorous Potato, but only a little should be used, because its vigour wants toning down instead of assisting, and as good tubers may be grown with but very little manure, it is best to err on the safe side by under rather than overmanuring.

I would suggest that a portion of the crop should be planted without manure with a view to obtaining tubers of seed size. Loss of vigour will naturally follow in time, particularly as it is a late sort, having a short season, and ripening prematurely. *John Robertson.*

USING UP WASTE.

I recently walked through country lanes, where I saw piles of road vergings and tons of scattered leaves lying by the roadsides, on the banks, here, there, and everywhere, and I could not help thinking what a waste it was that this material was not used for manuring the land at a time when ordinary stable or farmyard manure is at such famine prices and almost impossible to obtain.

How to use this valuable material is not a difficult problem to solve. One way of utilising a large quantity of it would be to dig it into the subsoil to improve the depth of good ground.

A much more useful manure is formed if this waste material is mixed with such powerful material as the waste from earth closets, or, if that is unobtainable, with slops rich in urine from the house. I believe in using as much urine as can be conveniently obtained, since it will quickly turn a poor but humic manure into one very rich in plant-food. There are difficulties, of course, but these are not insurmountable.

From a practical standpoint, the leaves and sidings should be well saturated with the urine or mixed with one-fourth their own bulk of the closet refuse, and either dug in immediately or allowed to mellow for a month or so, and dug in during early March (for light soils). A little crushed gypsum will serve to fix the ammonia, and a covering of earth over the heaps will render them inoffensive. *E. T. Ellis.*

PEAS AND BEANS.

As the cropping and quality of the "Pois mangetout Breton" seemed good in the form of the ripened Pea, I put in three rows of nine yards. Owing to the drought, a few plants "miffed" off in their seeding, and the others were not quite so full of pods as was usual However, the dried crop was $11\frac{3}{4}$ lbs., which seems fairly heavy. The plants were supported by three-feet-wide wire netting, and covered in with string netting before birds had done very much damage. Of climbing Beans, only Dai Fuku was weighed; from those grown to full height the yield was $3\frac{1}{4}$ oz. per plant. Of the dwarfs (mentioned in *Gard. Chron.*, July 27, 1918, p. 31), all the sorts gave from 50 to 55 pods per plant where in rows not too crowded or overshadowed, but the little Prédome on good plants carried 70 to 75 pods, 77 being the maximum noted; possibly, with special "show table culture," it would rise even higher; ten plants taken from the rows showed an average of 1.6 oz. per plant. The red and green flageolets gave 1.2 to 1.6 oz. Grown between rows of Potatos ($4\frac{1}{2}$ feet space), the Brown Dutch only yielded 0.45 oz., whilst in the same row the "café au lait" Bean gave just on 1 oz.; this is, no doubt, due to the early nature of the latter, which had time to grow freely before the Potato haulm had become too high.

Of the Japanese dwarfs, Paga Udzara gave scanty pods, and seemed of little worth in the flageolet group; Kintoki, though only giving about a score of pods on a patch where other sorts were giving 50, is, perhaps, worthy of another trial, as the seeds are large and plump, and the pods seemed somewhat free of membrane; moreover, the flavour has yet to be studied.

Are we going to mend our ways on the show table? Is there any use in exhibiting plates full of Bean pods? So far as concerns dwarf varieties, one whole plant should be staged to show its productiveness and habit; with climbing varieties a fair section of the plant could be cut and staged, and thus show whether the pods were well distributed and in uniform bunches or pairs; mere size of individual pods selected become only of value when they are of a degree of advancement in maturity which will show whether the variety is a good "mange tout" type, or is to be classed as a membrane-forming flageolet type. Whilst in a real mangetout the seeds may attain very nearly their full size with the pods still succulent, the flageolet types should be judged where they are intended to serve the two purposes, by the degree of development of the seed, accompanied by freedom from membrane, otherwise by the size and quality of the seeds. We should get some semblance of law and order by making distinct classes or groupings. First, by habit into the Climbing and Dwarf sorts, and then sub-dividing each of these into mangetouts and flageolets.

CLIMBING.—(1) Multiflorus group—the scarlet and white Runners (by some French seedsmen these are included amongst the flageolets). (2) Mangetout—membrane-free but with strings. (3) Mangetout—membrane-free but without strings. (4) Waxpods—free from membrane, with or without strings. (5) Flageolets—in which the pods develop membrane more or less early.

DWARF.—(1) Mangetout—with strings. (2) Mangetout—without strings. (3) Waxpods. (4) Flageolets.

From the standpoint of food values the more valuable sorts would be those in which the greatest development of seeds was permissible. From the standpoint of flavour, which is to some extent dependent upon the actual cooking, we come more or less to the deadlock of "chacun à son goût." The very characteristic flavour of the multiflorus group would make a membraneless race very agreeable, and is perhaps possible by selection.

Some varieties seem much more stable than others; for instance, the dwarf Prédome rarely seems to sprout, quite occasionally one has a climbing item arising, and sometimes a plant yields flattish pods, which are correlated with some membrane development, and a longer shaped seed than that of the type, which is almost Pea-like in habit, a correlation of interest to those that have not the advantage of home-saved seeds. *H. E. Durham.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Birds and Fruit Buds.—The able gardener at Gunnersbury House appears to be not afraid of sparrows, nor has he any special desire to get rid of these birds, but I would gladly go to considerable lengths to keep the garden clear of them all the year round. Sparrows destroy fruit buds and spoil many of our garden crops, and if by accident they miss any fruit buds of Currants, Gooseberries, and Plums, they pick the blooms to pieces when the buds expand. As the Plum trees are of large size, it is impossible to cotton them over, as Mr. Hudson has suggested. Sparrows are so destructive here that the cultivation of Sweet Peas, culinary Peas and Lettuces, has had to be abandoned. The garden here is a large one for the neighbourhood, and is surrounded by small gardens and houses, consequently I am afraid to use a gun. When living in Richmond Park, with a large garden to look after, I noticed that many more species of birds came for food than is the case at Brixton, and sparrows were few in number. Perchance the thrushes, blackbirds and finches kept the sparrows away; if this is so, I wish they would come to reside here, as I can deal with them better than with the sparrows. *William Chaffer, Broadlands, Effra Road, Brixton, S.W.*

Silver Leaf Disease.—During the past six years, whilst engaged in practical horticulture, I had many opportunities for observing the disastrous effects produced by Silver Leaf disease, and some months ago I commenced a research with the object of finding out: 1st, whether "Stereum purpureum" is responsible for all cases of Silver Leaf; and 2nd, to discover means of prevention and remedy of the disease. The material used for these investigations was invariably taken from naturally "silvered" plants growing in the field, and not from inoculated plants or from those which had already been killed as the result of Silver Leaf. The presence of hyphae (spawn) in the tissue, roots, stem, branches, twigs, and suckers of "silvered" plants, so far examined, indicates that a fungus is the main cause of this disease. The hyphae in their tissues are identical with those produced by Stereum purpureum. Where the trouble comes from the soil, as stated by Mr. Molyneux, it certainly originates from the superficial roots, which have become injured by various agencies, plough, spade, etc., thus providing a ready entrance for the fungus Stereum purpureum, which is, according to my observations and others, an obligate parasite. The results of these investigations, dealing with the first question, will be published very shortly, and I trust that they will convince horticulturists of the cause of the disease. The primary preventive measures to be adopted are: 1. The extermination of the fungus Stereum purpureum wherever found, parasitically or saprophytically. 2. When amputating a branch or side branch with a saw, it is essential that these branches should be cut off as near as possible to their main axis or to their point of origin, in order to encourage more rapid callusing. A clean cut with a knife should always follow the saw, and wherever a round or jagged surface is noticed. Whenever pruning a branch the cut surface should be tarred immediately and not a week or a month after the operation. The spores of the fungus which are blown about by the wind alight on an open wound, germinate readily, and the penetration into the tissue begins. 3. In plantations where the plough is used for the cultivation of catch-crops, it is difficult to prevent injury to superficial roots, but injury may be minimised by a more careful use of the spade, and by pulling up suckers. Varieties of Plums grown on their own roots produce only a few or scarcely any suckers, and hence their planting should be encouraged wherever possible. 4. Deficiency of lime in the soil and unsatisfactory drainage, together with an excess of the other soil constituents, weaken the constitution of Plums and other trees and shrubs, and render them more susceptible to disease. Occasionally trees grown under such abnormal conditions, especially if attacked by red spider or insect pests, or if top-grafted on an unsuitable stock, may appear to the naked eye to be silvered, but in reality this is not "True Silver Leaf" but "False Silver Leaf," the cause of which is to be attributed to physiological weakness. Root-pruning of such false silvered trees or shrubs, and improved cultural methods, may lead to recovery in the following season. 5. Planting of resistant or less susceptible varieties like the Yellow Pershore Plum or Early Rivers. The former roots readily from ripe cuttings, and also possesses qualities as a stock for grafting or budding. Other remedial measures are described in the Food Production Leaflet No. 58, and I endorse the views expressed therein, and those of Mr. Brooks, *Gardeners' Chronicle*, Dec. 28, 1918. The testing of immune varieties of Apples and Plums, as well as their stocks used for grafting, is in progress, and other control measures are to be carried out during the coming season at the R.H.S. Gardens, Wisley. Growers should be in a position to distinguish between "False" and True Silver Leaf before completely condemning their plants. Practical experience makes me realise the extra labour involved in tarring the cut surfaces when pruning stone fruits. It is quite evident that those stone fruit trees and other shrubs annually subjected to pruning, fall victims much sooner to Silver Leaf than those on which this practice is not followed. *Jean Bintner, Imperial College of Science, South Kensington.*

—— It seems to be generally agreed that Silver Leaf disease is due to infection; it is also very commonly advised to cut away diseased branches. But does one see anywhere any recommendation to cleanse or disinfect the saw or sécateurs before proceeding to another cut after having lopped off a piece perhaps in a diseased region? It is, perhaps, not a matter of doubt that anyone would have a chance of being operated upon twice by a surgeon who first cut into the borders of an abscess and then proceed to open the abdomen with the same knife uncleansed between whiles. I fancy that all tools being used should be in duplicate, and while one was being used the others should be soaking in some efficient antiseptic. Any antiseptic requires a certain amount of time to act efficiently. Then there is the question of cleansing the wound, dressing and sealing it. Mr. Brook's contention (however well founded) recalls the case of those who claimed to have cured cases of "pernicious anaemia," for they were gainsaid by those who held that if cure ensued, the disorder could not have been the real disease. Be that as it may, heavy infection with mealy aphis will cause a somewhat Silver Leaf-like appearance on a Plum tree; and one of my trees of the Victoria variety was thus diagnosed and condemned by a visitor. This aphis was especially abundant in the past summer, and one Gage tree was simply swarming with the insects all over its stem and branches, as well as its leaves: on the stem they were well exposed to a remedial spraying. *H. E. D.*

Mangold Wurzel (p. 254, Vol. LXIV.).—Surely the proper spelling is simply that used by the German, viz., Mangel Wurzel ("want" or "need," and "root"), i.e., the root for time of need. The other spelling, if correct, whence does it come? I have no Danish or Swedish dictionary, but these would appear to be the only other intermediaries. In French the plant is called Beet (Betterave or Bette), and if the German term is to be avoided otherwise than by a mangled spelling, the term "Field Beet" might be used. But it would take many centuries to induce the farmer to adopt a new term. *D.*

Austrian Hybrid Roses (see p. 10).—I agree with Mr. Walter Easlea that the title "Austrian Hybrid Roses" is wrong, but further than this I differ from him very materially. The name "Rosa Pernetiana," apart altogether from any other consideration, is a botanical error, and I am surprised that an authoritative body, such as the National Rose Society, should allow such a designation to stand. The title which Mr. Easlea so strongly advocates is one that could only be given to a new species. M. Pernet Ducher's introductions are only Hybrid Roses. Pernet Roses should, therefore, be quite in order. When I was a member of the Council of the National Rose Society, and the name of R. Pernetiana was proposed, I opposed its adoption, and was successful. When I had ceased to have an official connection with the Society the name was subsequently proposed again, and was sanctioned. If this practice, however, of naming Roses is begun it is difficult to know where it will end. So far as "Austrian Hybrid Roses" are concerned, I believe that the name of "Persian Roses" would be a more accurate one for them. When all is said, however, it really matters little what name is chosen, because so long as the present obsolete method of classification stands as it does, the "Austrian Hybrid Roses" are simply merged in that awful jumble known as the Hybrid Teas. Whilst granting the good work in the hybridisation of Roses that has been done by M. Pernet Ducher, it is but right to say that the eminent French raiser does not stand alone. Quite as valuable and outstanding work has been done coeval with, if not prior to, his by at least one British raiser. The study of the evolution of the Rose has demonstrated—to me at least—that Persian "blood" was first used by an Irish firm. Care should be taken, however, in putting hybrids of such into commerce, and for a reason now well known to rosarians. Black Spot was a very decided accompaniment of certain Persian Hybrid Roses. Let Mr. Easlea read the ninth and tenth Masters' Memorial Lectures by Professor R. H. Biffen, M.A. (see *R.H.S. Journal*, Vol. XXXIX., pt. 2), and Lord Penzance's able article in the *Rosarian's Year Book* for 1896. The experiences stated therein have been confirmed by many Rose growers. In yellow Roses, Mrs. Wemyss Quinn is as superior to Rayon d'Or as day is to night. Would Mr. Easlea call Mrs. Wemyss Quinn a "Pernetiana" Rose? *George M. Taylor, Mid-Lothian.*

Senecio saxifragoides and S. lagopus (see p. 18).—There seems to be pretty close analogy between the behaviour of these two forms of Senecio and that of our British Polygonum amphibium, which, when growing in the water, is quite glabrous, but when growing, as it does with equal freedom, on dry land, has downy leaves. It is said, though I have not proved it by experiment, that "one form changes into the other if the plant is moved from dry land into water or vice versa." (Avebury's *British Flowering Plants*, p. 348). *Herbert Maxwell, Monreith.*

SOCIETIES.

ROYAL HORTICULTURAL.

JANUARY 13.—At the meeting held at the London Scottish Drill Hall, on the above date, there was a fair attendance of Fellows and visitors, and a most interesting exhibition. Orchids provided the predominant feature, and the several excellent groups of these flowers were very greatly admired. In the group awarded a Gold Medal there was a goodly batch of the charming Calanthe Harrissii, carrying numerous elegant spikes of white flowers. Vegetables, hardy plants and Ferns were the other leading features.

The Fruit and Vegetable Committee awarded two Medals; the Floral Committee granted one First-class Certificate and five Medals; and the Orchid Committee recommended one Award of Merit and two Preliminary Commendations to novelties, and awarded five Medals to groups.

Floral Committee.

Present: Messrs. H. B. May (in the chair), John Green, G. Reuthe, C. R. Fielder, J. F. McLeod, W. Cuthbertson, W. Howe, A. Turner, J. Jennings, Thos. Stevenson, H. J. Jones, J. W. Moorman, C. Dixon, J. Dickson, Chas. E. Shea, E. F. Hazelton, Jas. Hudson, E. H. Jenkins, W. B. Cranfield, R. C. Notcutt, Sydney Morris, R. W. Wallace, J. W. Blakey, J. W. Barr, Chas. E. Pearson, and W. J. Bean.

FIRST-CLASS CERTIFICATE.

Cotoneaster glaucophylla.—We do not know the authority for the above name, but, judging from the specimens exhibited, there was not much evidence of glaucous colouring in the neat leafage. Cotoneaster glaucophylla fruits very freely, and carries its small reddish berries in loose panicled clusters along a great length of its graceful branches. At Wisley the plant grows about 5 feet high, and a group of about a dozen specimens near the Iris collection is very effective throughout the winter. It is a free-growing shrub, but under the poor light at Westminster its fruits appeared to be very dull in colour; we understand, however, that in the clearer atmosphere and better light of the country the plants are very bright while in fruit. Shown by the ROYAL HORTICULTURAL SOCIETY from the Wisley Gardens.

GROUPS.

Juniperus pachyphlaea elegantissima, elegant in form and bright glaucous-green in colour, was effective in a group of hardy plants submitted by Messrs. PIPERS (Silver Banksian Medal). A beautifully flowered plant of Rhododendron mucronulatum, covered with bright rose-purple blooms, was conspicuous in Mr. REUTHE's contribution of hardy plants (Bronze Banksian Medal), while forced Daffodils and Primroses brightened the display made by Mr. G. W. MILLER (Silver Banksian Medal).

Perpetual-flowering Carnations added their charm of fragrance, colour, and form to the meeting. Messrs. STUART LOW AND CO. showed Red Ensign, Eileen (salmon pink), and Brilliant in good form (Silver Banksian Medal). Sprays of Pyracantha Gibbsii (see *Gard. Chron.*, February 2, 1918, fig. 21) were shown from the R.H.S. Garden, Wisley, as evidence of the brilliance of the fruits and the length of time these remain on the shrub untouched by birds.

A batch of the old Single Lilac Primrose full of blooms was very bright in a small group of Alpine plants and shrubs from Messrs. J. CHEAL AND SONS. Messrs. H. B. MAY AND SONS showed Ferns and Cyclamens (Silver Flora Medal).

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Jas O'Brien (hon. secretary), W. Bolton, Walter Cobb, R. A. Rolfe, C. H. Curtis, C. J. Lucas, W. H. White, J. Cypher, J. E. Shill, J. Charlesworth, W. H. Hatcher, Fred. K. Sander, T. Armstrong, A. McBean, E. R. Ashton, Pantia Ralli, F. J. Hanbury, R. Brooman White, R. G. Thwaites, J. Wilson Potter, Stuart Low, and Arthur Dye.

AWARD OF MERIT.

Cypripedium Perseus (Lady Dillon × Alcibiades illustris), from W. R. LEE, Esq., Plumpton Hall, Heywood, Lancashire (gr. Mr. Branch). One of the finest and most perfectly shaped of its class. The dorsal sepal is white with closely-arranged spotted lines of dark claret colour shading to a lighter tint towards the edge. The petals are dark brownish-rose with purple line up the centre; the lip is brownish-rose with yellow margin. Staminode yellow.

PRELIMINARY COMMENDATIONS.

Odontoglossum Princess Patricia (Dora × crispum Luciani), from Messrs. ARMSTRONG AND BROWN, Orchidhurst, Tunbridge Wells. A charming seedling, with flower of great size and rich colour. The inner two-thirds of the segments are blotched with Indian-red on a white ground. The lip is white with a large claret-red blotch in front of the yellow crest.

Odontoglossum Triumph (ardentissimum × Ossulstonii), from Messrs. ARMSTRONG AND BROWN. A fine seedling, of perfect shape, the inner two-thirds of the segments being claret-red, the outer-third blush-white with purple tinge from the back of the flower.

GROUPS.

Messrs. CHARLESWORTH AND CO. were awarded a Gold Medal for a group, the centre of which was composed of white Calanthe Harrissii, and the sides of good Odontoglossums, Odontiodas, and Miltonias. Amongst new and rare plants we noticed as being specially good Odontoglossum Tityus (crispo-Harryanum × President Poincaré) and O. Gorizia var. purpureum, both of violet-purple colour; Odontioda Marjorie var. grandis (Oda. Joan × Odm. Alexandrae), Oda. Lyra (Odm. Jasper × Oda. Royal Gem), and Oda. Dulcies (Oda. Cooksoniae × Odm. illustrissimum), all grand varieties.

Messrs. ARMSTRONG AND BROWN were awarded a Silver-gilt Flora Medal for a fine group, in which were various hybrid Cymbidiums, arranged with brightly-coloured Odontoglossums, Odontiodas, Cattleyas, and Laelio-Cattleyas. The handsome Odontioda Madeline var Princess Patricia, yellow blotched with red, and the darkly blotched Odontoglossum Aglaon auriferum, the first of the cross to have a yellow ground, were specially attractive.

Messrs. J. AND A. MCBEAN, Cooksbridge, were awarded a Silver Flora Medal for a group in which their famous hybrid Cymbidiums were a prominent feature; they included C. Schlegelii giganteum, one of the largest and best of the class; varieties of C. Alexanderi, C. sandhurstense, and hybrids of C. erythrostylum, Odontoglossum Princess Mary, from the Brackenhurst collection, was shown exceptionally finely in this group.

Messrs. STUART LOW AND CO., Jarvisbrook, Sussex, were awarded a Silver Flora Medal for an effective group, including the stately Brasso-Cattleya Penelope, with a four-flowered inflorescence, various showy Laelio-Cattleyas, Sophro-Cattleya Doris in three forms with varying tints of scarlet, and Sophro-Laelia Leda.

Messrs. J. CYPHER AND SONS, Queen's Road Nurseries, Cheltenham, were awarded a Silver Banksian Medal for a group of finely-grown Cypripediums, including C. Draco, of very dark colour; C. Stanley Maude, a finely shaped flower with pure white upper half to the dorsal sepal; C. Minos Youngii, C. Victor Hugo, C. Queen of the Belgians, and the delicately tinted C. insigne Snow Queen, with a snow-white dorsal sepal. A fine specimen of the rare Masdevallia Gargantua and M. tovarensis, with five flowers on a spike, were also included in the collection.

Baron BRUNO SCHRODER, The Dell, Englefield Green (gr. Mr. J. E. Shill), sent cut spikes of the beautiful Brasso-Cattleya Cliftonii albens, acquired from the Brackenhurst collection, with large, clear white flowers, and Laelio-Cattleya Schröderae (Bella alba × C. Maggi Raphael alba).

G. W. BIRD, Esq., Manor House, West Wickham (gr. Mr. Redden), showed Odontioda The Sphinx (parentage unrecorded), a beautiful dark violet flower with a bronze-red shade.

E. R. ASHTON, Esq., Broadlands, Camden Park, Tunbridge Wells, showed Sophro-Laelio-Cattleya Isabella (C. Fabia × S.-L.-C. Marathon), a showy rose-tinted flower with Tyrian-purple front to the lip.

Sir JEREMIAH COLMAN, Bart., showed a good specimen of the pure white Coelogyne Mooreana, cut flowers of Laelio-Cattleya Brian (Goodyi × Colmaniana), and Calanthe Gatton Alpha, a good white variety with pink lip.

Messrs. SANDERS, St. Albans, staged Cymbidium Atalanta (Lowianum × insigne).

Messrs. FLORY AND BLACK, Slough, showed a selection of good hybrid Odontoglossums. Also Sophro-Laelio-Cattleya Ruth, of bright red colour on a yellow ground.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (in the chair), J. Cheal, Owen Thomas, G. Bullock, Ed. Harriss, P. D. Tucker, A. Bullock, A. R. Allan, A. W. Metcalfe, F. Jordan, E. A. Bunyard, W. H. Divers, G. P. Berry, J. W. Bates, W. Poupart, and Rev. W. Wilks.

Some excellent Leeks, great in girth if not extraordinary in their blanched length, were exhibited by Mr. R. STAWARD, Panshanger Gardens, Hertford; the varieties represented were Monstrous Caranten, Ayton Castle Giant, Sutton's Royal Favourite, The Lyon, Monarch, Prizetaker, and Improved Musselburgh. Monarch and Royal Favourite appeared to have greater girth than the other varieties, and reminded us of the "pot Leeks" so largely grown and shown by the Northumbrian miners (*Silver Knightian Medal.*)

An attractive and interesting display of hardy winter vegetables, arranged by Messrs. SUTTON AND SONS, included five varieties of Onions, two of Celery, Prizetaker Leeks, Christmas White and Super Early White Broccoli, New Year Savoy, Celeriac, Couve Tronchuda, Red Globe and Early Snowball Turnips, Christmas Drumhead Cabbage, Tender and True Parsnip, two varieties of Carrots, two of Brussels Sprouts, two of Beet, and three of Kale. (*Silver-gilt Banksian Medal.*)

The brilliantly coloured Crawley Beauty Apple, a fine keeper and of fair quality, was splendidly shown by Messrs. J. CHEAL AND SONS.

NATIONAL DAHLIA.

MR. JOSEPH CHEAL presided at the Annual General Meeting of this Society, held at 35, Wellington Street, W.C., on Monday, January 13. There was a moderate attendance, consisting entirely of officers and committee.

REPORT OF THE COMMITTEE FOR 1918.

The Committee again have the pleasure of recording a very satisfactory year's work, although the abnormal conditions due to the continuance of the war still remained through the season. The season was adverse to the growth and to the flowering of Dahlias. The membership of the Society remains satisfactory under present conditions.

The Floral Committee, acting in conjunction with the Floral Committee of the R.H.S., held four meetings during 1918. The number of seedling Dahlias submitted for award was 168, and no fewer than 43 gained the First-class Certificate of the N.D.S., and the Award of Merit of the R.H.S. These awards were made to all sections of the flower, and the fact that so many excellent new varieties were forthcoming during a period of war shows that valuable work in the progress of the Dahlia is still maintained, and points to an era of prosperity for the Dahlia in the near future. In this connection it is of interest to record the fact that in 1917 121 seedlings were submitted, and 55 Certificates were granted.

The Annual Floral Meeting was held at the London Scottish Drill Hall, Buckingham Gate, by the kindness of the Council of the Royal Horticultural Society on September 10, and the Committee again record their gratitude to the Council of the R.H.S. The exhibition was very satisfactory under the circumstances, the entries being more numerous than at the previous show. Amateurs were well represented, while the quality of the flowers was fully up to the usual standard.

The competition for the valuable Cory Cup was held on the same day. The difficulties of labour and transport under war conditions prevented the number of competitors from being as numerous as they would otherwise have been.

The Committee deemed it advisable to still discontinue the conferences and publication of the *Year Book* for the present. The new varieties and selection of the best sorts were, how-

ever, compiled and published in the Supplement and schedule to keep up a continuous record. The Committee hope, however, to resume their activities in this direction shortly. They still continue to give their attention to all sections of the flower, believing this to be the true policy.

The Report was presented, and a balance of about £20 10s. 5d. was reported; the report and financial statement were adopted on the motion of the Chairman, who considered the Society's affairs satisfactory, in spite of war conditions.

Mr. Reginald Cory was re-elected President; Mr. J. Green, Treasurer; Mr. J. Cheal, Chairman; and Mr. J. B. Riding, Secretary. All were heartily thanked for past services, and Mr. Riding was granted an honorarium of £10. The Committee was re-elected, with the addition of Mr. A. C. Bartlett, to fill a vacancy, and Mr. Mortimer was made a Vice-President. Executive, Classification, Finance, and Floral Committees were elected without alteration; the latter consists of Messrs. Jarratt, Crane, Cheal, Curtis, and Riding. Mr. D. B. Crane was appointed auditor for 1919, and Mr. G. Davidson thanked for his past services in this office.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

DECEMBER 19.—*Committee present:* The Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, D. A. Cowan, J. C. Cowan, A. G. Ellwood, J. Howes, J. Lupton, D. McLeod, J. McNab, E. Rogers, W. Shackleton, J. Thrower, and H. Arthur (Secretary).

AWARDS.

FIRST-CLASS CERTIFICATES.

Cypripedium Perseus var. alpha (Lady Dillon × Alcibiades illustris) (a Silver Medal was also awarded); *Cypripedium Elise* (Lady Dillon × Hermes); and *Odontoglossum crispum var. Thelma*, all from W. R. LEE, Esq.

Cypripedium Armistice (Antinous × nitens), and *Vanda Wrigleyi*, from Mrs. BRUCE and Miss WRIGLEY.

Laelio-Cattleya Gen. Maude var. Victory (L.-C. rubens Lambeauianum × C. Hardyana), and *Cypripedium Princess Patricia var. magnificum* (C. nitens G. S. Ball's var. × Alcibiades illustris), both from P. SMITH, Esq.

Odontioda Ashworthiae (Vuylstekeii × Thwaitesiae), from R. ASHWORTH, Esq.

Cypripedium Eileen Hanmer (aureum Surprise × Bianca), from A. HANMER, Esq.

Brasso-Cattleya Pallas var. Surprise (B.-C. Digbyana Mossiae × C. gigas), from Messrs. CHARLESWORTH AND Co.

Laelio-Cattleya Queen Empress (C. Mossiae × S. grandiflora), from Messrs. S. LOW AND Co.

AWARDS OF MERIT.

Cypripedium Idox var. Easter (Beryl × Ossulstonii), from the Rev. J. CROMBLEHOLME.

C. aureum Excelsior, from S. GRATRIX, Esq.

C. Golden Dawn var. chesterense (Golden Gem × Sanacderae), from S. HANMER, Esq.

Laelio-Cattleya Linda var. Orange King (L.-C. Arachne × C. aurea), from Messrs. STUART LOW AND Co.

CULTURAL CERTIFICATES.

To Mr. E. ROGERS, for *Laelia Gouldiana* and *Platyclinis uncata*.

To Mr. J. LUPTON, for *Cypripedium Leeanum giganteum*.

GROUPS.

S. GRATRIX Esq., Whalley Range (gr. Mr. Howes), was awarded a Large Silver-gilt Medal for a group composed principally of choice Cypripediums; Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. E. Rogers), were awarded a Silver-gilt Medal for a collection; W. R. LEE, Esq., Heywood (gr. Mr. C. Branch), and Col. Sir J. RUTHERFORD, Bart., Blackburn (gr. Mr. J. Lupton), were awarded Silver Medals for collections.

SOUTHAMPTON ROYAL HORTICULTURAL.

JANUARY 6.—The annual general meeting of the above society was held at the local Municipal Offices on the 6th inst. The President, the Right Hon. Lord Swaythling, presided, and he was supported by the Mayor of Southampton and the Rev. Professor Lyttel, Chairman of the Borough Council.

There was a good attendance of the members. The meeting was first made special to alter the rules, for the purpose of empowering the Council to elect a new secretary. The rule having been passed, the annual report and statement of accounts were submitted. The report called attention to the splendid financial success of the Rose Show, but regretted the small attendance at the Summer and Autumn Shows, especially at the latter, which was honoured by the visit of an influential deputation from the Council of the Royal Horticultural Society.

Notwithstanding the disappointments alluded to, the accounts showed a net credit balance of over £33 on the year's working, the cash assets amounting to £164 8s. 3d., against £131 7s. 2d. at the end of 1917. The account also included an item of £176, divided between the funds of the British Red Cross and the Order of St. John.

Lord Swaythling was re-elected President, and the other officers were re-elected, with the exception of the Secretary, Mr. C. S. Fuidge, who did not seek re-election. On the proposition of the Chairman, Mr. Fuidge was elected a life member of the Council and hon. consulting secretary. The Council had previously provisionally elected Mr. M. W. Beer as Secretary. Lady Swaythling presented to the successful competitors the R.H.S. Medals, 24 in number, awarded at the Autumn Show.

MR. ANDREW IRELAND, OF MESSRS. IRELAND AND HITCHCOCK.

The President, speaking in very eulogistic terms of Mr. Fuidge's services, said that to have retained his connection with the society for half a century he must have shown great tact, tenacity, and organising ability, with a very large share of the blessing of good health. It therefore gave him the greatest pleasure, on behalf of a large number of subscribers, to ask Mr. Fuidge to accept a cheque for £100 as a mark of their esteem.

Mr. Fuidge, in returning thanks, gave some reminiscences of his early connection with the society, stating that previous to his joining the Committee in 1868 he was an amateur exhibitor at the society's shows, and was an allotment holder as far back as 1862. After alluding to his collaboration with the founder of the society, Lieut.-General Lacey, he sketched the progress of the society to the present time, showing that it owed its present existence, and the favourable balance-sheet, to the late Lord Swaythling, and since to Ellen Lady Swaythling. Being within a few months of his 80th birthday, and although enjoying good health, he considered it time he gave place to a younger man, but he hoped still to be of use to the society.

TRADE NOTES.

MR. ANDREW IRELAND.

So well known is Mr. Andrew Ireland to all who frequent the London and principal provincial flower shows, that he was sure of a hearty welcome into the arena of commercial horticulture, when, last autumn, he set up business on his own account at Mark's Tey, after a long period of service as a grower and exhibitor for Messrs. Dobbie and Co. As a raiser and cultivator of both vegetables and flowers, Mr. Ireland is a prominent figure in British horticulture to-day, and few men can more quickly and accurately sum up the merits or demerits of a plant or flower than he can. No desirable tone of colour, improvement in form or texture escapes his notice in any new variety, whilst his power of selection amounts to genius. Added to this, his great natural ability and sound reasoning enable him to understand his subject and induce it by proper treatment to yield its best. His criticisms are always eagerly listened to and respected, and those who most quickly wend their way to any exhibit he has put up are the men most interested in the subject on view. When new varieties of plants, flowers or vegetables are exhibited, the keenest competitors are ever anxious for his opinion and criticism.

Mr. Ireland is an acknowledged authority on Sweet Peas, with which in the mind of the general public he is more identified than with most other plants. Certainly all lovers of Sweet Peas owe him a debt of gratitude for his untiring efforts and success in establishing true stocks of Spencer Sweet Peas, and also for the many grand varieties he has helped to produce. At all the important exhibitions throughout the country splendid exhibits of Sweet Peas, Antirrhinums, Tulips, Aquilegias, Scabious, and other flowers, grown and staged for his late employers, Messrs. Dobbie and Co., have won high honours and proved Mr. Ireland's capabilities as cultivator and showman. Readers will join with us in wishing success to the new firm of Messrs. Andrew Ireland and Hitchcock, Mark's Tey, Essex.

MR. E. SCAPLEHORN, for many years manager of the hardy plant department in Messrs. W. Cutbush and Son's Highgate Nurseries, and latterly in a similar capacity with Messrs. James Box and Co., Lindfield, is commencing business on his own account as a hardy plant specialist, at Lindfield, Haywards Heath, Sussex. Mr. Scaplehorn has recently been engaged in National Service, from which he has now been released; his many friends in the horticultural world will wish him success in his new venture.

CROPS AND STOCK ON THE HOME FARM.

DAIRY COWS.

THERE were only ten dry days during the month of December, and with a rainfall of 1.66 inch on the first three days of the present year, dairy cows have had most unfavourable weather to contend with. With such bad weather, and grass in the fields of a soft, sappy nature, it is little wonder that the milk yield is considerably reduced. Where the conditions are in the least favourable the cows should be allowed in the open every day for exercise, bringing them in early for the afternoon milking.

During such unfavourable weather as is now experienced, artificial feeding is valuable. Too many persons contend that extra food is of no value to milking cows, especially in the quality of the milk produced. This theory I do not accept, knowing the good results that follow a judicious system of feeding with hay, cake, and roots.

From ten Guernsey cows we are still making 80 lbs. of butter weekly, which is a sufficient proof of the value of added foods. I am a firm believer in the use of Bibby dairy cake after many years' experience in butter-making. Some adhere to the use of cotton-cake, and while this food is no doubt valuable for increasing the quantity of milk, I know it tends to harden the butter unduly, whereas the Bibby kind produces firm butter, but of a silky texture.

Well-made meadow hay is one of the most

valuable of foods for butter production. Even at £7 15s. per ton it is not wisdom to restrict the use of hay to a low minimum; that is, where the most is required from a limited number of cows.

Now that Drumhead Cabbages are over, Savoys and Brussels Sprouts are desirable foods for cattle. Where these are not obtainable the daily quantity of Mangold should be increased, as the roots now contain more saccharine matter than in November, especially where they have been stored in a dry shed.

Each cow may be given as much as 15 lbs. of Mangolds twice daily, provided care be taken to trim off the soil, roots and tops before putting them through the slicing machine. I prefer to use long hay alone rather than chaffing it with the Mangolds. *E. Molyneux, Swanmore Farm, Bishop's Waltham.*

CONDITION OF THE CROPS AND LIVESTOCK.

Of the area intended for Wheat it is estimated that some three-fourths has already been sown. As compared with last year, the area already placed under Wheat varies considerably; in the north and parts of the eastern counties, this work is much more backward, but in the Midlands and west it is generally as forward as last year, or more so. On the whole, there was probably a little less actually in the ground. Sowing of winter Oats and Rye is also rather less, but the area of Beans seems about equal to that of last year. Young crops are everywhere quite satisfactory, except on certain heavy and low-lying land. Seeds are mostly reported to be a strong healthy plant in the eastern counties, but elsewhere they are more variable, promising crops being often interspersed with patchy fields. Turnips and Swedes are generally of satisfactory quality, though there are a few reports from the north-western districts to the effect that they are not always keeping well.

Ewes are generally healthy and in satisfactory condition: the earliest in Dorset are reported to be lambing well. Other livestock have maintained fair condition, considering the frequent rains. The mild weather has allowed of their being kept late on the pastures, which has helped to conserve the fodders, so that prospects of winter keep have somewhat improved during the month.

Labour is still in short supply, but a slight improvement may be noted, and several districts report that it has been sufficient for requirements.

DEMOBILISATION.

The names of over 12,000 agriculturists have been forwarded to the Department of Demobilisation for early release from the Colours as pivotal men in agriculture, and it is understood that the demobilisation of these men will be immediately expedited. Agriculture is now one of the industries open for general demobilisation as regards men who have jobs awaiting them. Unless he has already done so, every farmer should take measures at once to get back any man whom he desires to employ, and who is now with the Forces. The first thing to do is to register such men as having employment ready for them immediately they are demobilised. Men who were in the farmer's employment on or before August 4, 1914, should be registered as "contract" men. Other men who were not in the farmer's employment before the war, but whom he desires to employ now, should be registered as "slip" men. Registration can be made at any Employment Exchange. There are forms specially prepared which may be filled up at the Exchange. However, it is not absolutely essential that these forms should be used by farmers desirous of registering men through the post. All that need be done is to write out and fill in the date and signature to the following declaration, and send it to the nearest Employment Exchange:—

"I/we (full name and postal address of employer) hereby declare that (full name and naval or military number and address of employee) was in my/our employment before August 4, 1914, and that I/we are prepared to offer him employment as a (name and occupation) immediately on his return to civil life (or give the date after which the employment will be available)."

Farmers should write the name and other particulars of the man to be registered, and also their own name and address as plainly as possible, and should refrain from adding to the information required any irrelevant matter. If the declaration here given is carefully and accurately filled up and sent to the Employment Exchange, the farmer may rely upon the matter receiving immediate attention.

The above applies to men who were in the farmer's employment before the war. In the case of other men he desires to employ he should obtain a card, E.D. 406, from the Employment Exchange, complete it with the man's particulars, and return it to the Exchange.

Under an Army Council instruction all agriculturists serving at home, whatever their medical category, may be attached to Agricultural Companies pending their demobilisation. All men on agricultural furlough are so to remain until demobilised. These arrangements, which should greatly assist farmers, have already made available for agriculture over 10,500 men.

Obituary.

Thomas Alexander Morris.—The late Mr. Thomas Alexander Morris, whose death occurred on December 10 last, was one of the senior

THE LATE THOMAS ALEXANDER MORRIS.

partners in the firm of Protheroe and Morris. He was the son of the late Mr. T. A. Morris, of Shacklewell, and nephew of the late Mr. G. F. Morris and Mr. W. H. Protheroe, the former seniors of the firm. He resided with his grandfather, Mr. Alexander Protheroe, one of the originators of the firm, at Leytonstone, and entered the office for a few years on leaving school, and then gained further commercial experience in the City, rejoining the firm as a partner at the beginning of 1889, together with Mr. H. G. Morris (son of Mr. G. F. Morris) and Mr. J. B. Slade. Mr. T. A. Morris had just reached his 60th birthday a few days before his death, and 30 years of partnership. He was well known as an auctioneer in conducting sales in the firm's auction rooms, and also at nurseries in different parts of the country, particularly at the annual trade sales, and enjoyed the personal friendship of many well-known horticulturists. His son, Mr. A. G. Morris, was admitted a partner a few years since, which enabled the late Mr. T. A. Morris to take a little more relaxation, but at the outbreak of war his two sons, as well as the sons of the older partners, all joined the Army, and then Mr. Morris devoted his whole time to the business again. He had a breakdown in health at the end of May last, and after recovering somewhat went into the country, where he made progress. It was hoped that this improvement would have continued, and that he would have been able to return, but he had a relapse and passed peacefully away. The late Mr. Morris was for a time on the Committee of the Royal Gardeners' Orphan Fund.

Robert Brown.—We regret to record the death, which occurred on Saturday, the 4th inst., of Mr. Robert Brown, of Yew Tree House, Portbury, senior partner of the firm of Brown and Sons, seedsmen, 31, Bridge Street, Bristol. Though in his 87th year he enjoyed good health until quite recently, and took a keen interest in parochial matters. When living at Failand he was a member of the Long Ashton Board of Guardians for several years. After moving to Portbury he devoted his attention to the affairs of that parish, and was chairman of the Parish Council at the time of his decease. For many years he was a member of the Royal Agricultural Society and the British Dairy Farmers' Association. His remains were laid to rest in Portbury Churchyard on the 10th inst.

GARDENING APPOINTMENTS.

Mr. F. J. Bye, for the past 3 years and 7 months Gardener to C. B. G. GABRIEL, Esq., Coxhill House, Chobham, Surrey, as Gardener to D. PETRIE, Esq., Anningsley Park, Ottershaw, Chertsey, Surrey. (Thanks for 2s. for R.G.O.F. box.—EDS.)

Mr. William Brooks, for the past 12 years Gardener to the late PEMBROKE SCOTT STEPHENS, K.C., Little Missenden House, Buckinghamshire, as Gardener to the Misses CARRINGTON, The Abbey, Great Missenden, Buckinghamshire.

Mr. Lancelot Barker, for the past 7½ years Gardener to C. J. FLIGHT, Esq., Southdown House, Shawford, Winchester, and previously Foreman to GOODWYN HALL, Esq., The Manor House, Alton, Hampshire, as Gardener to Mr. and Mrs. COLE, West Woodhay House, Newbury, Berkshire. (Thanks for 2s. for R.G.O.F. box.—EDS.)

ANSWERS TO CORRESPONDENTS.

COLOUR IN FORCED RHUBARB: *E. M. E.* The reason why stalks of Rhubarb forced in the dark are of a bright red colour is that in the absence of light the chlorophyll, or green colouring matter, is not developed, consequently the red sap colour comes into greater prominence. Where there is no sap colouring present the growths developed in the dark are white, as in the case of Seakale or Potato sprouts. Some varieties of Rhubarb have much more red colouring when forced than others.

GREENHOUSE FLOWERING PLANTS FROM SEEDS: *J. H.* A complete list of annual and perennial flowering plants suitable for greenhouse and conservatory decoration, and capable of being raised from seeds, would occupy considerable space. Such a list would not be of much service unless you have exceptional facilities and exceptional demands for flowering plants, so we append a selection of suitable kinds. Of annuals and biennials the Clarkias, Celosias, Balsams, Browallia demissa (elata), Stocks, Campanulas, Chrysanthemums of the coronarium and carinatum groups, Collinsias, Linum grandiflorum, Nemesia, Rhodanthe Manglesi, Stocks, Nicotiana Sanderae, Salpiglossis, and Schizanthuses in variety are suitable. Perennial plants which may be raised from seeds include Begonias (tuberous and fibrous rooted), Streptocarpus, herbaceous Calceolarias, Cinerarias, Cyclamen, Gloxinias, Petunias, Primulas sinensis (in variety), obconica, verticillata, floribunda and japonica; Salvias and Torenias. Many of the subjects usually propagated by means of cuttings are readily raised from seeds. Any of our advertisers will send you a seed catalogue free on application.

NAMES OF APPLES: *E. C. K.* 1, Cellini; 2, not identified; fruit out of condition.

NAMES OF PLANTS: *J. A. J.* Quercus Ilex var.

Communications Received. — L/Cpl. G. C. J.— F. W. O.—M. S. A.—R. H. L.—W. C.—G. W. C.— W. H. D.—J. G. B.—A. C.—J. B. R.—Rev. F.—B. & P., Ltd.—Sir J. C.—J. K.—A. P.—V. R.—R. B. W.— J. B.—Miss M.

MARKETS

COVENT GARDEN, January 15.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralias	7 0- 9 0	Ericas—	
Asparagus plumosus ...	15 0-18 0	hyemalis ...	24 0-30 0
— Sprengeri	9 0-10 0	— melanthra 48's per doz. ...	30 0-36 0
Aspidistra, green ...	30 0-60 0	Marguerites, white	18 0-24 0
Begonia Gloire de Lorraine ...	18 0-30 0	Palms, Kentias ...	18 0-24 0
Chrysanthemums .	24 0-36 0	— — 60's	15 0-18 0
Cyclamen	30 0-36 0	— Cocos	24 0-36 0
		Solanums	15-0 18 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum, 48's, per doz.	10 0-12 0	Nephrolepis, in variety, 48's ...	12 0-18 0
— elegans ...	9 0-10 0	— 32's	24 0-36 0
Asplenium, 48's, per doz.	10 0-15 0	Pteris, in variety, 48's	9 0-12 0
— 32's	21 0-24 0	— large 60's ...	4 0- 5 0
— nidus, 48's ...	10 0-12 0	— small 60's ...	3 0- 3 6
Cyrtomium, 48's ...	10 0-12 0	— 72's, per tray of 15's	2 0- 2 6

REMARKS.—Growers are only sending limited supplies of pot plants, the best of which are a few Ericas, Cyclamens, and a few pots of Chrysanthemums. Cinerarias are beginning to make their appearance, but they show nothing special in quality so far.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arums— — (Richardias), per doz. bl'ms.	12 0-15 0	Heather, white, per doz. bun....	6 0-10 0
Azalea, white, per doz bunches...	8 0 —	Hyacinths, Roman, 12's, per doz. bun.	3 6- 4 0
Bouvardia, white, per doz. bun. ...	30 0-36 0	Lilac, white, per bunch	2 6- 5 0
Camellias, 12's-18's per box ...	4 0- 6 0	Lilium longiflorum long	18 0-21 0
Carnations, per doz. blooms, best American var.	7 0- 9 0	Lily-of-the-Valley, per bun. ...	3 6- 5 0
Chrysanthemums, per doz. blooms—		Orchids, per doz:—	
— white	7 0-10 0	— Cattleyas ...	18 0-24 0
— per doz. bun.—		— Cypripediums,	6 0- 8 0
— white	30 0-48 0	Pelargonium, double scarlet, per doz bunches ..	10 0-12 0
— coloured ...	36 0-48 0	— white, per doz. bunches ...	10 0-12 0
Croton leaves, per bun. .. .	2 6- 3 0	Poinsettias, per doz.	24 0-36 0
Daffodils single, per doz. bun...	18 0-21 0	Roses, per doz. blooms—	
Freesia, white, per doz bunches ..	4 0- 5 0	— Madame Abel Chatenay ...	12 0-15 0
Gardenias, per box (12's)	12 0-15 0	Violets, single, per doz. bun. ...	6 0-10 0
— (18's)	9 0-10 0		

French and Guernsey Flowers: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Anemones—		Narcissus, paper white, per doz. bunches ...	3 0- 3 6
— double pink, per doz. bunches ...	5 0-6 0	— Soleil d'Or, per doz. bun. ...	4 0- 6 0
— fulgens, per doz. bunches ..	5 0- 6 0	Roses, Safrano, per packet... ...	2 6- 3 6
Mimosa, per pad ..	18 0-21 0		

REMARKS.—The conditions in the market are practically unchanged from last week. Chrysanthemums are chiefly confined to "bunch spray" white varieties, which are gradually decreasing in quality as well as quantity. Carnations appear to be getting fewer, especially coloured blooms. Daffodils are more plentiful, with an improvement in quality, and easier prices. Consignments from France and the Channel Islands were very irregular last week. Paper-white Narcissus is arriving in good condition from France, with an increased quantity of Mimosa, Anemones, and Ranunculus. Yellow Narcissus, Paper-white Narcissus, Freesia, Violets, and Daffodils are arriving in fine condition from Guernsey and Scilly, although the consignments are uncertain in arrival.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Cranberries, per case	55 0 —	Nuts:—	
Grapes:—		— Almonds, per cwt.	140 0-160 0
— Almerias, per barrel (about 3½ doz. lbs.)	60 0- 90 0	— Barcelona, per cwt.	130 0-140 0
— Alicante, per lb.	4 0- 6 0	— Brazils (new), per cwt. .	230 0-240 0
— Gros Colmar, per lb.... ...	3 6- 6 0	— Cobnuts, per lb.	1 9 —
		— — Messina, per bag	130 0-140 0
		Walnuts, kiln dried, per cwt. ...	130 0-140 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Jerusalem, per bus.	3 6- 4 0	Horseradish, per bun.	3 6- 4 6
Asparagus, Paris Green, per bundle	10 0-12 6	Leeks, per doz. bun.	4 0- 6 0
— — Sprue, per bundle ...	1 10 —	Lettuce, Cabbage and Cos. per doz	3 6- 4 0
Beans, French, per lb.	4 0- 6 0	Mushrooms, per lb.	4 0- 5 0
Beetroot, per bus.	5 0- 6 0	Mustard and Cress, per doz. punnets	1 0- 1 3
Brussels Sprouts, per bus. ...	4 0- 5 0	Parsley, per ½ bus.	5 0 —
Cabbage, per tally	8 0-12 0	Parsnips, per bag ..	6 0- 7 6
Carrots, per bag ..	9 0-12 0	Potatos, new, per lb.	1 6- 2 0
Cauliflowers, per doz	3 6- 6 0	Radishes, per doz. bunches	1 6- 2 6
Celeriac, per doz..	8 0-10 0	Rhubarb, forced, per doz. ...	3 6- 4 0
Celery, per doz ...	21 0-48 0	Savoys, per bag ...	4 0- 5 0
Chicory, Belgian, per lb.	1 0- 1 2	Seakale, in boxes (6-8 lbs.), per lb.	1 3- 1 6
Cucumbers, per doz	18 0-24 0	Shallots, per lb.	0 6- 0 8
Endive, per doz. ...	6 0- 7 0	Spinach, per bus. ...	3 6- 5 0
Garlic, per lb. ...	0 6- 0 8	Tomatos, per doz. lbs.	24 0-40 0
Greens, per bag ...	3 6- 5 0	Turnips, per bag ...	6 6 7 6
Herbs, per doz bun.	2 0- 4 0	Watercress, per doz	0 10- 1 0

REMARKS.—The crop of Muscat Grapes is finished: supplies of black Grapes are about equal to the demand. Forced vegetables available include Tomatos, Mushrooms, Dwarf Beans, Asparagus (English and Continental), New Potatos, Cucumbers, Seakale, Rhubarb, and Mint. All seasonable outdoor vegetables continue to be fairly plentiful. *E. H. R., Covent Garden Market, January 15, 1919.*

THE WEATHER.

THE WEATHER FOR DECEMBER.

The first half of December was dull and mild, the second fortnight brighter, but cold. Rain or snow fell on 20 days, yielding a total of 1.52 inch, the heaviest fall on one day being 0.34 inch on the 22nd. Of sunshine we had 52.9 hours, being an average of 1.7 hour per day, and a percentage of 22.5. The 31st was the brightest day with 5.4 hours. With a mean of 29.60 inches the barometer varied from a highest of 30.05 inches on the 15th to a lowest of 29.04 inches on the 23rd. The mean temperature for the month was 38.5°, with a highest maximum of 55° on the 1st, and a lowest minimum of 23° on the 26th. This gives an absolute range of 32°. On the 29th we had the lowest maximum of 35°, and on the 2nd the highest minimum of 46°. The mean maximum was 44°, and the mean minimum 33°, giving a mean range of 11°. On eighteen nights the temperature fell below the freezing point, but rose above that point on every day. The mean minimum on the grass was 28°, with a lowest of 19° on the 20th. There were twenty nights of ground frost. At 1 foot deep the soil temperature rose from 38° to 43°, and then fell to 34°. Light winds prevailed during the month, chiefly from the west and south. A fine display of aurora was observed on the 25th.

THE WEATHER IN 1918.

Expressed in averages of temperature, rainfall and sunshine, the weather of 1918 shows no marked deviation from the normal, yet the weather of 1918 had its own special features. Averages but mask the vagaries of weather as they certainly reduce its extremes. Thus the opening month of the year, with its mean temperature of 34°, had a range of 43°, from a highest of 52° on the 24th to a lowest of 9° on the 14th, while the same month in 1917, with a mean of 35°, had but a range of 30°. Snow fell frequently in January and lay continuously from the 6th to the 19th. In February we had a blizzard on the 29th, the snow lying till March 5. April had a five-hours snowfall on the 22nd, and May opened with a fall of one hour's duration. There were no abnormally warm days during the summer, the highest temperature recorded being 76°, on June 1. Thunderstorms occurred in May, June, July and August, that of May 22 being severe. Gales, chiefly from the west and south-west, were frequent, one on June 14 doing some damage to the vegetation in the district. Persistent and heavy rimes were a feature of November, while the first snow for the season fell on December 22.

Temperature.—The mean temperature for the year was 46°, being a fraction of a degree over the average for 1916-18. August had the highest mean temperature of 57.5°, and January the lowest mean of 34°. The highest maximum was 76° on June 1, and the lowest minimum, 9°, on January 14. During the past three years the highest maximum was 82° on August 5, 1916, and the lowest minimum, 8°, on March 9, 1917.

Rainfall.—Of rain we had a total of 25.20 inches, the average for the past three years being 30.93 inches. April and June had the lowest rainfall, of 0.85 inch each, and July the highest fall, of 4.63 inches. The most rain collected on any one day was 0.87 inch, on September 15. Rain or snow fell on 200 days during the year, 124 of these being official "rain days" of 0.04 inch or more.

Sunshine.—Bright sunshine was registered on 282 days, with a total of 1,418.2 hours. This gives an average of 3.9 hours per day, and a percentage of 29. The total is 84.6 hours over the average of the two previous years. The relatively brightest month was April, with 44 per cent of the possible, while March and October were the relatively dullest months, with 21 per cent. each. June had the greatest number of hours of bright sunshine, viz., 228.6, and January the lowest number, viz., 52.5. *James Malloch, St. Andrews Training College Gardens, Kirkton of Mains, Dundee.*

CATALOGUES RECEIVED.

SEEDS.

ROBT. VEITCH & SON, 54, High Street, Exeter.
FISHER, SON & SIBRAY, LTD., Royal Nurseries, Handsworth, Sheffield.
EDMONDSON BROTHERS, 10, Dame Street, Dublin.

Continued from page iii.

WANTED, GARDENER, for General Nursery work and Tomatos and Chrysanthemums; experienced preferred; journeyman.—Apply, H. S. MELBOURN, Medstead, Hants.

WANTED, FOREMAN, for Indoor Department, with good general knowledge of the culture of Cucumbers, Tomatos, Pot Vines, Chrysanthemums, Bedding Plants, Clematis, &c.—Particulars as to age, experience, and wages required, to KING'S ACRE NURSERIES, LTD., Hereford.

WANTED, a CLEMATIS FOREMAN; one capable of taking charge of an up-to-date collection; good salary paid.—Apply, X. Y. Z., Box 27, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, for Outdoor Department, a good MAN as FOREMAN, principally Roses and Fruit; also several good Spade Hands. Also good Propagator of Chrysanthemums, Geraniums, &c., for under Glass. — State wages and when at liberty to THOS. ROBINSON, Porchester Nurseries, Nottingham.

FOREMAN (WORKING); Glass; North of England; £160 per annum; must be capable, energetic, good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR, for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden. ROSE GROWER (Outdoor). KNIFESMEN and SPADE HANDS for Fruit and Ornamentals; majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WANTED, WORKING FOREMAN, with good experience of Inside and Outside work; capable of growing Tomatos and Cucumbers for market; good wages to suitable man.—Apply, J. S. DOIG, Nettleton Lodge, Caistor, Lincs.

WANTED, WORKING FOREMAN, for Rose and Fruit Nursery. Also SECOND MAN. Must be good knife man. State wages and experience. —HEATH NURSERY CO., South Kilworth, Rugby.

WANTED, FOREMAN, with good general knowledge of Nursery Stock, including Fruit Trees, Forest Trees, Roses, Shrubs, &c.; house, with garden, on premises. State wages required, with references.—JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

WANTED, FOREMAN, with good knowledge of Forest Trees and Shrubs.—Particulars as to age, experience, and wages required, to KING'S ACRE NURSERIES, LTD., Hereford.

WANTED, thoroughly experienced MEN in Grape Peach, and Tomato Growing.—State full particulars of experience in either department and wages required, to E. BOURGAIZE & CO., Leigh Vineries, Wimborne, Dorset.

WANTED, energetic MAN, for Tomatos, Cucumbers, and General Nursery Work, under Glass; near London; able to take charge.—Particulars, &c., R. FERGUSON, The Nurseries, Northolt, Southall, Middlesex.

WANTED, MAN, for Chrysanthemums, Tomatos, and Bedding Stuff. State wages, with references, to F. B. CRANE, The Nurseries, Peterborough.

WANTED, at once, young MAN as SECOND, in the Rose Department; good budder, &c. Age, reference, and wages required.—A. J. & C. ALLEN, Rose Department, Norwich.

WANTED, SEEDSMAN or WOMAN for counter trade and seed orders, experienced and capable; also an ASSISTANT, one who has some knowledge of the Seed Trade. Please state wages for permanent post and references.—HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WANTED, SHOPMAN, for Vegetable Seed Trade; smart; up-to-date; must have thorough knowledge.—Apply, giving full particulars and salary required, HARRISON & SONS, Leicester.

WANTED, young LADY ASSISTANT, for Floral and Seed Trade.—State wages, &c., to J. & S. CRANE, Florists, Market Place, Peterborough.

FLORIST. — Young LADY required as FIRST HAND; experienced; good designer.—S. FAY & SON, Florists, Elm Grove, Southsea.

SITUATIONS WANTED.

Twenty-six words 1s. 6d., and 6d. for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office, 6d.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

SIR FREDERIC HAMILTON wishes to recommend a thoroughly experienced GARDENER-BAILIFF; 13 years last situation; 36 years' practical experience in Garden, Stock, and Estate; age 50; no family at home.—HOLDEN, Lullenden, East Grinstead.

HEAD GARDENER-BAILIFF seeks situation after 3 years' Government service; thoroughly experienced in all branches; where several are kept; highest references; age 43; married (one child).—S. W., Box 9, 41, Wellington Street, Covent Garden, W.C. 2.

HEAD GARDENER-BAILIFF; just discharged from Army, desires responsible Post; keen, energetic, and competent manager; first class all branches; expert Fruit grower and successful exhibitor. —Apply, GEO. MORBEY, The Town Hall, Knutsford, Cheshire.

ADVERTISER is open to re-engagement with any lady or gentleman that requires the services of a practical man as GARDENER-BAILIFF (Head Working) or MANAGER for small Estate; Home Counties preferred; good reference from gentleman for a number of years.—Apply, stating terms, to A., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD); thorough practical experience; 18 years all branches Horticulture, on well kept establishments, choice Plant and Fruit Culture under Glass, Floral work, Pleasure Grounds, Fruit and Vegetable Culture, &c.; excellent testimonials to character and ability; age 34; married; disengaged; London or South preferred.—T. KING, 13, Reginald Road, Northwood, Middlesex.

GARDENER (HEAD) seeks engagement, where several are kept; age 38; married (no family); 23 years' first-class practical experience in choice Plants and Fruit under Glass, Pleasure Grounds, Fruit and Vegetable Culture, &c.; excellent references.—WREN, 3 Row, Platt Lane, Felbridge, East Grinstead.

SCOTCHMAN requires permanent situation as HEAD GARDENER, where several are kept; where a fully competent man is required for producing in large quantities choice Fruits, Flowers, and Vegetables, Inside and Out; good organiser; highly recommended; age 48; married (two children); Southern Counties preferred. Please state wages, with full particulars of requirements, A. FYFE, 38, Ridler Road, Baker Street, Enfield.

GARDENER (HEAD); experience gained in large establishments, including 8 years' Head at Newbold Revel, Rugby, also 5 years' Head at Whittlebury Lodge, Towcester; Fruits, Carnations, Orchids, &c.; highest references; age 44; married (one child).—A. CHEFFINS, Bell Gate, Stowe Park, Buckingham.

GARDENER (HEAD) seeks re-engagement in good establishment; for the past 12 years Head Gardener to Joseph Shaw, Esq., K.C.; thoroughly experienced; excellent references; previously at Bryanston, Duntreath, and Wroxton Abbey.—FISHER, Kentchurch Court, Hereford.

ALFRED R. CUMMINS seeks situation as HEAD of several; last eight years in Belgium; highly successful exhibiting in Brussels, Ghent, Antwerp, &c.; experience gained Gatton Park, Brocklesby Park, &c.; age 30; married (three children); very highly recommended.—2, Mount Pleasant, Mitcham Road, Croydon.

H. MANFIELD, Esq., wishes to highly recommend his HEAD GARDENER; a first-class man; life experience in all branches; used to large establishments; thoroughly energetic; excellent testimonials; total abstainer.—ALLISON, Moulton Grange, Northampton.

GARDENER (HEAD); life experience; efficient in the requirements of good establishments; first-class experience in all branches of Horticulture; 15 years Head; highest testimonials; age 44; one daughter (10); Army discharged; disengaged. Please state terms.—J. A. PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (HEAD); life experience in first-class establishments; thorough practical knowledge of all branches; 9 years as Head in last situation, last three years on munition and local Food Production; age 40; married; one daughter (10).—H. COTTON, 54, Woodland Road, Northfield, Birmingham.

HEAD GARDENER. — Previous to joining His Majesty's Forces for 7 years as Head Gardener to Sir Harmood Banner, M.P., Aston Hall, Preston Brook, Warrington, previously 7 years Foreman to the Dowager Lady Burton, Rangemore, Burton-on-Trent; excellent references. — Address, NICHOLLS, Aston Hall Gardens, Preston Brook, Warrington.

HEAD GARDENER seeks situation; thoroughly understands Fruits, Flowers, Vegetables; under Glass and Outdoor, Ornamental and Flowering Trees and Shrubs, and management of large Private Gardens; age 39; married (no children).—A. T. SOUTHALL, 8a, Baker Street, Reading.

A CAPABLE HEAD GARDENER seeks re-engagement; excellent references; thoroughly experienced in all branches, Orchids included; practical and energetic worker.—GARDENER, Gables Cottage, Surbiton.

GARDENER (HEAD); Army discharge; good practical experience, both under Glass and Outside; can be well recommended; age 42; married.—GODDARD, Donaldson's Hostel, Belvedere, Kent.

GARDENER (HEAD). — Mrs. PALMER wishes to highly recommend her GARDENER, with life experience in all branches in large establishments; excellent references from previous employers; age 41; married (no family).—WESTRON, Marlston House Gardens, Newbury.

GARDENER (HEAD); practical all-round experience, gained in good establishments; previously Head; married; release on engagement. — T. LARKBEY, Mess 28, R.A.F., Isle of Grain.

GARDENER (HEAD), where several are kept; good experience in all branches (In and Out); excellent testimonials; married (no children); age 29.—Offers to P. W., Box 21, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; highly experienced in the cultivation of Fruit, Flowers, Vegetables, Inside and Out; capable entire management Home Farm and Estate; energetic, industrious; abstainer; 15 months present place; 21 years previous; age 47; good references; one child at home.—K. KENT, The Gardens, Terlings, Harlow, Essex.

GARDENER (HEAD WORKING) or GARDENER - BAILIFF. — WM. CRAE, Esq., Kailzie, Peebles, can highly recommend his present Gardener, J. W. LENNOX, to any lady or gentleman; experienced in all branches. — J. W. LENNOX, Kailzie Gardens, Peebles, N.B.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; experienced in the management of large establishments; first-class Carnation, Fruit, Plant, and Vegetable grower; also Shrubs, Rock, and Alpine Plants; personally recommended; ten under at present; age 34; married.—BENFORD, Hartham Park, Corsham, Wilts.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; married (no family); life experience in all branches; thorough knowledge of land and stock; 17 years as Head; excellent references from present and previous employers.—MORTER, Mannsell Grange, Bridgwater.

GARDENER (HEAD WORKING), where four or more kept; life experience in all branches; 15 years as Head; excellent references; age 42; married. —SNELL, Buckwood Cottages, Braintree.

GARDENER (HEAD WORKING); 30 years' good practical experience; Inside and Out; excellent references; age 46; married (no family). — BROOKER, 8, Portland Terrace, Whetstone, N. 20.

GARDENER (HEAD WORKING of four or more); 20 years' first-class experience in the cultivation of Fruit, Flowers, and Vegetables; Inside and Out; and management of well-kept Garden; excellent references; age 35; married (no family); disengaged.—RIDGEWELL, "Buckthorpe," Chertsey Road, Addlestone, Surrey.

GARDENER (HEAD WORKING) seeks re-engagement; 28 years' experience all branches, Inside and Out; married; recommended by present employer.—E. THOMAS, Cordale Gardens, Renton, Dumbartonshire.

COL. SIR HORACE McMAHON, Bart., D.S.O., would be pleased to recommend A. E. TURK, married, age 43, as HEAD WORKING GARDENER; thoroughly efficient in all branches of the profession.—Apply, first instance, to A. E. TURK, Orchard Cottage, Devizes, Wilts.

H. GREER, Esq., M.P., can highly recommend his HEAD WORKING GARDENER, H. LIST, to any lady or gentlemen; life experience in all branches; 10 years last situation; 2½ present; married; age 45; disengaged.—H. LIST, The Old Cottage, Walton-on-Hill, Surrey.

GARDENER (HEAD WORKING).—Sir IAN H. AMORY, Bart., Knightshayes Court, Tiverton, highly recommends his late temporary HEAD GARDENER as a competent, trustworthy man; good organiser; experienced all branches; exceptional testimonials; previously Foreman at Bowood; has had nine under; Army discharge; age 29; married when suited.—F. BUSH, 2, Castleyard Road, North Road, Highgate, N.

GARDENER (HEAD WORKING); age 46. life experienced; efficient in the requirements of a good establishment for high-class Vegetables, choice Fruits, Flowering Plants, Orchids, Carnations, Roses, Chrysanthemums, Herbaceous, Alpines, Lawns, &c.; economy and discipline; 18½ years Head late situation; excellent references; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton, Surrey.

GARDENER (HEAD WORKING); highly recommended for ability in all branches, Vegetables, Fruit, Flowers, Floral Work, Forcing, &c.; general upkeep, with economy; disengaged; age 41; married (one child, 10½).—EVANS, Bradbourne House, Bexley, Kent.

GARDENER (HEAD WORKING), where others are kept; thoroughly practical all round; Inside and Out, including Orchids; life experience in the work; 20 years in previous situation; married; age 51 (family grown up); excellent references.—FAWDRY, 14, Well Street, Buckingham.

GARDENER (HEAD WORKING), where four or more are kept; life experience in all branches, Inside and Out; age 41; married (no family); highly recommended.—FLETCHER, The Farm, Nymwood, Hatfield, Herts.

GARDENER (HEAD WORKING) desires re-engagement; expert in the cultivation of choice Fruits, Vegetables, and Plants, Inside and Out; many years' practical experience in extensive well-kept Garden; energetic, trustworthy, good organiser; first-class references; Home Counties preferred.—W. T., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING); demobilised, seeks re-engagement; life experience in large establishments in all branches; excellent testimonials; Midlands preferred; married; age 30; one child (age 2). — Please state full particulars to W. HOULDEN, 48, George Street, Brighton.

GARDENER (HEAD WORKING), Swiss, seeks engagement as such, where several are kept, well experienced in all branches (In and Out); excellent testimonials; speaks English and French; age 29, married (no children).—Offers to P. W., Box 21, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING); disengaged; first-class grower Flowers, Fruit, Vegetables, Conifers; good manager of men; 10 years as Head; highest testimonials; age 37; one child (age 8). Please state wages, &c.—F. REEVES, Main Street, Barton-under-Needwood, Staffordshire.

GARDENER (HEAD WORKING), with two under; Flower, Fruit, and Vegetables; good Carnation grower; married (no family); age 32. Please state wages, with cottage.—G. S., Box 8, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where others are kept; life experience in all branches; good references; age 44; married (no family); Surrey. —Box 7, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where three or four are kept; life experience in all branches, Inside and Out; married (one child, age 5); 4 years last situation as Head; excellent references.—HARBERT, Cricklewood, Dormansland, near Lingfield, Surrey.

GARDENER (HEAD WORKING) seeks situation; experienced, Inside and Out; married (no family); age 40; disengaged.—Apply, CALEB HICKS, Vilna, Red Hill, Chislehurst, Kent.

LADY KATHARINE MEADE, Hallgrove, Bagshot, Surrey, highly recommends HEAD WORKING GARDENER, Scotchman, married, age 35; one child; practical experience in every branch.—Particulars from WM. ADAMS, Hallgrove Gardens, Bagshot.

MISS E. ARKWRIGHT, The Gate House, Wirksworth, can highly recommend her late HEAD WORKING GARDENER, T. E. REYNOLDS; life experience; 11½ years at above address; age 44; disengaged.—REYNOLDS, c/o Mr. Yeeles, Caynham, Ludlow, Shropshire.

LIEUT.-COL. FORESTIER WALKER, D.S.O., can highly recommend his late HEAD WORKING GARDENER; life experience in all branches; good references; age 38; married (one child, age 5).—W. WEST, Primrose Hill, Tockenham, near Swindon.

GARDENER (HEAD WORKING), of four or more; 20 years' experience in all branches, gained in large establishments; 6 years Foreman here; age 35; single at present; well recommended.—D. BATH, Englefield Gardens, Reading.

GARDENER (HEAD WORKING); 2' years' general experience, Inside and Out; good references.—W. B., Box 3, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING). — Lady thoroughly recommends her late HEAD GARDENER, who has been with her 9 years, where several are kept; thorough practical experience of Gardening in all branches; excellent references; age 42.—G., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

DISCHARGED SOLDIER seeks re-engagement as HEAD WORKING GARDENER, where three or more are kept; life experience gained in good establishments; last situation 6 years as Head; age 36; married (one girl, age 7); Somerset preferred.—Apply, TAYLOR, 4, Cross Ways, Carhampton, Somerset.

ADVERTISER, released from War Work, seeks situation, through death of employer, as HEAD WORKING GARDENER, where more are kept; thorough practical life experience, Inside and Out; married; age 47; one child; abstainer, energetic, excellent references. — M. TAYLOR, Huntsham Court Gardens, Bampton, Devon.

E. DE QUINCEY, Esq., Oakwood, Chislehurst, wishes to recommend S. WOODARD as GARDENER (HEAD WORKING), where three or more are kept; excellent references; 13 years' experience; Army discharged; age 32; married (one child). — S. WOODARD, 37, Camplin Street, New Cross, S.E.

GARDENER (HEAD WORKING); would manage estate; life experience in all branches; highest references; at liberty.—MAY, Marden Cottage, Woldingham, Surrey.

GARDENER (HEAD WORKING), where number are kept; 14 years' experience all branches; married (one child); excellent testimonials; age 33.—NEWNES, Colebrooke, Copplestone, Devon.

GARDENER (HEAD WORKING); London district preferred; good practical experience; well recommended; married; disengaged when suited. — HOWE, Holmhurst Cottages, Loughton, Essex.

GARDENER (HEAD WORKING), where others are kept; 20 years' practical experience in all branches; excellent references; 7 years Head of four; married (three children, 10, 7, 4); age 43 years.—JOHN SAUNDERS, 21a, Clyston Street, Wandsworth Road, Clapham, S.W. 8.

GARDENER (HEAD WORKING), where three or more are kept; life experience in all branches; age 37; one child (age 7 years).—A. NORTON, The Gardens, Goldicote, Stratford-on-Avon.

GARDENER (HEAD WORKING) seeks situation, where two or more kept; well up in all branches; Inside and Out; 12 years as Head; good references; married; 46; Sussex, Surrey, or Hampshire preferred.—SNOW, Tackley, Oxon.

GARDENER (HEAD WORKING) seeks re-engagement; life experience in Fruit, Flowers, Vegetables; Inside and Out; age 46. Also son as UNDER GARDENER, age 18.—Apply, J. FARR, The Gardens, Oakleigh, Edgware, Middlesex.

GARDENER (HEAD WORKING), on demobilisation, where four or more are kept; life experience in all branches; good references; R.H.S. Certificate; age 31; married.—"SERGT.," Box 4, 41, Wellington Street, Covent Garden, W.C. 2.

DISCHARGED War Worker seeks re-engagement as GARDENER (HEAD WORKING), or good FOREMAN'S offer would suit; good experience, gained in large establishments.—E. J. WYNN, 89, Bicester Road, Aylesbury.

GARDENER (HEAD WORKING) seeks re-engagement; 24 years' experience in all branches; 5½ years last place; good references; age 50; no family; married. Please state wages. — STEPHENS, Fenleigh, Llwydcoed, Aberdare.

GARDENER (HEAD WORKING) seeks situation; life experienced all branches; married (no family); good references; demobilised soldier; age 30; disengaged.—BRIND, 60, Spon Street, Coventry.

GARDENER (HEAD WORKING) seeks appointment; well recommended as competent and reliable; Midlands preferred. — WM. BURNS, Sandy Lane, Tettenhall, Wolverhampton.

GENTLEMAN highly recommends his HEAD WORKING GARDENER, first-class man; life experience in all branches; age 55; married (one child, aged 7).—H. C. LEWIS, The Gardens, Berkhamsted Place, Berkhamsted, Herts.

GARDENER (HEAD WORKING); life experience, Inside and Out; 6 years as Head in last situation; well recommended, disengaged; age 40. —A. ANDREWS, Hardingham, Attleborough.

GARDENER (HEAD WORKING); life experience, Inside and Out; 5½ years last situation; good references, age 45, married (no family). C. DOMAN, 55, Agamemnon Road, W. Hampstead, N.W.

GARDENER (HEAD WORKING); life experience; last 15 years as Head, four kept, age 47; married; (one child). J. BUNDY, The Gardens, The Grange, Farnborough, Hants.

GARDENER seeks situation, where help given; life experience in all branches, including Vines and Carnations; age 30; married (no family); up-country preferred. Please state terms.—W. OSBORNE, Goodworth House Gardens, Clatford, Andover.

GARDENER requires situation; life experience in all branches; good references; age 33; married when suited. Please state wages. — L. KNIBBS, Shawford Place Gardens, Shawford, Hants.

MR. W. BUTLER, The Gardens, Wilton House, Salisbury, Wilts, will be pleased to recommend CECIL COOL to any lady or gentleman requiring a thorough good all-round GARDENER, where several are kept; age 30.

GARDENER (SECOND) seeks situation, Inside; near London preferred; well up in all branches; single; age 28; good references.—B. HOBBS, Houghton Grange, near Huntingdon.

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GARDENER (UNDER), for Kitchen Garden and work in general; good character; wages 25s. and rooms.—Full particulars to MR. HARRIS, Hallgrove Gardens, Bagshot, Surrey.

FOREMAN or SECOND (Inside); experienced Fruit and Plants; well recommended; age 32; Bothy. Please state wages, &c.—F. GIBBONS, 12, Burns Road, Alperton, Wembley, Middlesex.

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JOURNEYMAN (Inside) seeks situation in good establishment; experienced; good references; age 19; height 5ft. 10in.; abstainer; Army discharge.—NEWNHAM, Hewshott House Gardens, Liphook, Hants.

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MAN seeks charge of electric light, oil, or suction gas engines, motors, pumps, &c.; good knowledge of Gardening, Inside and Out; married; age 34 (one child, age 4); discharged soldier.—J. BICKENS, Heacham, Lynn, Norfolk.

MR. BLAKE, Head Gardener to Countess of Carnarvon, highly recommends Miss JOSEPHY as Charge of Fruit Houses, Tomatos, Cucumbers, Beans, Melons, &c.; would undertake similar Post or Post Inside and Outside, Private or Market Garden; experience in other good establishments as Forewoman, Fruit, Plant Houses; some Outside experience; college trained. State wages, accommodation. — JOSEPHY, Castle Gardens, Highclere, Newbury.

GARDENER (Lady) desires Post under good Head; experience in Plant Houses, Tomato Growing, Potting; take duty stoking.—Reply, H. M., Box 6, 41, Wellington Street, Covent Garden, W.C. 2.

TWO LADY GARDENERS (sisters), under Head; well educated, trustworthy, and reliable; good general knowledge, Inside and Out; 2 years here; leaving through our men returning from Service. I can with confidence recommend them.—A. McKINNON, Ruperra Castle Gardens, Newport, Mon.

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G. BENFORD would be pleased to recommend two thorough good LADY GARDENERS, for Inside and Out; been here over two years.—Apply, Hartham Park, Corsham, Wilts.

FOREWOMAN requires Post under good Head, on large estate, where other trained women are employed; 9 years' experience; college trained.—G. HEBDITCH, The Gardens, Silverlands, Chertsey.

LADY GARDENER requires Post as UNDER, in or near Finchley; under Glass preferred; Swanley diploma; good reference. — Address, L. G., 398, care Deacons, Leadenhall Street, E.C. 3.

LADY seeks Post as IMPROVER in Gardening, chiefly Vegetables; Croydon district preferred.—M., 22, The Waldrons, Croydon.

GIRL of 18, accustomed Outdoor work, untrained, wishes to be trained as GARDENER, Inside and Out, under good Head.—MISS DORA SMITH, Stainton, Penrith.

TRADE.

TO NURSERYMEN.—Sergt.-Major, leaving Army; single; has thorough knowledge of Outdoor Fruit and Vegetable Growing, wants experience in Fruit Culture under Glass. Offers full work for season, in return for board and lodging and instruction. —S. C. WRIGHT, 44, Burnt Ash Hill, Lee, S.E. 12.

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SITUATIONS VACANT continued on page ix.

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THE
Gardeners' Chronicle
No. 1674.—SATURDAY, JANUARY 25, 1919.

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THE FOOD OF WORMS.

THE subject of the food of worms is one of prime importance to the gardener, the florist, and the farmer. As such it has received a considerable amount of attention on the part of scientific observers during the past few years. Yet, in spite of all that has been done and written, the question is still persistently put; What do worms eat? Do they really feed on the dead leaves which are dragged into their burrows? Or do they feed on soil, on other animals, or on living plants?

In as much as I have been working on this subject during the greater part of the past four years at the Birmingham University, the following account of our knowledge may be of interest.

Some people believe that worms "simply make tunnels in the earth as a mole might do, thrusting aside the soil, but never passing it through their bodies. The leaves are used to line the burrows. The real food of the earthworm is not mineral or vegetable, it is animal; and consists of those minute creatures which live in the soil, and are known as amoebae." Which of these views is correct?

On the face of it one might suppose that it would be sufficient if we collect those little pellets of earth which, under the name of worm-casts, are found bestrewing our lawns and disfiguring our paths. Let samples of these be taken, placed in a petri dish, or on a plate and mixed with a little water. What do we find? A fine, often unctuous, blackish mould, full of tiny quartz granules, bits of vegetable fibre, and all those other constituents which go to make up what we generally call vegetable mould. Has not this passed through the body of the worm? Are we not dealing with true excreta? And do not the different ingredients show that both vegetable and mineral matter have been taken into the body of the creature which cast it up?

The natural objection would be that contamination, adulteration, and admixture have taken place. In passing through the upper layer of soil the "cast" has come into contact with various earthy and other matters, and it is therefore impossible to pass a true judgment. The objection is valid, to a certain extent. So we take a well-fed worm from the earth, as we might take a pigeon or pheasant to examine its crop. If we allow it to void the matter which fills the intestinal tract, what shall we find? That the extruded matter is a fine soil, composed, as we have already found, of finely macerated vegetable matter mixed with grit and oozy soil, and held together by a slimy secretion from the worm's intestine.

Let us now attack the subject from a second position. We have all seen leaves around the burrows of worms in autumn, and have watched their gradual disappearance. Let us venture to intrude into the worm's burrow, and look for the lining of leaves. They are nowhere to be found. And if now we will turn to the classical work, *Vegetable Mould and Earthworms*, by C. Darwin, or any of the more recent researches on the subject,* we shall find that those who are best able to pronounce an opinion are agreed that worms feed on vegetable matter and soil.

But we may go further. It is a commonplace in biology that animals are organised in harmony with the food on which they chiefly depend. The carnivore has teeth, while the parasite which lives on the peptonised juices of its host is destitute of them. How is the worm placed with respect to this digestive furniture? I quote from Darwin, because he is easily accessible, and his authority will not be challenged:—

"The mouth is situated at the anterior end of the body, and is provided with a little projection (lobe or lip, as it has been variously called) which is used for prehension. Internally, behind the mouth, there is a strong pharynx, which is pushed forward when the animal eats, and this part corresponds, according to Perrier, with the protrudable trunk or proboscis of other annelids. The pharynx leads into the oesophagus, on each side of which in the lower part there are three pairs of large glands, which secrete a surprising amount of carbonate of lime. These calciferous glands are highly remarkable, for nothing like them is known in any other animal. . . . . In most of the species, the oesophagus is enlarged into a crop in front of the gizzard. This latter organ is lined with a smooth, thick chitinous membrane, and is surrounded by weak longitudinal but powerful transverse muscles. Perrier saw these muscles in energetic action; and, as he remarks, the trituration of the food must be chiefly effected by this organ, for worms possess no jaws or teeth of any kind. Grains of sand and small stones, from the 1-20th to a little more than 1-10th inch in diameter, may generally be found in their gizzards and intestines. As it is certain that worms swallow many little stones, independently of those swallowed while excavating their burrows, it is probable that they serve, like millstones, to triturate their food" (*op. cit.* 17-18).

*Vide.—A Contribution to the Bionomics of English Oligochaets, by the present writer; "Science Progress," July, 1913, Vol. VIII., 99-112.

As the subject is important we may add a few (condensed) lines from the section dealing with *Food and Digestion* (p. 35 *et seq.*). "Worms are omnivorous. They swallow an enormous quantity of earth, out of which they extract any digestible matter which it may contain. They also consume a large number of half-decayed leaves, petioles, peduncles, and decayed flowers. But they will also consume fresh leaves, as I have found by repeated trials. They are cannibals, for the two halves of a dead worm placed in pots were dragged into the burrows and gnawed."

The setae of worms are often found in the intestine, showing that a meal had been made of the dead members of the family. Indeed, one has only to dissect a worm and study the contents of its stomach to learn what is the nature of its food.

But the opponent of the statement that worms feed on vegetable matter is nothing if he is not smart. "I grant you," he says, "that leaves and even gritty mineral matter are found in the worm's gizzard My contention is that these are taken up by the creature, not for their own sake, but for the sake of the juicy animalculae which are contained therein." Precisely. As who should say, "A sailor eats ship's biscuits for the sake of the weevils!"

In this connection, it is worth notice that a certain genus of earthworms is denoted scientifically as Dendrobaena, because the species are frequently found living in decaying and fallen timber. If these are examined it will be found that their stomachs are full of wood pulp more or less digested. I do not know of any amoebae on which they could subsist; but certainly the line of investigation is worth pursuing. *Hilderic Friend.*

(To be concluded.)

NOTES ON IRISES.

IRIS LACUSTRIS.

THIS interesting little plant (see fig. 13) belongs to the Evansia section of the genus, being a rhizomatous species with crested falls. It is local in its distribution, and is apparently only found near the southern shores of the great lakes Superior and Huron, where it grows in moist, gravelly soil in half-shady spots near streams.

The accompanying sketch, which was reproduced from specimens sent in November, 1918, by Mr. T. Smith, Newry, shows the peculiar arrangement of the ridges on the falls. There is a central, crinkled white crest, tipped with orange, and this is flanked by two lateral ridges. The colour is a deep purple, with a certain amount of white and paler lilac-purple in the region surrounding the ridges on the falls. The standards are usually more spreading and less erect than those depicted in the sketch.

The slender, greenish-brown rhizome spreads

rapidly, and is capable of flowering at any time from May till October, if the conditions are of its liking, and if there is plenty of food in the shape of humus within its reach.

In order to obtain seeds, artificial cross-fertilisation is usually necessary in this country, and even then the small capsules do not contain a large number. The seeds are peculiar, for, as is shown in the right-hand bottom corner of the sketch, each has an attachment which is actually longer than its own diameter.

This peculiarity is only shared by I. cristata, and it seems better to look upon I lacustris as merely a local form or sub-species of cristata. It is true that I. lacustris, when raised from seeds here, retains its dwarfer habit and the deeper colour in its flowers. Seeds of I. cristata have always refused to germinate here, and it is, I think, the only species the seeds of which, when ripened here and sown at once, have always failed to produce seedlings. My impression is that the colour of I. cristata is apt to vary from lavender to purple, and there is certainly a white form.

If, therefore, we are unable to separate cristata and lacustris except by size and possibly colour, it is probably wiser to refuse specific rank to the latter.

As a garden plant it grows well in conditions approximating to those in which it grows wild. Here, in the dry sand of my garden, I give it old decayed leaf-mould and fine gravel in a position only reached by the late afternoon sun. Every two, or at most three, years I re-make the bed and replant the strongest young shoots immediately the flowers are over. Then root-growth is active, but it ceases altogether in autumn, a period, consequently, at which transplantation is usually fatal. *W. R. Dykes, Charterhouse, Godalming.*

FIG. 13.—IRIS LACUSTRIS: AN AUTUMN-FLOWERING SPECIES.

NOTES FROM AMERICA.

DESCRIPTIONS OF HORTICULTURAL PLANTS.

Now that the war is over, and we are entering upon a period of reconstruction, it seems reasonable to consider whether horticulture may not be put on a more scientific basis. Judging from my own experience, I venture to suggest that we need most of all more exact methods of observing and recording our facts. Anyone who has tried to unravel the history of any horticultural species and its varieties knows how difficult it is to obtain reliable information. Even when the date of introduction to the trade is known, there is usually no definite record of the original discovery or mode of origin of the plants. It is also usually more or less uncertain whether the plant now called by a particular name is exactly the same as that known by the same name years ago. It is not sufficient to preserve herbarium species, as these frequently cannot illustrate many of the important characters. The more delicate shades of flower colour are evanescent or changed in dried plants, and, of course, such characters as earliness, resistance to frost, and flavour, do not appear at all. What we seem to need is a system of describing all new or supposedly new forms, species, or varieties, in exact botanical terms, from the living plants. In most cases, photographs should also be taken, and all historical facts available should be recorded. The materials thus gathered should be published at frequent intervals, as cheaply as is consistent with excellence. Probably the best method would be to print accounts pertaining to different genera on separate small sheets of uniform size, which could later be arranged and bound as desired. Such a method can only be fully successful in the hands of experts, and probably every genus of any importance should have its specialist, to whom all material belonging to it would be referred. The whole scheme involves a rather large expenditure of money and a great deal of intelligent co-operation; but the war has shown us that we can co-operate and can raise vastly greater funds when we want to. There is really nothing to prevent the carrying out of the plan suggested, unless it is the absence of the will to act. Can it be doubted that through it horticulture might become a far more exact science than it now is, with equal benefit to horticulturists and mankind in general?

The following is a convenient method of publication in the proceedings of the Biological Society of Washington; the descriptions are issued in separate form, and can be collected and bound as desired:—

SOME PLANTS FROM NEW MEXICO.

WHEN in the Rito de los Frijoles, New Mexico, last year, I noticed a very beautiful Oenothera, not quite like anything I had seen. As it was too early to obtain seed, I brought home a small living plant in flower and put it in the garden It produced a small amount of seed; but instead of dying, wintered over, and has this year grown to a great size and flowered profusely. It will yield enough seed to supply everyone interested in growing Oenothera, and will afford a new type to use in hybridisation experiments. It seems, therefore, desirable to give it a name.

OENOTHERA HOOKERI HEWETTI subsp. nov.

Plant very large, spreading, about 4 feet high, and spreading 4½ feet; stem and branches red, at full maturity the upper parts of the long branches, while closely beset with fruits, not appearing leafy, the bracts being reduced to less than the length of the capsules; leaves repand denticulate, of the type of O. Hookeri, only very sparsely pubescent, greyish green; upper bracts much longer than fruits, apparently not deciduous; fruits as in the biennis group, but not contracted at apex, greyish, slightly speckled or streaked with red, finely pubescent, with scattered longer hairs intermixed; seeds angled; buds stout, distinctly 4-angled, coloured with red, exactly as in O. rubrinervis as figured by Gates, Zeits. f. indukt. Abst. und Vererbungsl. 1911, IV., pl. VI, f. 4; sepals not separate when reflexed, the tips sometimes free as much as 10 mm.; branches tough and hard to break, not brittle as in O. rubrinervis; calyx tube in fully developed flower 37 mm. long; petals bright yel-

low, turning slightly reddish in fading; petals about 38 mm. long and 40 broad, not distinctly emarginate, though appearing so from folding in the opening flowers; total length of pistil 78 mm., extending about 13 mm. beyond the stamens and about 7 mm. beyond the petals. The tube of the calyx is of the same length as that of O. rubrinervis, but the sepals are about 6 mm. longer.

Abbott Ranch, Rito de los Frijoles, New Mexico, growing in a grove of Populus angustifolia, August, 1912 (Cockerell). Described from living plant in garden at Boulder, Colorado. Named after Dr. W. L. Hewett, the Director of the Archaeological work at the Rito de los Frijoles. It is evidently close to O. irrigua Wooton & Standley, but differs from the description, especially as to the pubescence. Mr. Paul C. Standley kindly informs me that it is very different from the typical form of O. irrigua. It is no doubt an "elementary species," and it may either be placed as a subspecies of O. Hookeri or given a binomial as Oenothera Hewetti.

SEDUM COCKERELLI (Britton).

Last August I collected living plants a few miles from the type locality, and now have them flowering in my garden. The characters "petals white, anthers pink," were given by Doctor Britton from my recollection. It now proves that the anthers are only slightly flecked with pink; it is the styles that are bright pink. The white petals have a transverse pink blotch near the middle. The plant is glabrous but scurfy. Stems light green; stem-leaves narrower at base than beyond, and not very acute.

HELIOTROPIUM XEROPHILUM (Cockerell).

In the new Illustrated Flora and elsewhere H. spathulatum Rydberg is given as a valid species, ranging to Chihuahua. It is, I am confident, H. xerophilum, described the year before. I think it is certain that there is only one species of the H. curassavicum group in New Mexico and Chihuahua.

T. D. A. Cockerell, Boulder, Colorado, Dec. 5, 1918.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM CRISPUM VICTORY.

THIS superb variety has flowered with R. Brooman-White, Esq., Arddarroch, Garelochhead, N.B., who states that it is by far the best Odontoglossum that has appeared in his collection, which, however, contains specially fine forms of O. crispum. It is of the true Pacho type, and has flowered on a previous occasion, when the plant was not so vigorous, and these early flowers were not equal to those produced now on a nine flowered inflorescence.

The flower is perfectly round, 4½ inches in diameter; white, with a faint tinge of pink on the sepals. The petals are broad, overlapping the sepals, and the lip more than usually ornate.

BLUE DISAS.

IN his note on "Blue Orchids" (p. 1), Sir Jeremiah Colman confined himself to plants that can be grown successfully in gardens, otherwise he would surely have included the lovely blue Disas of South Africa. They have been tried again and again as garden plants in this country, but without success. Mr. N. E. Brown, writing in *Gard. Chron.*, Aug. 1, 1885, p. 135 *et seq*, says the reason why these Disas are not grown may be that after flowering the plants fail to appear again the following season, and that how far this is due to natural causes, not understood, and how far to ignorance of the proper method of treatment, remain to be discovered.

When I was at Cape Town in 1887 I heard much about the blue Disas of Table Mountain, and I planned an excursion to see them growing there, but this had to be abandoned, as during the few days at my disposal, the "table cloth," a dense white fog which spreads over the top of the mountain when the wind is in a certain direction, made the climb too hazardous. I had the pleasure, however, of seeing the Disas and other beautiful flowers which had been gathered by flower-sellers, who hawked them about in Cape Town, and I purchased several bunches of them, which afterwards adorned the table of the saloon of the steamer on which I returned to England. That was in February, when most of these flowers are at their best on the mountain. Disa graminifolia, also called Herschelia coelestis, was the pick of the lot, and if a bunch of its flowers, such as I possessed, could be shown in London, blue Disas would be in demand. The species named has long, grass-like leaves, slender stems 18 inches to 2 feet long, and flowers in racemes of from 3 to 6, each over an inch across, and of an intensely bright and beautiful blue in as many shades as there are in the flowers of Gentiana sino-ornata. Bolus, in *The Orchids of the Cape Peninsula*, states that it is one of the commonest species, has a rather long flowering period, and attracts universal observation by its beauty and brilliancy. Dr. Lindley described it as "species laec pulcherrima, colore coeli australis intense coeruleo superbiens." I secured a potful of tubers from the Botanic Gardens at Cape Town, and brought them, together with my other "finds" to Kew, but only one developed a spike, and that a poor one. We have received tubers several times since, but have had no success with them. Should this meet the eye of anyone in Cape Town interested in sending choice plants to England, I hope he will send tubers of this Disa to Sir Jeremiah Colman, Gatton Park, Reigate, where Orchids more or less refractory are conjured into putting forth their best.

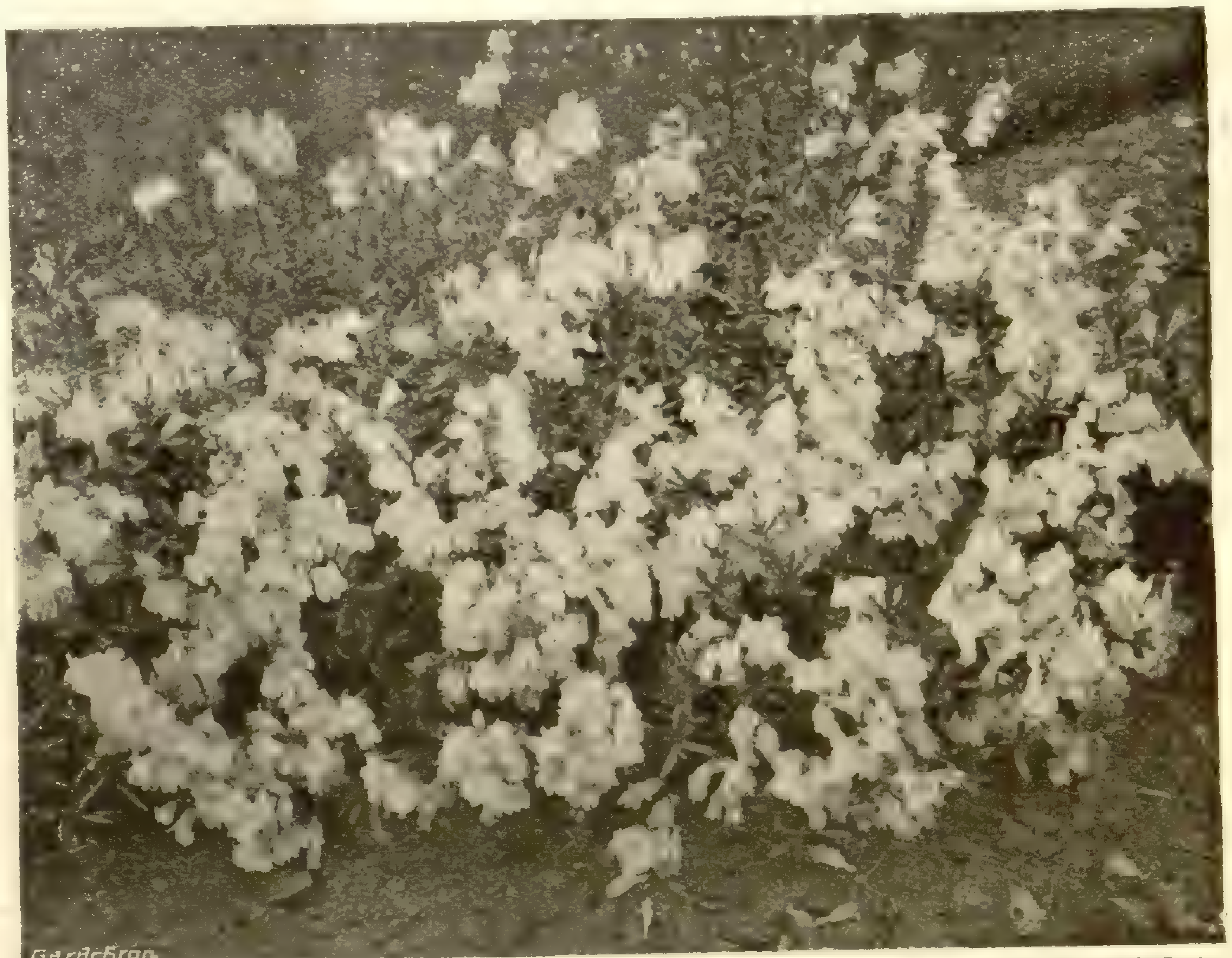
Other species of Disa that grow in South Africa and have blue flowers are D. longicornu, D. maculata, D. purpurascens, and D. venusta. These also are worth introducing into this country. They flower in our winter months, which are those of summer in Cape Town, and it may be owing to this fact that they do not thrive here. Many plants, as we know, flower by the calendar, and cannot be induced to change to fit our seasons. Orchids are particularly stubborn in this respect. *W. W.*

HARDY FLOWER BORDER.

PENTSTEMON SCOULERI.

THIS handsome Pentstemon (see fig. 14) has been usually considered to be a variety of Pentstemon Menziesii, a species which embraced several apparently closely allied forms. In a recent revision of the genus some of these forms have been accorded specific rank, and among them the plant under notice. Of the others, what was formerly known as the variety Lewisii has been made a species under the name of P. fruticosus, and var. Douglasii a species under the name of P. crassifolius. These alterations are justified in view of the great range of variation met with in the different plants formerly included under the name of P. Menziesii. The type of this species is a small, prostrate, creeping plant, with sub-shrubby stems, which produce roots from the nodes as they grow; very small ovate leaves, and rosy purple flowers. P. fruticosus is of erect, shrubby habit, with larger obovate leaves and rosy purple flowers. Next in the series is P. crassifolius, with narrow, lanceolate leaves and lilac purple coloured flowers, then follows P. Scouleri, a free-growing, shrubby species, often forming bushes 2 or 3 feet across and 1½ foot to 2 feet high. The twiggy branches are well clothed with lanceolate leaves about 2 inches long, and the whole plant bears a profusion of violet purple flowers in May, larger than in the preceding species. Its native habitat is in rocky crevices at fairly high elevations in Oregon and British Columbia.

This Pentstemon is an easy plant to cultivate and propagate; cuttings strike readily in the autumn, while the species is quite hardy when planted in sunny, well-drained situations. *W. I.*



[*Photograph by W. Irving.*

FIG. 14.—PENTSTEMON SCOULERI: FLOWERS VIOLET-PURPLE.

CULTURAL MEMORANDA.

MULCHING NEWLY PLANTED FRUIT TREES.

IT is the custom of many planters to apply a mulching of well-decayed manure at least 3 inches thick, around newly planted fruit trees, as though the trees were tender subjects and needed protection. I was once an advocate of this practice, but now see how useless and injurious it is. If those who disagree with my condemnation of the custom of mulching newly planted trees in November will examine the soil under the manure, especially if heavy and naturally retentive of moisture, in March, they will find it a cold, sticky, uninviting medium for surface-roots. Soil so covered cannot become warmed by the sun or drying winds, and air is excluded. A mulching for newly planted trees is an advantage if applied in April, May, or the following months, after the sun has warmed the soil, as it reduces the evaporation of moisture and encourages the development of surface roots. The mulching should be of half-decayed horse manure spread 3 inches deep. *M. B. W.*

LETTERS FROM SOLDIER-GARDENERS.

A CHÂTEAU GARDEN IN FRANCE.

DURING my two years in France (now happily ended), I never missed an opportunity of inspecting all gardens, large and small, that were within easy distance. As my time there was spent in the forward area, except for the brief periods when we came back on what is, with grim humour, called "rest" (but which too often would be better described as intensive training), my opportunities for observation were very limited.

I am giving away no military secret when I state that the garden which I now attempt to briefly describe is situated not far from the city of St. Omer. The château had been vacated, and was used as the temporary headquarters of a field ambulance. As is the case with many French châteaux, it stands fairly close to the road, with a small front garden and a large garden at the back. There is nothing in the garden which deserves special mention, except that it is typical of those attached to what I might call the lesser châteaux of France. These gardens incline far more to the useful than the beautiful, and they fulfil in a larger degree than most English gardens the real purposes of a garden, which should be primarily the supply of fruit and vegetables for the household. Even in the front garden we find fruit trees, such as standard Plums and espalier Apples and Pears. A feature of the front garden, as indeed of many villa gardens in France, is the large clumps of Rhubarb, which are evidently planted for ornament as well as for produce. Roses in beds were also a feature, but, as the season was late, there was no chance of determining the varieties. On one wall of the château was a Vine, but in the North of France there is evidently the same difficulty in growing Grapes out-of-doors as there is in England. Other fruits, such as Apples and Pears, covered the walls of the château, but these were mainly furnished with creepers. Grass and flowers separated the house from the kitchen garden. The vegetable garden was laid out as a parallelogram and intersected with walks. At a distance of a few feet from the central dividing path on either side was a fence supporting espalier Apple and Pear trees, and distant about 6 feet from these fences was a secondary line of espalier fences. Between the fences the space was filled with two rows of Rhubarb. The narrow borders skirting the walks were planted mainly with such flowers as Pinks, but in some cases also with herbs and salads. The outer borders of the food garden where it drifted informally into the flower garden were of greater width, and were used as mixed flower borders. The arrangement gave no impression of artistic skill in floral planting, but the effect as gathered from the late flowers could certainly not be described as displeasing.

The crops more largely grown in the food garden were Haricot Beans, Savoys, Leeks, and evidently a fair breadth had been allotted to Potatos. Leeks are largely grown in all French gardens, but seldom did I see them so large as those grown in Britain. They are planted much more closely together, and are not earthed up. A line of tall trees of Mountain Ash ran down one end of the vegetable garden, and immediately behind these was an archway of Hazel overcircling a gravel path. On the other side the garden was bounded by an irregular belt of shrubs, the foreground of which was utilised for Dahlias and hardy herbaceous plants.

Small fruit intersected the main plots, and there were several large trees of Apples, Pears, Plums, and Cherries. As intimated before, the main part of the garden was devoted to growing food, but this was not shut off from the flower garden, as is so frequently the case in English gardens. *William F. Rowles.*

TREES AND SHRUBS.

HYBRID OAKS.

THE *Journal of Heredity* for October, 1918, contains an account of Oak hybrids raised by H. Ness, Horticulturist to the Texas State Experiment Station. The parents used were the Overcup Oak, Q. lyrata, and the Live Oak, Q. virginiana, the latter being the mother. Both belong to the Lepidobalanus subdivision of the genus, though they differ widely in a number of features. The Live Oak has a low trunk and a broad, diffuse head of rather crooked limbs and shoots, while the Overcup Oak is of a tall pyramidal form with straight branches and shoots. The foliage of the Live Oak persists through the winter; the Overcup is one of the first to shed its leaves in the fall. In the Live Oak the leaves are relatively small, more or less elliptical, and entire; in the Overcup they are much larger and deeply lobed. But perhaps the most marked difference lies in the Acorns. In the Live Oak these are ovate and project about two-thirds of their length beyond the cup; in the Overcup, as the name suggests, they are oblate and nearly covered by the cup, the scales of which are much thickened. The hybrids raised, seven in number, were very uniform. In general habit the father, with its pyramidal form and straight shoots, was dominant. The leaves were intermediate in size, but resembled those of the father in being lobed. The form of the Acorn, however, was very like that of the Live Oak, though larger in size. The leaves of the hybrids commenced to fall in the winter, but many of them remained green until the spring. In this feature, therefore, the hybrids were intermediate. An interesting point is that hybrids like these have been found sometimes growing in the natural state, and were described recently by Professor Sargent under the name Q. comptonae. Apart from their scientific interest, it seems not unlikely that they may prove to be of value from an arboricultural standpoint. They grow rapidly, the earliest raised having reached a height of 16 feet in 8 years from the time of sowing, with a diameter of 5 inches a foot from the ground. Owing to the density and lustre of their foliage they are superior to both of their parents as ornamental trees. The wood is very hard, close-grained, and tough.

NOTES FROM FRANCE.

WHITE POGONIRIS.

To the very complete study of White Pogoniris published in *Gard. Chron.*, November 23, 1918, I would add the very fine variety named La Neige, obtained by the late Mr. Verdier in Paris some fifteen years ago, and placed in commerce by Messrs. Vilmorin. Of its parentage I can say nothing, but it is one of the very best white Irises, not only because its flowers are quite pure, but also on account of the falls being so thick and of so good a substance as to stand out horizontally, and last longer than those of any other variety. *S. M.*

BEGONIA EVANSIANA.

To the note on this Begonia published in *Gard. Chron.*, November 23, 1918, p. 209, I may add that it has long been grown in France for summer bedding, where it grows as finely as the plants illustrated in fig. 82, 1918. It is considered hardier than the hybrid, tuberous-rooted Begonia erecta. So hardy is it, indeed, that I have seen some tubers, forgotten in the beds, and protected by dead leaves which have fallen by chance upon them, survive in mild winters. But the plant cannot stand the sun; the more shady and cool its position, the better it grows. *S. Mottet.*

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Forcing Potatos.—A few early Potatos may be grown either in 10-inch pots or herring-boxes; these receptacles may be easily moved to a cooler house when the temperature of the one in which they were started becomes too high. If the sets have formed healthy sprouts by standing them in boxes they will be in the best possible condition for planting. Here we place three sets in each 10-inch pot and box. Use a friable compost consisting of loam, leaf-mould, and well-decayed manure, the material from a spent Mushroom-bed being suitable. Allow room in the pot or box for applying a top-dressing of fresh compost when the haulm is about 6 inches high. When potted, grow the plants in a Peach house or vinery that has just been started. May Queen, Harbinger and Express are good varieties for forcing.

Main Crop and Late Potatos.—Stand the seed tubers of main crop and late Potatos in boxes, or on light stages, before they make "blanched" and weakened growths. Let the tubers have plenty of light and guard against injury by frost.

Peas.—A few boxes may be sown with Peas, using similar compost to that advised for Potatos. Cover the seeds with the finer particles of the soil to the depth of 1 inch. Water them well, and place the seed-boxes in a house having a temperature of 50°. Select dwarf-growing sorts for this sowing, in order that they may be planted out in frames eventually. Pioneer, Prince Arthur, and Chelsea Gem are suitable varieties.

Broad Beans.—It is a great advantage to raise Broad Beans in boxes, particularly where the soil is of a cold, heavy nature. The treatment should be the same as that recommended for Peas.

General Remarks.—To maintain a constant supply of salads place Chicory and Dandelion roots in a warm, dark place at intervals of twelve days for forcing. Sow Mustard and Cress in boxes in gentle warmth. Endive is more nutty in flavour if blanched in a low temperature, a cold, frost-proof frame for preference. The frame should be well matted or covered with dry litter, to exclude the light and frost. Rhubarb may be treated as advised for Seakale. Have under cover the various soils for making composts, as many seeds will require to be sown from the end of the present month onwards. Procure protecting material, such as long litter, Bracken Fern, Fir, or Yew boughs as a protection against cold, cutting winds. Sprout early Potatos in boxes.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Coelogyne Mooreana.—This species is by no means common, though it has been some years in cultivation. The usual season of flowering is from mid-autumn till the present time; the erect flower-spikes are very attractive. When in good condition the plant grows and flowers freely, but it is apt to be attacked by insects, especially red spider, when grown in an over-heated or dry atmosphere. It flourishes on the stage in a house having an intermediate temperature. A free supply of moisture at the roots is necessary during the growing season. The compost may consist of two-thirds Al or Osmunda-fibre and one third Sphagnum-moss. Pots are the best receptacles, and they should be well drained. The young growths, from the centre of which the bloom-spikes have been produced, are sending forth new roots, and the present is the most suitable time to repot any plants that may require fresh rooting material, provided the flower-spikes have been first removed.

Coelogyne barbata.—This is another highly desirable species of Coelogyne suitable for growing in an intermediate house. Its cultural requirements are similar to those of C. Mooreana, except that it should be grown suspended near the roof-glass in a light, airy position to ensure a solid growth; if carefully treated as autumn approaches the plant will flower freely. Guard against over-potting, as the plants give much more satisfactory results when the roots are in a restricted space.

Vanda Amesiana.—The erect racemose spikes of fragrant flowers produced by this distinct winter-blooming Orchid are very beautiful. In its thickened cylindrical leaves the plant is like a stout form of Vanda Kimballiana, to which pretty species it is closely allied. The plant will generally be satisfactory in a house having an intermediate temperature, and it should be grown in small baskets suspended from the roof. At Westonbirt it is exposed to all the sunlight possible, and plenty of fresh air, this treatment producing solid, free-flowering specimens. The species is a mountain plant, and cannot thrive in a close, badly ventilated house, or one in which the air is not constantly changed. In their natural habitat the plants are said to shrivel considerably during their dormant period, but it is not advisable to go to such extremes under cultivation. Such treatment—by many miscalled rest—is very weakening and harmful to the plants and unnecessary.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to C. H. BERNERS, Esq., Woolverstone Park Gardens, Ipswich.

Propagation of Figs.—The present is a suitable time to prepare a new stock of Figs. Shoots of last year's growth should be cut into lengths, retaining one eye on each; these may be inserted singly in small pots, or several may be put in larger pots, placing them just below the surface of the soil; plunge the pots in a steady bottom heat of 70° to 75°, and do not keep the soil excessively moist until growth commences.

Tomatos.—Make a sowing now to provide a succession to the plants raised during November or early part of December. Sow the seeds thinly to ensure sturdy specimens; place the pots, pans or boxes in a propagating case and cover them with a sheet of glass or brown paper. After germination has taken place, admit air to the plants gradually, and expose them fully to the light. To encourage sturdy growth a night temperature of 55°, with a moderate rise by day, will suffice, and air should be admitted when the weather conditions are suitable, but cold draughts must be prevented. Plants raised from an early sowing will soon have filled their pots with roots, and should then be shifted on, either into 6-inch pots or into their fruiting pots, according to requirements. The soil for the final potting should consist of three parts good fibrous loam and one part well decayed leaf-soil, with a little wood ash and coarse sand added. Nine-inch pots, well drained, will be large enough for this batch to fruit in. Pot firmly, and supply water in moderation until the plants are well rooted.

Early Vines.—Early vines are in various stages of growth, and the different operations will demand prompt attention at the proper time. Daily attention will be necessary in disbudding and tying the shoots when growth is sufficiently advanced: each shoot should be "stopped" at the second or third leaf beyond the bunch, according to the space available. When all the buds have started into growth syringing should be discontinued, but the borders, walls and paths should be slightly damped two or three times a day, according to the state of the weather. An excess of atmospheric moisture should at all times be prevented, as it tends to promote long-jointed shoots and thin, flimsy foliage. When growth is free, afford a night temperature of about 60° with a rise to 70° or 75° by day, and an additional 5° to 10° when the house is closed. As at this period the foliage is soft and tender, air must be admitted cautiously, and the amount admitted must be governed by the prevailing condition of the weather.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Hippeastrums (Amaryllis).—The numerous varieties of florists' Hippeastrums form a most useful class of decorative plants for flowering in late spring. After a period of rest the bulbs should now be examined, and the largest and best-rooted specimens selected for early forcing. The soil about each bulb, being quite dry, should be thoroughly watered, adding to the water a little liquid manure. When the excess of water has drained away remove the soil, taking care not to injure the surface roots, and top-dress the plants with good loam mixed with concentrated fertiliser. The most successful way to grow Hippeastrums is to plunge the pots to their rims in a bed affording a mild bottom heat. The atmospheric temperature should be 55°. Syringe the plants daily, and keep a close watch for insect pests. The pots, being plunged in moist material, very little water will be needed until the plants have made considerable growth, when they may be given frequent waterings, enriched with a little concentrated fertiliser.

The Forcing of Flowering Plants.—In present circumstances many will be tempted to commence the forcing of flowering plants in warm fruit houses, but this should be discouraged, because of the danger of introducing insect pests into the fruit houses. In a special plant-forcing house it is not necessary to provide a high temperature; if the house contains a pit with bottom heat it will be an advantage. Azalea Deutsche Perle and other early-flowering varieties grown in a house having a temperature of 55° and syringed daily will soon come into flower, and may then be removed to cooler quarters.

Spring Flowers.—Bulbs of Daffodils that have been previously plunged in a bed of ashes in a cold frame may be introduced into a glass-house in batches as required. Force them slowly on a mild bottom heat and remove them to the flowering houses later. Early double Tulip Murillo may be treated in the same manner. Freesia refracta alba that were potted 4 or 5 bulbs in each pot last August, and grown under cool treatment, will now be flowering. Early-flowering Rhododendrons, Azalea mollis, Lilacs and Viburnums are all suited for early forcing without much warmth. Plants of Calla aethiopica, when in full growth, and showing flower-spikes, should be well watered with liquid manure. The leaves and flower-spikes of the common Arum are subject to attacks of green fly and should be sponged or syringed with an insecticide.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Gooseberries.—These useful bush fruits may now be pruned, but where the work can be left until March it is advisable to leave it, because when pruned early, and hard weather follows pruning, birds are very apt to ruin the prospects of a crop by picking out the buds. Care and intelligence are required in pruning fully-grown bushes; if pruned too little a thicket of weak growths and small fruits result; on the contrary, if pruned too severely strong growths and a small quantity of large fruits follow. The aim should be to secure a well-balanced bush by thinning out old wood and leaving as much young wood as will furnish the bush without overcrowding. It is a good plan to leave the top shoots rather long for the time being, as I find that when birds are hungry they generally settle on and pick the buds out of the uppermost shoots. All weakly growths should be cut close in. To defeat the birds it is a good plan to string black thread across the bushes in various directions. Dusting the bushes occasionally with lime acts as a preventive against caterpillars if used as soon as slaked. Where caterpillars were troublesome last summer it is advisable to remove about 2 inches of the loose soil from underneath the bushes, dust the surface with fresh lime, and apply good compost in place of the soil removed. The ground around and under the bushes should be mulched with manure, as recommended for Currants, as this encourages clean growth and good crops, and reduces their liability to the attacks of many pests. All the ground in a Gooseberry plantation should be lightly turned over when the weather is favourable, taking care not to damage the roots when forking close up to the bushes.

Planting.—Gooseberries may be planted now, and as they are very accommodating they will succeed in nearly any position, provided they have a good depth of soil to root in. Light, gravelly soil does not suit Gooseberries, and where planting has to be done in such a medium good turfy loam should be provided for each bush.

Cuttings.—Gooseberry cuttings may still be inserted. Select well-ripened growths of last season, about 1 foot long, and remove all the eyes on the bottom half. Insert the cuttings firmly about 6 inches apart and 4 inches deep, and allow a space of 1 foot between the rows.

Grease-Bands on Fruit Trees.—A close watch should be kept on grease-bands on Apple trees, and where necessary the sticky material should be renewed, to prevent the female moths from ascending the trunks, as they are very active now.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Violas.—Violas propagated from cuttings inserted in beds in the open should be weeded carefully, and if the plants have been loosened in the soil through the action of frost, press them firmly round and about the roots. Dust the foliage occasionally with soot to prevent damage by slugs.

Flowering Shrubs.—When the weather is suitable proceed with the planting of flowering shrubs. The stations for single specimens should be carefully prepared by breaking up the soil to a good depth, ensuring ample drainage, and providing a suitable compost to give the plants a good start. Naturally, equally good preparation is desirable where beds or groups are to be planted. Some soils and situations are naturally well drained, and in such cases comparatively little preparation is needed. In heavy, clayey land some of the natural soil should be removed and soil imported suitable to the growth of the particular kind of shrub. Magnolia Soulangeana, M. grandiflora, M. stellata, Pyrus Malus angustifolia, P. M. floribunda, P. M. atrosanguinea, Weigelas, double-flowered Cherries and Thorns are a few of the most desirable flowering shrubs.

Pruning and Mulching Shrubs.—Most flowering shrubs require a little timely pruning either to restrict growth or to encourage a pleasing habit, therefore these matters should be kept in view from the time the shrubs are planted. Place a mulch of leaf-mould or decayed manure over the root-area of all newly planted shrubs. Stake standard specimens and protect them from injury by rabbits. See that each plant is correctly labelled, and examine the fastening of all suspended labels on trees previously planted and replace any ties that are too tight.

Sweet Peas.—Sweet Peas should be sown in pots and forwarded under glass to supply early blooms. The main point to be observed in growing these plants under glass is to keep them as sturdy as possible until they are ready to plant out in the open. A large number of varieties is not essential for cut purposes only. I usually depend on one good variety each of white, pink, mauve, and crimson selfs. Select clean, dry pots; use ample drainage material, and fill with a good compost. Sow the seeds more thickly than for later batches; be careful not to over-water the soil.

Chrysanthemums.—Should it be desired to increase the stock of early-flowering Chrysanthemums, and roots have not been potted for the purpose, a few stools should be lifted and placed in gentle warmth, where they will soon provide a supply of shoots suitable for cuttings, many of which may be separated from the stool with roots attached and potted in small pots. With reasonable attention these will make fine plants for subsequent planting on good land, where they will grow rapidly.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* Publisher; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* Editors. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 39.6°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, January 22, 10 a.m.: Bar 30.25; temp. 41°. Weather—Dull.

Food Statistics in Relation to the War. The reference handbook* on this subject prepared by Raymond Pearl and Esther Pearl Matchett on behalf of the Statistical Division of the U.S. Food Administration, contains information of absorbing interest and permanent value. Who among the Allies, for example, would have guessed that the allied nations contained a population eight times as numerous as that of the Central Powers? How could the ravages and disorganisation brought about by war be more strikingly illustrated than by the fact that, although the European Allies—and the Central Powers, too—have to look to America for food supplies, yet the total area normally under cultivation by what may be called the European Allies is three times that under cultivation by the group of "American Allies," which, for the purposes of this computation, includes not only the United States, but also Canada? It is not reassuring either to discover that whereas the percentage of total population engaged in agriculture is in France 22, and in Germany 15.6, it is only 4.9 in the United Kingdom. Yet there is a brighter side, for in Wheat production as increased in yield per acre, the United Kingdom, with an average of thirty-three bushels, beats Germany with thirty, and France with nineteen, the United States with seventeen, and Austria-Hungary with fifteen, although we are beaten in turn by Belgium with thirty-five, Holland with thirty-nine, and Denmark—which heads the list — with forty-three bushels per acre. (Three years' pre-war averages.) Again, during the war (1915-1916) our Wheat area was increased by 455,000 acres (from 1,880,000 pre-war to 2,335,000 in 1915 and 1916), whereas that of France fell from 16,347,000 pre-war average to 13,564,000 in 1915 and 1916; and that of Germany in the same time only showed an increase of 96,000 acres. The statistics relating to the large increase in this country in 1917 and 1918, which was brought about as a result of the active campaign carried on by the Food Production Department of the Board of Agriculture, were not available when the *Reference Handbook* was compiled.

The facts concerning Potato production are also worthy of note. Germany, as is well known, produced an extraordinarily large quantity of Potatos, which in the three pre-war years amounted on the average to 41,000,000 tons; but the German yield (in Winchester bushels = 54.2lbs. per acre) was only 204, as against 220 in the United Kingdom. These yields are, however, far surpassed by those of Denmark, 237 bushels; Belgium, 291 bushels = 7 tons; and Holland, 305 bushels = nearly 7½ tons.

Although Germany made a great effort in 1915, and produced an additional quantity amounting to nearly 6,000,000 tons, she was not able even to maintain her pre-war production in subsequent years. Thus in 1916, from an unascertained acreage, German Potato production only was less than half that of the pre-war average, namely, about 19,000,000 tons. Thus the prediction made in this journal that pig and Potato production would be decisive factors in the war appears to receive signal justification—at all events, with respect to the Potato.

The statistical part of the *Reference Handbook* is supplemented by a valuable series of tables of conversion units, grain and other crop measures, and American equivalents of measures and weights in use in other parts of the world. In view of the importance at the present time of full statistical information in a readily available form, we are of opinion that this useful compilation should be made generally available in this country. We could, however, have wished that some of the more important fruits had been included in it.

* *Reference Handbook of Food Statistics in Relation to the War.*

Royal Society of Arts' Lecture. — At the meeting of the Royal Society of Arts on Wednesday, the 29th inst., a paper on "Food Production by Intensive Cultivation" will be read by Dr. Frederick Keeble, F.R.S., Controller of Horticulture, Food Production Department, Board of Agriculture and Fisheries. The chair will be taken at 4.30 p.m. by the Right Hon. Lord Lambourne, C.V.O.

Chelsea Show, 1919, and Wisley Gardens Endowment Fund.—Since the Fellows' tickets for 1919 and the Annual Report for 1918 were printed, the prospect has become much more promising for the supply of tenting for the usual great meeting of the Royal Horticultural Society held at Chelsea which, owing to war conditions, had to be abandoned in the years 1917 and 1918 so much so that the Rev. W. Wilks now states, on behalf of the R.H.S. Council, that a meeting will probably be held at Chelsea on May 20, 21, 22. Growers—both amateur and trade—have been approached, and have made a most favourable response, and in all cases they promise to send abundant specimens illustrative of the latest advances made in horticulture. The Council proposes to hold this meeting in aid of the Society's Wisley Gardens Endowment Trust Fund and the important practical and scientific work it was set up to accomplish. This Fund was established in 1914 by a Deed of Declaration of Trust, and falls within the definition of "a charitable or philanthropic purpose."

V.M.H. for Sir Frank Crisp. — Only one vacancy occurred during 1918 in the Roll of the Victoria Medal of Honour in Horticulture, and to fill this the Council of the Royal Horticultural Society has appointed Sir Frank Crisp, who has done much good work for horticulture, especially in connection with alpine and rock plants, and as president of the Horticultural Club.

M. Albert Maumené. — Monsieur Albert Maumené, the well-known French horticultural journalist and editor, writes us as follows: "Some English gardeners on the Côte d'Azur have told me that you published in the *Gardeners' Chronicle* some time ago a note to the effect that you were without news of me. After the mobilisation I was at the Front until the end of April, 1918, and then I was recalled by the Minister of Agriculture for the organisation of the work of restoring the ruined farms in the north of France. I am now preparing to issue once more my publications *La Vie à la Campagne*, *Jardins et Basses Cours*, and *Agriculture Elevage*, which have been suspended during the war. I am very grateful to you for your kind remembrance of me."

Edward Mawley Memorial. — In 1917 the National Rose Society raised a special fund in order to provide some suitable memorial to the late Mr. Edward Mawley, who for 37 years was hon. secretary of the Society, and who died during his presidency. A sum of nearly £180 was subscribed, and this has been applied (1) to the erection of a memorial window in St. Michael's Church, Berkhamsted, and (2) to the striking of a medal, which will be known as the Edward Mawley Memorial Medal. The window was dedicated on December 4, and a description of it will appear in the N.R.S. Rose Annual. Two Edward Mawley Memorial Medals will be awarded, for the first time, at the summer show on July 2, 1919.

Revision of Pritzel's "Icones Botanicarum Index Locupletissimus."—The Royal Horticultural Society has already commenced the revision of "Pritzel," and the work is being carried out with the assistance of botanists attached to the Royal Gardens, Kew, the Natural History Museum, and the Linnean Society, and in friendly co-operation with the United States Government Plant Bureau, but the financial responsibility rests with the R.H.S. The original *Icones Botanicarum*, compiled by Dr. G. A. Pritzel, was published in 1866, and is a dictionary of published illustrations of every plant then known, and it contains over 100,000 references and figures, the book and page being given in each case. Such a work was and is invaluable to those engaged in botanical or horticultural research, but as the last fifty years have been more productive of new plants discovered than any previous half-century, the necessity for revision and enlargement has been obvious for a long time past, and would have been carried out earlier had not war imposed a check. It is estimated that the new work will include about 250,000 references and cost at least £3,500, possibly £4,000. Towards this cost the R.H.S. has voted £500 and the Veitch Memorial Trustees £100. The fund was started with £250 from the International Horticultural Exhibition held in 1912. Subscriptions are invited. The names of those subscribing £1 1s. will be published in the new work; every subscriber of £15 or upwards will receive a presentation copy; a subscriber of £50 will receive a copy bound in half-calf; and a subscriber of £100 will receive a copy bound in calf or vellum. The revision is being done at Kew, where the Director has found accommodation for the typists, who are preparing the manuscript under the personal supervision of Capt. Arthur W. Hill, the Assistant Director. The members of the Pritzel Revision Committee are: Prof. I. Bayley Balfour, Mr. E. A. Bowles, Mr. F. J. Hanbury, Capt. Arthur W. Hill, Dr. B. Daydon Jackson, Mr. Gerald W. E. Loder, Sir Daniel Morris, Sir David Prain, Dr. A. B. Rendle, Dr. O. Stapf, and Sir Harry J. Veitch.

Ripley Castle.—The death of Sir William Ingilby, of Ripley Castle, Yorkshire, recalls an interesting fact connected with the beautiful gardens attached to the Castle, for, according to *Truth*, Eugene Aram was the son of a head gardener at Ripley Castle, and some of his letters are preserved in the library. It would be interesting to know whether Mr. Aram, senr., was

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a noted gardener in his day. The INGILBYS have been seated at Ripley since the reign of EDWARD III., and the family has received three baronetcies. The castle was rebuilt in the reign of MARY and PHILIP, and CROMWELL stayed there before the battle of Marston Moor.

Carnation Conference.—The British Carnation Society will hold a conference on Carnations on Tuesday, the 28th inst., at 7 p.m., at the Offices of the British Florists' Federation, 35, Wellington Street, Covent Garden. The conference will be opened by Mr. W. E. WALLACE, Eaton Bray, with "A Chat about Carnations."

Scottish Potato Show in Edinburgh.—At the recent annual meeting of the Scottish Horticultural Association, Mr. ROBERT FIFE announced that the Scottish National Potato Exhibition would be held in the Waverley Market, Edinburgh, on October 29 and 30, 1919.

News from Belgium.—Monsieur A. DE SMET, the well-known nurseryman, of Laerne, near Ghent, Belgium, writes us as follows:—"I am very glad to have the opportunity of writing to English nurserymen once more. I cannot adequately express my gratitude to the British people for the helping hands they have held out to the Belgians. I did not escape the common fate of Belgian nurserymen during the war—my nursery grounds and all the glasshouses are completely destroyed."

Primula warleyensis (see fig. 15). — This charming Primula was given the R.H.S. Award of Merit when shown by Miss WILLMOTT at the meeting of the Royal Horticultural Society on March 26, 1912. It was raised at Warley Place from seeds collected by Wilson in Western China, and the illustration here given was prepared from a photograph taken in those well-known gardens. It belongs to the smaller section of the genus, and forms tufts of small, oval leaves on comparatively long, slender petioles. The leaves are green above and slightly farinose beneath, with serrated margins. The mauve-coloured flowers, about three-quarters of an inch in diameter, are produced in umbels of two or three together on stems about 2 inches high. It is a charming little plant, but, like most Primulas, requires to be periodically raised from seeds. These are produced freely when the flowers are hand pollinated. Specimens in the open require a somewhat dry, shady ledge, but it is more suited for culture in pans in a cold frame.

A Record in Visiting.—For a period of sixty years Mr. JAMES GRIEVE, of Redbraes Nursery, has made it a practice of taking a walk in the Royal Botanic Gardens, Edinburgh, on New Year's Day. From 1859, the first occasion of his visits, till this present year, he has never once missed paying his accustomed call. At the time of his first visit he was employed at the nurseries of Messrs. DICKSON AND CO., and he recalls how on that and many successive calls permission had to be obtained before a visitor was allowed to enter. The father of the present Regius Keeper, Professor J. H. BALFOUR, occupied that position in 1859, and Mr. JAMES McNAB was the principal gardener. Naturally Mr. GRIEVE has seen many changes in the personnel of the officials and staff of the garden, has many reminiscences to tell of his visits, and has seen the introduction to the garden of many of the trees and shrubs now growing there. His many friends will be pleased to know that he is still hale and hearty, and it is to be hoped he may add many more to the number of his annual visits.

The Status of Gardeners.—The Gardeners' Club for Women at Bristol has had under consideration a proposal to form itself into a local branch of the British Gardeners' Association. In furtherance of this movement, a meeting was held at the University a few days ago, at which Mr. CYRIL HARDING, secretary of the B.G.A., gave an interesting lecture, in which he is reported to have said that legally gardeners had no position of their own, and for all purposes of giving and receiving notice they ranked as domestic servants. But under this rank a gardener does not benefit when an employer left a legacy unreservedly to his domestic servants unless he was (a) living in the house of his employer, or (b) working for part of his time in the house. Mr. HARDING quoted Prof. ASHLEY to the effect that a gardener is incoherent. That does not mean he is speechless or incapable of expressing his views, but it means that, generally speaking, gardeners are isolated, with no means of getting together and discussing their position. That difficulty, said Mr. HARDING, was being overcome by the B.G.A., which is now a registered trade union for all horticultural workers over 16 years of age, and has for its main objects the organisation of all horticultural workers over 16 years of age, and tions of labour, working hours and wages, and the settlement of disputes between members and their employers. Mr. HARDING expressed the view that as a result of their efforts in food production, and the demand for open spaces, allotments, and town-planning schemes, the position of men and women gardeners would be greatly improved in the near future.

FIG. 15.—PRIMULA WARLEYENSIS: FLOWERS MAUVE-COLOURED.

Minimum Wages for Gardeners and Estate Employees.—Interesting notes on minimum rates of wages are given from time to time in the *Wages Board Gazette*, the official organ of the Agricultural Wages Board, and in the issue for January 15 it is stated that questions are frequently raised in correspondence, and also in the course of the work of enforcement by the Inspectors, as to whether the work in which a particular worker or class of workers is engaged comes under the minimum rates of wages fixed by the Wages Board. The Wages Board has no authority to give legally binding decisions in regard to such questions, which involve the legal construction of terms used in the Corn Production Act and in the Board's Orders, and which could, therefore, only be authoritatively settled by a Court of Law. Nevertheless, the Board has felt it desirable to give assistance in these matters, and has expressed opinions on individual cases, on the clear understanding that an expression of opinion is without legally binding force. The term "agriculture" includes the use of land as market gardens and nursery grounds, and workers employed in estate or private gardens would, in the Board's view, come within the scope of the minimum rates if the produce was grown wholly or partly for sale. The Board is inclined to the opinion that workers in estate or private gardens would not come within the scope of the minimum rates if the produce was grown solely for the occupier's private use. The term "agriculture" includes the use of land as woodland, and all workers employed in woodlands, including estate woodmen, would accordingly come within the scope of the rates, irrespective of whether the produce was sold or not. The following opinions have been expressed by the Board in regard to specific questions which have been raised: I. That the minimum rates would *not* apply to (a) Gamekeepers; (b) men employed as vermin killers and rabbit catchers; (c) clerk working in the office of a home farm; (d) estate sawmill engine driver; (e) estate sawmill labourer; (f) the office staff of a firm of nurserymen and seedsmen; and (g) private and estate gardeners, provided the produce is grown solely for the occupier's personal use. II. That the minimum rates *would* apply to (a) men in charge of herd of breeding pigs; (b) workers employed on a poultry or egg farm; (c) grooms employed by stallion owners to look after stallions; (d) apprentices under indentures to a firm of nurserymen; (e) the carter to a market gardener employed in carting the produce to market; (f) men employed in private or estate gardens, the produce of which is grown wholly or partly for sale; and (g) a man employed at a private sanatorium as a gardener for food production. III. As regards estate workers, such as carpenters, masons, drainers, plumbers, bricklayers, the opinion expressed is that if the principal and usual occupation of the worker was that of a carpenter, or mason, or drainer, or plumber, or bricklayer, the mere fact that the work of carpentering, draining, etc., was in connection with agriculture would not in itself bring the work within the scope of the minimum rates, but if the principal and usual occupation was that of an agricultural worker, the worker should be paid at not less than the minimum rates in respect of the whole period of his employment, notwithstanding that he might be engaged from time to time in work which in itself would not be regarded as an agricultural operation.

Publications Received.—United States Department of Agriculture Bulletins. (Washington: Government Printing Office): No. 721, ***The Beet-Sugar Industry in the United States.*** By C. O. Townsend.

HOME FOOD PRODUCTION.

On November 16, at Central Hall, Westminster, Mr. Lloyd George said: "In 1913 300 millions' worth of the products of the soil were imported from abroad which could have been produced here, and could have employed 400,000 more workers in the healthiest of occupations. That is one of the problems, and I trust that a good many of the soldiers, when they come back, will be settled on the soil."

The armistice recently concluded leaves the British people with two very serious problems to face, one being the necessity for completing, in conjunction with our glorious Allies, a permanent peace; the second, the reconstruction of practically everything concerning our daily life from an industrial point of view, and one of the biggest factors of this latter question is undoubtedly the provision of our daily food.

Whilst it appears to me that the Prime Minister's figures of value quoted above are possibly very liberal, yet the fact remains that for years past vast quantities of foodstuffs have been imported from abroad which could and should have been produced in this country. When one considers the following figures for food imports alone in 1913 (the last normal year prior to the outbreak of war) one is almost staggered to see what a chance to "colonise" Britain has been wantonly thrust on one side:—

IMPORTS OF FOODSTUFFS, 1913.

	Approx.
Grain and flour	£85,500,000
Meat	57,000,000
Butter, eggs and cheese	40,500,000
Lard	5,000,000
Fruit	12,500,000
Vegetables	6,000,000
Sugar	23,000,000
Approx.	£230,000,000

Had proper steps been taken—and the neglect nearly cost us dearly during the war—what a large portion of this enormous food bill could have represented home production instead of imports, with the resulting increase of healthy employment available. I should think, for more than Mr. Lloyd George's 400,000 workers, especially when one considers that in the same year, it has since been estimated, there were no fewer than 17 million acres of land not properly utilised in the British Isles, by far the greater part of which could have been employed most usefully.

A few, including myself, had repeatedly urged for many years prior to 1914 that steps should be taken to ensure a greater measure of self-support. We frequently advocated that more land should be put under cultivation, but our appeal met with no response, yet when war broke out everyone was eager to "get back to the land," and a great demand arose for plots and allotments, with what splendid results we all know. We old prophets, as we had been looked on, saw accomplished to a certain extent within a couple of years what we had done our best to force home for one, two, and even three score years. All credit to these amateur cultivators, for they all did marvellous work within a short time. The triumph of November 11 was a dual one of spade and rifle, for victory was won not only abroad by the army and navy, but also by the humble tiller of the soil at home.

Napoleon, Emperor of France, referred to the British people as a "Nation of Shopkeepers," but the shopkeepers defeated the aims of the tyrant. To-day, the imitation Napoleon, Wilhelm, ex-King of Prussia, has been overthrown largely by the help of a nation of whom a large number are allotment holders. As we maintain our trading tradition, so must we foster our new spirit, and no effort should be spared by the authorities to keep the allotment cult thriving, and extend not only the numbers that do the work, but also to use every means of affording facilities for food production, as well as enlarging its scope. The London and Southern Sections of the National Union of Allotment Holders, the delegates of which recently met in London, comprise about 52,000 holders; the aim should be a membership of 520,000, and even more.

When the first steps were taken to cultivate land and grow more food in this country, many things were done heedlessly, and playing-fields, lawns, public parks, and recreation grounds were put under the spade. Such errors should now be remedied so far as is possible, for there was, and is, plenty of open ground that could be used without encroaching on land that is already serving a useful purpose. I would be the last person to suggest that allotments, which were formed as the result of misapplied enthusiasm, should be maintained where other land can be provided. But the majority of plots, including those on waste spaces and vacant building land, should certainly be retained, as we shall need all the food we can raise for some years to come. The tenants of such plots must be assured of a security of tenure, and every assistance should be afforded them by the authorities.

New ground must be made available, and not only for allotments, but also for small holdings, for in a real effort to colonise England small holdings will be unquestionably in great demand. There are thousands of acres of land lying practically idle which, with a proper system of cultivation, could be made to grow good and profitable crops, and over and above these efforts there is the need of afforestation. Much land, so often referred to as useless, can be made to pay when properly treated and worked, and every effort and assistance must be directed to such an end, and especially in the conversion of poor pasture and bad grass land to productive arable land.

One often hears people remark that many of the brave lads who have faced fearful perils for us in the war will eventually drift out to the Colonies, but the question arises whether it is necessary for all, or even a great number of ex-soldiers, who desire work in the open, to emigrate. My answer is that it is not necessary, provided our Government will tackle the task bravely, and afford these men, who are the very healthiest of our race, the chance to work on the land, with the added incentive and inducement of becoming their own masters. No finer work could be found for the ex-soldier than the raising of food in his native land, and the chance must be afforded him, either in agriculture or horticulture, of raising some of the six million pounds' worth of vegetables and the 85½ million pounds' worth of grain, to say nothing of the other produce previously imported from abroad.

Where, again, could a finer means of employment be found for men partly incapacitated, or invalided out of the army and navy, than in growing fruit, for much of the 12½ million pounds' worth of imported fruit could be grown at home, and the work would not prove either heavy or tedious labour, but would ideally suit many of these brave but handicapped men. There is therefore no reason why small colonies of partially disabled men should not be established up and down the country for the special purpose of fruit-growing.

The positions of no fewer than fourteen millions of our workers will be reshuffled in the work of reconstruction after peace is proclaimed, and many thousands of them could find new employment on the land.

At Aldershot and other large camps soldiers have converted many acres of barren, idle land into plots that have proved very productive indeed, and ground has been similarly utilised in France and elsewhere. This is sufficient proof of the ability of the soldier as a food producer. Some camps were less good than others, but I fancy this can be traced to the moving of units from one place to another, for the work on the whole was exceptionally good.

There is a grim phrase in the Prime Minister's speech (an extract from which appears above), wherein he says: "The wealthiest country in the world. Hundreds of thousands of people in it broken physically because they were underfed, ill-housed, overworked, perhaps many poisoned with excessive alcohol drinking, to which they were driven by squalor." Not only squalor accounts for one of the evils mentioned, but also lack of any interesting occupation for spare hours. What is a more healthy, interesting, and profitable recreation for a man than to cultivate an allotment for a short while after a day's toil at some other occupation? And yet there are many villages, not to mention towns, where facilities for allotments do not exist in anything like a sufficiency, and where as a rule the house gardens only comprise a few yards of hopeless soil. More and more ground is wanted for the small grower, and above all near to his home, not miles away, where he can only visit his plot for, say, about a couple of hours a week. The plot should be close at hand, so that he can get to it during the light evenings. In any system of town planning there should be powers to enforce these necessary adjuncts to dwellings, and the latter also must be improved. The social side of life must be made more attractive in the villages than it is at the present time, for it cannot be expected that large numbers of the dwellers of cities and towns, where everything is bright and interesting, and where the facilities for pastimes are innumerable, will settle on the land if they are faced with the prospect of living a dull, drab, monotonous life in a country hamlet.

THE ECONOMIC ASPECT.—There is a vast range in the economic questions affecting land work, and especially with regard to small holdings, but the three principal items are, I consider, transport facilities, market arrangements, and financial security.

Transport.—The question of transport is one of the most serious problems that the Government has to solve, and it particularly affects the question of home production. High rates of freight and delays and difficulties appertaining to transport have done more to destroy the small farms of Britain than foreign competition or any other cause, and must be radically remedied without delay if small holdings are to prove successful. Canals and railways linking up the country districts with the big industrial centres are more urgently needed than ever, so that home produce can be placed cheaply and quickly on the markets whilst ensuring a proper profit for the producer.

Market Arrangements come second in importance from the point of view of the small grower. It is useless for the little man to produce in small quantities if his goods cannot reach a market, for though, as runs the Scotch proverb, "Mony a mickle makes a muckle," one has to get the "mickles" together before the "muckle" is realised. For this purpose I would advocate that the local War Agricultural Committees and Food Control Committees appointed some time since should be retained, and be the authorities to whom are allotted powers to arrange the collection of small lots of produce in their particular districts, and the eventual disposing of the same to markets, etc., so that the "mickles" may thus reach the consumer and not be left on the producers' hands to waste.

I had the oppor' inity, whilst on a holiday at Bournemouth last ear, of witnessing a co-operative market system that had been established there, whereat small lots of vegetables, fruit, eggs, butter, poultry, and other produce were put up for sale by auction, and it was surprising what a demand existed, and what good prices were realised. Here, then, is the nucleus of a system that could with advantage be extended all over the country.

Finance is another matter that will require very careful consideration by the Government and will be necessary in the form of Land Banks, or other means, to give the necessary financial backing required by small farmers, etc., to

enable the go-ahead men to make a real success of their efforts. Money will be one of their greatest needs, coupled with the opportunity to get land for their purpose, and means to obtain necessary mechanical aid, seeds, fertilisers, etc., at reasonable rates. If this matter is boldly yet cautiously handled there is but little doubt that great success will result not only for the individual, but also for the nation.

Afforestation.—There is little land in this country that is not capable of producing some commodity or other, and where it is unsuitable for growing vegetables, fruit, corn, etc., and is useless for grazing, it could be devoted to afforestation. Nearly thirty-four million pounds' worth of wood and timber were imported in the year 1913, besides $3\frac{1}{2}$ million pounds' value of manufactured wood and timber. The growing of timber would provide work for further labour, and the poorest land could be utilised for the planting of forests. Afforestation is a subject of great urgency, especially in view of the world shortage of timber and the large quantities that will be required for rebuilding the ruined places of Belgium, Northern France, Serbia, and other countries which the enemy has burned and destroyed.

I have written these remarks with the hope that they will give a lead to thinking men and women who, when they realise the urgency of the subject, may cause our administrators to understand the real necessity of not only maintaining the food production work on the land broken up during the past few years, but also the imperative need of giving increasing and practical aid to the important industries concerned, in order that we may become far more self-supporting as a nation, and, besides providing healthy work for our big population, never again risk finding ourselves so near starvation as we were in 1917. In furtherance of this aim let me urge the need for more practical and interesting lectures on these matters for the information of the "man in the street," and even an extension of the system of school gardening whereby the children may receive, as part of their curriculum, a knowledge of the cultivation of the land, a knowledge that may serve them in such good stead in later life. *Edwin Beckett.*

MEDICINAL PLANTS.*

(*Continued from p. 22.*)

When speaking in Edinburgh in 1913, at the pharmaceutical conference, Sir Edward Evans, chairman of one of the largest manufacturing firms in the world, said: "I would like to point out that the soil of this country seems adaptable for this purpose (the growing of medicinal plants), as what it does produce is superior to any produced elsewhere." He then specified a series of plants for cultivation. Here we have the head of a huge business, with a thorough, practical and intimate knowledge of what is required, advocating the establishment of this rural industry. And this was before the war, which is a very important point to keep in mind, for his advocacy was based on the keen-cut pre-war prices produced by Continental competition, in spite of which he saw the value and importance of this work commercially. This powerful pre-war advocacy by Sir Edward Evans has been emphasised by Dr. Hooper, who for many years was superintendent of the botanical gardens and Government quinologist in India, and a practical botanist. When discussing the topic of home cultivation in an address given in London last July Dr. Hooper said that it was a matter of national importance, and that the imported German and Austrian drugs, though low in price, were inferior in quality to those grown in this country. Mr. Kilmer, an American, in reviewing the natural products of the world in an American journal, wrote that "Great Britain is an ideal land for drug culture, with a balmy, equitable climate, a varied and fertile soil, and a population of intelligent husbandmen. . . . If any one country might attain supremacy in drug culture it should be Great Britain." Quotations like these are somewhat on the lines of the proverb that "actions speak louder than words," and in connection with this the results obtained by the Evesham Small-Holders' Association are both practical and interesting. Apparently this is a group of smallholders who work co-operatively, and they have published their returns. They commenced working in 1915, and laid down 11 acres of Belladonna and $1\frac{1}{2}$ acre of Henbane. The combined expenses, including initial outlay, were £400. Their returns were, for Belladonna £1,300, Henbane £150—total, £1,450, for an outlay of £400. This is an excellent result for a trial run, especially when it is considered what an exceptionally poor growing season 1916 was. Judging from the Press reports which appear from time to time there is a residuum of people, who might be classed as "Doubting Thomases," who believe that when this great war is over the former state of affairs will be at once reverted to, and supplies again obtained from Germany. In fact some even advocate this policy, and consider drug cultivation as merely a temporary expedient to tide us over. Fortunately these timorous individuals are very few, and their opinions can only be considered as the outcome of a nervous or lethargic temperament, and a microscopic outlook on life. It is to be hoped that the future in store for this great nation will not tolerate the state of affairs which formerly existed, that home industries will be safeguarded by the Government, that Fair Trade will take the place of Free Trade, and that the small acreage of land under cultivation will become a thing of the past.

It has been said that it is no good attempting work of this kind in Scotland, but dogmatic assertions such as these seldom stand the strain of criticism. For an answer, reference must be made to Nature. Two of the drug plants most urgently required, viz., Belladonna and Henbane, are native to Scotland. In a field on the north side of Edinburgh Belladonna may be found growing in the hedge. Henbane is botanically abundant on the Berwickshire coast. Experimentally both these plants have been grown successfully and have a high standard of quality, answering all the tests of the *British Pharmacopoeia*. Is further evidence required? Like all problems of a horticultural nature, environment must be taken into consideration and carefully examined. In the pamphlet issued by the Board of Agriculture, and in articles in recently issued magazines and booklets, it is generally stated that Belladonna likes a chalky soil. This is true; but it does not of necessity follow that the converse is untrue. Belladonna is found growing in loamy and chalk-free soil, such as is found in the south-western counties and in the Lake District. It is also stated that Belladonna likes shade. This assertion must be accepted cautiously. It would be more accurate to say that Belladonna does not like a scorching sun, as prevails, say, on the Surrey hills. But such conditions do not prevail generally in Scotland, and in these northern districts an unshaded exposure will be found to be the most suitable.

The preparation of a herbal drug for the market is a matter of paramount importance, for a fine, well-grown specimen indifferently or badly preserved has little commercial value. Leaves and flowering tops must be collected in dry weather, and in the early part of the day. Great care must be exercised so as not to unduly break or crush them. If the collectors are given proper facilities, it is only a matter of skill and practice. Collection must be made by children if the work is to become commercially successful. They can soon be taught to do the work well under supervision, with proper encouragement. Roots must be washed. The easiest way is to dry them in the sun, when most of the adhering soil may be shaken off, after which they can be washed. The water adhering after the washing is merely superficial and readily dries off. Flowers are treated as leaves. The drying of leaves, flowering tops, flowers and roots is best done by means of air. Artificial heat is good, but demands close attention and great care and experience, for unless carefully managed the crops start to sweat, since more moisture is driven out than the air is capable of absorbing. This sweating destroys the colour of the leaves, and also the aroma. The process of drying by air is easily and simply accomplished by using an open-sided shed which admits a full current of air. Trellised racks are fixed to each side so as to be nearest the open air. Rough frames about 2 feet by 3 feet and 3 inches deep should be used, the bottom being covered with wire netting of about 2-inch mesh. These are placed on the racks, and about 12 inches of air space is allowed between each row. The crops are placed on the trays in thin layers, and turned over twice a day if possible until they are crisp. In undertaking a work like this it is necessary that all expenses should be reduced to the minimum. Ordinary unskilled labour must be employed whenever possible, and women and children must be used for the harvest work. Highly skilled horticultural labour must not be considered. Expense outlaid on the soil by the application of artificial manures is well warranted, as the crops are far more remunerative, and a greater amount of material is obtained from the same area of land and for the same amount of labour. Therefore an outlay in artificials is well justified, but in every other department look well to expenses.

A very important question is that of marketing the produce, and this must be carefully gone into. It is a very essential point, but one which it is somewhat outside the scope of this paper to deal with in detail. Broadly speaking, however, the best policy to pursue is not to depend upon the requirements of one or two direct users, like manufacturers. Distribution is best conducted through drug brokers, who handle raw drugs in enormous quantities, and upon whom the manufacturers largely depend for their supplies.

(*To be concluded.*)

* By R. Glode Guyer, Edinburgh. Reprinted from the *Transactions of the Scottish Horticultural Association*, Vol III., Part 2.

HOME CORRESPONDENCE.

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

Seeds of Hippeastrum brachyandrum and Dierama pulcherrimum.—I shall be glad to send fresh seed of Hippeastrum brachyandrum and Dierama pulcherrimum to anyone who will send me a stamped and addressed envelope. *A. C. Bartholomew, 75, Tilehurst Road, Reading.*

"Blue" Orchids.—Mr. R. Windsor Rickards writes from Usk Priory, Mon., in reference to my article upon Blue Orchids, which appeared in your issue of January 4, p. 1, and sends me the interesting information that he saw in a garden in Rio in 1914 Acacallis (Aganisia) cyanea, which is very nearly pure blue in tone, and of great beauty. *Jeremiah Colman, Gatton Park, Surrey.*

Garden Tools.—A short while ago the ordinary English knife was criticised, and rightly, I think, by Mr. Brotherston (see p. 149, Vol. LXIV.), as an inefficient tool for cutting away things from the herbaceous border. The home product known as a garden or pruning knife is often a clumsy and inartistically made tool, and often, too, the steel or its temper deserves condemnation. The blade is too thick and the angle of set and curve are not good. Two hundred years ago J. Laurence advocated a convex blade; has anyone tried such a knife lately? For clearing a herbaceous border or the like there is nothing to surpass the French "serpette du vigneron"—or Vine-grower's knife (see fig. 17). The blade is crescentic, thin, and well hafted in the handle. *H. E. D.*

Romneya Coulteri (see pp. 10, 22).—After noting the early attempts to grow this fine Poppywort at Tottenham and in South Devon many years ago, and the results of modern cultivation, I am of the opinion that success may generally, if not always, be attained by selecting a suitable soil and situation. The early practice was to plant this Romneya on a rockery or some similarly exposed position, where the plant made only a foot or two of growth during the season, and was thus too feeble to bloom. There is not much to choose between R. Coulteri and R. trichocalyx, because they are very closely allied. Both species will, however, make shoots 2½-4 feet high or more during the season, and flower over a long period, if the soil is well drained to a depth of 2-3 feet, and the situation is on the sunny exposure of a wall or house, or in an angle between two houses, for the plant requires shelter and warmth. This fact I have noted in public and private gardens. I have seen a large bed of R. trichocalyx on the level between two glasshouses in Surrey, and flowering well. Before discarding R. Coulteri Mr. Hicks might well try a sheltered, warm situation. *J. F.*

—— To obtain the best results from this delightful Poppy in the Midlands and further north I recommend planting the roots in a corner of a cold greenhouse, where the quality and number of flowers will be a surprise to everybody. I adopted this system in Hampshire, and from one plant, covering about 8 square yards, it was possible to gather flowers for four months. 20-30 at a time, many of the blooms being 10 inches across. It should prove a good investment to market growers to plant a whole house in this way, as this Romneya gives the finest of cut flowers, which last fresh a long time and are deliciously scented. Romneya Coultéri is not a permanent success in England, as the summers are seldom hot enough and the remainder of the year too wet and dull, although in a sunny, sheltered spot it often does well outside. *E. Richli, Codsall.*

Rabbits and Fruit Trees.—I was much interested in *Market Grower's* remarks under the above heading on p. 19 in your issue of January 11. A few years ago I was employed at a large fruit-growing farm in Middlesex, and found the following remedy to be entirely successful in stopping the depredations of these rabbits: The urine from the stables was drained into a large cesspool; this was then pumped into a barrel as required and mixed with ordinary clay to a workable consistency. A stiff brush was used to paint the bottom of the trees with this solution to a height of 2 to 2½ feet from the ground. Boy labour was employed in the latter operation. Speaking to Mr. J. H. Wood (the landscape specialist), of Boston Spa, a few daws ago, he related to me how, on one occasion, when snow fell to a depth of 2½ feet rabbits had burrowed through the snow in their search for food and completely barked a large number of trees. The above treatment would, I feel confident, prove a sure preventive. *A. W. Harding.*

Hybridisation and Cross-Fertilisation of Flowers.—Those interested in the raising of new flowers will welcome the article by Mr. Heal in the *Gardeners' Chronicle* for January 18. It states plainly the experience of a thoroughly practical man, and one who occupies a very prominent position in that branch of the calling with which he has been so long identified. The creation of the winter-flowering race of Begonias, in which B. socotrana played such a prominent part, stands out as prominently as do the various Javanese Rhododendrons, which originated at Chelsea. It is a great pity that no firm seems now to have taken up the culture of this charming class of plants. One striking feature of Mr. Heal's notes is the great number of crosses which have been carried out among the members of the Begonia family, comparatively few of which seem to have found their way into general cultivation. Among other subjects that the writer failed with was Vallota purpurea, which refused to cross with different allies. I, however, some years ago, raised a large quantity of hybrids between this Vallota and Cyrtanthus sanguinea, frequently known as Gastronema sanguineum. The hybrid had, however, been previously obtained by the late Sir Trevor Lawrence, and was given the R.H.S. First-class Certificate on August 25, 1885, under the name of Gastronema nybrida. A coloured form—roseus—received a similar award the following year. The various small-growing species of Cyrtanthus, such as angustifolius, lutescens, Mackenii, and Macowanii, all hybridise readily with each other. By a continued selection I raised a delightful series of these crosses, but unfortunately they passed out of my hands before I had completed the work. The raising of Fuchsias occupied at one time much of my attention, and several of my raising are now in general cultivation. There were many stumbling-blocks, for some of the most promising would not ripen good seeds, while in others the progeny showed a marked deterioration from the parent. The most satisfactory breeders were, however, in time found and duly noted. *W. T.*

Fig. 16.—Romneya Coulteri: flowers white.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

JANUARY 14.—*Present:* Mr. E. A. Bowles, M.A. (in the chair), Messrs. W. C. Worsdell, W. Hales, W. Cuthbertson, Col. Rawson, and F. J. Chittenden (hon. sec.).

Bulbils in Leek Inflorescence.—Mr. W. Cuthbertson showed a large inflorescence of the common Leek in which each of the flowers was replaced by one or more bulbils, as is frequent in many species of Allium. Mr. Cuthbertson, in a long experience, had never met with a similar case.

Substitute for Caraway seed. — Mr. Bowles showed seed of Dill, which is being used as a substitute for Caraway seed. In the opinion of the Committee there seems no reason why Caraway seeds should not be grown in England to supply all our requirements.

Seeds from Salonika.—Mr. Bowles also showed fruits of an Asclepiadaceous plant, which Mr. Worsdell took for identification.

NATIONAL ROSE.

THE most flourishing of the "National" floricultural Societies is the one which devotes its attention to the national floral emblem—the Rose. For forty-two years it has done excellent work on behalf of Rose-lovers, and has steadily increased in power and influence. After nearly five years of war conditions the Society is in a very strong financial position, and though its membership is now 4,860, as compared with 5,500 in 1915, the reduction was due only to the stress and circumstance of war and not to any lack of enthusiasm on the part of growers or of ability on the part of the officers and Council.

The numbers and enthusiasm of the members present at the Holborn Restaurant on Tuesday last, on the occasion of the 42nd annual meeting, were evidence of the prevailing interest and satisfaction with the conduct of affairs. The president Mr. E. J. Holland, presided, and many notable rosarians, including ladies, were present.

The usual formal business was quickly disposed of, and the Report of the Council, as printed and in the hands of members present, was taken as read. We give the following extracts :—

The Council is deeply grateful to members for their staunch support during an exceedingly anxious time; and the fact that the society has been able to continue its work, strengthen its financial position, and emerge full of vitality after four years of war, must be regarded not only as proof of a deep and abiding love for the Queen of Flowers, but also as a strong testimony to the valuable work which has been done by the society.

In 1917 the Show programme was greatly curtailed, in view of the urgent call to National Service; but in 1918 it was found possible to hold three meetings The Spring Show took place on May 7, at the London Scottish Drill Hall, in connection with the Royal Horticultural Society, and beautiful collections of flowers were staged. On Thursday, July 4, the Summer Show was held at the Royal Botanic Gardens, and the fine display of particularly bright, clean blooms, the comfort of the arrangements, splendid weather, and the happy reunion of rosarians after the break in 1917, conspired to make the gathering a conspicuous success. The pleasure of all present was greatly enhanced by the fact that Her Majesty Queen Alexandra graciously honoured the society by paying a prolonged visit to the show, and expressing her admiration of the beautiful exhibits. The takings were given to the British Red Cross Society. The Autumn Meeting was held on Tuesday, September 10.

The "Rose Annual" for 1918 was sent to all members in February last. During the year numerous additions have been made to the society's library at 25, Victoria Street, and many of the books most in demand have been duplicated.

The financial position of the society continues satisfactory. The total receipts for the year, including a balance of £321 4s. 5d., brought forward from last year, amount to £3,262 4s., and the total payments for the same period to £3,191 9s. 4d., leaving a balance at the society's bankers on December 31, 1918, of £70 14s. 8d. During the year the Council invested £1,000 in War Bonds.

Arrangements have been made to hold a Spring Meeting at the London Scottish Drill Hall, Westminster, on Tuesday, April 29, 1919; the Great Annual Summer Show at the Royal Botanic Gardens, Regent's Park, on Wednesday, July 2; a special meeting for new seedling Roses at the London Scottish Drill Hall, Westminster, on Tuesday, July 15; and an autumn meeting in the same hall in September.

The Council desires to record its appreciation of the good work done by local secretaries and others in securing new members, and foremost amongst those who have been particularly successful, Mr. C. E. Cant, Mr. Elisha Hicks, and Mr. A. Bide must be mentioned. It also acknowledges with gratitude the services rendered by Miss Willmott, V.M.H., one of the society's vice-patronesses.

Before moving the adoption of the report and the financial statement so ably presented by Mr. S. A. R. Preston-Hillary, the president referred to the absence of Mr. Chas. E. Shea, who was unable to attend, as Mrs. Shea had sustained a severe accident. At Mr. Holland's suggestion a telegram of sympathy and hope was sent to Mr. and Mrs. Shea.

Mr. Holland briefly reviewed the work done in 1918, and stated that the Council had recently received invitations to hold provincial shows at Norwich and Weston-super-Mare; he hoped that it might be possible to accept one of them, and in such case the Show of Seedling Roses would not be held in London on July 15. The Rev. J. H. Pemberton seconded the motion, and expressed the hope that at an early date the Society might hold its Metropolitan Show where ampler space could be afforded the exhibits, such as at Chelsea Hospital. He suggested that an editorial staff might be necessary in the near future to relieve the pressure of work now falling upon the hon. secretary, Mr. Courtney Page. The report and accounts were adopted.

Mr. H. R. Darlington was elected President, and Dr. A. H. Williams Vice-President; the other officers were re-elected, and all except two

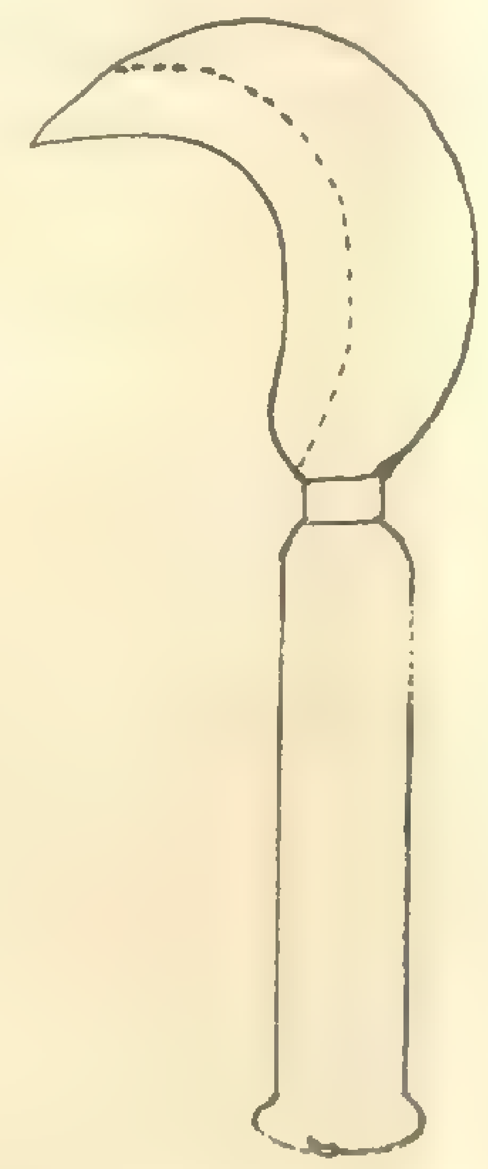

FIG. 17.—SERPETTE DE VIGNERON (VINE-GROWER'S PRUNING KNIFE).
(One-third actual size.)
(See p. 45.)

of the members of the 1918 Council were returned to office, with Mr. F. M. Elgood, Dr. A. R. Waddell, and Lt.-Col. E. B. Walker added. In connection with the election the desirability of a postal ballot was suggested; a brief discussion ensued, and finally, on the motion of Mr. Elgood, seconded by Mr. Chaplin, the meeting recommended the Council to consider means whereby a larger number of members might take part in the election of officers and Council.

Mr. Darlington having taken the chair, as the new president, Mr. Holland was accorded a very hearty vote of thanks for his services so ably and enthusiastically rendered during two years of office.

An interesting part of the proceedings was the presentation of a Dean Hole Memorial Medal to the Rev. F. Page Roberts; a similar honour was voted to Mr. George Paul, who was not able to be present.

Thanks having been accorded to the officers and Council, to which Mr. Courtney Page and Mr. Preston-Hillary responded, the business was brought to a close, but all sorts of matters concerning Roses and rosarians were discussed informally in the social after-meeting, where tea and light refreshments were served, and a programme of music provided.

ROYAL CALEDONIAN HORTICULTURAL.

JANUARY 8.—The annual general meeting of this society was held in Dowell's Rooms, 18, George Street, Edinburgh, on this date. Mr. McHattie, the senior vice-president, was in the chair, and there was an attendance of about 20.

It was announced that in response to the queries sent out to growers regarding the varieties of Apples grown in the different districts of Scotland, replies had been received from 50 growers, and it was proposed to circulate this information for the use of the members. It was also announced that Mr. G. P. Berry and Mr. Banks, of the Board of Agriculture, were preparing, for the Society, papers on hardy fruit growing and fruit preserving respectively, which would also be published.

It was agreed to remit the question of holding a show in Edinburgh in the autumn to the Council for consideration and decision.

The Right Hon. Lord Newlands was elected president in succession to Lord Elphinstone; Mr. E. P. Laird was elected to the vacant vice-presidency caused by the retirement by rotation of Mr. McHattie, and Messrs. J. D. Adair (of John Downie), Edinburgh; W. Galloway, Gosford Gardens, East Lothian, and Thos. J. Gray, Edinburgh, were elected to vacancies on the Council.

The accounts showed a balance of income over expenditure of £40.

NORFOLK AND NORWICH HORTICULTURAL.

MR. SYDNEY MORRIS, of Earlham Hall, presided at the annual general meeting of the Norfolk and Norwich Horticultural Society on January 11 at the Castle Museum. The report submitted by the Committee contained an excellent record of work accomplished. There are 172 members, food production has been encouraged, flowers not neglected, £50 invested in War Bonds, and a balance in hand of £80 12s. A suggestion that the 1919 show be held at Eaton Park in conjunction with the Norfolk Agricultural Society's show in June, was not accepted, but it was agreed to omit the spring show, hold a Rose show at Earlham Hall on Thursday, July 10 (in conjunction with the National Rose Society's show), and a Chrysanthemum show on November 20, 21 and 22.

Officers were elected as follows: Mr. Sydney Morris, president; Dr. C. A. Osburne, vice-president; Mr. E. G. Buxton, treasurer; Messrs. Bach and Preston, auditors; and Mr. E. T. Pollard, hon. secretary, with Mr. Richard Preston assistant hon. sec. The retiring members of committee were re-elected, and Mr. J. A. Christie was added to the committee.

HIGHLAND AND AGRICULTURAL OF SCOTLAND.

JANUARY 8.—It was reported at the annual meeting of the Highland and Agricultural Society of Scotland, held in Edinburgh on this date, that the directors had agreed to hold the "victory" show in the meadows, Edinburgh, which had been offered by the Edinburgh Town Council for the purpose, on July 8 and succeeding days. It is proposed to throw a temporary bridge across the centre walk in order to connect up both the east and west meadows, and the total area available for the show will thus be about 46 acres.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

JANUARY 13.—The monthly meeting of this Society was held in the R.H.S. Hall on the 13th inst., Mr. C. H. Curtis presiding. Four new members were elected. One member was allowed to withdraw interest amounting to £5 1s., and one member over the age of 70 years withdrew £2 from his deposit account. The Army Forms of Privates G. H. Crane and H. G. Hedges were received, also the death certificate of one deceased member, and the sum of £54 10s. 11d. was passed for payment to their respective nominees. The sick pay for the month on the ordinary side amounted to £71 15s. and on the State section to £37 4s. 2d., and maternity benefits to £3.

CROPS AND STOCK ON THE HOME FARM.

MAKING NEW AND REPAIRING OLD ROADS.

CONTINUED wet weather is seriously retarding land operations, especially on heavy soil. Opportunity should be seized to employ the horses and men on the improvement of existing roads and the making of new ones where they would be an advantage to the farm and the estate.

New roads are often made in a slipshod manner, and the commonest error is that of failing to provide a good foundation. The base of a new road should be made in true convex form in the same manner as the finished surface, with a good fall from the centre to the outside, so as to keep the centre dry. The rapid removal of surplus water may be provided for by a single main drain down the centre, or one on each side on the margin, whichever is considered the most suitable. The depth of "metal," i.e., stones, clinkers, broken bricks, or whatever material is available, must be governed by the amount of traffic such roads are likely to carry; 10 inches is none too much for the base, with a 2-inch layer of fine material over it. In the base the largest of the material may be used, even stones 1 foot thick need not be broken, as these, in the cartwheel line, will resist the heaviest traffic. Where there are very deep holes in the base of the road hedge trimmings or small bundles of fine coppice wood would answer the purpose if laid cross-wise over such inequalities, last many years, and provide good drainage for the hard material above. When the base is made and the heavy material filled in, the road should be well rolled to prepare it for the coating of gravel or small stones.

When rolling a newly made road, wide or narrow, the roller should first be used on each side of the road, and then in the centre, to ensure the desired shape.

Roads in need of repair are generally those at the entrances to fields by gates, where there are frequently pools of water or mud. First clear away the latter and level up the hole with dry chalk, which provides an excellent material for such foundations, where frost cannot affect it. Chalk is of no value near the surface, as frost crumbles the layers, and the first shower afterwards turns the spot into a quagmire.

CUTTING HEDGES.

Hedge-trimming is useful work, especially around arable fields, where high fences are harmful to crops. Hedges harbour sparrows and rabbits, both of which are a nuisance and do much harm to Corn crops, especially Wheat approaching the ripening stage. Hedges around arable fields are not required for shelter; crops are better without them, and if sheep are turned on the land close hurdles are sufficient.

Where hedges around grass fields have become overgrown and thin at the base they should be "splashed" by cutting a piece 6 inches long on the top side of the main shoot, some few inches from the base, at a point where it is wished to "lay in" this part. Such "splashing" enables the hedge to be put into shape again, as the main stems are bent and laid in obliquely one above another until the desired height—4 feet or 6 feet—is reached. By this method an old hedge is at once converted into a new, rigid, live fence. *E. Molyneux, Swanmore Farm, Bishop's Waltham, Hants.*

Obituary.

George Bunyard.—As these pages are being passed for press, news reaches us of the death, on the 22nd inst., of Mr. George Bunyard, V.M.H., Maidstone.

Edouard Michel.—We learn with regret of the death, in his 84th year, of Monsieur Edouard Michel, who was for many years director of Messrs. Vilmorin-Andrieux & Co.'s Paris establishment and trial grounds. The name of Edouard Michel will always be connected with the improvement of vegetables and flowering plants. His work, of permanent value to horticulture, was continued over many years; so long ago as 1900 M. Michel retired from active work.

TRADE NOTES.

PROHIBITION OF PLANT IMPORTS INTO AMERICA.

MR. A. J. JACKMAN, of Messrs. George Jackman and Son, Woking Nurseries, Surrey, sends the following remarks on the new regulations issued by the Federal Horticultural Board of the United States Department of Agriculture governing the importation of plants, etc., into the United States, to which we referred in the issue for January 4, p. 12. The new regulations come into force on June 1 next :—

The regulations are of a most drastic nature, going so far as to exclude the importation of all nursery stock, with the exception of "certain bulbs, Rose stocks, fruit stocks, cuttings, scions and buds, and seeds of nut, fruit, forest and other ornamental and shade trees, and of hardy perennial ornamental shrubs," for which permits must first be obtained.

The reason given for this measure is said to be owing to certain injurious insects and fungous diseases which might be imported from "Europe, Asia, Africa, Mexico, Central and South America, and other foreign countries and localities."

I have no desire to make any remarks with regard to exportation from countries other than our own. Is it not a fact, however, that the pests to be found here are mostly far worse in the States, and that in some cases they have been traced to importation from that country? One can commend the United States authorities for taking all necessary steps to keep down these pests, but to exclude all nursery stock regardless of its condition and origin is beyond all reason.

From information I have received I have reason to doubt whether some other motive may not be at the bottom of this new Act, and that it has not been adopted solely as a means of excluding pests. The American firms who import stock are, I understand, not at all in favour of their Board's action. Since July 1, 1916, the Government of the United States has introduced rules and regulations governing the importation of nursery stock into the States, whereby it has been impossible to send any class of stock, before it has been examined and passed as free from all scheduled pests, by an expert from the Board of Agriculture or some other approved person, an original certificate accompanying the invoice and a copy certificate being affixed to each case or package.

This arrangement has, I believe, worked satisfactorily up to the present time so far as this country is concerned, though if isolated cases of neglect in shipping affected plants have occurred, it is surely up to the United States authorities to demand more minute inspection of stock from the localities affected rather than prohibit the importation of all nursery stock.

Such a measure must affect the British nurseryman very adversely. Several firms have for years made special provision to supply the American trade; they have entered into contracts to grow yearly certain classes of stock, and have cultivated varieties of such plants as Rhododendrons, Roses, Conifers, and ornamental shrubs which are best suited to the American climate, but are of little value for home trade. What is to happen to all this stock, some of which has taken at least seven years to mature?

This, however, is not the only aspect of the matter. The same prohibition also applies to France, Holland, Belgium and Germany, countries which ship tens of thousands of pounds' worth of nursery stock to the States annually. The growers are not going to destroy their stock if they can get rid of it elsewhere at some price. Are we going to allow them to send it here? The nursery trade of this country has been seriously handicapped by foreign dumping for years. Is that to be increased tenfold? It is clearly incumbent on the Government to take immediate action with a view to getting these new prohibitive regulations rescinded, and to prevent the dumping of foreign stock in this country.

GARDENING APPOINTMENTS.

Mr. J. B. Ross, as Gardener to Lord Justice WARRINGTON, Clyffe Hall, Market Lavington, Wiltshire.

Mr. Jas. T. Irvin, recently Gardener at Sunninghill Park, Ascot, Berkshire, previously General Foreman at Lockinge Park, Wantage, Berkshire, and at Sherborne Castle, Sherborne, Dorsetshire, as Gardener to Miss WYATT, Heathfield, Ascot, Berkshire.

Mr. G. Allison, late Gardener at Rock House, Cromford, Matlock, as Gardener to R. J. P. THOMAS, Esq., Elcot Park, Kintbury, Berkshire.

F. R. Kime, who has served in H.M. Forces during the past 3 years, has now resumed his duties as Gardener to H. TAYLOR, Esq., Wissahicken, Eaglescliffe, S.O., Co. Durham.

ANSWERS TO CORRESPONDENTS.

COELOGYNES SHRIVELLING: *G. M. S.* If your Coelogyne is a plant of the cristata species the treatment you mention, as to temperature and watering at this season, should be quite satisfactory. The shrivelling is doubtless due to the plants receiving insufficient light last autumn for the proper ripening of the pseudo bulbs. This slight shrivelling need cause no alarm, as a more copious supply of water afforded after the flowering season will soon cause the pseudo-bulbs to become plump again.

FLAGGING CUCUMBER LEAVES: *P. L.* When bright sunshine follows a period of dull weather the leaves of Cucumbers generally flag for a few hours, but if there is sufficient moisture in the atmosphere and in the soil in which the plants are growing, flagging should not be prolonged even in continued bright weather. Over-cropping, crowded growths and a lack of suitable plant-food may each or all be responsible in some degree for the flagging foliage, provided no disease is present.

NAMES OF PLANTS: *W. M. M. D.* A form of Cypripedium Leeanum—a hybrid obtained by crossing C. insigne with C. Spicerianum. —*F. E. R.* 1, Acacia dealbata; 2, A. Baileyana; 3, A. decurrens.—*S. H.* 1, Viburnum Tinus; 2, Skimmia japonica; 3, Cotoneaster frigida; 4, Euphorbia splendens; 5, Reinwardtia trigyna.

RENOVATION OF A NEGLECTED LAWN: *W. B.* Rake off all decayed and rough grass with a wooden rake, and with an iron rake pull out as much of the moss as possible. During a spell of fine weather mow the lawn with a scythe, but do not cut the grass too closely or bare patches may appear if severe frost follows. The presence of moss suggests that the lawn is not sufficiently drained, therefore, if labour is available, a few lines of drain tiles should be inserted to carry away surplus moisture. Dress the lawn with super-phosphate of lime at the rate of 4 lbs. to each 40 square yards, and spread finely-sifted soil, such as old potting compost, over the grass. The soil dressing will soon disappear from the surface, and it will encourage fresh root-action and close growth in the grass. Sweep the lawn lightly at intervals, but do not brush up the soil dressing; roll with a light roller in fine weather. As soon as the grass begins to grow freely mow it once or twice with a scythe, and then use the machine with the knives set rather high. If the knives are set a little lower at each mowing the sward will soon become even, and the mowing machine will then do its work easily. We have in mind a tennis lawn brought back to first-rate condition in this way after two years' neglect; the work was commenced in February and the lawn was fit to play on in May.

WHITE FLY ON TOMATOS: *P. L.* As all the means you have adopted for the extermination of the White Fly (Aleyrodes vaporariorum) in Tomato houses have failed, we recommend cyaniding the houses on several occasions before planting. You will find a note on "Cyaniding Tomato Houses" in *Gard. Chron.*, October 12, 1918, p. 154.

WIREWORMS: *S. J. S.* The various points raised in your letter are fully dealt with in another part of the present issue.

Communications Received.—S. W. D. (B.E.F.)—Sir E. L.—O. P. B.—A. M.—W. S.—C. A. J.—G. P. B.—J. B.—E. H. J.—R. W. T.—H. F. C.—W. C.—J. K.—J. B.—F. C.—H. W. W.—J. D.—P. E. C.—C. J. P.—J. D.—R. E. N.—W. L. L.—J. B.—R. H. L.—A. J. D.—J. T.—J. H. S.—A. P.—J. C.

MARKETS.

COVENT GARDEN, January 22.

Cut Flowers, &c : Average Wholesale Prices.

	s.d. s.d.
Arums— (Richardias), per doz. bl'ms.	12 0-15 0
Azalea, white, per doz bunches ..	7 0- 8 0
Bouvardia, white, per doz. bun.	30 0-36 0
Camellias, 12 s–18's per box ...	4 0- 6 0
Carnations, per doz. blooms, best American var	6 0 8 0
Chrysanthemums, per doz. blooms— white	7 0-10 0
— per doz. bun.— — white ..	36 0-48 0
— coloured ...	36 0-48 0
Croton leaves, per bun. .. .	2 6- 3 0
Daffodils single, per doz. bun ..	10 0-15 0
Freesia, white, per doz bunches	4 0- 6 0
Heather white, per doz. bun. .	6 0-10 0
Hyacinths, Roman, 12's, per doz. bun.	3 6- 4 0
Lilac white, per bunch	2 6- 5 0
Lilium longiflorum long	18 0 21 0
Lily-of-the-Valley, per bun. ...	3 6 4 0
Orchids, per doz:— — Cattleyas ...	18 0-24 0
— Cypripediums,	6 0- 8 0
Pelargonium, double scarlet, per doz bunches .	10 0-12 0
— white, per doz. bunches ...	10 0-12 0
Roses, per doz. blooms— Madame Abel Chatenay ...	12 0-15 0
Snowdrops, per doz. bun. ...	6 0- 8 0
Tulips, white per doz. blooms ...	4 0- 5 0
— yellow per doz. blooms ...	3 6- 4 6
Violets, single, per doz. bun. ...	6 0-10 0

French and Guernsey Flowers : Average Wholesale Prices.

	s.d. s.d.
Anemones— — de Caen, per doz bunches ..	21 0-24 0
— double pink, per doz. bunches ...	6 0-8 0
— fulgens, per doz. bunches ..	5 0- 6 0
Mimosa, per pad...	12 0-14 0
Narcissus, paper white, per doz. bunches ...	3 6- 4 0
— Soleil d'Or, per doz. bun. ...	4 0- 6 0
Ranunculu , red, per d z. bun	18 0-24 0
Roses, Safrano, per packet...	2 6- 3 6

REMARKS.—Daffodils are now arriving in larger quantities, mostly from home growers. The varieties so far offered are Golden Spur, Princeps, and Henry Irving. Snowdrops are increasing in quantity daily, and the majority are very fine blooms. Prices are becoming lower. Lilies-of-the-Valley appear to be sufficient for the demand, and prices remain as quoted last week. Roman Hyacinths are arriving in limited quantities, and are soon cleared. High prices are still maintained for English single Violets. Large quantities are being sold. Very few of these blooms are being sent from the south of France; they are too long in transit, and of the few packages that are sent, many arrive here unsaleable. Two large consignments of French flowers arrived last week. These included large consignments of Mimosa and some Anemones and Ranunculus. Many of these packages showed the effect of the long journey. Paper-white Narcissi also appear to be a little weatherbeaten before despatch, and many packages have to be cleared at low prices. The consignments from the Channel Islands consist of Paper-white Narcissus, N. grand primo, N. Soleil d'Or, white Freesia, Anemone fulgens, and single Violets.

Fruit: Average Wholesale Prices.

	s.d. s.d.
Cranberries, per case	52 6 —
Grapes:— — Almerias, per barrel (about 3½ doz. lbs.)	60 0- 90 0
— Alicante, per lb.	4 0- 6 0
— Gros Colmar, per lb. ...	4 0- 7 0
Nuts:— — Almonds, per cwt.	140 0-160 0
— Barcelona, per cwt.	130 0-140 0
Nuts, con.— Brazils (new), per cwt	230 0-240 0
— Cobnuts, per lb.	1 9 —
— Messina, per bag	130 0-140 0
Walnuts, kiln dried, per cwt ...	130 0-140 0
Pears, Californian (Easter Beurre), cases containing 8 to 10 doz., per case	110 0-120 0

Vegetables: Average Wholesale Prices.

	s. d. s. d
Artichokes, Jerusalem, per bus.	3 0- 3 6
Asparagus, Paris Green, per bundle	10 0-12 6
— — Sprue, per bundle ...	1 10 —
Beans, French, per lb.	4 0- 6 0
Beetroot, per bus.	5 0- 6 0
Brussels Sprouts, per bus. ...	5 0- 6 0
Cabbage, per tally	7 0-10 0
Carrots, per bag ..	9 0-12 0
Cauliflowers, per doz	3 6- 6 0
Celeriac per doz..	8 0-10 0
Celery, per doz ..	21 0-48 0
Chicory, Belgian per lb.	0 10 1 0
Cucumbers, per doz	18 0-24 0
Endive, per doz. ...	4 6- 5 0
Garlic, per lb.	0 6- 0 8
Greens, per bag	1 0- 1 6
Herbs, per doz bun.	2 0- 4 0
Horseradish per bun	3 6- 4 6
Leeks, per doz bun.	4 0- 6 0
Lettuce, Cabbage and Cos per doz	3 0- 3 6
Mushrooms, per lb.	4 0- 5 0
Mustard and Cress, per doz. punnets	1 0- 1 3
Parsley, per ½ bus.	5 0 —
Parsnips, per bag	6 0- 6 6
Potatos, new, per lb.	1 3- 1 6
Radishes, per doz. bunches	1 6- 2 6
Rhubarb, forced, per doz.	2 9- 3 0
— natural, per bundle ...	1 4 —
Savoys, per bag ...	1 6- 2 0
Seakale, in boxes (6–8 lbs.), per lb.	1 6- 1 8
Shallots, per lb.	0 6- 0 8
Spinach, per bus....	3 6- 6 0
Turnips, per bag ..	6 6- 7 6
Watercress, per doz	0 10- 1 0

REMARKS.—Supplies of black Grapes are now getting shorter, with the usual result of higher prices. Crops of Muscats are quite finished. Californian E.B. Pears are now available. The following forced vegetables are on sale:—Beans, Tomatos, Mushrooms, Seakale, Chicory, Asparagus, New Potatos, Cucumbers, and Mint. Ordinary vegetables are plentiful. *E. H. R., Covent Garden Market, January 23, 1919.*

Continued from page iii.

WANTED, experienced GROWER for Bedding Plants, Tomatos, Chrysanthemums, &c.; also smart MAN for General Nursery work; must have experience in Herbaceous and Alpines. Good wages and permanency to the right men.—CONWAYS, LTD., Nurserymen and Seedsmen Halifax.

WANTED, a thoroughly experienced GROWER of Tomatos, Cucumbers, Chrysanthemums, and Bedding Plants, for small Market Nursery; one who will take a small financial interest in the business preferred. — H., Essex House, Hanworth Road, Hampton.

WANTED, a good all-round GROWER.—Full particulars, including what subjects most experienced in, to DRAY & SON, The Nurseries, Ramsgate.

WANTED, Two GROWERS for Tomatos and Ferns; must be up to date, and capable of taking full charge of their own department; only men with first-class experience need apply; single men preferred, owing to housing difficulty.—W. S. WATNEY, LTD., Bostal Nursery, Bexley Heath, Kent.

WANTED, PROPAGATOR (stove); man with good experience required.—W. ICETON, Putney.

GROWER wanted for small branch Nursery; principally Bedding Stuff. Apply to R. DANIELS, Cranbrook Nursery, Ilford.

GOOD, experienced CUCUMBER CHARGE HANDS; also TOMATO CHARGE HANDS wanted for Market Nurseries at Waltham Cross. State age, married or single, experience, when disengaged.—R. W., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, at once, single MAN, for Cucumbers, 600 feet; able to take charge.—State age, experience, references, definite wages required, to MANAGER, Clifton Fruit Growers' Co., York.

EMPLOYMENT offered to two fully experienced CHARGE HANDS for Cucumber and Tomato Houses; wages £3 per week and extras.—Apply personally or by letter to WYNN HAMILTON, "The Ivies," Crossbrook Street, Waltham Cross.

WANTED, LANDSCAPE FOREMAN (WORKING), with good experience.—Apply, giving full particulars, references, and wages required, to GEO. JACKMAN & SON, Woking Nurseries, Surrey.

WANTED, FOREMAN, for Indoor Department, with good general knowledge of the culture of Cucumbers, Tomatos, Pot Vines, Chrysanthemums, Bedding Plants, Clematis, &c.—Particulars as to age, experience, and wages required, to KING'S ACRE NURSERIES, LTD., Hereford.

FOREMAN (WORKING); Glass; North of England; £160 per annum; must be capable, energetic, good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C 2.

WANTED, FOREMAN, with good general knowledge of Nursery Stock, including Fruit Trees, Forest Trees, Roses, Shrubs, &c.; house, with garden, on premises. State wages required, with references.—JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

WANTED, FOREMAN, with good knowledge of Forest Trees and Shrubs.—Particulars as to age, experience, and wages required, to KING'S ACRE NURSERIES, LTD., Hereford.

WANTED, WORKING FOREMAN, with good experience of Inside and Outside work; capable of growing Tomatos and Cucumbers for market; good wages to suitable man.—Apply, J. S. DOIG, Nettleton Lodge, Caistor, Lincs.

WANTED, WORKING FOREMAN, for Rose and Fruit Nursery. Also SECOND MAN. Must be good knife man. State wages and experience. —HEATH NURSERY CO., South Kilworth, Rugby.

WANTED, WORKING FOREMAN, for small branch Nursery; South Coast; Fruit Trees, Roses, Shrubs, and Trees for seaside planting.—B. B., Box 18, 41, Wellington Street, Covent Garden, W.C. 2.

FOREMAN wanted; well up in Forest Trees, Fruit Trees, and Roses.—Apply, stating experience and wages expected, to W. & T. SAMSON, The Nurseries, Kilmarnock.

WANTED, energetic WORKING FOREMAN (Outside), with good general knowledge of Nursery work, Trees, Shrubs, Roses, &c. Apply, with copies of discharge, ARTHUR S. RITCHIE & CO., Belfast.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR, for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants Alpines, &c.; also to take charge of Rock and Water Garden. ROSE GROWER (Outdoor). KNIFESMEN and SPADE HANDS for Fruit and Ornamentals; majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WANTED, reliable MAN, for small Nursery; Inside and Out; to take charge.—Apply, with full particulars, stating wages, to W. P. BOUND & SON, Redhill Nurseries, Redhill.

NURSERY WORKERS. — Qualified Cucumber and Tomato Hands (male) wanted, in the neighbourhood of Waltham Cross; wages from 50s. per week, according to experience; extra for overtime and a bonus on production. GENERAL NURSERY HANDS also required; wages from 38s. per week; over time extra. Apply, Box 99, "Weekly Telegraph" Office, Waltham Abbey.

WANTED, NURSERY HANDS (two); experienced in Roses and General Nursery stock; one Grower of Bedding and Pot Plants; one Assistant for Retail Seed Department.—PROCTOR'S NURSERIES, Chesterfield.

WANTED, several GENERAL NURSERY HANDS.—Apply, W. ICETON, Putney.

WANTED, at once, young MAN as SECOND, in the Rose Department; good budder, &c. Age, reference, and wages required.—A. J. & C. ALLEN, Rose Department, Norwich.

WAREHOUSEMAN wanted, Agricultural Seed Department; preference given to one accustomed to cleaning seeds by machinery.—Apply, stating if disengaged or when, age, salary, and copies trade reference. WM. POWER & CO, 25 and 26, King Street, Waterford.

WANTED, Large Mail Order Seed House require intelligent MAN, capable of undertaking minor technical correspondence and keeping stock. A Kew trained Gardener might find this a congenial post. Splendid opportunity for keen man.—Apply, stating age, details of qualifications, salary required, to R. S., Box 20, 41, Wellington Street, Covent Garden, W.C. 2.

SEED TRADE — Wanted, a CHARGE HAND; one who has a thorough knowledge of all Garden Seeds, Sundries, and Nursery Stock, and accustomed to a brisk counter trade.—Apply, with copies of discharges, to ARTHUR S. RITCHIE & CO., Belfast.

WANTED, SHOPMAN, for Vegetable Seed Trade; smart; up-to-date; must have thorough knowledge.—Apply, giving full particulars and salary required, HARRISON & SONS, Leicester.

WANTED SHOPMAN: thoroughly experienced in the Retail Seed Trade; good salesman.—F. C. EDWARDS & SON, 2 and 3, Upperhead Row, Leeds

LADY GARDENER wanted at once, with previous experience, for Indoors.—Apply, stating age and full particulars, to EDWARD WEBB & SONS (Stourbridge), LTD., Wordsley, Stourbridge.

WANTED, CLERK, with some experience of the trade. Apply by letter, stating age, previous experience, and salary expected.—BARR & SONS (Private), 12 and 13, King Street, Covent Garden, W.C. 2.

WANTED, smart young LADY ASSISTANT for Florist Department, and CLERK, with some knowledge of Seeds, Sundries, &c., preferred.—Apply, with references, stating age, experience, and salary required, T. K. INGRAM, Parkstone Nurseries, Dorset.

SITUATIONS WANTED.

Twenty-six words 1s. 6d., and 6d. for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office, 6d.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

BRUCE, Box 24, thanks all those who replied to his advertisement, and to say that he is now engaged.

GARDENER (HEAD) or GARDENER-BAILIFF.—H. MARTIN GIBBS, Esq., highly recommends his Gardener to anyone requiring a first-class man for large establishment; has been with him 2 years, 11½ years previously Head Gardener to the late Rt. Hon. Sir W. R. Anson, Bart., Pusey House, Faringdon; age 45; married; family, two sons (serving); life abstainer.—Apply, JONES, Barrow Court, Flax Bourton, Somerset.

HEAD GARDENER or GARDENER-BAILIFF; experienced in the management of large establishments; first-class Carnation, Fruit, Plants, and Vegetable Grower; also Shrubs, Rock and Alpine Plants; personally recommended; ten under at present; age 34; married.—BENFORD, Hartham Park, Corsham, Wilts.

GARDENER (HEAD) or GARDENER-BAILIFF.—Advertiser, recently demobilised, requires situation as above; life experience; 7 years' reference; age 44; married (three children, youngest 6).—H. CRANE, St. Cuthberts, Little Tangley, Wonersh, Guildford.

HEAD GARDENER-BAILIFF.—A keen, energetic, and capable manager desires responsible Post; first class all branches; expert Fruit Grower and successful exhibitor; just discharged from Army.—Apply, GEO. MORBEY, Town Hall, Knutsford, Cheshire.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF requires situation in good establishment; life experience in all branches of Gardening, both Indoor and Out; good Decorator; age 33 years; married (two children); excellent references; released from Army when suited.—PTE. A. F. JENNER, 4, Oak Cottages, Grand Shine Lane, Boston.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; married (no family); life experience in all branches; thorough knowledge of land and stock; 17 years as Head; excellent references from present and previous employers.—MORTER, Mannsell Grange, Bridgwater.

LADY COWELL, Clifton Castle, Bedale, Yorks, wishes to recommend JOHN GILBERT to any lady or gentleman requiring a HEAD GARDENER; 37 years' experience of Gardening of all descriptions, both Glass and Outside, including Landscape work and alterations; age 52; married (family grown up). Please apply to J. GILBERT, Clifton Castle, Bedale.

MR. G. ERSKINE wishes to recommend highly a HEAD GARDENER, where three or more ment are kept; life experience in all branches; married (family).—Write, E. PRATTEN, The Buries, Bishopstrow, Warminster.

SCOTCHMAN requires permanent situation as HEAD GARDENER, where several are kept; where a fully competent man is required for producing in large quantities choice Fruits, Flowers, and Vegetables; Inside and Out; good organiser; highly recommended; age 48; married (two children); Southern Counties preferred. Please state wages, with full particulars of requirements.—A. FYFE, "Clifton," Milner Road, Burnham, Bucks.

GARDENER (HEAD). — Mrs. PALMER wishes to highly recommend her GARDENER, with life experience in all branches in large establishments; excellent references from previous employers; age 41; married (no family).—WESTRON, Marlston House Gardens, Newbury.

GARDENER (HEAD), where several are kept; good experience in all branches (In and Out); excellent testimonials; married (no children); age 29.—Offers to P. W., Box 21, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD), where several are kept; thoroughly experienced in all branches, Inside and Out; age 47; personal recommendation.—H. TETHERTON, The Gardens, Wick Hall, Hove, Sussex.

GARDENER (HEAD) seeks re-engagement, with two or more under; thoroughly experienced; Vines, Peaches, &c., Stove and Greenhouse Plants, Orchids, Flower and Kitchen Gardening; 12½ years' reference; age 45; married (two children).—A. WALKLING, Sun Oak Lodge, Coalhurst, Horsham, Sussex.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; Inside and Out; lifetime experience in large establishments; skilful cultivator of choice Fruits, Vegetables, and Plants; first-class qualifications as Head; energetic and hard working; trustworthy; Home Counties preferred.—F. W., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD) seeks engagement, where several are kept; age 38; married (no family); 23 years' first-class practical experience in choice Plants and Fruit under Glass, Pleasure Grounds, Fruit and Vegetable Culture, &c.; excellent references.—WREN, 3 Row, Platt Lane, Felbridge, East Grinstead.

HEAD GARDENER wishes re-engagement; a life experience in all branches; very keen; not afraid of work; well recommended; speciality Roses, Carnations, and Fruit; Medallist. — C. W. EVANS, 139, Commercial Road, Portsmouth.

HONBLE. MRS. WYNN will be pleased to recommend WM. B. BURCHILL as GARDENER (HEAD) to any lady or gentleman requiring the service of a thoroughly experienced and trustworthy man; land and stock if required; married (no family).—BURCHILL, Rûg Gardens, Corwen, N. Wales.

MR. T. COOK, The Royal Gardens, Sandringham, recommends Pte. T. SPARROW as GARDENER (HEAD); age 32; married; life experience, Inside and Out, in good establishments; released when suited.—PTE. T. SPARROW, Herringstone, Dorchester, Dorset.

A FIRST-CLASS HEAD GARDENER. —We have on our list a thorough, practical MAN; Indoor and Out; used to a large staff; married (one in family); North of England or South of Scotland.—Apply, BARR & SON, Buccleuch Street, Dumfries.

A CAPABLE HEAD GARDENER, with excellent references, seeks re-engagement; thoroughly experienced in all branches, Orchids included; practical and energetic worker; age 45.—GARDENER, Gables Cottage, Surbiton.

GARDENER (HEAD); Army discharge; good practical experience, both under Glass and Outside; can be well recommended; age 42; married.—GODDARD, Donaldson's Hostel, Belvedere, Kent.

GARDENER (HEAD) seeks re-engagement; thoroughly experienced in all branches; good references; age 35; no encumbrances. Please state wages.—W. EAST, 17, Broomfield Road, West Ealing, London, W. 13.

GARDENER (HEAD); age 36; single; 7 years' good reference as HEAD GARDENER previous to war; life experience, gained in good Gardens; repatriated prisoner of war; released from Army immediately when suited.—A. COLLINS, 50, Glenthorne Road, New Southgate, N.

F. MONCKTON, Esq., wishes to highly recommend his HEAD GARDENER (where four or more are kept); 18 years' all-round experience, gained in good establishments; Intensive Cultivation a speciality; excellent references; age 33; married (no family).—A. NEAL, Stretton Hall Gardens, Stafford.

GARDENER (HEAD); life experience; efficient in the requirements of good establishments; first-class experience in all branches of Horticulture; 15 years Head; highest testimonials; age 44; one daughter (10); Army discharged; disengaged. Please state terms.—J. A. PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (HEAD); age 42.—WILLIAM TURNER, 18, Blomfield Street, Bury St. Edmunds, is open to engagement with lady or gentleman requiring the services of a thoroughly practical, first-class man; highly recommended; late Royal Air Force

GENTLEMAN highly recommends his GARDENER to anyone requiring a hard-working, trustworthy man as Head of two, or good Single-handed, where help given; life experience, Inside and Out; age 30; married (no family); disengaged. — W. OSBORNE, Goodworth House Gardens, Clatford, Andover.

ORCHID GROWER or GARDENER (HEAD); highly recommended; well up Inside and Out, especially raising Orchids; R.H.S. Certificates; 20 years' experience; married; age 42 (one child). State particulars. — W. R., Box 13, 41, Wellington Street, Covent Garden, W.C. 2.

SIR WILLIAM PLENDER wishes to highly recommend his HEAD WORKING GARDENER; thoroughly experienced; Inside and Out; also land and stock; age 47; married; no children; cause of leaving former Head Gardener returning.—C. WARE, Ovenden Gardens, Sundridge, Sevenoaks.

GARDENER (HEAD WORKING). — SIR IAN AMORY, Bart., Knightshayes Court, Tiverton, highly recommends his late temporary HEAD GARDENER as a competent, trustworthy man; practical experience all branches; exceptional testimonials; previously Foreman at Bowood; has had him under; discharged; age 29; married when suited.—F. BUSH, 2, Castleyard Road, North Road, Highgate.

GARDENER (HEAD WORKING of four or more); 20 years' first-class experience in the cultivation of Fruit, Flowers, and Vegetables; Inside and Out, and management of well-kept Garden; excellent references; age 35; married (no family); disengaged.—RIDGEWELL, "Buckthorpe," Chertsey Road, Addlestone, Surrey.

GARDENER (HEAD WORKING); demobilised, seeks re-engagement; 25 years' experience in large establishments; excellent references from previous employers, also from the Army; married (no family); age 37.—SUTTON, 8, Leffern Road, Shepherd's Bush, London, W.

GARDENER (HEAD WORKING); age 46; with life experience; efficient in requirements of a good establishment for high-class Vegetables, choice Fruits, Flowering Plants, Orchids, Carnations, Roses, Chrysanthemums, Alpines, Herbaceous, Lawns, &c.; economy and discipline; 18½ years Head late situation; excellent references; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton, Surrey.

GARDENER (HEAD WORKING), where several are kept. — Owing to the death of Sir ERNEST TRITTON, Bart., A. AYLING is open for re-engagement with lady or gentleman requiring same; good all-round Fruit, Flowers, and Vegetables; Inside and Out; early and late forcing. Also two LADY GARDENERS requiring Posts in Pleasure Grounds, &c.; good references. Please state wages, &c.—A. AYLING, The Lodge, Bloomfield, Upper Norwood, S.E.

GARDENER (HEAD WORKING).—Advertiser, who has been on work of National Importance, is now disengaged; has thorough general knowledge of all branches of Garden work, and more particularly Hardy Perennials, Rock Plants, and Outdoor Gardening generally; capable, if desired, of designing and carrying out extensions to ground; married (one child); highest references.—W. H., Box 20, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where several are kept; life experience in all branches; 8½ as Head in last situation; age 35; married (two children); well recommended; demobilised.—LEVEY, 58, High Street, Huntingdon.

GARDENER (HEAD WORKING) seeks re-engagement; practical experience Gardening, Inside and Out; understands farm management if required; age 48; married (no family); good references; 4 years last place.—TUCK, Owthrope Gardens, Branksome Wood Road, Bournemouth.

GARDENER (HEAD WORKING), where four or more are kept; life experience in all branches, Inside and Out; age 41; married (no family); highly recommended.—FLETCHER, The Farm, Nymwood, Hatfield, Herts.

GARDENER (HEAD WORKING), where four or more are kept; life experience in all branches; good reference.—Apply, H. SCOTT & SONS, Woodside, S.E. 25.

GARDENER (HEAD WORKING), where one or two under kept; experienced Fruit, Flowers, Vegetables, Inside and Out; 6 years last situation. PALFREYMAN, 68, Lydgate Lane, Crookes, Sheffield.

HEAD WORKING GARDENER, where three or four are kept; good all-round experience. married (one child); 15 months' Head prior to enlistment; 7 years Second in previous situation; excellent references.—HOWE, 34a, Old Church Road, Hollington, St. Leonards-on-Sea, Sussex.

GARDENER (HEAD WORKING), where three or four are kept; life experience in all branches, Inside and Out; married (one child, age 3), 4 years last situation as Head; excellent references.—HARBERT, Cricklewood Dormansland, near Lingfield, Surrey.

GARDENER (HEAD WORKING), where three or four are kept; life experience in all branches; leaving through place being sold; age 51; married; no family.—J. D., Woodbury Cottage, Farley Hill, Reading.

GARDENER (HEAD WORKING of three or four); good practical experience, Inside and Out; well recommended; disengaged when suited; married; age 34.—G. HOWE, "Holmhurst," Loughton, Essex.

GARDENER (HEAD WORKING); life experience, Inside and Out; 6 years as Head in last situation; well recommended; disengaged; age 40. —A. ANDREWS, Hardingham, Attleborough.

GARDENER (HEAD WORKING); highly recommended for ability in all branches, Vegetables, Fruit, Flowers, Floral Work, Forcing, &c., general upkeep, with economy; disengaged; age 41, married (one child, 10½).—EVANS, Bradbourne House, Bexley, Kent.

GARDENER (HEAD WORKING) seeks re-engagement, where two or more are kept; 12 years' experience as Head; Inside and Out; can be well recommended; married; age 48.—W. BODDY, Pinehurst Gardens, Langley Avenue, Surbiton.

GARDENER (HEAD WORKING) seeks re-engagement; first-class experience in Fruit, Flowers, and Vegetables; Inside and Out; Alpines, Herbaceous, and general work, in good establishment; 15 years Head in present situation; highly recommended, just discharged from Army.—Apply to J. MacDONALD, Camilla Lacey Gardens, Dorking, Surrey.

GARDENER (HEAD WORKING); life experience, Inside and Out; two sons Under Gardeners; practical experience in all branches, gained in large establishments; also Market Gardening; excellent references.—A. F. B., Naboth Cottages, Gerrards Cross, Bucks.

DISCHARGED Soldier seeks re-engagement as HEAD WORKING GARDENER, where one or two more are kept; life experience in all Outdoor work, gained in good establishments; well recommended; married when suited; age 28.—A. SIMMONS, St. Giles' Gardens, Salisbury, Dorset.

GARDENER (HEAD WORKING); life experience all branches; electric light, land, and stock if required; 16 years last situation as Head; well recommended; free now; age 44; married.—J. COOPER, Park House, Colnbrook, Bucks.

GARDENER (HEAD WORKING); life experience all branches; age 43; good references; could manage small estate. Please state wages, &c.—P. W., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where three or more are kept; life experience in all branches; good references; age 35; married (two children).—Apply, W. WHITE, 41, Bartley Street, Brixton, S.W. 2.

GARDENER (HEAD WORKING). — Lady thoroughly recommends her late HEAD GARDENER, who has been with her 9 years, where several are kept; thorough practical experience of Gardening in all branches; excellent references; age 42.—G., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

CAPT. WYNDHAM THOMAS, Elsham Hall, Lincoln, will be pleased to recommend his late HEAD WORKING GARDENER to lady or gentleman requiring a fully competent man, thorough grower of Fruit, Plants, and Vegetables; practical and energetic worker; life experience; married; age 45.—Address, WELFORD, Brookhurst, Ewhurst, Surrey.

GARDENER (HEAD WORKING) desires re-engagement, where two or four are kept; expert in the cultivation of choice Fruits and Vegetables under Glass, also Flowering Plants, Forcing and Cutting; excellent references; life experience; single; disengaged February 8.—Apply, HEAD GARDENER, Skeffington Hall, Leicester.

GARDENER (HEAD WORKING). — MR. BUTLER, Wilton House Gardens, near Salisbury, will be pleased to recommend his FOREMAN, CECIL COOL, to any lady or gentleman requiring a thorough good all-round Gardener, age 30.

HEAD WORKING GARDENER, where two or three are kept; 30 years' experience in all branches; 9 years with present employer; or Chauffeur in good establishment; manage electric light.—G. PLUMTREE, 14, Burcote Cottages, near Abingdon.

GARDENER (HEAD WORKING) wants situation where one or two more are kept; 25 years' experience; age 43; married; no family; disengaged.—Please state full particulars, F. D., 21, Carlos Street, Godalming, Surrey.

GARDENER (HEAD WORKING) seeks situation; life experience in all branches; Inside and Out; married; age 50; good references.—W. TUCK, The Gardens, Pishiobury Park, Sawbridgeworth, Herts.

GARDENER (HEAD WORKING); just demobilised; where two or three kept; well up in all branches, Inside and Out; Flowers, Fruit, and Vegetables; good references; age 46; married (one child); South preferred.—SNOW, Tackley, Oxon.

GARDENER (HEAD WORKING), where one or two under kept; experienced Fruit, Flowers, Vegetables; Inside and Out; 6 years' last situation.—PALFREYMAN, 68, Lydgate Lane, Crookes, Sheffield.

GARDENER (HEAD WORKING); thoroughly experienced all branches; Inside and Outside; where three or four are kept; married (two children); good references; age 29.—THORPE, Poundon, Bicester.

E. DE QUINCEY, Esq., Oakwood, Chislehurst, wishes to recommend S. WOODARD as GARDENER (HEAD WORKING), where three or more are kept; excellent references; 13 years' experience; Army discharged; age 32; married (one child).

GARDENER (HEAD WORKING OR SINGLE-HANDED), with help given; life experience, Inside and Out; three years last situation; married; disengaged.—MARTIN, 19, Great Enton, Witley, Surrey.

GARDENER (HEAD WORKING), demobilised, seeks re-engagement; life experience in large establishments in all branches; excellent references; married (no family); age 41. — KYME, Ravenswood, Alderley Edge, Cheshire.

GARDENER (HEAD WORKING) seeks appointment; long experience; well recommended as competent and reliable; Midlands preferred.—WM. BURNS, Sandy Lane, Tettenhall, Wolverhampton.

GARDENER (HEAD WORKING); life experience, Inside and Out; also Landscaping, to plan and advise; son 17; wife laundress if required, excellent references; disengaged.—AUSTIN, Horringer, Bury St. Edmunds.

GARDENER (HEAD WORKING), where one or more are kept; life experience, Inside and Out; middle age; energetic; good references; married (no family).—J. K., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where four or more are kept; life experience; 6 years as Head; good references; married (two children).—BEAMES, The Knapp, Thornbury, Glos.

GARDENER (HEAD WORKING), demobilised Soldier seeks situation; excellent references from good places; age 32; married (one child).—BUDWORTH, The Rectory, Old Malden, Worcester Park, Surrey.

GARDENER seeks situation, where help is given; age 26; good knowledge of Inside and Outside; 10 years' experience in good establishments; married when suited; Sussex preferred.—R. BROWN, 151, Cottenham Terrace, Hornsey Rise, N.

DISCHARGED Soldier requires Post; single handed; age 26; married (one child); fair, all-round experience; able to milk.—A. GOODCHILD, The Lodge, Shirenewton Hall, near Chepstow.

GARDENER, where help is given; discharged war worker; life experience; age 48; well recommended.—FOWLER, Bourne Ville, Winterbourne, Bristol.

LADY highly recommends GARDENER; 39; single-handed or Under; served all through war, N.C.O., M.M.—MRS. CHAMBERLAIN, St. Marye's, Midhurst.

GARDENER (WORKING); capable, reliable; 16 years' practical experience, Vines, Cucumbers, Melons, Flowers, and Vegetables; age 30; married (two children); excellent references; South preferred Please state wages.—S. F., Box 14, 41, Wellington Street, Covent Garden, W.C. 2.

KITCHEN GARDEN or Pleasure Grounds; life experience; age 41; married (no family); 4 years here. Please state wages.—H. RANGER, Marden Park Gardens, Woldingham, Surrey.

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JOURNEYMAN seeks situation in large establishment; 6 years' experience before the war; Inside and Out; age 23; good references; demobilised soldier. — WM. AINSLEY, Woodside Cottage, Darlington.

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LADY GARDENER, well educated, 10 years' experience, desires work February under good Head; wishes extend knowledge Hardy Fruit, take duty; last two years Glass Forewoman; preferably Home Counties and Bothy. — GILBERT, Danesbury Bothy, Welwyn, Herts.

LADY GARDENER desires Post under good Head; Inside and Out; 3 years' experience; duty if wanted.—P. A. LOWE, The Gardens, Hartham Park, Corsham, Wilts.

LADY GARDENER seeks Post under Head; experienced Fruit, Flowers, Vegetables, Glass.—S., 46, Fowler's Walk, Ealing, W. 5.

LADY GARDENER desires Post under Head; 4 years' experience, Inside and Out; good references. — Apply, MISS DAVIS, c/o Mrs. Bryan, Hamilton Cottage, Hanover Street, Cheltenham, Glos.

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The Gardeners' Chronicle.

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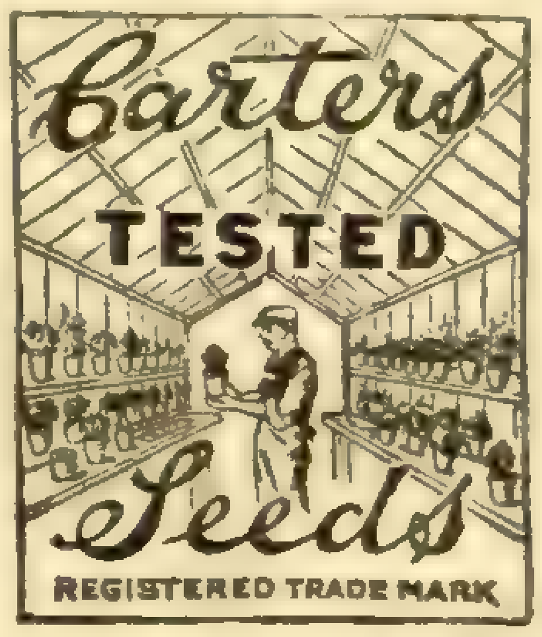

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NOTICES.

THIS is to give notice that the Nursery at Spencer Park, Wandsworth Common, advertised by me in "Gardeners' Chronicle" of January 25, 1919, has now been disposed of to Mr. HARRY DIXON, and all my interest in those premises now ceases. — ERNEST DIXON, Putney Nurseries.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence, and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W. 14.

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HORTICULTURAL ADVISER and LECTURER required; initial salary, £260, with travelling expenses. Particulars of duties, &c., may be obtained from the undersigned, to whom applications must be sent in before Saturday, February 15, 1919.

J. A. L. ROBSON,
County Secretary for Higher Education.
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January 22, 1919.

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GARDENER required to undertake work of small Botany Garden.—Apply, stating qualifications, &c., to HEAD OF BOTANICAL DEPARTMENT, Bedford College, Regent's Park, London.

GARDENER required for gentleman's country house; must be man with good experience.—Apply, stating age, experience, and salary required, to M. H., Box 13, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, experienced GARDENER; help given; good cottage.—CAPT. PULLEINE, Sandford House, Richmond, Yorks.

WANTED, LEADING HAND in Kitchen Garden, also several experienced JOURNEYMEN for Inside and Out; good wages; excellent Bothy.—J. KIRKWOOD, Sutton Place, Guildford.

WANTED, KITCHEN GARDENER, having good experience and references; good cottage and garden provided.—Apply, stating wages required, to M. NICHOLLS, The Gardens, St. Clere, Kemsing, near Sevenoaks, Kent.

WANTED, experienced, active WORKING GARDENER; capable of making Garden pay; interest in results; help given; must understand central heating; good cottage and extras; discharged soldier preferred if thoroughly competent Gardener.—MRS. PAULET, Lydford Hall, Taunton.

WANTED, Reliable MAN for the Houses; must be well up in Vines, Melons and Cucumbers, &c., and be a good Plant Man; if married, cottage found.—Please state age and wages required to HEAD GARDENER, Trosley Towers, Wrotham, Kent.

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GARDENER (SECOND), chiefly Inside; cottage and garden provided; also good MAN, Outside; good wages. — W. TRATT, Holywell Park, Wrotham, Kent.

SITUATIONS VACANT continued on page ix

FLOWERS from SEED

THE need for flowers in the garden and in the house has been more than ever felt during the past summer. In the earlier days of war, flowers were almost regarded as an unnecessary luxury, but the lack of them has served to show how invaluable they are in these times, as evidenced by the keen desire to secure bulbs for autumn planting. Flowers from seed are the cheapest and most effective means of beautifying our gardens, and a little time and thought devoted to the selection and growing of some of the hardier and more easily cultivated kinds will be well repaid.

Annuals, such as Godetias, Clarkias, Eschscholtzias, Larkspurs, and Poppies, as well as Asters, Stocks, and Phloxes, flower freely when sown in the open ground, if the soil be well prepared and the seedlings severely thinned to give plenty of room for root growth. Nearly all the early-blooming Annuals will flower a second time if cut when the blossoms begin to wither. Sunflowers and Lavateras add brightness to shrubbery borders, and the dwarf Sweet Alyssum, if sown profusely as an edging, gives a charm to the garden from June till late autumn. These are only instances of what can be done to enliven our gardens at small cost. In spring, Wallflowers, Sweet Williams, Pansies, Polyanthus Myosotis, and the Siberian Wallflower (Cheiranthus Allionii) will follow Crocuses and Daffodils and add to the beauty of the May garden till the spring-sown Annuals take their place.

ILLUSTRATED CATALOGUES POST FREE ON APPLICATION.

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THE
Gardeners' Chronicle
No. 1675.—SATURDAY, FEBRUARY 1, 1919.

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BRITISH LICHENS.

THERE are certain indications of an increasing interest in the lichen flora of the British Isles. Perhaps the most reliable of these is the frequency with which contributions, mostly of an ecological character, have been made to the literature of the subject, for within the past seven years important communications have been published in the scientific journals respecting investigations that have been carried out in various districts of Great Britain and Ireland so widely separated as Elginshire and Devonshire, Norfolk and Lancashire, Howth Head and Clare Island. This affords proof that the work has not been solely that of a small number of enthusiasts in a restricted area, but that it is due to a more general awakening of interest to the importance of lichens as members of plant communities.

The publication of the present volume of *A Monograph of the British Lichens*,* on modern lines, was particularly opportune, for it was issued at a period when the need for the completion of the work, which was known to be in the very capable hands of Miss A. Lorrain Smith, was being freely expressed. The publication of Part II. of the *Monograph* (1911) did much to lead to the adoption, by British lichenologists, of a uniform nomenclature which had been based upon an exhaustive study of synonyms. With the completion of the *Monograph*, there should be no occasion for confusion to arise respecting the present name of any British lichen.

An entirely new feature of this volume is the addition of an explanatory introduction, pages viii. to xxiii., which conveys in a clear, terse style, information concerning the structure, morphology, reproductive organs, physiology, and classification of lichens. The structures peculiar to the lichen thallus, as soredia, isidia, cephalodia and cyphellae, have received special attention. The short paragraph allotted to each of these structures is more informing and much to be preferred to the short definitions appearing hitherto only in the glossary. The gall-like outgrowths which form the hooded ends of the laciniae of Physcia hispida, caused by a mite which eats away the cortex and stimulates the formation of gonidial tissue, are mentioned in connection with the description of the plant on page 241. In paragraph four, page viii., the general opinion is accepted that the algal elements of the lichen thallus multiply by division within the thallus, and that zoospores are never produced except in cultivation outside the thallus. The statement is probably based upon the fact that the morphology and physiology of algal cells, isolated from the lichen, have within recent years been followed more thoroughly than that of algal cells developing within the thallus. The results gained by the adoption of culture methods with lichen gonidia may lead to the identification of the particular alga that is in symbiotic relationship with a fungus; but it does little to add to our scanty knowledge of the morphological changes that take place within the algal cell under symbiotic conditions, and about which books on lichenology and text-books of botany are so vague. It is frequently stated that the algal elements of the lichen thallus multiply by division within the thallus, but the kind of division, vegetative or otherwise, is not described nor is a dividing cell figured. It has, however, been demonstrated, since this book was in print, that a non-vegetative cell division, sporulation, does take place, and that this brings about a great increase in the number of the gonidia.

The plan of classification adopted is based primarily upon the structure of the fruit, and is followed by the development of the lichen plant as a whole. Lichens containing blue-green algae (Myxophyceae) are considered before those containing bright green or yellow algae (Chlorophyceae). Under this system British lichens fall into two great series—I. Gymnocarpeae, in which the fruits have more or less open discs. II. Pyrenocarpeae, with closed fruits. The first of the above is further divided into three sub-series:—(1) Coniocarpineae, apothecium partly closed, retaining the spores when mature in a powdery mass. (2) Cyclocarpineae, apothecium with open disc; spores ejected when mature. (3) Graphidineae, apothecium with elongated narrow disc. This volume includes descriptions of the British lichens that belong to the first two of the sub-series.

Following the description of each order (family) is a key to the genera. Some of the larger genera are further divided into sub-genera. This method should aid the student to track down a species to within quite narrow limits and thus save valuable time.

The thorough revision, that is evident throughout the volume, necessitated the introduction, according to the rule of priority, of names that replace very familiar ones. Various changes that have been made may be illustrated by reference to the genus Cladonia, which will be found to include as sub-genera the genera Cladina and Pycnothelia of the first edition.

Under Cladonia, as now understood, there are forty one species, whereas in the first edition the three genera referred to contain forty-three species. This difference is caused by the union of similar species and by their reduction to varieties. For instance, Cladonia foliacea Willd. (= C. alcicornis Floerk.) now includes the former species C. firma and C. endiviaefolia as varieties. Sub-species are raised to species and one entirely new lichen is added.

At the end of the volume are seventy-one plates, which include on an average six figures; each plate illustrates a typical species of the genera described in the book. The drawings are by Mr. P. Highley, and are similar in character to those illustrating Part II. (1911).

Miss Lorrain Smith has succeeded in producing a book of great merit, and, beyond question, the complete *Monograph* will become the standard work of reference for all students of lichenology.

* *A Monograph of the British Lichens*. A Descriptive Catalogue of the Species in the Department of Botany, British Museum. Part I., second edition. By Annie Lorrain Smith, F.L.S., Acting Assistant, Department of Botany. (London: Printed by order of the Trustees of the British Museum.) Price 30s.

BULB GARDEN.

LILIUM PHILIPPINENSE.

The note on p. 238, from *Plant Immigrants*, No. 140, regarding the qualities of Lilium philippinense, states that the species is said to be destined to become of great value both to commercial and private growers, and to be especially noteworthy for the short time which elapses between potting and flowering. Beautiful as this Lily is, from my experience of it I have grave doubts about it proving to be the success which is anticipated, and I have yet to learn that its culture has been taken up commercially. The species was first discovered by Gustave Wallis, the collector, on the Island of Luzon, one of the Philippines, in July, 1871. Two years later, namely, on August 6, 1873, it was, when shown by Messrs. James Veitch and Sons, given a First-class Certificate by the Royal Horticultural Society. In 1884 I had many hundreds of collected bulbs under my charge, and found that though they flowered well the first season they proved to be very unsatisfactory afterwards. Some years later I made a note of this Lily in flower in Mr. Ware's nursery at Tottenham. I have an idea these results were from freshly imported bulbs. In its very long, slender tube this Lily bears a considerable resemblance to the Himalayan L. Wallichianum, which is also a difficult Lily to establish, and seems now to have almost dropped out of cultivation. Another beautiful Lily well known some thirty years ago from imported bulbs is Lilium neilgherrense, with flowers more or less of a primrose tint, and in some examples at least with exceedingly long tubes. My experience of this species is that the bulbs, if sufficiently developed, flower well the first season, but very poorly the next. Like Lilium philippinense, this is essentially a greenhouse species. If the Philippine Lily is to be of commercial value it will be necessary to grow it under sub-tropical conditions, such as obtain in the Island of Bermuda, where the form of L. longiflorum known as Harrisii has proved to be a success. So far as one can judge, Lilium longiflorum is still the species upon which we must depend to keep our markets supplied with white Trumpet Lilies. *W. T.*

ON INCREASED FOOD PRODUCTION.

ONION THE URN.

While frankly admitting there are many excellent varieties of Onions on the market today, I consider, judging from several years' experience in growing and comparing most, if not all the well-known varieties, the best for general purposes, especially for keeping, is The Urn, raised some years ago by Mr. Taylor, The Gardens, Byram, Ferrybridge, Yorks. The variety does not come absolutely true from seed, but about 85 per cent. to 90 per cent. of the seedlings are true. The variety is urn-shaped, and to my mind this is a great advantage to the consumer, as there is very little waste when the base of the bulb is cut off preparatory to use. The bulb is very solid, and consequently weighs heavy, whilst the keeping properties are all that can be desired. I have been using bulbs of The Urn, quite sound, year after year, long after those of other varieties have become quite useless.

From a plot of 200 square yards I had a crop of 16 cwt. of bulbs of excellent uniform quality. The treatment was quite ordinary throughout.

Fig. 18.—A fine crop of onions of the Urn variety.

The seeds were sown in boxes in January, and the seedlings eventually planted in their permanent quarters without any special treatment of any kind. *W. H. Dobson, Stapleton Park Gardens, Pontefract.*

POTATO MAJESTIC (see p. 20).

Since my notes on this Potato appeared in your columns (see p. 260, Vol. LXIV), I have had several letters sent to me on the subject. I think my correspondents should have sent them to you. I venture to send you two extracts which have a distinct bearing on the question of cutting tubers of Majestic for planting.

Mr. G. W. Leak, of Messrs. R. H. Bath, Ltd., Wisbech, writes: "I am all for Majestic, judging from this year's test. We lifted about 16 tons per acre, free from disease. The quality is grand. Some of the tubers, weighing 14-15 oz., were as smooth and shapely as you ever saw any of Up-to-Date selected for exhibition. With respect to your remarks on the cutting of the tubers, I may say we cut about half ours, and planted them alongside the uncut ones. The results, so far as we could tell, were precisely the same. There were no failures, and the crop was just as heavy from the cut as from the whole sets. They were cut the day of planting from the chitting trays and limed as usual."

The headmaster of Edward Street Senior Boys' School, Grimsby, writes: "After reading your article on the Potato Majestic in *Gard. Chron.*, December 28, 1918, I thought you might be interested to know how I succeeded on my school allotment with that variety.

"I bought 7 lbs. of Majestic, consisting of 38 tubers. These, after sprouting, I divided into 82 sets, cutting them 1½ hour before planting, and dusting the cut surfaces with quicklime. Only two sets failed, and these, on examination, I found to be eaten off by some ground pest.

"One Potato I cut into five parts, three of which I dug up, when half-grown, on August 3 for show purposes, getting 16 lbs. of small and moderate-sized tubers, and in addition nine tubers for competition (not so bad for three-fifths of a Potato set). The total crop, lifted in October, was 4 cwt. 2 st. ¾lb.—about 34 tons per acre. The heaviest root yielded 11 lbs. 15 oz.

"It may also interest you to know that as an experiment I planted alongside of Majestic a row each of Arran Chief, King Edward, President, Queen Mary, and Carter's Monarch, and, although I treated them exactly the same as the Majestic, the crop was in no case more than half that yielded by the last variety."

In Mr. Robertson's second note (p. 32), he very clearly brings out the difficulty of obtaining "seed" sized tubers of this Potato. If growers for seed have a like experience—and they have—what are they to do with the 15 cwt. per ton of large tubers? The best that merchants can do this year is to keep back the very large tubers for planting again themselves, and give buyers as good a sample as possible. After what has been stated in *Gard. Chron.* no one need fear to cut their sets.

In my lecture at the Mansion House last February, I gave Majestic and Kerr's Pink as "tips" for 1918, and I think I was right. For 1919 I gave Arran Comrade, a fine, shapely second-early variety, immune to wart disease, raised by Mr. McKelvie, of Arran, the raiser of Arran Chief. Those keenly interested in new varieties of Potatos should endeavour to secure a few pounds of it. *W. Cuthbertson, Duddingston, Mid-Lothian.*

SUGAR PARSLEY.

The Sugar or large-rooted Parsley is not much grown, though it is a distinctly useful vegetable. Its food value can hardly be less than that of the Parsnip. Its freedom from the pervading rankness of the latter root makes it edible for a number of people who, like myself, regard the Parsnip as almost, if not quite, inedible. Either served alone or as a constituent of a stew, it may appear on the table; it will blend well with fish, and is, in fact, an essential ingredient in a "water souchet." Also, during storage in the winter, a supply of Parsley leaves may be obtained from it; though very fairly hardy and not damaged by frosts in the open, we usually store it under cover during the cold weather. Last season I weighed the crop grown on a strip about 1½ by 9 yards; the plants were fairly carefully singled when quite small to about an inch or so apart, a process which, if laborious, is better with all root crops than the usual method of spacing first and singling later. In fact, with Carrots a singling to a couple of inches without further thinning suffices to get a heavy crop of useful-sized roots. The final thinning in the case of the Parsley left the plants only some 4 to 6 inches apart, which accounts for the smaller sizes being in a majority. The total number of roots was 183, weighing in all 84 lbs.; they were graded into three lots: (1) Larger, 3½ inches or more in diameter at the top, 9 inches or more long, tapering to a thickness of ⅜ inch: 43 roots, average weight 12 oz. (2) Medium, smaller than the above, but of fair size and shape; 102 roots, average weight 6 oz. (3) Small and forked; 38 roots, average weight 7 oz.

It should be added that the real crop was rather larger, as a certain number had been pulled and consumed before the crop was lifted.

Perhaps it is unjust to compare the produce of a strip of Parsnips, which received scant attention, and was only put in as a war-time measure; moreover, they were attacked by some disease of the leaves which retarded their growth. The total crop consisted of 120 roots, weighing 90 lbs. Of these, the larger ones amounted to 70 in number, with an average weight of 1 lb. 2 oz., and 50 smaller, averaging about 6 oz.

With regard to pests, the Sugar Parsley does not seem to be affected by the Carrot or Celery flies; it is not so prone to destruction by slugs as the Carrot. I have noticed a few roots affected with some softening disease, with the nature of which I am not acquainted. There seems to be scope for improved races—at any rate, so far as concerns the strains that I have tried from English sources, from which I have never had roots more than about 1½ to 2 inches in diameter at the crown. The strain that I have grown for some years was of Continental origin, and in growing plants for seed every two or three years it seems wise to have at least three plants to draw from. This is especially the case with Umbelliferous plants, as the blossoms, though freely produced, will sometimes fade without forming seeds. Sometimes I think that this is due to want of water at the critical setting stage. Probably it is inadvisable to use seed that is older than three, or at most four, years. *H. E. D.*

THE WINTER ACONITE.

The Winter Aconite, Eranthis hyemalis, is very charming when established in the greenery of a policy and allowed to seed and sow itself in a natural way. Major Maxwell, of Kirkennan, Dalbeattie, has annually a delightful display of the golden flowers of the Winter Aconite in his grounds at Kirkennan, and in the early days of the year. The bright flowers, with their Elizabethan ruffs of green, accord well with the grass in which they grow. After seeing the Winter Aconite in many places I may say that the scene at Kirkennan excelled those provided by the Aconite anywhere else, although in some places there are certainly more plants. *S. A.*

NOTES ON IRISES.

IRIS UNGUICULARIS.

Iris unguicularis (see fig. 19) is one of the most delightful and valuable of hardy winter-flowering plants, but it is comparatively seldom that the best use is made of it. Those alone can fully appreciate this Iris who have gone out in the dreariest of wintry weather to pick a handful of the buds, and who have then watched them unfold rapidly in a warm room and fill it with their fragrance. Only too often this Iris is found growing in almost sunless or exposed positions, where few buds develop, or else the plants have been allowed to develop into such a tangled mass of growths that they do little more than provide shelter for slugs and snails, which make short work of the buds before the time has come to pick them.

It is surprising for what a number of years a plant of this Iris will continue to flourish undisturbed in even the poorest of soil. The root fibres penetrate to a great depth, and seem to enjoy the hungriest of sand. But, in spite of the fact that some flowers are produced even from the most matted tangle of growth, yet my experience has been that after a few years it is really better to lift and break up some of the clumps, even though there will be a partial loss of flowers for the first ensuing season. The plants may be moved with success early in September, though I am inclined to think that the operation is equally, if, indeed, not more, successful when carried out in April. At any rate, a year ago last April, I decided that the time had come when two huge clumps must be divided if they were not to dwindle away, for they had remained undisturbed for ten years at least. The sandy soil underneath them had solidified to such an extent that it was almost as hard as the sandstone which forms the core of this hill. Not wishing, however, to make the soil too rich, for this would produce an abundant growth of foliage and an almost entire absence of flowers, I contented myself with merely digging up the soil about three spits deep and incorporating in it a certain amount of old leafsoil and a liberal dressing of basic slag. I then broke up the clumps into small pieces, and replanted them at once, for there were signs of new root-growth. This I encouraged during the ensuing summer by soakings of water in any period of drought and by occasional light dressings of nitrate of potash. Last winter, as I had anticipated, there were comparatively few flowers, but this year I am being rewarded by a most abundant crop of blooms. Five or six times the space occupied by the two clumps which I broke up is now covered with vigorous growths, which are flowering profusely. Fortunately, we have so far escaped from any exceptionally sharp frost, such as sometimes kills the buds in wholesale fashion—a possibility which suggests that it is quite worth while to put an old light over the plants when severe cold may be expected.

It is unfortunate that the uncouth name of unguicularis is older, and therefore botanically more correct, than that of stylosa, which is not only more euphonious, but also peculiarly appropriate, for it refers to the curious way in which the three narrow style-branches rise together in a slender column for nearly an inch before spreading outwards. This is a feature which, if I remember rightly, does not occur elsewhere among Irises, and the species is also unique in that the anthers and the filaments adhere firmly to this column and to the style-branches, though they are not actually joined to them.

There are several local forms of this Iris, the best being probably the common Algerian variety, with lavender flowers. There is at least one, and probably more than one, white form, but the colour is an ivory-white, and the shape is less pleasing than that of the type. The Greek forms have more scanty foliage, flower only in spring, are of a deeper purple colour, and have a stronger, sweeter scent, more like that of fresh honey. Dwarf forms of this variety are found on some of the Greek islands, e.g., Cephalonia, while in Southern Asia Minor there are forms with very narrow grassy foliage and slender, narrow petalled flowers of no great beauty. Curiously enough, the form from the Eastern end of the Black Sea, which has been introduced under the name of I. lazica, has broader foliage, of less leathery texture than that of the Algerian plants. The flowers are of a deeper blue-purple, but for some reason the plant declines to flourish here. *W. R. Dykes, Charterhouse, Godalming.*

Fig. 19.—Iris unguicularis (syn. stylosa).

TREES AND SHRUBS.

ARBUTUS UNEDO AT AMPTHILL PARK, BEDFORDSHIRE.

Believing the following measurements to be unusual for a tree of Arbutus Unedo, I give them for the interest of readers of the *Gardeners' Chronicle* in general, while they may be of particular value to those recording remarkable specimens of tree-growth.

At about one foot from the ground level the circumference is 10 feet 6 inches, but immediately above this point the tree branches

into seven distinct stems, three large and four small. The circumference of these main branches at one yard from the ground is: 55½ inches, 50 inches, 35 inches, 16½ inches, 13 inches, 7½ inches, and 5½ inches respectively. The height of the tree is from 30 feet to 35 feet, and it has a spread of branches of 8 to 10 yards.

The evidence is clear that the whole tree has developed as a ground shoot or side growth from a previously existing tree, as a portion of the parent is still attached on one side, close to the ground, and is over 2 feet round.

Last year the largest branch was in danger of being badly damaged by a fall of snow, but we were fortunate in placing a strong prop under it before it was too late.

Perhaps someone interested in the dimensions of the growth of trees will say whether the above is a record for the Strawberry tree. The specimen is in the pleasure grounds here, which are, I believe, of very considerable age. *C. Turner, Ampthill Park Gardens.*

ORCHID NOTES AND GLEANINGS.

THE LATE JULES HYE DE CROM.

At the meeting of the Orchid Committee of the Royal Horticultural Society on January 14, the chairman, Sir Jeremiah Colman, Bart., read a letter, dated October 26, 1918, from Mme. Jules Hye de Crom, thanking the committee for the letter of condolence sent on February 11, 1915, which she had only then received, all letters having been detained by the Germans.

Mme. Hye de Crom remarked on the pleasure taken by the late M. Jules Hye de Crom in visiting and taking part in the exhibitions of the Royal Horticultural Society. After considerable difficulty with the enemy, which affected his nervous temperament, the end came suddenly from heart trouble.

It is probable that his collection of Orchids will be disposed of.

ODONTOGLOSSUM HUMEANUM.

A five-flowered inflorescence of the best form of this distinct natural hybrid between Odontoglossum Rossii majus and Odontoglossum cordatum we have seen is sent by Pantia Ralli, Esq., Ashtead Park, Surrey. The variety was first described in the *Gardeners' Chronicle*, 1876, p. 170.

The very attractive flowers are intermediate between the parents, O. Rossii majus predominating in the form of the lip and the disposal of the blotching on the petals, while the keeled sepals, with yellow ground, densely spotted with brownish red, resemble those of O. cordatum, save that they are larger. The

FIG. 20. ONION THE URN.
(See p. 50.)

petals are Primrose-yellow, with a cluster of red-brown blotches at the base; the lip is white, with a yellowish shade and yellow crest.

O. aspersum (Rossii × maculatum) appears sometimes in gardens, as O. Humeanum; its flowers, however, are not so large or pretty as those of O. Humeanum.

HYBRID ORCHIDS.

(Continued from p. 246, Vol. LXIV.)

Hybrid.	Parentage.	Exhibitor.
Brasso-Cattleya Lloyd George	B.-C. Marguerite Fournier × C. Lord Rothschild	H. T. Pitt, Esq.
Cattleya Avice	Heloise × Dowiana aurea	Sir Geo. L. Holford.
Cattleya Clive	Iris × Adula	C. J. Phillips, Esq.
Cattleya Megaera	O'Brieniana × Mrs Myra Peeters	W. H. St. Quintin, Esq.
Cattleya Trevella	Mendelii alba × Suzanne Hye de Crom.	Charlesworth and Co.
Cattleya Victory	Gaskelliana × Enid	Sanders.
Cypripedium Arbaces	Nydia × Earl Tankerville	Sir Geo. L. Holford.
Cypripedium Armistice	niveum × Sanacderae	W. H. St. Quintin, Esq.
Cypripedium Armistice II.	Antinous × nitens	Mrs. Bruce and Miss Wrigley.
Cypripedium Bacchus	Nydia × Caractacus	
Cypripedium Baldur	G. F. Moore × Niobe	
Cypripedium Brighteyes	Earl Tankerville × Sultan	Sir Geo. L. Holford.
Cypripedium Caractacus	Earl Tankerville × Beryl	
Cypripedium Dragon	Alcibiades × Satyr	
Cypripedium Alma var. Eileen Hanmer	aureum Surprise × Actaeus Bianca	A. Hanmer, Esq.
Cypripedium Ermin	Lord Wolmer × Caractacus	
Cypripedium Garibaldi	Bronzino × Earl Tankerville	Sir Geo. L. Holford.
Cypripedium Guido	Dowleri × aureum	
Cypripedium Idox var. Easter	Beryl × Ossulstonii	Rev. J. Crombleholme.
Cypripedium Juda	Alabaster × Bronzino	
Cypripedium Lustre	Lucifer × Parkerianum	
Cypripedium Mario	Draco × Earl Tankerville	Sir Geo. L. Holford.
Cypripedium Marmion	Germaine Opoix × Jura	
Cypripedium Sargon	Helen II. × Norah	
Cypripedium William Coupe	Earl Tankerville × Priam	J. Hartley, Esq.
Laelio-Cattleya Amethystella	L. anceps Stella × C. amethystoglossa	Sir J. Colman.
Laelio-Cattleya Brian	Goodyi × Colmaniana	
Laelio-Cattleya Fatima	Tigris × Luminosa	Sir Geo. L. Holford.
Laelio-Cattleya Glow-worm	Luminosa × Mikado	
Laelio-Cattleya Maera	L.-C. scampstonensis × C. Dowiana aurea	W. H. St. Quintin, Esq.
Odontioda Ashworthii	Vuylstekeae × Thwaitesii	R. Ashworth, Esq.
Odontioda Cistelet	C. Noezliana × Odm. Her Majesty	C. J. Phillips, Esq.
Odontioda Dulcies	Oda Cooksoniae × Odm. illustrissimum	Charlesworth and Co.
Odontioda Lyra	Oda. Royal Gem × Odm. Jasper	
Odontioda Norma	Oda. Lutetia × Odm crispum	Pantia Ralli, Esq.
Odontoglossum Cilledene	Crawshayanum × Canary	C. J. Phillips, Esq.
Odontoglossum Princess Patricia	Dora × crispum Luciani	Armstrong and Brown.
Odontoglossum Sambo	Black Prince × eximium	Pantia Ralli, Esq.
Odontoglossum Tityus	crispo-Harryanum × President Poincaré	Charlesworth and Co.
Odontoglossum Triumph	ardentissimum × Ossulstonii	Armstrong and Brown.
Sophro-Laelio-Cattleya Marmion	S.-C. Doris × L.-C. Luminosa	A. J. Keeling.
Sophro-Laelio-Cattleya Ruth	S.-L.-C. Marathon × S.-C. Doris	Flory and Black.

The Week's Work.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Lycaste.—Plants of Lycaste are pushing forth their flowers, and an increased quantity of water at the roots will be needed to assist in their development. After the flowering period reduce the amount of water, and continue to do so until the plants start into growth again.

Cymbidium.—Cymbidiums have attained great favour since the introduction of the fine species C. insigne (syn. Sanderi), the parent of numerous grand hybrids now in cultivation, and in many establishments a house is set apart for their cultivation. The earliest flowers are opening, and, with a fair stock of plants, a succession of bloom may be maintained for the next three months. Thus the Cymbidium is one of the most useful of Orchids either for home decoration or exhibition; the spikes are very stately in appearance, and the individual flowers keep fresh for a long time. Cymbidiums thrive and flower best in a house having an ordinary greenhouse temperature, and, grown in cool treatment, no Orchids give less trouble. The spikes develop at the base of the newly-formed pseudo-bulbs after their completion in late autumn or early winter. They take a long time to come to perfection, and are a considerable drain upon the resources of the plant, therefore the roots should be kept fairly moist at this season. I do not advise the use of concentrated fertilisers in the cultivation of these plants, although some growers use them in solution rather freely while the flower-spikes are forming, but I question if much lasting good accrues from the practice. The use of stimulants may cause the spikes to lengthen, but it is not good for the roots. A substantial compost and clear water have, with me, been sufficient to obtain excellent results. It sometimes happens, when fine spikes are produced, the buds turn yellow and drop in considerable numbers. As a rule this is a sign of a bad condition at the roots, and the trouble seldom occurs when the plants receive cool treatment and no manure. A small brown scale insect sometimes attacks the plants, clinging with great tenacity and increasing rapidly. A careful watch should be kept for these insects, and if any are found on the plants they should be destroyed with as little delay as possible. After the plants have ceased to flower, and until they commence to grow again, water should be afforded sparingly. At the same time guard against drought, which would cause the roots and foliage to suffer injury.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Cherries. — Take advantage of favourable weather to prune and nail Morello Cherries. As the fruits are produced on the shoots of the previous year, as much of the old wood as can be replaced by healthy young shoots should be cut away, and all weak growth cut out. The shoots may be trained rather closer than those of most other fruits, say, about 3 inches apart. It is a good plan to thin the shoots a little in summer, as this procedure obviates severe pruning in winter. The best method of training the Morello Cherry is in fan shape. The young shoots of May Duke and Bigarreau varieties should be shortened to about 3 or 4 inches to form spurs, but if summer pruning was carried out very little pruning will be needed now, simply shortening the growths to strong, plump eyes. If the trees are making gross growth and inclined to gumming, they should be root pruned, but this operation should be done in the autumn. Cherries thrive in rich soil for a long time without much manure, but trees in poor soils need a top-dressing of rich compost or farmyard dung, which may be applied now, first pricking up the surface of the soil lightly with a fork. Lime may be ap-

plied occasionally as a top-dressing where the soil is deficient in calcium. The following mixture of artificial manures may be used now, but not after February:—Bone meal, 2 cwt.; sulphate of lime, 4 cwt.; sulphate of potash, ½ cwt.; chloride of soda, ¼ cwt.; sulphate of magnesia, 28 lbs. per acre. Bone meal alone is very useful.

Newly Planted Fruit Trees.—The roots of newly planted fruit trees should receive protection from the frost: a mixture of litter and leaves forms a suitable material to use. The trees should be firmly staked, care being taken to prevent the bark from getting damaged. Where straps are not used for securing the trees, it is a good plan to protect the stems with a piece of old rubber, or canvas, hose pipe. In the case of standard trees it is best to use two stakes, one on either side.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

French Beans.—To maintain a regular supply of French Beans sow seeds at intervals of a fortnight. At this dull season good results are obtained by sowing six seeds in a 4-inch pot. The plants will grow more freely and make stronger specimens in the small amount of soil contained in these pots than when larger receptacles are used. Transfer them later to 7- and 8-inch pots, using a compost consisting of equal parts loam, leaf-mould and manure from a spent Mushroom-bed. Warm the soil thoroughly before using it for potting. Grow the plants in a warm, moist atmosphere, and top-dress them weekly. Early Forcing and Superlative are good forcing varieties, with Ne Plus Ultra and Magnum Bonum for later supplies.

Mushrooms.—Where a supply of fresh horse-manure is obtainable Mushroom-beds may be made at intervals to maintain a regular supply. If the manure is not forthcoming in good quantities, small beds should be made more frequently still, as, if the material is not collected almost at the same time for preparation, much of the value of the manure will be lost. Turn the heap every two days to allow the excessive heat and gases of fermentation to escape. When the temperature of the manure has fallen to 80°-85° make up the beds, and spawn them when the temperature is 78°.

Jerusalem Artichokes.—Lift the tubers of last year's crop of Jerusalem Artichokes when the weather is favourable, placing the large specimens under a wall facing north and covering them with sand or finely sifted ashes until required for use. If it is intended to grow these Artichokes on the same plot again dig the ground deeply or trench it, adding decayed manure or old vegetable soil. Plant medium-sized tubers in rows made 2 feet apart, and allow a space of 1 foot from set to set.

Seakale.—The bulk of Seakale crowns intended for forcing purposes should by now have been dug up and laid in sifted ashes in a position facing north, till they are required for forcing. The roots will readily respond to a little extra warmth when this transference takes place, having been kept in check in the cold, sunless position they have temporarily occupied. The thongs, or roots, taken from the crowns should be prepared without delay. It is not necessary to grow the crowns for two years if the crop is intended for home consumption only. By preparing the roots now the thongs will make strong, stocky growths by April, which is the time for planting them. In preparing the "sets" choose the strongest and cleanest roots, discarding any that show black rot, and burn them. Make the sets 6 or 7 inches in length, with the crown end cut squarely and the base obliquely, or slantways; this plan will prevent confusion as to which is the growing end. Tie the thongs in bundles of thirty to fifty, according to their size, and place them in boxes about 8 inches in depth, and work finely-sifted soil amongst them. Water them freely and stand the box containing them in a greenhouse or vinery. When the crowns are well formed place them in cold frames and ventilate freely on all favourable occasions, finally removing the lights entirely preparatory to planting them out-of-doors.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to C. H. BERNERS, Esq., Woolverstone Park Gardens, Ipswich.

Orchard House.—All preparations for starting orchard house trees should be completed forthwith. If separate compartments or houses are available so much the better, but, failing this convenience, the early varieties of Peach, Nectarine, Plum, Cherry, Pear and Apple should be placed at the warmest end of the house. High temperature in mild weather should be prevented by admitting plenty of air. Fire-heat should be dispensed with as much as possible, only sufficient being used to prevent the temperature falling below 40° during severe weather. The trees may be syringed on bright days, but an excess of atmospheric moisture, especially during dull, cold weather, is harmful. All kinds of stone fruits do well in pots when carefully managed, and by forcing a batch of the earliest varieties the closing of permanent houses may, if desired, be deferred to a later date.

Vines in Flower.—The earliest varieties of Grapes should be grown in a night temperature of 60° to 65° as they come into flower, with a moderate rise during the day. With the exception of one liberal damping late in the afternoon, all syringing and damping should cease. To assist pollination tap the rods smartly twice a day to distribute the pollen. Shy-setting varieties should be pollinated by means of a camel-hair or light feather brush, using pollen of Black Hamburgh, if obtainable. As soon as a good set is obtained reduce the number of the bunches according to the vigour of the Vine. Thin the berries as soon as they are the size of Sweet Pea seeds. If the Vines are in pots, feeding should now be resorted to, but very mildly at first. Watch the bottom heat, and add fresh fermenting material as soon as the old begins to lose heat.

Mid-Season Vines.—The Vines which are intended to supply mid-season Grapes should be started now. Growth must not be unduly hastened in the early stages of forcing. A temperature of 45° to 50° at night, and 55° to 60° by day, should be maintained, but there should not be a rigid adherence to a definite degree, as a higher or lower temperature should be allowed according to the weather. Syringe the Vines once on each bright day, and damp the paths and borders when necessary to maintain a moderately humid atmosphere. Air should be freely admitted whenever it is possible to do so under favourable conditions. The borders should be examined, and if on the dry side let them be well soaked with tepid water. Now is a suitable time to start a Muscat-house for an early autumn supply, as by the time the Vines come into flower the weather will be favourable for securing a good set of fruit.

PLANTS UNDER GLASS

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Roses in Pots.—Plants that were pruned, repotted, and plunged in a bed of leaves in a cold frame, last November, have started into growth, and may be brought into a pit or house, preferably a low-roofed structure, and placed near the roof-glass. Only a little fire-heat is required to maintain a mean temperature of 50° to 55°. In admitting air guard against cold draughts, which would favour attacks of mildew. Syringing the plants in the mornings on frequent occasions with weak, soapy water is a preventive of mildew, and also keeps the foliage clear of insect pests. As the plants develop in growth give frequent waterings with a weak solution of sulphate of ammonia, and retain only one flower on each shoot. Climbing Tea and Noisette Roses, planted in greenhouses or conservatories, will produce early flowers without the use of much fire-heat. For a supply of early flowers the plants are most successfully planted in a restricted root-space, and the shoots trained near the roof-glass. Let these plants have similar treatment to that advised above in respect to manuring and methods of combatting mildew and insect pests.

Herbaceous Calceolaria. — The florist's Calceolaria is one of the best subjects for the decoration of the cool greenhouse. Plants wintered in 4- or 5-inch pots should be shifted into 7-inch pots, in which they will flower. The soil should consist of a mixture of loam, leaf-mould and sand, with a little plant-fertiliser added. Guard against over-watering until the roots have grown freely in the soil. Place the plants near the roof-glass in a cool, airy house, using fire-heat only to keep out frost. Green fly is a great pest of the Calceolaria, and the house should be fumigated occasionally.

Seed Sowing.—Seed of various plants that are useful for flowering under glass require to be sown in February. Some, such as those of Begonia, are so small that the greatest care is required in sowing them. Use shallow pans containing plenty of drainage material. The soil should be of a light texture and mixed with leaf-mould and sharp sand, passed through a fine sieve. Finish the filling of the pans with a smooth, level surface of very fine soil and immerse them in water to thoroughly soak the soil before sowing the seeds. Follow this method of watering until the seedlings are ready to be transplanted. Very minute seeds require no covering of soil; simply press them lightly into the surface. Place sheets of glass over the seed-pans, and a paper covering over the glass. Germinate the seeds in a temperature between 60° and 70°, and when the seedlings appear remove the coverings. Place the pans on the shelf near the glass in a warm house, and shade the plants from direct sunshine; larger seeds should have a light covering of soil, which should be lightly pressed down.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Azalea Ghent and Others. — Few hardy flowering plants give a more brilliant display of bloom or are more conspicuous in the pleasure grounds when planted in masses, or in suitable places in borders, than Ghent and other Azaleas. If the planting of new beds of Azaleas is contemplated this coming spring, the work of preparing the soil should be hastened in suitable weather and completed before other matters become more urgent and pressing. Efficient soil drainage is essential to success with these shrubs. The compost in which they are planted should be sweet and somewhat lumpy, consisting of loam of a rather sandy texture, rough peat, leaf-mould, and plenty of grit, thoroughly mixed and trampled firmly.

Rhododendrons may be successfully planted very late in the spring. The commoner varieties thrive well in almost any ordinary soil, provided it is well broken up and the drainage perfect. The choicer sorts should be given good positions and the soil and stations carefully prepared. Whether the plants are to be grown in beds, dotted in threes, or as single specimens, much of the soil, if of an unsuitable nature, should be removed, and a compost consisting of fibrous loam, peat, leaf-mould, grit, and a little thoroughly decomposed manure, substituted. The soil in which the plants are set should be raised several inches above the surrounding level.

Plants Growing on Walls.—The mild weather has caused many plants growing on walls to make very early growth, and any pruning and regulating of the shoots and branches may be done in favourable weather. See that all the main supports are sound and in good order, to prevent damage by gales. Prune, more or less, all plants that are becoming crowded. Clematis should be attended to before the growths are too forward, otherwise much harm may be done in disentangling any of the last season growth.

Lily of the Valley.—In order to obtain good spikes of Lily of the Valley roots should be planted annually in well-manured soil, in a situation facing east or west. To obtain large spikes plant evenly-sized crowns 2 or 3 inches apart, keep the beds free from weeds, and give the roots an occasional watering with liquid manure during the growing season. When lifting the plants from beds, keep the flowering crowns separate, pot them, and flower them in gentle warmth. Re-plant the next strongest in the beds or borders.

EDITORIAL NOTICE

Special Notice to Correspondents. — *The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR FEBRUARY.

MONDAY, FEBRUARY 3—
Nat. Chrys. Soc. ann. meet. at Essex Hall, Essex Street, Strand, at 7 p.m.

TUESDAY, FEBRUARY 4—
Bolton Hort. and Chrys. Soc. meet.

THURSDAY, FEBRUARY 6—
Royal Gardeners' Orphan Fund ann. meet. and election of orphans at Simpson's Restaurant, Strand, at 3 p.m. Manchester and N. of England Orchid Soc. meet.

FRIDAY, FEBRUARY 7—
Lea Valley and District Nurserymen's and Growers' Assoc. ann. dinner at Great Eastern Hotel, Liverpool Street, at 6 p.m.

MONDAY, FEBRUARY 10—
United Hort. Ben. and Prov. Soc. Com. meet. Bath Gard. Soc. meet.

TUESDAY, FEBRUARY 11—
Roy. Hort. Soc. ann. meet.; Coms. meet. at 12 p.m. Hort. Club ann. meet. and dinner at 2, Whitehall Court, Whitehall.

WEDNESDAY, FEBRUARY 12—
Wargrave Gard. Soc. meet.

FRIDAY, FEBRUARY 14—
Richmond Allotment Association, meet. and lecture, 8 p.m.

MONDAY, FEBRUARY 17—
Nat. Chrys. Soc. Executive Com. meet. at 35, Wellington Street, Covent Garden, W.C., at 6 p.m.

THURSDAY, FEBRUARY 20—
Manchester and N. of England Orchid Soc. meet. Brighton Hort. Soc. meet.

THURSDAY, FEBRUARY 25—
Roy. Hort. Soc. Coms. meet: Lecture by Capt. Arthur Hill, M.A., at 3 p.m., on "The Care of Our Soldiers' Graves."

WEDNESDAY, FEBRUARY 26—
Wargrave Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 39.5°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, January 27, 10 a.m.: Bar. 30; temp. 39°. Weather—Dull.

SALES FOR THE ENSUING WEEK.

MONDAY and TUESDAY—
Clearance Sale of Ware's celebrated collection of Begonias, Dahlias, Herbaceous Plants, Vases, Office Furniture, &c., at Ware's Nurseries, Feltham, by Protheroe & Morris at 12 o'clock.

WEDNESDAY—
Sale of Rose, Fruit Trees, Plants, and Bulbs at 67-68, Cheapside, by Protheroe & Morris, at 1 o'clock.

The Soil Solution. American investigators have been actively engaged during the last few years in searching for what may be called a chemical index of soil fertility. By common consent chemical analysis of a soil is to be regarded at best as but a rough indication of its fertility.

The guiding idea adopted by many modern investigators may be expressed thus. It is not the chemical constitution of the soil which directly determines fertility, but rather fertility is determined by the composition of the soil solution—that is, the fluid consisting of water and dissolved mineral and other substances which occur in the soil. From this soil solution, films of which surround and adhere to the soil particles, the roots of plants draw their supplies of "food": for inasmuch as plants may only absorb substances which exist in the soil in a state of solution, the insoluble materials in the soil are of no *direct* account as contributors to soil fertility; therefore, it is the substances dissolved in the soil solution which determine the fertility of the soil. On this view the chemical composition of the soil solution is the index of soil fertility, wherefore it becomes important to discover a method of extracting from the soil a true sample of the soil solution. This problem, it is claimed, has been solved by displacing the soil solution by oil. Since the soil solution is held with great tenacity by the particles to which it adheres, it is necessary to push it out by driving in the oil under considerable pressure. This oil pressure method of extracting the soil solution is now being employed for the purpose not only of investigating the natural composition of the soil solution, but also of determining the effect produced on the soil solution by the addition of fertilisers. For example, before the nitrogen in such a manure as dried blood may be made use of by plants the organic compounds in which it occurs must first be operated on by soil bacteria, which disengage the nitrogen from these organic compounds and liberate it as ammonia. So in turn other bacteria oxidize the ammonia and produce nitrates, in which form the nitrogen contained in the fertiliser may be absorbed by the roots.

By obtaining samples of soil solution at successive intervals after the application of a fertiliser it is possible to infer the rate of change of organic nitrogen to nitrate in a given soil.

As an illustration, the results of using this method for comparing the rate of action of different fertilisers, dried blood, cotton seed meal, etc., may be given. In the case of dried blood the production of ammonia as revealed by the composition of the soil solution was at its maximum two weeks after its application, and was completed within four weeks; nitrification began within two weeks of the original application of the fertiliser, and proceeded at a great rate during the third week. In the case of cotton seed meal, ammonification followed a slower course. It began about four weeks after application, reached a maximum at twelve weeks, and then fell off gradually; but even at the end of twenty weeks ammonia was still being produced in the soil manured with cotton seed meal at four times the rate at which it was being found in a similar but unmanured sample of the soil.*

The illustration is given primarily with the object of showing that the new method appears to be likely to prove of value in practice. For instance, a grower whose soil is a stiffish loam may discover that such a manure as dried blood is of great value as a stimulant to early growth. Another grower whose soil is much lighter, learning of this might well decide to try the effect of this manure on his soil. Owing to the much greater rate of ammonification and nitrification which, as shown by the oil pressure method, occurs on lighter soils, he would probably discover that two successive light dressings are more economical and efficacious than one larger dressing. In any case, the oil-pressure method of extracting soil solutions, and thereby providing material for a chemical index of soil fertility, is one which will be watched with interest not only by students of soil chemistry, but also by plant growers.

* Bull. No. 39, Michigan Agric. College, Sept., 1917

Royal Gardeners' Orphan Fund. — The annual meeting of the Royal Gardeners' Orphan Fund will be held at Simpson's Restaurant, 100, Strand, London, W.C., on Thursday, February 6, at 3 p.m., for the purpose of receiving the report of the committee and statement of accounts for the past year; to elect officers for the ensuing year; to elect by resolution eleven children to the benefits of the Fund; and to transact such other business as may arise

Seeds for 1919.—A census of stocks and prospective supplies of agricultural and garden seeds in England and Wales recently taken by the Board of Agriculture indicates that, with a few relatively unimportant exceptions, ample quantities are available to meet the estimated demand for sowing this spring. The need for continued economy in the use of seeds should not, however, be overlooked. Allotment-holders and other growers should calculate their seed requirements with care in order to prevent waste. Purchasers are reminded that under the Testing of Seeds Order seedsmen are required to disclose certain essential facts regarding the quality of the seeds they sell. Standards of germination and purity are specified in the Order and small packets of vegetable seed falling below these standards must be so declared. An implied guarantee that the seeds are up to or above the standards specified in the Order is therefore given with all packets of vegetable seeds affected by the Order unless the seller makes a declaration to the contrary at the time of sale. The Official Seed Testing Station for England and Wales, 72, Victoria Street, London, S.W. 1, is prepared to test seed for allotment-holders and others, who intend to use the seed for their own sowing, at the rate of 3d. per sample.

Paris Spring Show.—A show will be held in Paris from June 5 to June 9 next. It will include exhibits of all kinds of garden produce and horticultural sundries.

Chairman of the Wisley Development Committee.—The Rev. W. WILKS writes: "It is regretted that in the Royal Horticultural Society's 'Book of Arrangements for 1919,' on p. 22, the name of the chairman of the Wisley Development Committee is incorrectly stated. It should read: Mr. H. B. MAY, V.M.H., and not Sir HARRY VEITCH, who resigned the chairmanship in July last."

National Chrysanthemum Society. — The annual general meeting of members of the National Chrysanthemum Society will be held at Essex Hall, Essex Street, Strand, London, W.C., on Monday, February 3, 1919, at 7 p.m. The report of the Executive Committee and the financial statement for 1918 will be presented, the officers and one-third of the Committee elected for 1919, and such other business transacted as pertains to an annual meeting. The president, Sir ALBERT ROLLIT, LL.D., D.C.L., V.M.H., will preside.

French Horticultural War Relief Fund.—The National Horticultural Society of France has opened a subscription list amongst its members to form a fund to assist all those persons who, from a horticultural point of view, have been victims of the German invasion and have suffered damage from acts of war. Subscriptions should be sent to the Treasurer of the Society, 84, Rue de Grenelle, Paris.

Sugar for Bee-Keepers.—Bee-keepers will be interested in the arrangement made by the Food Production Department and the Royal Commission on Sugar Supply by which sugar for bees will be available for spring feeding. It should be noted, however, that this distribution will take place only to bee-keepers who have registered with the Horticultural Sub-Committee of their county. Each registered bee-keeper will obtain from the Horticultural Sub-Committee a certificate which, on being presented to the local Food Control Committee, will be exchanged for

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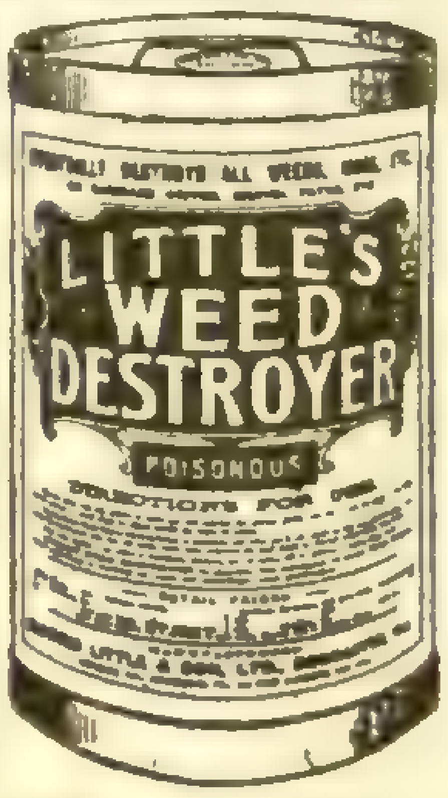

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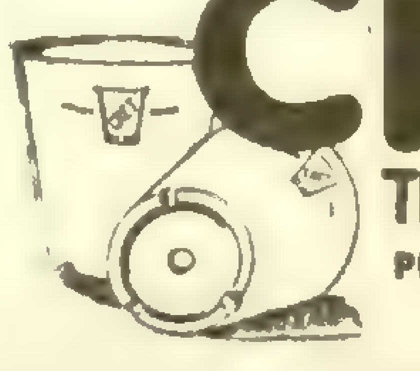

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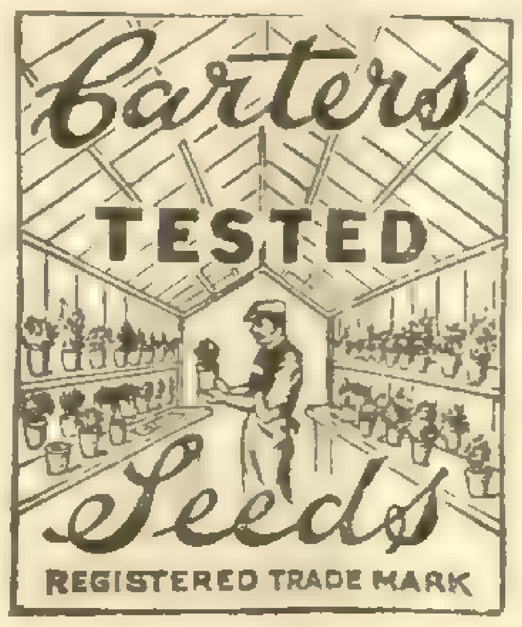

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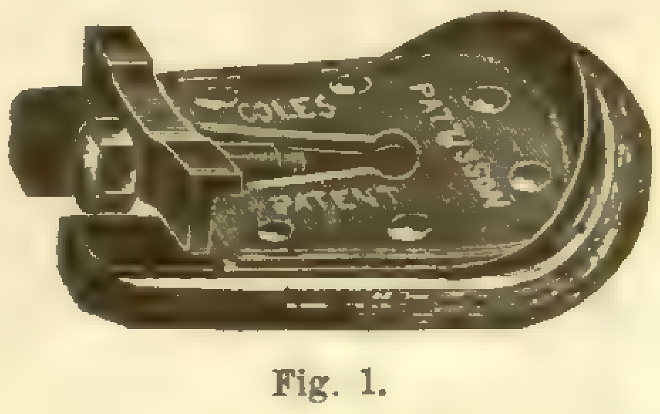

Fig. 1.

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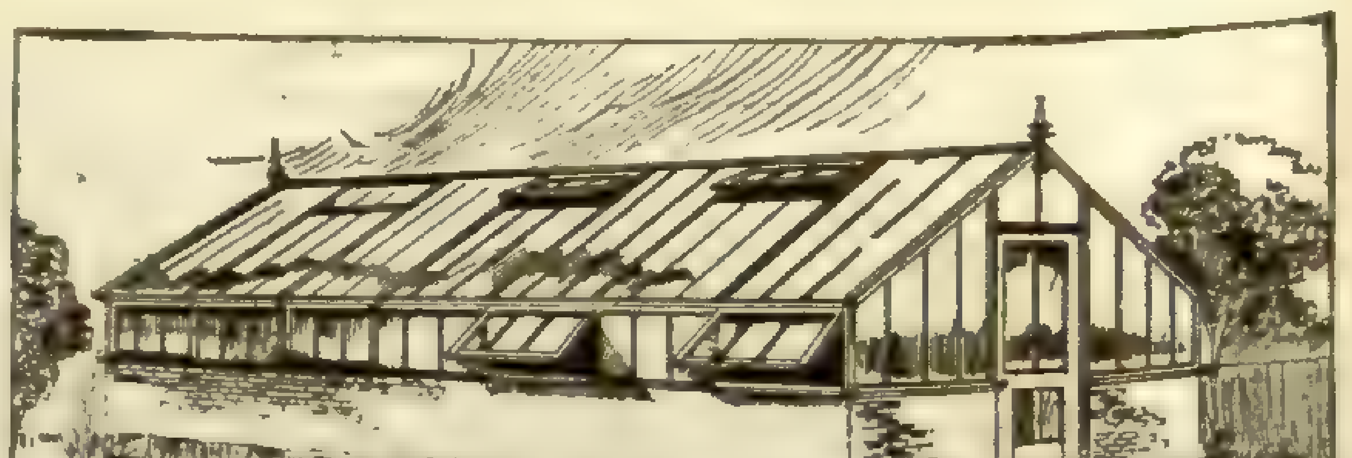

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Brighton and Hove Horticultural Society's Meetings in 1919.—The Brighton Society has arranged an excellent series of meetings for the present year. The programme differs somewhat from previous years, as the wider scope of the Society—now the Brighton, Hove, and Sussex Horticultural and Food Production Society—allows a wider range of subjects. The dates of meetings and lectures, as originally sent in and published in our Almanac, have been amended, and are now as follows:—January 30, Annual Meeting; February 20, "Talks on Hardy Fruit Trees," by Mr. Frank Woollard; March 20, "Vegetables for Allotment-holders," by Mr. G. Chandler, to be followed by a concert arranged by Mr. G. A. Miles; April 17, "Seed Sowing and Transplanting," by Mr. Chas. Watts; May 22, "A Chat about Allotments," by Mr. W. Rushton; June 1, outing to Hollingbury Camp, and "Talks on Prehistoric Allotments," by Mr. Herbert S. Toms; June 19, "Forests of Sussex, Wood Industries and Trees," by Miss H. E. Ansell; September 18, "History of Preston, and Short Talks on Popular Prestonians and Horticulturists," by Mr. A. J. Easton (hon. secretary); November 20, "Landscape Gardening, Rock Gardens and Flower Borders," by Mr. E. Scaplehorn. The Society will also hold an exhibition in October and a Summer Outing in July, the dates and details of which will be arranged later.

Soldiers' Graves in France.—At the meeting of the Linnean Society of London, held on the 16th ult., an account was given by Captain A. W. Hill of the horticultural work that had been carried out in the military cemeteries in France since 1916, when such work first became possible; reference was also made to the cemeteries in the Italian and other theatres of war. It is intended to make the cemeteries, as far as possible, smooth, well-kept grass-lawns, surrounded by hedges of Thorn, Beech, or Hornbeam, with groups, avenues, or pole-hedges of trees, such as Siberian Crabs, Limes, Hornbeams and Willows, and to plant on the graves Rose bushes, Iris, and other dwarf carpeting-plants. Steps are being taken as far as possible to mark the cemeteries where Canadian, Australian, New Zealand, Indian, and other overseas soldiers lie buried with plants native to the countries whence they came to the defence of the Empire. Allusion was made to the problems which have to be faced in the matter of soil and site, which often render successful gardening work very difficult. Some of the cemeteries are in very sandy places, others in chalk, whilst a number are in the fenland of the Belgian border. The results so far obtained have proved that, given proper care, whatever the soil may be, a good turf can be formed in Northern France. In the cemeteries where permanent planting is not yet possible good results have been obtained by sowing annuals, either according to a well-arranged colour-scheme, or in mixture, and the effect in summer has been quite beautiful and much appreciated by our soldiers in the field. Bulbs have been extensively planted. Nurseries have been established for the supply of plants, trees, and shrubs to the numerous cemeteries. A series of slides was shown of cemeteries in various parts of France, some situated in old orchards, some in sandy districts, and others in the open country, and from them a good idea was obtained of the care and labour bestowed by the officers and gardening N.C.O.s and privates attached to the Imperial War Graves Commission in France.

National Sweet Pea Society's Programme for 1919.—The National Sweet Pea Society will hold an exhibition on July 4, and propose to hold a dinner and conversazione at the close of the show, and an outing to some seed-growing centre on the day after the show. The Society's Scottish Cup is offered for competition at Aberdeen, and a strong effort is being made to obtain new members and the return of those who have lapsed during the period of the war.

The Chamber of Horticulture.—During the past few days the British Florists' Federation, the National Sweet Pea Society, and the British Carnation Society, have decided to become attached to the Chamber of Horticulture.

Fig. 21.—Anemone patens var. ochroleuca: flowers sulphur-yellow.

THE ALPINE GARDEN.

ANEMONE PATENS VAR. OCHROLEUCA

Anemone patens is a very widespread species, for it grows wild in Europe, Siberia, and North America. Growing naturally under such diverse conditions, it varies considerably, and there are several named varieties in cultivation. The typical plant has tufts of palmately-divided leaves on long petioles, and large, rich purple, silky-haired flowers. This form is found both in Europe and Siberia. Another variety, A. p. Wolfgangiana, which is found in Russia and Northern Asia, differs in having more deeply laciniated and longer, narrower leaf segments. The North American form is known as var. Nuttalliana and has large, pale-lavender coloured flowers.

The variety illustrated in fig. 21 was raised from seeds received from Petrograd in 1915 under the name of Anemone patens var. lutea. The same plant, however, was figured in the *Botanical Magazine*, t. 1,994, just a century ago, under the name of A. p. var. ochroleuca, which name must therefore have precedence. This yellow flowered form is met with occasionally both in Russia and in Siberia, but does not appear to be so common as the purple-flowered type. The variety is readily raised from seeds, and the plants flower in their second year. Deep, well-drained, loamy soils are suitable to this perennial plant, and it appears to do best in situations sheltered by low-growing shrubs.

This species belongs to the section of the genus Anemone known as the Pulsatilla group, all the members of which have heads of long, silky-tailed fruits which are very ornamental. *W. I.*

MEDICINAL PLANTS.*

(*Concluded from p. 45.*)

Having made a hurried review of the general aspect of the subject, it is necessary to briefly consider the drug plants themselves. To simplify the question, it is best to adopt some kind of classification, and for this purpose they may be conveniently divided into three arbitrary divisions—(1) those produced by horticultural cultivation; (2) those produced by agricultural cultivation; (3) wild plants collected from the countryside. Group three is obviously outside the scope of this paper and will therefore not be considered. The first and second groups are interchangeable in certain aspects—that is to say, some plants can be cultivated either way, just as Potatos are. But there is a certain number which can only be profitably and successfully grown in large numbers, as the produce is required only on a large scale. The plants falling into the second group would comprise such herbs as Lavender, Peppermint, Fennel and Caraway, which must be supplied in large quantities to meet the requirements of the market, and it would be just as futile to attempt to grow them profitably on a small scale as it would be to grow cereals in a garden bed. The plants which lend themselves to cultivation on a smaller scale, and which would come under the category of horticulture, are Aconite, Colchicum, Belladonna, Chamomile, Foxglove, Henbane, Roses, and Valerian. It is not within the scope of this paper to deal with the strictly technical side of this subject, because, after all, the cultivation of these plants is practically on the same lines as for all herbaceous and annual plants. To obtain the best results, good cultivation and deep, rich soil are essential. Keep the land free from weeds, watch the calendar, and harvest at the correct season. No hard and fast rules should be laid down, for the best results can only be obtained by trial.

Aconite is only grown for its tuberous roots.

* By R. Glode Guyer, Edinburgh. Reprinted from the *Transactions of the Scottish Horticultural Association*, Vol. III., Part 2.

Aconitum Napellus is the species demanded. The roots are dug up in the late autumn, the new offshoot roots of the mother plant are divided and replanted for the next season's stock, and the bulk of the root is kept for drying.

Belladonna is raised from seed, which is best sown in frames or in boxes under glass, and pricked out into the permanent growing beds when strong enough to stand transplanting. Belladonna forms a large plant, and is a strong grower, therefore the seedlings should be planted out in rows about 3 feet apart, and 2 feet between the plants in the rows. The upper annual growth should be cut down when the plant has flowered, in August or September, and the leaves should be cut off and dried, when they are ready for market. The plants should be protected against frost by a covering of dry litter or Bracken. In the second year it is possible, if the growing season is a good one, to obtain two crops of leaves, one in July and the other about September. The roots are then dug up and dried for the market, though they may be kept for another year, but after the third year they are generally coarse and heavy, and are not considered to be a good marketable article. Owing to this destruction of stock in the second or third year, it is incumbent upon the grower to raise a new crop of plants annually to replace those dug up for their roots, and this succession must be carefully maintained.

Chamomiles.—The dried, half-expanded flowers of Anthemis nobilis are in great request, and it is the double flowers which are demanded to meet market requirements. At one time these were grown in Scotland for this purpose, and Scottish Chamomiles always commanded a higher price than those imported. The supply has dwindled away because of the Continental competition, and also chiefly because no dependence could be placed upon regularity of supply. In connection with this it is interesting to note that Queen Victoria's mother, the Duchess of Kent, required a supply annually for her personal use, and this she obtained from Aberdeenshire, where, it appears, the cottagers used to grow the plants, the harvested flowers being collected and sold in bulk and the proceeds distributed according to the supply obtained.

Colchicum, or autumn Crocus, is always in great demand, and for many years past the demand has exceeded the supply. Propagation is the same as for all corm plants. Colchicum demands a warm, moist soil, and that is why it naturally always prefers the riverside meadows. The corms, when they are dug up, are sliced and then dried.

Foxglove.—It may appear absurd to suggest the cultivation of this very plentiful wild plant, but the reason is not far to seek. The collection and transport of the plant in its wild state is generally so costly that it becomes an unprofitable undertaking, but Foxgloves can be readily cultivated in spare ground, and if closely planted, with alleys between the rows to admit the free passage of the collectors, they become a profitable crop, as they require but little attention. To be commercially successful the plantations must be of such a size that a good yield of leaves can be gathered, say a minimum of 2 cwt. of the dry marketable product, and as these leaves lose about 85 to 90 per cent. of their weight in drying, the moist weight of this quantity represents from 1 to 1½ ton.

Henbane is a curiously fickle plant to cultivate. Germination is remarkably slow and uncertain, and it is also impossible to lay down any rules or guiding lines about soils, as it will grow freely in one field and refuse to grow in another within a distance of a few hundred yards. The question whether Henbane is an annual or a biennial is a botanical problem which requires solution. From a single sowing some plants developed into the so-called annual variety, blossoming and dying away, while others threw up a rosette of leaves from which the main flower stalk was produced the next season. As previously mentioned, Henbane has a varied taste for soil and environment, and it is on account of its cosmopolitan tastes that the cultivation is so difficult; but these difficulties are compensated for by the fact that there is almost always a shortage of supplies, and market prices invariably rule high. The flowering tops and leaves are the parts required in pharmacy.

Roses are valuable for their dried petals, and perhaps to a horticulturist this may be an attractive line as a by-product, especially to those who are extensive Rose growers. Correctly speaking, the petals demanded by the *British Pharmacopoeia* are those of Rosa centifolia, but commercially any of the rich deep red varieties are offered. Well-collected and preserved Rose petals always command a ready sale and a good price. The flowers must be cut when about half expanded, and not allowed to become fully blown. This is a very essential point, as the petals of a fully-blown Rose never yield a good richly-coloured product. Another point which must be borne in mind is that it is best when possible to collect them in dry weather, but where this is not feasible all moisture must be well shaken off before cutting, as moisture deteriorates the colour in the process of drying. They should be dried without heat, and in the shade.

Valerian.—The root of the ordinary wild Valerian (Valeriana officinalis) is required, and not, as so many think, that of the red Valerian (Centranthus ruber), which is valueless. This plant requires very little attention, and if cheap unskilled labour is employed a profitable harvest can generally be made. The roots are dug up in the fall of the year, washed and dried, when they are ready for the market, and the beds are then replanted for the next season.

This list is not a formidable one. Other medicinal plants might be included, but it embraces the most important ones which are most suitable for cultivation, and also those for which there is a constant and steady demand. There should be a good future for work of this kind, if systematically taken in hand, and the working result of the first two or three years is not to be taken as either conclusive or final. These years must be reckoned as experimental only, and if unprofitable the cause must be found out and eliminated, so that the work may be brought to a high pitch of excellency. Reason it out carefully, and do not abandon the work as useless and unremunerative on one or two years' returns. Bear in mind that if the Germans can make it pay, and make it pay handsomely, you should be able to do it here in Scotland. It is a matter of congratulation and encouragement that recently the Edinburgh and East of Scotland College of Agriculture appointed a committee to take up this matter, and with their co-operation and advice the cultivation of medicinal plants in Scotland bids fair to have a future, in which once again Scottish industry and Scottish enterprise will make another mark in the history of commerce.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Apple Edward VII. (see p. 21).—I endorse every word stated by Mr. Tubb as to the merits of Apple Edward VII. This variety is fast taking a leading position amongst the very best late-keeping Apples. It received the R.H.S. Award of Merit some years ago, and although the fruits have been submitted to the Fruit and Vegetable Committee since, for some unaccountable reason the variety has failed to receive the higher award it so richly deserves. We have grown trees at Madresfield Court amongst upwards of two hundred varieties in our trial orchard, and it has long ago secured top marks, consequently we have propagated and planted it extensively in the new orchards under the scheme in vogue on Earl Beauchamp's estate. The tree has a strong, healthy constitution, is a compact grower, with short, pointed growth, and forms abundant fruit spurs on all wood. The leaves are rather small and pointed. The variety makes a perfect bush, or standard, for planting in grass land. The fruit is smooth, yellow, and handsome, and keeps long in good condition, the flesh being of great density up to June and later. It is altogether a most desirable variety. The same remarks apply to Sandling Duchess, another grand late keeping variety. *William Crump, Madresfield Court, Malvern.*

Rosa Moyesii var. Fargesii (see p. 19).—In his interesting note in your issue of January 11 Mr. Rolfe discusses the Rose species Moyesii and Fargesii, and concludes that the two cannot be separated. I notice that he describes the colour of both as "deep crimson," but that hardly does justice to the colour, the charm of which it is difficult to discuss in words, the nuance being of the type of tint to which the title "old" is generally given. To me the colour suggests something characteristically Chinese, recalling the tints of the old embroideries of that country. There is certainly no other flower giving the same colour effect. I wonder whether your contributor can explain the occasional appearance at shows of a variety in which the flowers are of a disagreeable terra-cotta or Austrian Briar appearance? The description of R. Moyesii in more than one rosarian's catalogue suggests that this variety is fairly widespread, and this may account for the want of appreciation which seems to be shown of what is undoubtedly the most striking Rose novelty of this generation. It may be that the colour of the atrocity which often masquerades as Moyesii is due to some peculiarity of the cultural conditions (I have seen it as a pot plant only), but if the colour is constitutional let us give it a name which will serve as a danger-signal. *A. B. B.*

Rabbits and Fruit Trees (pp. 19 and 46).—The method of protecting fruit trees in Scandinavia from injury by hares might be adopted in this country where rabbits attack the bark of orchard trees in winter. Young Ash trees are cut down and placed in the outskirts of the orchard. One tree would be enough per acre, and supplies the bark the animals seem to need during the colder period of the year. *T. Ritz.*

SOCIETIES.

ROYAL HORTICULTURAL.

JANUARY 28.—The meeting held on this date at the London Scottish Drill Hall, Buckingham Gate, was fairly well attended, considering the heavy snowstorm experienced during the previous night. Orchids, hardy plants, Primulas, and Nature Study exhibits provided a display of considerable extent and interest, but the Hall was so very cold that only those compelled to stay with their exhibits remained after a brief inspection.

The Floral Committee awarded five medals and one Award of Merit; the Orchid Committee granted two medals and one Award of Merit; and the Fruit and Vegetable Committee one medal and a First-class Certificate.

Under the aegis of the School Nature Study Union numerous Nature Study exhibits were staged, and would have greatly delighted youngsters who love Newts, Water Boatmen, Frogs, Moths, and Butterflies. Miss WYSS was responsible for the "animals," and the Misses PUGH, MACKIE and HILL contributed a large collection of twigs, to show colouring, branching, bud development, and fruits. Miss PAULSON showed lichens and soils of various colours and textures. Mr. UPFIELD sent photographs of natural objects, and from the Froebel Institute came clay models of birds, insects and barks, and handiwork done in connection with Nature work—for instance, there were golliwogs made of Chestnut burrs and nuts, and necklaces of Beech nuts and husks. Mr. POTTS had charge of the gardening section, where photographs of garden work were displayed, with wooden baskets, a seed-sower, Pea-protectors, and a large assortment of dibbers, few of which found favour with the practical men present.

Miss WILLMOTT contributed a large group of small branches of evergreen trees and shrubs, many of them carrying either cones, berries or flowers. No fewer than 130 species were repre-

sented, all from Warley Place Gardens and gathered in the snow!

Floral Committee.

Present: Messrs. H. B. May (in the chair), E. A. Bowles, W. J. Bean, Sydney Morris, R. C. Notcutt, John Green, J. F. McLeod, W. Cuthbertson, John Heal, Herbert Cowley, G. Reuthe, W. Howe, C. Dixon, E. H. Jenkins, Chas. E. Pearson, George Paul, and R. W. Wallace.

Award of Merit.

Primula malacoides The President.—A double form with the floral segments deeply notched and often pointed, so that the general effect is elegant. Like the type, the variety is very free-flowering, and the colour of the flowers is bright rosy lilac. Shown by Messrs. Jas. Carter and Co.

Groups.

Mr. G. W. Miller's Daffodils, Tulips, and coloured Primroses assisted to brighten the gloomy hall, and he also showed Snowdrops, pots of Iris reticulata, and Muscaris. (Bronze Flora Medal.) Varieties of Cyclamen Coum, Berberis hyemalis and Helleborus foetidus were attractive in a group of hardy plants staged by Mr. Reuthe.

Some beautiful branches of Eucalypti in bud and flower, and elegant pendulous sprays of Cytisus monosperma, all from the South of France, were displayed by Mr. R. F. Felton, and were greatly admired. (Bronze Flora Medal.) Market White Freesia, a new variety raised and shown by Messrs. Herbert Chapman, is a fine form, but it is not pure white, as most of the flowers have faint yellow markings.

In a group of hardy plants exhibited by Messrs. J. Piper and Sons, about six dozen pans of hardy Cyclamen were the chief feature; those of C. Coum was most numerous and C. Atkinsii the most richly coloured. (Bronze Flora Medal.) Chinese and Stellata Primulas, with P. malacoides, were exhibited largely by R. L. Mond, Esq. (gr. Mr. C. Hall), Coombe Bank, Sevenoaks. The Primulas were backed by Epacris, and made a large and attractive group. (Silver Flora Medal.) Messrs. J. Carter and Co. submitted the double Primula malacoides The President and a richly coloured form named King Albert. (Bronze Banksian Medal.)

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. secretary), William Bolton, Frederick J. Hanbury, R. G. Thwaites, Pantia Ralli, Chas. H. Curtis, S. W. Flory, W. J. Kaye, C. J. Lucas, R. Brooman-White, and J. E. Shill.

AWARDS.

Award of Merit.

Odontoglossum ardentissimum Reine Blanche (*crispum xanthotes* × *Pescatorei album*), from Dr. Craven Moore, Victoria Park, Manchester. —A very beautiful pure white variety of perfect shape, the only colour consisting of a few light yellow blotches on the lip.

Groups.

Messrs. Armstrong and Brown, Tunbridge Wells, were awarded a Gold Medal for a group having a frontage of 35 feet, made up of about 100 excellent specimens of Cymbidiums, Odontoglossums, Odontiodas, and Calanthes. The centre was of Calanthe Wm. Murray, white with purple lip, and C. Florence, bright rose, with white eye; and at the back was a selection of Cymbidiums, among which was C. Moira var. Elatior (Tracyanum × Pauwelsii). This variety resembles a large C. Tracyanum, with light yellow ground striped and spotted with purplish red; the spike carried 13 flowers. Some fine seedling Odontoglossums and Odontiodas were also staged, the best novelties being Oda. Madeline var. Flamingo (orange-red on yellow ground); Odontoglossum Victory var. Marvel (a large, clear white flower, richly blotched with claret-red); and Odm. promerens Model, a perfectly-formed white flower with reddish-purple blotches on the inner two-thirds of the segments. Cirrhopetalum gracillianum and several other pretty species were also in the group.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for a group of exceptionally fine Odontoglossum and other hybrids. The prettiest novelty was Odontoglossum Radiant (Dora × Alexandrae), two varieties of which were shown. The flowers are white, tinged with rose, and profusely spotted with purplish blotches of varying size.

Frederick J. Hanbury, Esq., Brockhurst, East Grinstead, showed a flower of his new Cypripedium Major Hanbury Carlile (Troilus Amy Moore × Lady Carlile), the largest and most refined of its section. The white dorsal sepal had a yellowish base and dark ruby-claret blotched lines, the rest of the flower being yellow tinged with purple and spotted on the lower halves of the petals. Mr. Hanbury also showed flowers of two other new hybrids.

Baron Bruno Schroder, The Dell, Englefield Green (gr. Mr. J. E. Shill), sent Laelio-Cattleya Schröderae, pure white with rich maroon lip; and Cypripedium Eurybiades Helmuth, well worthy of the fine varieties previously flowered from the batch.

Dr. Miguel Lacroze, Bryndir, Roehampton (Orchid grower, Miss Robertson), showed Cypripedium Isonzo var. Bryndir (Alcibiades × Mrs. Wm. Mostyn), a good flower, the white dorsal sepal of which is heavily blotched with dark purple, the rest of the segments being yellow with red-brown tinge and spotting.

Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne, sent Cypripedium Oakwood Giant (Beeckmanni × Harold), a gigantic flower with white dorsal sepal having a greenish base and thin purple dotted lines, the broad petals and lip greenish, with purple flush and some spotting on the petals.

Messrs. J. and A. McBean, Cooksbridge, staged a small group, in which were varieties of Brasso-Cattleya Bianca, Cattleya Trianae alba, and C. General Pulteney (Octave Doin × Trianae), the latter an attractive flower of good shape and bright colour.

Messrs. Flory and Black, Slough, showed a selection of Sophronitis crosses and seedling Odontoglossums. Sophro-Cattleya Eva (S.-C. Saxa × C. Enid) is rose-coloured on a cream ground, prettily marked and veined. S.-C. Nerissa (S.-C. Saxa × Trianae Backhouseiana) has rose sepals and petals, with a reddish glow obtained from the Sophronitis. S.-L.-C. Iris (L.-C. Thyone × S.-C. Doris), a pretty yellow flower; Odontoglossum Portia (illustrissimum × Aglaon), and the fine new seedling Odontoglossum crispum Windsor, with rich purple blotching on a white ground, were also noted.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (in the chair), W. Poupart, E. Beckett, W. Bates, F. Jordan, J. Basham, W. H. Divers, and H. S. Rivers.

First-class Certificate

Apple St. Cecilia.—This handsome and useful Apple, described and illustrated in *Gard. Chron.*, Feb. 2, 1918, now received the higher award. The Apple is finely flavoured, and Cox's Orange Pippin was one of its parents. Shown by Mr. J. Basham, Bassaleg, Monmouth.

A very fine display of bottled fruits and preserves was made by Lady Elizabeth Dawson, Canon Hill, Maidenhead. Gooseberries, Raspberries, Loganberries, Apricots, Peaches, Strawberries, Nectarines, Red, White, and Black Currants, and Mulberries were included, and all were clear and bright. Of preserves, the Mock Guava jelly made from young green Gooseberries, Tomato chutney, Crab-Apple jelly, and Barberry jelly, were the most important. (Silver-gilt Knightian Medal.)

Messrs. Whitelegge and Co. sent three Onions, named respectively Whitelegge's Excelsior, Kentish Keeper, and Cooper's Density; the first-named is a broad, solid Onion of good size and appearance. The varieties are to be sent to Wisley for trial.

LANGHOLM HORTICULTURAL.

At the recent annual meeting of the Langholm Horticultural Association, Dumfriesshire, it was decided to resume the annual show, which is to be held at Langholm on August 23. Mr. Jas. Cairns was appointed president of the Association; Mr. S. Hyslop, Lake House, vice-president; and Mr. G. W. Paterson hon. secretary and treasurer.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

ANNUAL MEETING.

January 23.—The seventy-ninth annual general meeting of subscribers to this Institution took place on the foregoing date at Simpson's Restaurant, 100, Strand. Sir Harry J. Veitch, chairman and treasurer, presided. The secretary, Mr. George J. Ingram, read the report of the Committee and balance-sheet for 1918. They were as follow :—

REPORT OF THE COMMITTEE.

In presenting their 79th annual report, with statement of receipts and expenditure (as audited), the committee desire to express their deep thankfulness at the cessation of the war, which for the past 4½ years has caused so much sorrow and distress in every part of our land, and they hopefully now look forward to an era of peace and brighter times, when our old-established charities will again—now that the demands on the benevolent public so necessary in connection with the recent terrible struggle, may be expected to diminish—enjoy a more generous support in carrying on their work.

The Gardeners' Royal Benevolent Institution has been established as a National Horticultural Charity for 79 years, and during that time has afforded assistance with inestimable benefit to a large number of poor old people who found themselves, through no fault of their own, in such circumstances of need as to oblige them to seek its aid.

At the commencement of the year there were 262 annuitants on the funds—men and widows. During the year several men have passed away (four of them), leaving widows, who have been placed on the funds without election, in accordance with the usual rules in such cases. To-day, fifteen candidates are recommended for election from an approved list of fifty-eight applicants. The committee had hoped to propose a larger number for permanent assistance, but they feel that with the diminished income of the past four years, due mainly to the absence of the usual Festival Dinner, hitherto the chief source for raising funds, it would not be prudent at the present time to add to their liabilities, much as they would like to do so; although, unfortunately, more than forty candidates will perforce be left over at the election, it is a comfort to know that substantial assistance is afforded them while on the waiting list from the "Victorian Era Fund," as well as temporary help from the "Good Samaritan Fund," is given to other distressed applicants. It may be well to remind subscribers and others that the interest only is available from these two funds, so that special contributions in augmentation of either of them will be warmly welcomed.

The committee have again to acknowledge the gracious kindness of Her Majesty Queen Alexandra in personally allocating a grant of money from the proceeds of "Alexandra Day." They are also deeply grateful to an anonymous, very warm-hearted friend of the institution for his generous offer of £250, on condition that £750 be obtained, or £500 if the sum of £1,500 were secured, and although the larger amount was not realised, the donor has most liberally given £500, and promised the same amount during the present year. Sincere acknowledgment is also accorded to Heber Mardon, Esq., for his [illegible] gift of £100 National War Bond.

The Committee have pleasure in recording their very sincere and grateful thanks for the helpful kindness of those noblemen, ladies and gentlemen who have again permitted their gardens to be opened to the public for the benefit of the Charity, viz. :—

The Rt. Hon. Earl Beauchamp, Rt. Hon. Lord Northbourne, The Lady Battersea, Sir Frank Crisp, Bart., Dyson Perrins, Esq., and Roger J. Corbet, Esq.

They also gladly refer to the kindness of the treasurer (Sir Harry J. Veitch), Arthur W. Sutton, Esq., and Geo. Monro, Esq., in giving a year's allowance to three of the unsuccessful candidates, one man and two widows, who are very grateful for the timely aid thus afforded them.

Very sincere thanks are tendered to the honorary auditors, Messrs. George H. Cobley and Co., for their kind services; also to the honorary solicitors, Messrs. H. Morgan, Veitch and Bilney; to the horticultural Press and other friends for their invaluable help.

Grateful thanks are likewise given to the following honorary officers of the several Auxiliaries who have done so much in furthering the interests of the Institution :—

Presidents.	Hon. Treasurers.	Hon. Secretaries.
BRISTOL AND BATH.		
Col. H. Cary Batten	Mr. George Newbury	Mr. F. E. Allingham
WORCESTER.		
Rt. Hon. Earl Beauchamp, K G.	John White, Esq.	Mr. Percy J. White
DEVON AND EXETER.		
Trehawke Kekewich, Esq.	Mr. W. Mackay	Mr. W. Mackay
WOLVERHAMPTON.		
C. T. Mander, Esq.	Mr. George Bradley	Mr. George Bradley
BERKSHIRE, READING AND DISTRICT.		
Mrs Rowland Sperling	Arthur W. Sutton, Esq.	Mr. H. G. Cox
LIVERPOOL.		
The Rt. Hon. the Earl of Derby, K G.	A. J. Cripping, Esq	Mr. R. G. Waterman

In this connection the Committee would specially mention the sad loss the Institution and the Worcester Auxiliary have sustained by the death of their friend Mr. Harry J. White, who for the past four years had acted as honorary secretary. Full of enthusiasm and energy for the cause, the Institution owed him a great deal, and he will be much missed.

It is with much sorrow and regret the Committee have also to record the deaths of many other warm friends and supporters during the past year, foremost amongst whom were Alfred de Rothschild, Esq., C.V.O., a vice-president who, with his family, had generously supported the Institution for 60 years; the Lord Brassey, Sir Geo. Malcolm Fox, Robert Gordon, Esq., E. Goodyear, Esq., and William E. Green, Esq.

In conclusion the Committee very earnestly appeal—in this first year, as all hope, of a permanent peace—for a generous and liberal support to enable them to continue the praiseworthy work of providing assistance for those distressed horticulturists in their time of need and urgency who seek its help. *Harry J. Veitch, Chairman and Treasurer; George J. Ingram, Secretary.*

The chairman moved the adoption of the Report and Balance-sheet. He was glad that the Institution had been able to continue its good work during the past four years, but regretted that the Committee had not the means to relieve all the necessitous cases that came before it. At the present time there were 43 applicants seeking benefit, but even next year it would be impossible to put all the forty-three on the Funds. He was glad, however, that some measure of relief could be afforded them from the Good Samaritan and Victoria Era Funds. During 1918 the sum of £450 had been allotted from these two funds in addition to what had been disbursed in pensions. The Institution had had to meet increased expenses during the past twelve months: to mention only one item, the cost of the voting papers was now three times what it was before the war.

Their secretary had, however, done his utmost to economise, and for a long time he had been working single-handed. Sir Harry Veitch reminded his hearers that a considerable amount of the Institution's revenue had been obtained in the past through the annual festival dinners, but these had to be abandoned in war-time. Now that peace was again in sight he appealed to the supporters of the Fund to help to make up some of this loss.

Continuing, he said it would be remembered that last year an offer was made by an anonymous friend of a gift of £250 provided three other donors gave the sum of £250 each, and £500 of the sum of £2,000 was obtained. He was now at liberty to announce that the offer was made by Mr. Reginald Cory, who generously gave the larger sum, although they had not been successful in raising the amount stipulated. Mr. Cory had promised them a similar amount in 1919. With regard to the festival dinners, as soon as the armistice was declared the Committee decided to hold a dinner as usual in 1919, and the Worshipful Company of Grocers had generously placed their Hall at the disposal of the Committee for the purpose. The date had been fixed for June 19, and he, Sir Harry Veitch, had consented to occupy the chair. He appealed for support on that occasion, and asked all horticulturists to "back him up." The various auxiliaries had done well, and he specially mentioned Reading and Worcester, the latter town having recently sent the secretary nearly £100. From Sir Frank Crisp the sum of £50 had been received, being part of the proceeds received from a small fee paid by visitors inspecting the gardens at Friar Park. The Fund had received a special gift of £150 for deserving cases, and it was proposed to divide the money between the unsuccessful candidates.

Mr. Arthur Sutton seconded the adoption of the Report. Referring to the small number present, he suggested that it showed the confidence of the subscribers in the Committee. He urged that a special effort be made to augment the emergency fund, which was almost exhausted. The meeting then proceeded to the election of officers. Sir Harry Veitch was re-elected chairman and treasurer, and Mr. Geo Ingram secretary. The retiring members of the Committee, the auditors and arbitrators, were all re-appointed. At this stage of the proceedings the meeting was adjourned for the counting of the ballot, and later the successful candidates were announced as follow:—

Result of Election.

	Age.	No. of Votes
Pugh, Mary	80	4,656
Brodie, Malcolm	73	4,250
Bryden, Robert	64	4,085
Wilkins, James	72	3,985
Sparks, Louisa J.	64	3,843
Faint, Francis	68	3,779
Taylor, William	74	3,649
Wilson, Jane A.	76	3,620
Earl, Elizabeth E.	72	3,596
Bridges, Charles	75	3,585
Hampton, Harriet	83	3,532
Marlow, William D.	76	3,528
Meadows, Mary E.	67	3,329
Astridge, Mary A.	62	3,310
Farrant, William	72	3,044

Mrs. Eliza Dillistone was placed on the funds without further voting, by resolution, under Rule III., 10.

Mr. Arthur W. Sutton announced his desire to give the sum of £20, equal to one year's allowance for an unsuccessful male candidate, and Sir Harry J. Veitch offered £16, for one year's allowance to a female candidate. Mr. George Monro also gave a donation of £10, to be given to one of the unsuccessful candidates who is a widow.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

Receipts and Payments for the Year ending December 31, 1918.

Receipts	£ s. d.	£ s. d.
To Balance with Treasurer, January 1, 1918	1,292 15 2	
,, Balance with Secretary, January 1, 1918	5 9 6	
,, Deposit Account	180 0 0	
,, Deposit, Wolfe Legacy and Interest, January 1, 1918	825 19 11	
		2,304 4 7
,, Annual Subscriptions	1,161 16 6	
,, Donations, including Special Gifts	1,403 15 5	
,, Donation—Special	500 0 0	
,, Gift of National War Bond	100 0 0	
,, Schröder Annuity	20 0 0	
,, Legacies:— W. J. Lucking	1,000 0 0	
Walter T. Ware	250 0 0	
Miss Hillman	90 0 0	
,, Dividends and Interest (less Tax)	839 7 2	
,, Income Tax Refunded	194 1 9	
,, Deposit Interest (Wolfe's Legacy)	18 7 8	
		5,567 8 6
		£7,871 13 1

Payments	£ s. d.	£ s. d.
By Annuities and Gratuities		4,543 5 2
,, Rent, Fire and Lighting, and Salaries of Secretary and Clerk, etc.	578 4 5	
,, Printing and Stationery .. £97 2 2		
,, Less Advertisements 11 0 6	86 1 8	
,, Postages, Reports, Polling Papers, Appeals, and Ordinary	38 0 1	
,, Carriage, Telegrams, and Incidental Expenses	11 15 9	
,, Telephone Charges	6 10 0	
,, Expenses of Annual Meeting and Election	4 18 0	
,, Advertisement	3 5 0	
,, Cost of Wreath for Vice-President	2 2 0	
		730 14 11
,, Expenses in respect of Transfer of Stock		33 3 7
,, Gift of National War Bond		100 0 0
,, On Deposit—General Account	180 0 0	
,, ,, Wolfe Legacy & Interest	844 7 7	
,, *Balance with Treasurer, December 31, 1918	1,432 7 11	
,, Balance with Secretary, December 31, 1918	7 13 11	
		2,464 9 5
		£7,871 13 1

* £1,300 is required to meet the quarterly payments due on December 31, 1918.

The undersigned, having had access to the Books and Accounts of the Society, and having examined the foregoing General Statement and verified the same with the accounts and vouchers relating thereto, now sign the same as found to be correct, duly vouched and in accordance with law.

GEO. H. COBLEY & CO., Honorary Auditors, Chartered Accountants.

VICTORIAN ERA FUND.

Receipts	£ s. d.	£ s. d.
To Balance, January 1, 1918		169 8 7
,, Donations	0 10 0	
,, Income Tax Refunded	58 6 6	
,, Dividends	171 2 6	
		229 19 0
		£399 7 7

Payments	£ s. d.
By Grants, 1918	263 0 0
,, Balance, 31st December, 1918	136 7 7
	£399 7 7

GOOD SAMARITAN FUND.

Receipts	£ s. d.	£ s. d.
To Balance, January 1, 1918		261 12 9
,, Donations	37 14 0	
,, Income Tax Refunded	28 18 6	
,, Dividends	116 12 6	
		183 5 0
		£444 17 9

Payments	£ s. d.
By Grants, 1918	187 9 2
,, Balance, 31st December, 1918	257 8 7
	£444 17 9

BRITISH FLORISTS' FEDERATION.

January 23.—The interest and enthusiasm shown by those present at the annual general meeting of the B.F.F., at Essex Hall, Strand, W.C., were evidence of the excellent relations existing between the management and the general body of members.

Mr. Geo. Monro, junr., presided, and members were present from the suburbs of London and from Sheffield, Bedford, Dover, and other parts of the provinces.

On the motion of Mr. A. M. Wilson, seconded by Mr. Milton Hutchings, the report and accounts were adopted. We give the following extracts therefrom:—

At the end of 1917 a membership of 172 was recorded. There are now 277 members, and thanks are due to those gentlemen who have worked hard and effectively to secure new members, especially to Mr. Robert H. Page and Mr. Brayshaw, who were particularly successful in this direction. A balance of £9 12s. 4d. was brought forward from 1917, and one of £17 1s. 3d. is now carried forward. The Federation is in no sense a London concern, as it has members in Scotland, Ireland, Wales, Guernsey and Jersey, the Scillies and most of the English Counties.

Members of the Federation patriotically carried out the voluntary agreement to reduce flower growing and increase food production by at least 50 per cent., as a war measure. In response to a request by the Food Production Department all members were asked to fill up and return a prepared schedule. From 150 returns received the following totals have been compiled:—

	Acres	roods	rods
Area of Holdings	6,858	1	20
Area of Arable Land	4,881	0	6
Area of Grass Land	1,460	0	10
Land under Flowers in 1914	1,775	1	34
Land under Flowers in June, 1918	699	3	23
Area of Glass-houses	319	0	35
Area of Glass under Flowers in 1914	218	1	24
Area of Glass under Flowers in June, 1918	76	0	23
Area of Glass devoted to Food Production in June, 1918	222	0	9
Area of Land devoted to Food and Seed Production in June, 1918	4,143	1	39

During the year the offices of the Federation have been used by several trade and horicultural societies as their position in Covent Garden makes the rooms most convenient for committee meetings. The Horticultural Trades' Association has held its monthly council meetings there, and the London Retail Seedsmen's Association, the National Chrysanthemum Society, the National Sweet Pea Society, the National Dahlia Society, and the British Carnation Society have also found suitable accommodation, consequently the home of the British Florists' Federation has become a centre of horticultural activity. Further, the Horticultural Club's pictures and books are being housed at 35, Wellington Street, Covent Garden, until the Club has a home of its own again.

It is a matter of special interest that the control of Raffia has been removed as a result of the representations made by the Committee to the Board of Agriculture and the Food Production Department directly after the armistice was signed on November 11. Notwithstanding the lateness of the season for securing importations of Lily bulbs from Japan, the Committee approached the Board of Trade Department of Import Restriction directly after the conclusion of hostilities, and asked that opportunity to import bulbs, chiefly of Lilium longiflorum and Lilium speciosum, should be granted. Aware of the work flower growers had accomplished in the production of food, Dr. Keeble urged that a concession should be made. Eventually a concession was made, and the De-

partment agreed to allow the importation of 10,000 cases of bulbs. It is doubtful whether importations can be obtained as the season was far advanced, available shipping space small and freightage charges high, but the Committee did the best it could for the trade by acting with the utmost promptitude.

The compilation of the Credit Index has proceeded steadily through the year, and has now reached a point where it will be really useful.

Hitherto, unless members have been in direct communication with the Secretary, their knowledge of the business proceedings has been limited to the generous references made in the Horticultural Press to special matters which have arisen. The publication of a Bulletin has been under consideration for some time, and was approved at a meeting in September. The Bulletin will appear at intervals, as the Committee may determine, and will be sent to every member.

In the early part of the year 1918 a movement was started with a view to securing the co-ordination of the various horticultural societies and federations, and creating an effective central authority. This movement—in which the President and Secretary have taken an active part—resulted in the inauguration of the Chamber of Horticulture, with the approval and good wishes of the Rt. Hon. R. E. Prothero, President of the Board of Trade; Dr. Keeble, Controller of Horticulture, and many other influential people. The Committee considers such a central body should be heartily supported, and recommends the attachment of the Federation thereto.

The officers and committee were heartily thanked for their services. Mr. Geo. Monro, junr., was re-elected president, and Messrs. G. H. Cobley and Co. hon. auditors. As a result of the ballot Messrs. W. A. Cull, F. W. Ladds, A. Mizen, S. M. Segar, E. Stevens, E. T. Wheaton and A. M. Wilson were re elected members of the committee, and Messrs. W. G. Innes, . Lambert and H. J. Gay were elected to fill vacancies arising from resignations.

After fully discussing the matter the meeting unanimously agreed "That the British Florists' Federation become attached to the Chamber of Horticulture." In reply to one question raised Mr. Monro stated that private members of the Chamber would in no sense have a controlling interest, as their representation was limited by rule.

The president invited suggestions and criticism at the close of the regular business, and the opportunity thus afforded was taken full advantage of. Mr. Monro stated that while flower-growers should not revert wholly to flower cultivation, they would be at liberty to gradually reduce their cultivation of foodstuffs. It was agreed that a protest against the importation of Dutch flowers should be made to the Board of Trade, and that the Prohibition Order should be enforced in this case. The proposal on the part of America to prohibit the importation of most European horticultural produce gave rise to considerable comment, and it was agreed that the Federation request the Chamber of Horticulture to approach the American Embassy, the Board of Trade, and the Belgian and French authorities, with a view to obtaining a reversal of this proposal, as a general prohibition of this kind would, if enforced, prove a great hardship to French and Belgian as well as British horticultural traders.

After the secretary, Mr. Chas. H. Curtis, had outlined the scope of the proposed bulletin, the proceedings concluded with a vote of thanks to Mr. Monro for presiding.

THE LATE GEORGE BUNYARD, V.M.H.

SCOTTISH HORTICULTURAL.

JANUARY 14.—The annual business meeting of this Association was held at Dowell's Rooms, 18, George Street, Edinburgh, on this date. Mr. Robert Fife, the president, was in the chair, and there was an attendance of about 80. The report by the Council stated that the ordinary work of the session had been carried on as usual, and that the average attendance at the monthly meetings was higher than in the two preceding sessions. Owing, however, to the war, and to a heavy death-roll, there was a marked decrease in the membership. No fewer than four of the twelve honorary members had passed away during the year, viz., Messrs. Alex. Mackenzie and Matthew Todd (two of the original members of the Association), Sir M. Mitchell Thomson, Bart., and Mr. Peter Loney, who for a number of years acted as honorary secretary. Over 130 members were serving with the Army and Navy, and 12 had made the supreme sacrifice. It was the intention of the Council, however, to take measures in the current session to have the membership put on a satisfactory footing.

It was intimated that the Association had decided to hold a Scottish National Potato Exhibition in the Waverley Market, Edinburgh, on October 29 and 30, and that the preliminary prize list of the Exhibition was almost completed, and would be issued immediately. It was also intimated that the venture had received financial and other support from the Corporation of Edinburgh, the Highland and Agricultural Society of Scotland, the Board of Agriculture for Scotland, and a considerable number of gentlemen interested in the promotion of the Exhibition, that the guarantee fund amounted to £1,000, and donations to the Prize Fund amounting to over £300 had been announced. A number of special prizes for fruit and vegetables had also been offered.

The Most Hon. the Marquis of Linlithgow was re-elected honorary president, and Mr. Fife was re-elected president for 1919. Messrs. D. King and J. Dobbie were elected vice-presidents in place of Dr. Smith and Mr. H. Thomson, who retired by rotation, and the secretary and treasurer, Mr. A. D. Richardson, and the auditors, Messrs. Robertson and Carphin, C.A., were re-elected. Of 14 candidates for eight vacancies in the Council the following were elected: Messrs. J. Highgate, Hopetoun Gardens, West Lothian; Malcolm Phillips, Granton Road Nurseries, Edinburgh; R. L. Scarlett, C.D.A., Sweethope, Midlothian; Jas. Fraser, Bonaly Gardens, Midlothian; J. Rowe, Princes Street Gardens, Edinburgh; J. L. Forbes, Edinburgh; A. M. Crabbe, Edinburgh; R. T. Naismith, Edinburgh.

Owing to the falling off in subscribers, due to the war and other causes, there was a deficit of approximately £80 on the revenue account for the year.

Obituary.

George Bunyard.—The death of Mr. George Bunyard, V.M.H., on January 22, as reported in *Gard. Chron.*, January 25, p. 48, removes a notable personality from the world of horticulture. Tall, and gifted with a fine presence, endowed with great ability as an organiser, possessing a wonderfully wide knowledge of fruits and of the nursery and fruit trades, he also had a kindly and gracious manner, which enabled him to make, and keep, a very large number of friends, consequently the loss created by his death will be deeply felt far outside the family circle. Born in 1841, Mr. George Bunyard entered his father's office in 1855. Commencing in the seed department, he subsequently acquired a thorough knowledge of fruits, conifers, hardy shrubs, and herbaceous plants. At that early period the firm did only a local trade, but from time to time more land was taken, and a great advance was made in 1869, when the now famous Allington Nurseries were started with 20 acres. The utmost secrecy was necessary in obtaining the land, as farming was a good business then, and it was only by careful diplomacy that new acreage could be secured. The nurseries now extend to 166 acres. In 1863 Mr. George Bunyard was made a partner, and the business was extended in all directions. He was a prominent member of the great Apple Conference, 1883 where his expert knowledge proved of such great value that he was made chairman of the Fruit Conference held at Edinburgh in 1886. He was the moving spirit in carrying out the City Exhibition of Fruit, held at the Guildhall, London, in 1890, for which service the Fruiterers' Company made him a freeman of the City. In 1896 he became Master of the Company, and celebrated the occasion by entertaining the Lord Mayor and Sheriffs and a large gathering of gentlemen at De Keyser's Hotel. He was one of the first to receive the Victoria Medal of Horticulture, and served for 34 years

on the Fruit Committee of the Royal Horticultural Society, and for about ten years was a member of the R.H.S. Council. When his health failed, the Fruit Committee gave him a handsome present and a framed address of appreciation; but the Committee had previously—on the occasion of its Jubilee in 1909—presented him with his portrait, which now hangs in the Committee Room at Vincent Square. Mr. Bunyard's chief interest was in connection with fruit, and his firm were champion exhibitors for 25 years. By means of lectures, *Fruit Farming for Profit*, *The Fruit Garden*, articles in the *Century Book of Gardening*, and contributions to the *Gardeners' Chronicle*, he stimulated the market culture of fruit on the Kent system. Among new fruits, his notable introductions were Superlative Raspberry, Allington Pippin, Lady Sudeley, Market Favourite, Gascoyne's Scarlet, and Hambling Seedling Apples, while many little-known fruits were brought to notice by his firm. He spared no pains to produce the best possible fruit trees in all forms, but at the same time large collections of Roses, Rhododendrons, and other flowering shrubs, trees, and plants were made and maintained. He made his business a large and prosperous one, and since his retirement from the active management he wrote: "The business has prospered still more under the guidance of my two sons, Edward Ashdown and George Norman, since illness and old age have compelled their father to give up active work." The funeral took place at Mereworth on the 22nd ult., amid every expression of respect. The Rev. W. Wilks was unable to attend, but the Royal Horticultural Society sent a wreath of Laurel with the inscription, "A very small recognition of many long years of assistance and advice given so willingly to the Royal Horticultural Society by Mr. George Bunyard, V.M.H., from the President, Council, Secretary, Fruit Committee and Staff of the Society.

John Black.—We regret to record the death at Preston Mains Farmhouse, East Lothian, of Mr. John Black, for many years gardener to Sir A. Buchan-Hepburn, Bart., at Smeaton, Prestonkirk, East Lothian. Mr. Black was one of the ablest and most esteemed of Scottish gardeners, and the gardens at Prestonkirk, full of subjects of great interest, were ably managed by him. He retired a short time ago.

CROPS AND STOCK ON THE HOME FARM.

SHEEP.

If I were asked to name the most popular breed of sheep for general utility use I should say at once Hampshire Downs. On an arable farm where close folding is essential for the welfare of the corn crops and for hardiness and quick growth of the lambs, this breed is highly prized, not only in Hampshire, but in many other counties. For crossing with other breeds, especially Southdowns, this breed is popular. The bulk of flocks this season are later in lambing than usual as a result of the suggestion that lambing should be deferred owing to the probable scarcity of feeding stuffs, a suggestion farmers readily adopted for the common good. In normal times lambing commences the first week in January, and by the middle of May lambs weighing 60 lbs. are obtainable. This season we are a month later, and there may be some benefit derivable from the change, such as better weather and a saving of food, material and losses. In preparation for the lambing season great care in feeding the ewes must be exercised; in no circumstances should they be given frozen food, or abortion will follow and much loss be experienced. Hay of good quality is essential to success at this stage, and one of the safest of foods to give in the morning and again in the evening. Gentle exercise is important, but there must be no excitement.

A fortnight before lambing time each ewe should have a half-pound each of Cotton and Linseed cake per day. If the ewes have had a small quantity of Turnips during the past two months no harm will result from the continuation of this food, but otherwise do not give Turnips nor any other roots until after lambing has taken place, when two Turnips per day, in addition to the hay, may be allowed. Water is necessary when hay is used, therefore clean water should always be available. Warm cow's milk should be given to lambs that need it, and it is often a means of saving the lambs from death.

A properly made lambing pen should be dry and fairly warm, and sheltered from north and east winds as much as possible. A square yard should be provided, with small pens around the outside so arranged that they provide the shelter for the yard; each pen should be about 4 feet square, which allows ample space for one ewe and two lambs, and the necessary food and water. The ewe should remain in the pen for four or six days if all goes well, when she may be moved into a more open part of the yard, where the lambs will obtain more exercise and air, while the ewe has an increase of food as the lambs progress. *E. Molyneux, Swanmore Farm, Bishop's Waltham.*

TRADE NOTES.

SEED GERMINATION.

The Board of Agriculture, the Board of Agriculture for Scotland, and the Department of Agriculture and Technical Instruction for Ireland, have authorised the sale for seed of Tares or Vetches, field Turnip, Swede, Rape, field Cabbage, field Kale, field Kohl Rabi, and Mangel without declaring the actual percentage of germination. This percentage, however, must be not less than the following standard of germination, and a statement to that effect must be made: Tares or Vetches, 90; field Turnip, 85; Swede, 85; Rape, 85; field Cabbage, 75; field Kale, 75; field Kohl Rabi, 75; and Mangel, 120 per cent.

MARKETS.

COVENT GARDEN, January 29.

Cut Flowers, &c: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Arums—(Richardias), per doz. bl'ms.	15 0-18 0	Lilac, white, per bunch	3 6- 4 0
Azalea, white, per doz. bunches...	7 0- 8 0	Lilium longiflorum, long ...	18 0-21 0
Bouvardia, white, per doz. bun. ...	30 0-36 0	Lily-of-the-Valley, per bun. ...	3 6- 4 0
Camellias, 12's-18's per box ...	4 0- 6 0	Orchids, per doz:—	
Carnations, per doz. blooms, best American var	6 0- 8 0	— Cattleyas ...	18 0-24 0
Croton leaves, per bun. ...	2 6- 3 0	— Cypripediums,	6 0- 8 0
Daffodils single, per doz. bun.—		Pelargonium, double scarlet, per doz bunches...	10 0-12 0
— Emperor ...	18 0-24 0	— white, per doz. bunches	10 0 12 0
— Golden Spur ...	12 0-15 0	Roses, per doz. blooms—	
— Henry Irving...	9 0-10 0	— Madame Abel Chatenay ...	12 0-15 0
— Victoria ..	15 0-18 0	Snowdrops, per doz. bun.	6 0- 8 0
— Princess ...	12 0-15 0	Tulips, per doz. blooms—	
Narcissus ornatus, per doz. blooms	15 0-80 0	— mauve	6 0- 7 0
Freesia, white, per doz bunches ..	4 0- 5 0	— white	4 0- 5 0
Heather, white, per doz bun	6 0-10 0	— yellow per doz. blooms ...	3 6- 4 6
Hyacinths, Roman, 12's, per doz. bun.	3 6- 4 0	Violets, single, per doz. bun.	6 0 10 0

REMARKS. White flowers, such as are required by florists, are chiefly confined to Azalea and White Narcissus. Chrysanthemums are practically over for the season. A few boxes of Allman's Yellow are still offered in good condition, but these are the last of the coloured varieties that can be termed sound and saleable. Paper-white Narcissus being more in demand, and supplies somewhat limited: prices are firmer. Larger quantities of Mimosa are being received. Amongst the French flowers the most attractive lines are Anemones, Ranunculus, and Parma Violets. Anemone De Caen, single mixed, are selling freely. The chief fresh arrivals during the past week have been Pheasant-Eye Narcissus and Tulips—White La Reine, Prince of Austria, and mauve William Copeland. The new season's Roses have begun to arrive, and a few blooms of Richmond sold freely last week. A few bunches of Forget-Me-Nots are on sale.

Trade is very quiet in the pot-plant department, and weather conditions are against plentiful supplies just now. A few pots of Daffodils and Pheasant-Eye Narcissus were offered for sale during the week. All Ferns are scarce, and the quality cannot be termed first class; but an improvement cannot be expected for a few weeks yet.

Fruit: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Cranberries, per case	52 6 —	Nuts, con.—	
Grapes:—		— Brazils (new), per cwt. ..	230 0-240 0
— Almerias, per barrel (about 3½ doz. lbs.)	60 0- 90 0	— Cobnuts, per lb.	1 9 —
— Alicante, per lb.	4 0- 6 0	Walnuts, kiln dried, per cwt. ...	130 0-200 0
— Gros Colmar, per lb.	4 0- 7 0	Pears, Californian (Easter Beurré), cases containing 8 to 10 doz., per case	110 0-120 0
Nuts:—			
— Almonds, per cwt.	140 0-160 0		
— Barcelona, per cwt.	130 0-140 0		

Vegetables: Average Wholesale Prices.

	s. d. s.d.		s. d. s. d.
Artichokes, Jerusalem, per bus.	3 0- 3 6	Herbs, per doz bun.	2 0- 4 [illegible]
Asparagus, Paris Green, per bundle	11 0-13 0	Horseradish, per bun	3 6- 4 [illegible]
— — Sprue, per bundle ...	1 10 —	Leeks, per doz. bun.	4 0- [illegible]
Beans, French, per lb.	4 0- 6 0	Lettuce, Cabbage and Cos, per doz	3 0- 4 [illegible]
Beetroot, per bus.	5 0- 6 0	Mushrooms, per lb.	4 0- 5 [illegible]
Brussels Sprouts, per bus. ...	6 0- 7 0	Mustard and Cress, per doz. punnets	1 0- 1 [illegible]
Cabbage, per tally	7 0-10 0	Parsley, per ½ bus.	5 0 —
Carrots, per bag ...	10 0-12 0	Parsnips, per bag...	5 0- [illegible]
Cauliflowers, per doz	3 0- 7 0	Potatos, new, per lb.	1 6- 1 [illegible]
Celeriac, per doz..	10 0-10 6	Radishes, per doz. bunches ...	1 6- [illegible]
Celery, per doz. ...	21 0-48 0	Rhubarb, forced, per doz. ...	2 6- [illegible]
Chicory, Belgian, per lb. ...	0 10 1 2	Savoys, per bag ...	2 6- [illegible]
Cucumbers, per doz	30 0-48 0	Seakale, in boxes (6–8 lbs.), per lb.	1 6- 1 [illegible]
Endive, per doz. ...	3 6- 4 6	Shallots, per lb.	0 6- [illegible]
Garlic, per lb. ...	0 5- 0 7	Spinach, per bus....	8 0-10 0
Greens, per bag ...	2 0- 3 0	Turnips, per bag ...	5 0- [illegible]
		Watercress, per doz	0 10- [illegible]

REMARKS.—Supplies of black Grapes may be said at present to be sufficient for the demand, and the market is well supplied with Almerias. Californian E. B. Pears are on offer. The following forced vegetables are now available:—Dwarf Beans, Mushrooms, Seakale, Chicory, Asparagus, Cucumbers, New Potatos, and Mint. Ordinary vegetables are plentiful, the market being well supplied with all seasonable kinds.—*E. H. R., Covent Garden Market, January 29, 1919.*

ANSWERS TO CORRESPONDENTS.

CALCIUM SULPHIDE AND WIREWORMS: *H. N.* Probably the horticultural sundriesmen who advertise in our columns will be able to supply you with calcium sulphide. The other points raised in your letter will be referred to in an early issue.

EMPLOYMENT IN AN ESTATE OFFICE: *J. K.* The prospects of employment in an estate office are fairly good, and a young man who has a knowledge of gardening, farming and timber should find congenial employment in the work. To be successful a knowledge of surveying, accounts, sales and costing is necessary. Apply for particulars to a firm of estate agents.

PROFITABLE MARKET GARDENING: *H. W.* Given soil of fair quality and a suitable site, market gardening is a profitable business in the hands of a man who possesses knowledge of the work and skill in its practical application. Success depends largely upon the rapidity with which one crop is cleared and followed by another, and a good market that can be easily reached. The gross cash return per year per acre varies immensely, and where one grower would fail another would do well, therefore any figures we might give would be misleading, especially as you have given no particulars as to the kinds of crops you propose to grow. You could work out approximate figures by estimating the number of Cabbages per acre (allowing for losses in the rows) and pricing them at the average market value per tally in the season in which they would be ready; the acreage per acre, for the district, would give a basis of returns for the Potato crop, and other crops could be estimated on similar lines. The Board of Agriculture may be able to help you in this connection, but practical experience is worth more than many figures.

SEWAGE SLUDGE AND FLUE DUST: *J. H.* The composition of sewage sludge varies very considerably according to the method by which it is treated, and particularly its composition depends on whether lime is used in precipitation. The following is a fairly average analysis of sludge: Moisture, 48.7; organic matter, 19.0; mineral matter, 31.0; total nitrogen, 0.86; ammoniacal nitrogen, 0.06; phosphates, 1.11; potash, 0.29; and lime, 13.27 per cent. It would probably be advisable for you to get analyses made of both the flue dust and the sludge, and you can probably arrange for this to be done through the Chemical Department of the University of Wales at Cardiff. Full information with respect to flue dust is contained in Food Production Pamphlet No. 23.

Communications Received.—W. N. C., Jamaica—F. W. C.—T. B. A.—B. C.—K. L. S.—J. C. W.—F. W. C.—E. B. W.—A. H.—A. W.—J. B. D.—Miss C. D. W.—E. M.—C. H.—J. A. P.—E. B., Fota—S. A.—E. T. E.—C. P. B.—S. W. D.—C. A. J.—W. S.—E. J.—N. F. B.—R. E. N.—J. C.—S. C. S.—W. B.

Continued from page iii.

WANTED, SECOND GARDENER, for Glass Houses, must be well experienced; good wages to capable man.—Apply, H. LLOYD, Ewell Place Gardens, Ewell, Surrey.

WANTED, young MAN as SECOND GARDENER; Single, Inside and Out, duty third Sunday, no Bothy; wages 30s., duty 5s. extra. Write, S. C., 41, Whiteley Road, Upper Norwood, S.E.

GOOD UNDER GARDENER wanted for Warwickshire, house, food, garden; good wages.—Write Box 300, care of Willings, 33, Knightsbridge, S.W. 1.

REQUIRED, ASSISTANT GARDENER (single man); principally for Lawns and Vegetables; must be experienced, board and lodgings found near to residence.—Apply by letter, giving full particulars and wages required, Greenfields, Horley, Surrey (one mile from main line station).

UNDER GARDENER; handy youth or man wanted; work under experienced Lady Gardener at Leamington. C. W., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, March 1 next, FOREMAN for Kitchen Garden; married or single. FIRST JOURNEYMAN, for Inside. Also two single MEN for Pleasure Grounds, one as Leading Hand, with some knowledge of Alpines and Herbaceous. Comfortable Bothy, &c.; 1 o'clock Saturdays.—Apply, stating age, experience, references, and wages required, to G. T. WATSON, Newby Hall Gardens, Ripon, Yorks.

WANTED, good FOREMAN; Inside and out; Bothy, fuel, and vegetables.—Write, stating wages required, with copies of testimonials (must take duty), to W. GIBSON, Levens Gardens, Milnthorpe, Westmorland.

WANTED, FOREMAN (Inside); good general knowledge Fruit and Plant Growing; assist with Wall Fruit; £2 weekly; no Bothy; 3s. Sunday duty.—CRANE, Penrice Castle Gardens, Reynoldston, Glamorgan.

WANTED, JOURNEYMAN, to take charge of Houses in a first-class Midland establishment; comfortable Bothy and good wages.—Apply, in the first place, giving particulars of age, experience, &c., to JOHN PEED & SON, The Nurseries, West Norwood.

WANTED, JOURNEYMAN; experienced in Fruit and Plant Culture, to take lead.—State particulars of experience and wages to GARDENER, Woodhatch Gardens, Reigate, Surrey.

WANTED, JOURNEYMAN, for Fruit and Plant Houses. Also good MAN, for Lawns and to milk several cows; Bothy and vegetables provided.—Apply, with particulars, to R. C. Lankester, The Gardens, Wood Green Park, Cheshunt, Herts.

WANTED, JOURNEYMAN (Inside and Out). Also strong YOUTH.—For particulars and wages, apply J. MANN, Kirklington Hall Gardens, Southwell, Notts.

WANTED, two JOURNEYMEN; one to take charge of House, one for Fruit Trees, Roses, &c.; under Foreman.—Write, stating experience, wages required, Bothy, vegetables, and attendance (1 o'clock Saturdays), to H. NAYLOR, Pleasaunce Gardens, Overstrand, Cromer.

WANTED, Two JOURNEYMEN; Inside, First and Second, experienced in Fruit and Plant Growing; discharged men preferred; state particulars of experience and wages required; Bothy and attendance provided, to GEO. GURNEY, Bodnant Gardens, Taly-Cafn.

WANTED, Strong YOUTH for Houses; some experience preferred; good wages, Bothy, milk, vegetables, and attendance.—Apply, J. SHENNAN, Holdenby, Northampton.

BOY WANTED, to work in Garden and Stables, one who understands driving preferred; aged between 16 and 18.—Write. Box 499, JUDDS, 7, Gresham Street, E.C. 2.

WANTED, strong LAD, 16-17; Inside; wages 23s. per week; Bothy, vegetables, and attendance; 1 o'clock Saturdays.—Apply, with reference, to JAMES S. KELLY, Claremont Gardens, Esher, Surrey.

MATHER TRAINING COLLEGE, Seymour Grove, Manchester.—Wanted, young, strong ASSISTANT WOMAN GARDENER, to work under the Head of the Department of Gardening and Nature Study; residential post, with from £50 salary, according to experience.—Apply to THE PRINCIPAL.

WANTED, HANDY MAN, for stoking hot water boilers; make himself generally useful about Castle; assist with mowing, &c.—For particulars, apply with wages expected, to STOTEN, St. Donats Castle, Llantwit Major, Glamorgan.

TRADE.

TOMATO and CUCUMBER GROWER wanted at once, to take charge of Nursery where Tomatoes, Cucumbers, Bedding Stuff, and Chrysanthemums are grown.—Apply, stating full particulars, also wages required, "SURREY," Box 9, 41, Wellington Street, Covent Garden, W.C. 2.

CUCUMBER and TOMATO CHARGE HANDS, also Ordinary Hands as Growers, wanted for Market Nurseries; good wages can be earned by reliable, experienced Men.—Apply, personally or by letter, to ANDREWS, 84, Crossbrook Street, Waltham Cross.

WANTED, experienced GROWER for Bedding Plants (market sales). Also a SECOND MAN, with some knowledge of Plants. THOMAS PERKINS & SONS, LTD., 34, Drapery, Northampton.

WANTED, MANAGER, experienced in all branches of Nursery Trade.—Apply, L. R. RUSSELL, Richmond Nurseries, Richmond, Surrey.

EMPLOYMENT offered to Two fully experienced CHARGE HANDS for Cucumber and Tomato Houses; wages £3 per week and extras.—Apply personally or by letter to WYNN HAMILTON, "The Ivies," Crossbrook Street, Waltham Cross.

WANTED, experienced GROWER, Cyclamen, Chrysanthemums, &c. Also a Horticultural Glazier. State experience and wages required. — G. CLARK, The Nurseries, Priory Lane, Putney.

GLASSHOUSE MAN wanted (single preferred) for Market Nurseries; seaside town, West of England; wages offered 50s.—Send particulars of experience, &c., to C. H., Box 23, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, LANDSCAPE FOREMAN (WORKING), with good experience.—Apply, giving full particulars, references, and wages rqeuired, to GEO. JACKMAN & SON, Woking Nurseries, Surrey.

WANTED, FOREMAN, with good general knowledge of Nursery Stock, including Fruit Trees, Forest Trees, Roses, Shrubs, &c.; house, with garden, on premises. State wages required, with references.—JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

NURSERY WORKERS. — Qualified Cucumber and Tomato Hands (male) wanted, in the neighbourhood of Waltham Cross; wages from 50s. per week, according to experience; extra for overtime and a bonus on production. GENERAL NURSERY HANDS also required; wages from 38s. per week; overtime extra. — Apply, Box 99, "Weekly Telegraph" Office, Waltham Abbey.

WANTED, WORKING FOREMAN, with good experience of Inside and Outside work; capable of growing Tomatos and Cucumbers for market; good wages to suitable man.—Apply, J. S. DOIG, Nettleton Lodge, Caistor, Lincs.

WANTED, energetic WORKING FOREMAN (Outside), with good general knowledge of Nursery work, Trees, Shrubs, Roses, &c.—Apply, with copies of discharge, ARTHUR S. RITCHIE & CO., Belfast.

FOREMAN (WORKING); Glass; North of England; £160 per annum; must be capable, energetic, good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, WORKING FOREMAN, for small branch Nursery; South Coast; Fruit Trees, Roses, Shrubs, and Trees for seaside planting.—B. B., Box 18, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, WORKING FOREMAN, for Rose and Fruit Nursery; also Second Man; must be good Knife Men; state wages and experience. —HEATH NURSERY CO., South Kilworth, Rugby.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR, for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden. ROSE GROWER (Outdoor). KNIFESMEN and SPADE HANDS for Fruit and Ornamentals; majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WANTED, NURSERY HANDS (two); experienced in Roses and General Nursery stock; one Grower of Bedding and Pot Plants; one Assistant for Retail Seed Department.—PROCTOR'S NURSERIES, Chesterfield.

WANTED, several GENERAL NURSERY HANDS.—Apply, L. R. Russell, Richmond Nurseries, Richmond, Surrey.

WANTED, NURSERY HAND, good Rose Grower. State age, wages, and experience; permanent position of promise for right man.—MURRELL, Rose Acre, Shepperton.

WANTED, at once, young MAN as SECOND, in the Rose Department; good budder, &c. Age, reference, and wages required.—A. J. & C. ALLEN, Rose Department, Norwich.

WANTED, YOUTH, 17 to 20, as IMPROVER in Cucumbers; quick at tying; every opportunity to learn for willing youth.—Apply, giving particulars, experience, reference, wages asked, MANAGER, Clifton Fruit Growers' Co., York.

SEED TRADE — Wanted, a CHARGE HAND; one who has a thorough knowledge of all Garden Seeds, Sundries, and Nursery Stock, and accustomed to a brisk counter trade.—Apply, with copies of discharges, to ARTHUR S. RITCHIE & CO., Belfast.

WAREHOUSEMAN wanted, Agricultural Seed Department; preference given to one accustomed to cleaning seeds by machinery.—Apply, stating if disengaged or when, age, salary, and copies trade reference.—WM. POWER & CO., 25 and 26, King Street, Waterford.

WANTED, CLERK, with some experience of the trade. Apply by letter, stating age, previous experience, and salary expected.—BARR & SONS (Private), 12 and 13, King Street, Covent Garden, W.C. 2.

LADY ASSISTANT wanted for high-class Florists' and Fruiterers' Business; good saleswoman and experienced in wreath and general floral work; seaside town. Send particulars of experience, references, and salary, to W. H., Box 22, 41, Wellington Street, Covent Garden, W.C. 2.

FLORISTS.—Young LADY wanted to assist widow. Apply, S. A., Box 19, 41, Wellington Street, Covent Garden, W.C. 2.

SITUATIONS WANTED.

Twenty-six words 1s. 6d., and 6d. for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office, 6d.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

GARDENER (HEAD) or GARDENER-BAILIFF.—H. MARTIN GIBBS, Esq., highly recommends his Gardener to anyone requiring a first-class man for large establishment; has been with him 2 years; 11½ years previously Head Gardener to the late Rt. Hon. Sir W. R. Anson, Bart., Pusey House, Faringdon; age 45; married (family grown up); life abstainer.—Apply, JONES, Barrow Court Gardens, Flax Bourton, Bristol.

HEAD GARDENER-BAILIFF.—A keen, energetic, and competent man desires responsible Post; first class all branches; expert Fruit Grower and successful exhibitor; just discharged from Army. —GEO. MORBEY, The Town Hall, Knutsford, Cheshire.

SITUATION required as GARDENER-BAILIFF; 36 years' practical experience in Garden, stock, and estate; 16 months' good reference; 13 years' previous; married (no family at home); age 50.—HOLDEN, Lullenden, East Grinstead.

GARDENER (HEAD), age 36, requires situation, where four or more are kept; 18½ years' experience, Fruit, Flowers, and Vegetables; good Decorator; married (no family); highly recommended present employer.—JOHNSON, Stansted House Gardens, Stansted, Essex.

GARDENER (HEAD). — CPL. A. T. SOUTHALL, 74th Squadron, Remount Depôt, Shirehampton, Bristol, seeks re-engagement; 25 years' experience in large Private Gardens; efficient with Fruits, Flowers, Vegetables, under Glass and Outdoor, and management of large Garden; age 40; married (no family); released when suited.

GARDENER (HEAD WORKING); life experience all branches; electric light; land and stock if required, 16 years last situation as Head Working; well recommended; free now; age 44; married.—J. COOPER, Park House, Colnbrook, Bucks.

GARDENER (HEAD) seeks re-engagement; thoroughly experienced in all branches, including Fruit, Vegetables, Orchids, new and choice Plants, also Landscape; highly recommended by present employer; married; 30 years' experience; age 48.—STADDON, Duffryn, St. Nicholas, Cardiff.

F. MONCKTON, Esq., highly recommends his HEAD GARDENER (where four or more are kept); thoroughly efficient in all branches; 18 years' good all-round experience, gained in good establishments; age 33; married (no family); excellent references.—A. NEAL, Stretton Hall Gardens, Stafford.

GARDENER (HEAD), where several kept; 18 years' experience, Inside and Out; electric light plants; estate repairs; South preferred; waiting demobilisation. — GODFREY, Sandrock, New Brighton, Cheshire.

GARDENER (HEAD), where several are kept; life experience, Inside and Out; the last 12 years as Head; excellent testimonials, including 2 years with the R.H.S.; married.—Apply to J. SMITH, Linholme Cottage, Holmbury St. Mary's, Dorking.

GARDENER (HEAD); life experience; efficient in the requirements of good establishments; first-class experience in all branches of Horticulture; 15 years Head; highest testimonials; age 44; one daughter (10); Army discharged; disengaged.—J. A. PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (HEAD of four or more); 20 years' first-class experience in the cultivation of Fruit, Flowers, and Vegetables (Inside and Out), and management of well-kept Garden; excellent references; age 35; married; no family; disengaged. —RIDGEWELL, "Buckthorpe," Obertesey Road, Addlestone, Surrey.

HEAD GARDENER, now awaiting demobilisation after two years in France, is desirous of good position as HEAD GARDENER or similar post, where proved ability, organisation, and management are required; fully qualified; excellent credentials; reliable and efficient service guaranteed.—Please state wages and full particulars to W. R., Box 20, 41, Wellington Street, Covent Garden, W.C. 2.

HEAD GARDENER; energetic, capable, and economic manager, highly recommended, seeks situation; life experience; 11 years as Head; thorough knowledge of Fruit, Plants, Flowers, and Vegetables, Inside and Out, Pleasure Grounds, Landscape, and Rockwork; holder first-class R.H.S. Certificate, Medallist; successful exhibitor; age 39; married (no family); abstainer.—Please state wages, &c., to GARDENER, Box 24, 41, Wellington Street, Covent Garden, W.C 2.

GARDENER (HEAD); 26 years' experience; thorough practical knowledge of all branches, gained in first-class establishments; 9 years as Head in last situation; last 3 years on munitions and local Food Production; age 40; married (one daughter, age 10).—H. COTTON, 54, Woodland Road, Northfield, Birmingham.

SCOTCHMAN requires permanent situation as HEAD GARDENER, where several are kept; where a fully competent man is required for producing in large quantities choice Fruits, Flowers, and Vegetables; Inside and Out; good organiser; highly recommended; age 48; married (two children); Southern Counties preferred. Please state wages, with full particulars of requirements.—A. FYFE, "Clifton," Milner Road, Burnham, Bucks.

HONBLE. MRS. WYNN will be pleased to recommend WM. B. BURCHILL as GARDENER (HEAD) to any lady or gentleman requiring the service of a thoroughly experienced and trustworthy man; land and stock if required; married (no family). —BURCHILL, Rûg Gardens, Corwen, N. Wales.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; Inside and Out; lifetime experience in large establishments; skilful cultivator of choice Fruits, Vegetables, and Plants; first-class qualifications as Head; energetic and hard working; trustworthy; Home Counties preferred.—F. W., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

MR. G. ERSKINE wishes to recommend highly a HEAD GARDENER, where three or more men are kept; life experience in all branches; married (family).—Write, E. PRATTEN, The Buries, Bishopstrow, Warminster.

A FIRST-CLASS HEAD GARDENER. —We have on our list a thorough, practical MAN; Indoor and Out; used to a large staff; married (one in family); North of England or South of Scotland. —Apply, BARR & SON, Buccleuch Street, Dumfries.

GARDENER (HEAD), in good establishment; age 43; thoroughly experienced; excellent references; for the past 12 years Head Gardener to Joseph Shaw, Esq., K.C.; previously at Bryanston, Duntreath, and Wroxton Abbey. — FISHER, Kentchurch Court, Hereford.

GARDENER (HEAD), married, requires situation where four or five are kept; 14 years' sound experience, Inside and Out; good references and done military service.—Apply, F. J. RUFF, 368, New Cross Road, New Cross, S.E. 14.

JOSEPH SHAW, Esq., K.C., wishes to recommend to any lady or gentleman an excellent HEAD GARDENER, who has been in his service 12 years; life experience all branches; age 43.—FISHER, Kentchurch Court, Hereford.

GARDENER (HEAD). — MR. A. D. THOMPSON, Consulting Horticulturist, 11, Adam Street, Strand, W.C. 2, can recommend a competent MAN, including Landscape and Rockwork, Estate duties; married; age 42.—CUCKNEY, 59, Ashleigh Road, Mortlake.

MR. T. COOK, The Royal Gardens, Sandringham, recommends Pte. T. SPARROW as GARDENER (HEAD); age 32; married; life experience, Inside and Out, in good establishments; released when suited. —PTE. T. SPARROW, Herringstone, Dorchester, Dorset.

MR. F. JENNINGS, Chatsworth Gardens, wishes to recommend HENRY EDGE to any nobleman, lady, or gentleman requiring the services of a thorough practical HEAD GARDENER: life experience in all branches of his profession, including Carnations, Fruit, Kitchen Garden, and Pleasure Grounds; good manager of men; aged 33.

GARDENER (HEAD); age 51; married (no family); life experience in all branches; Home Farm if required; 9 years present situation Head, 13 previous; excellent references. Please state wages, &c —A. D., c/o Mr John R., Box, Croydon.

THE EARL OF JERSEY can highly recommend W. J. SHORT (married, no family) as a thoroughly capable HEAD GARDENER. He has had charge of the Gardens at Middleton Park for the last 3 years during the temporary absence on military duty of the permanent Head Gardener who is now demobilised. Lord Jersey will be pleased to give him an excellent testimonial. — Apply, in first instance, to MR. W. D. LITTLE, Estate Office, Middleton Park, Bicester, Oxon.

GARDENER (HEAD) requires situation; first-class experience Plants, Flowers, Fruit, Orchids, Vegetable and Floral work; last place speciality Flowering Plants under Glass, Summer and Spring Bedding; excellent testimonials from well-known places; age 30. — ALFRED R. CUMMINS, 2, Mount Pleasant, Mitcham Road, Croydon.

SIR WILLIAM PLENDER wishes to very highly recommend his HEAD GARDENER, C. WARE, to any lady or gentleman requiring the service of a thoroughly experienced and trustworthy man; Carnations speciality; land and stock if required; highest testimonials from previous employers; age 47; married (no children); sole cause of leaving former Head Gardener returning.—Apply, C. WARE, Ovenden Gardens, Sundridge, Sevenoaks.

MRS. PALMER highly recommends her late HEAD GARDENER for large establishment, with life experience; very energetic and capable manager; excellent references; demobolised A1; age 41; married (no family).—WESTRON, Mariston House Gardens, near Newbury.

GARDENER (HEAD), recently demobilised, requires situation as above; life experience in all branches in good establishments; excellent references; married (no children); age 32; Head Gardener before joining His Majesty's Forces.—W. D., Box 8, 41, Wellington Street, Covent Garden, W.C. 2.

LORD RATHMORE highly recommends his HEAD GARDENER, A. W. CHILD, aged 36, married (no family); excellent references; free the third week in February; Home Counties preferred.—Apply, A. W. C., Garden Lodge, Southfield House, Wimbledon Park, S.W. 19.

GARDENER (HEAD); age 47; in first-class establishment; 2 years as above to Geo. A. Wills, Esq., Bristol; 10 and 5 years previous; competent to manage estate; Army discharge. — HAGON, 11, High Street, Leamington.

A FIRST-CLASS HEAD GARDENER will be needed now for reconstruction work; one with excellent references for energy and proved ability in all branches, including Orchids, seeks re-engagement; age 45.—GARDENER, Gables Cottage, Surbiton.

GARDENER (HEAD); life experience in all branches, Inside and Out, in good establishments; repatriated prisoner of war; released from Army when suited; age 31; married (one child).—C. RALPH, Eynsham, Oxon.

GARDENER (HEAD); practical experience Fruits, Plants, Kitchen Garden, House and Table Decorations, gained in good establishments; married; age 37; previously Head; release on engagement.—T. LARKBEY, Mess 28, R.A.F., Isle of Grain.

GARDENER (HEAD); demobilised from Army, seeks situation; life experience in all branches, Inside and Out; highly recommended; age 33; married (no family); last place sold while on Active Service.—C. JOHNSON, 25, Windsor Road, Ealing, W. 5.

GARDENER (HEAD); thoroughly experienced in all departments, In and Outdoors; Fruit, Flowers, Land, Live Stock if necessary; no young family. —GLEED, Gardens, Coombe Wood House, Kingston Hill, Surrey.

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GARDENER (HEAD or good SINGLE-HANDED); life experience, Inside and Out. Please state wages. — HEATHER, Gardener's Cottage, Brackendale, St. George's Hill, Weybridge.

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GARDENER (HEAD WORKING); age 46; with life experience; efficient in requirements of a good establishment for high-class Vegetables, choice Fruits, Flowering Plants, Orchids, Carnations, Roses, Chrysanthemums, Alpines, Herbaceous, Lawns, &c.; economy and discipline; 18½ years Head late situation; excellent references; disengaged. — BURFOOT, 3, King's Road, Ditton Hill, Surbiton.

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GARDENER (HEAD WORKING or SINGLE-HANDED), with help; just demobilised; life experience; 19½ years good reference; married (no family); age 46; disengaged.—ANDREWS, The Gardens, Rosemead, King's Road, Windsor.

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Kelway's famous PAEONIES, DELPHINIUMS, PHLOXES, and other choice Hardy Perennials are included in their Colour Schemes, which provide blooms from early Spring to late Autumn.

Send the measurements of your borders to the Retail Plant Department, KELWAY & SON, Langport, Somerset.

WM. DUNCAN TUCKER & SONS, LTD., Lawrence Road, South Tottenham, N. 15. Conservatories, Winter Gardens, Vineries, Peach-houses, Portable Buildings, &c.

BATH'S SELECT SEEDS.—New Illustrated Catalogue of choice Vegetables and Flower Seeds is now ready, and will be sent post free on application. Special terms to Allotment Societies.—(Dept. A), R. H. BATH, LTD., The Floral Farms, Wisbech.

For Advertisement Charges see page xii.

SUTTON'S

Early Vegetables for Present Sowing.

SUTTON'S BOUNTIFUL PEA.—One of the finest of the blue round-seeded Early Peas, per quart 3s. 6d.

SUTTON'S MAMMOTH LONGPOD BROAD BEAN.—The earliest Broad Bean and of great size, per quart 3s. 6d.

SUTTON'S FIRST CROP CAULIFLOWER.—An ideal Cauliflower for forcing, per packet 1s. 6d. and 2s. 6d.

SUTTON'S A1 ONION.—Large, solid, and long-keeping, per packet 1s. 6d. and 2s. 6d.
POST FREE.

SUTTON & SONS, The King's Seedsmen,

READING.

WATERER'S Rhododendrons, Alpines, Herbaceous Plants, Roses, Fruit Trees, Choice Flower and Vegetable Seeds. Lists free.—JOHN WATERER, SONS & CRISP, LIMITED, Bagshot, Surrey; and Twyford, Berks.

M. GROVIC & CO. — Telephone 6069 Avenue. Sack and bag merchants and manufacturers. All kinds of pigs' food kept in stock. Office 112, Rutland Street, Commercial Road, E 1.

TWO beautiful new Climbing Roses, Mermaid (Gold Medal, N.R.S. and Cory Cup), immense sulphur-yellow single flowers, splendid foliage, 10s. 6d. each. Paul's Scarlet Climber (Gold Medals, N.R.S. and Paris Bagatelle Trials), dazzling scarlet-crimson, semi-double, large clusters, 2s. 6d. to 7s. 6d. each. Order from the raisers.—WM. PAUL & SON, WALTHAM CROSS, LTD., Waltham Cross, Herts.

BARR'S SEED GUIDE, now ready free. For a select list of the best Vegetable and Flower Seeds of finest selected strains and tested growth.

At the R.H.S. Wisley Trials our strains of Vegetable Seeds have received exceptional recognition for high quality many having been highly commended and several given First-class Certificates and Awards of Merit.—BARR & SONS King Street Covent Garden, London, W.C. 2.

CHRYSANTHEMUM novelties.—H. J. JONES' "VICTORY" SET. Absolutely the finest lot ever offered. Descriptive list ready shortly on application. You can still obtain best Chrysanthemums, Zonals, Fuchsias, Phloxes, Michaelmas Daisies, &c., at Ryecroft. Catalogue post free for 1d. stamp. H. J. JONES, Ryecroft Nurseries. Lewisham, S.E. 13.

BUSINESSES FOR SALE.

FREEHOLD compact Nursery, 1½ acres; Middlesex, 12 miles London; very sheltered position, in centre of town; near station and trams; 16 Houses and Frames, 8 Boilers, 6,000ft. Piping and Frames, Packing Shed, Fruit Sheds, ½ acre young Fruit Trees (in full bearing), well stocked with good crops; paying well; with two modern dwelling-houses, six rooms each, Freehold, good gardens, to be sold in one lot, with stock of coal and coke, utensils for fuel working.—First instance to T. H., Box 15. 41, Wellington Street, Covent Garden, W.C. 2.

PROFITABLE OCCUPATION.—Water-cress Growing; 9½ acres; 1½ miles from station; 28 miles London; possession June 25; all-the-year-round beds, pure spring water, artesian wells.—W. BROWN & CO., Land Agents, Tring, Herts.

JOBBING and Garden Contractor's Business for sale; old established; good reasons for selling; North of London.—Address, GILBERT N. HOW, 5, Crouch Hill, N. 17.

PLANTS, &c., WANTED.

WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free. — SMITH, London Fern Nursery, Loughborough Junction, London, S.W 9.

RELIABLE firm wishes to arrange with Wholesale Nurseryman for regular supply choice Flowers (twice weekly), suitable for Wreaths and retail trade. Cash weekly.—Address to S. G., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, Geranium Cuttings, large or small quantities.—ALFRED A. WALTERS & SON, Nurserymen, Bath.

WANTED, Cycas revoluta, to purchase a few leaves only (not roots), bearing female ovules, for preservation as museum specimens. — Kindly send offers to EVANS, Nurseries, Llanishen, Cardiff.

WANTED to purchase, a good plant of Chionanthus retusa.—State size and price to J. ROGERS, Wotton, Aylesbury.

PLANTS, &c., FOR SALE.

FOREST TREES.

	Feet.	Per 1,000
Ash, Common, transpd.	3 to 4	50s.
Beech, Common, transpd.	2 to 3	60s.
Beech, Common, transpd.	3 to 4	80s.
Douglas Fir, twice transpd.	3 to 4	200s.
Douglas Fir, thrice transpd.	4 to 5	300s.
Douglas Fir, Glauca, thrice transpd.	3 to 4	200s.
Douglas Fir, Glauca, thrice transpd.	4 to 5	300s.
Larch Fir, twice transpd.	3 to 4	50s.
Laurel Rotund.folia, bushy, transpd.	2 to 2½	180s.
Oak, English, transpd.	2 to 3	60s.
Oak, English, twice transpd.	3 to 4	80s.
Oak, English, twice transpd.	4 to 5	100s.
Privet, Common, bushy, transpd.	3 to 4	50s.
Privet, Oval Leaf, bushy, transpd.	3 to 4	80s.
Spruce Fir, thrice transpd.	2½ to 3½	150s.
Sitka Spruce, twice transpd.	2 to 3	120s.
Sitka Spruce, thrice transpd.	4 to 5	250s.
Thorn Quicks, transpd.	1½ to 2½	50s.

STANDARD TREES (FINE SPECIMENS).

	Feet.	Per doz.
Birch, Silver	12 to 14	24s.
Chestnut, Horse	8 to 10	15s.
Chestnut, Horse	10 to 12	21s.
Chestnut, Horse	12 to 14	30s.
Limes	10 to 12	21s.
Limes	12 to 14	30s.
Limes	14 to 16	42s.
Mountain Ash	10 to 12	24s.
Oak English	8 to 10	15s.
Oak, English	10 to 12	24s.
Poplar, Balsam	12 to 14	18s.
Poplar, Black	10 to 12	12s.
Poplar, Black	12 to 14	18s.
Sycamore	12 to 14	24s.

CONIFERS
(Well Finished and Good Roots).

	Feet.	Per doz.
Abies Douglasii	5 to 6	10s.
Abies Douglasii	6 to 8	15s.
		Each.
Cedrus Deodara	6 to 8	5s.
Cedrus Deodara	8 to 10	7s. 6d.
		Per doz.
Thuja Lobbii	6 to 7	18s.
Thuja Lobbii	7 to 9	30s.
Thuja Occidentalis	5 to 6	18s.
Yews, English	3 to 4	24s.
Yews, English	4 to 5	36s.
Yews, English	5 to 6	60s.
		Each.
Yews, Irish	6 to 7	7s. 6d.

R. TUCKER & SONS.
The Nurseries, Faringdon, Berks.

HARRISONS' Garden Seed Catalogue, offering the finest strains of Vegetable Seeds, is now ready, and can be obtained free. We give a special guarantee to replace any packet supplied direct, which is proved not to be in every way genuine and reliable. All seeds are tested three times, and are very moderate in price, though excellent in quality. Established 1764. —HARRISONS, Seed Growers, Leicester.

VEGETABLE and FLOWER SEEDS of the very finest quality are supplied by P. LITTLEWORTH, Clyst Vale Nurseries, Honiton Clyst, near Exeter, Devon. Send for list and order early.

ORCHIDS.—Calanthe Harrissi, white; Calanthe Veitchii, deep pink variety; clean, fine specimen bulbs.—Particulars, WEST, Nurseries, Datchet, Bucks.

FERNS! FERNS!!—Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free. — J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W 9.

PERPETUAL FLOWERING (American) CARNATIONS.—Price list now ready. My stock is in perfect condition. Inspection invited.—C. ENGELMANN, Saffron Walden, Essex.

CALANTHE Veitchi for sale, strong, healthy bulbs, 25s. per doz., carriage forward.—Apply, J. CARTLEDGE, The Gardens, Butterley Hall, Derby.

CHRYSANTHEMUM CUTTINGS, market varieties; trade prices. List free.—CLEVEDON ESTATE NURSERIES, Clevedon, Somerset.

LIMITED quantity of Box Edging for sale. — FRED E. SPITTLES, 121, Semilong Road, Northampton.

SEABROOK'S BLACK CURRANT CUTTINGS for sale; best big bud resisters, 10s. 6d. per 100, 80s. 1,000, carriage paid.—RIGGALL, Newbury.

RHUBARB. – Champagne, clumps for forcing, 10s. per doz., 80s. 100; planting sets, 3s. dozen, 25s. 100; Dawes' Champion, 35s. 100 sets; on rail, for cash only.—J. HANDSCOMBE, F.R.H.S., Feltham Nurseries, Middlesex.

ASPARAGUS for forcing.—Extra fine transplanted roots, 21s. to 30s. per 100. Sample sent for 12 stamps.—WILL TAYLER, Hampton, Middlesex.

BIRCH BROOMS, 8s. dozen; quantities cheaper. Cash with order, on rail. HENRY SELL, Elmbrook Road, Cheam, Surrey.

PEARS.—Well-spurred, Fruited Cordons, 5 to 7 feet; Doyenne du Comice and other leading varieties.—WILL TAYLER, Hampton, Middlesex.

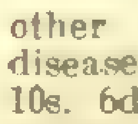
FRUIT TREES. — 12 Nectarines, 5 Peaches, in pots, well set with fruit buds. What offers?—AKERS, Codicote Lodge Gardens, Welwyn.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinias, Lilies, Hydrangeas, &c.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W. 9.

MISCELLANEOUS.

OILSKINS THAT DO NOT STICK.

Oilskins that will give you good service and stand hard wear. Oilskins that never fail to keep out the hardest rain or sleet—BEACON OILSKINS. Men's Coats from 25s., Long Leggings from 5s., Sou'-westers 3s., Children's Coats 16s. 6d. upwards. Ladies' Smart Oilskins, 28s. 6d. Deal direct with us and save money. Send a postcard to-day for our Free Booklet of "Weather Comfort," describing money-back guarantee. —Send now—before you forget—to BARBOUR'S, LTD., 66, BEACON BUILDINGS, SOUTH SHIELDS. (3)


"PESTITE" kills wireworms, rook-worms, cockchafer grubs, Julus worms, and other soil pests; also "club root" and other fungoid diseases. Price: 28lbs. 5s. 6d., 56lbs., 7s. 6d., 112lbs. 10s. 6d., 1 ton £8, all carriage paid, from G. LANG & SONS, LTD., Hounslow, Middlesex.

BANSTEAD or WALTON HEATH LOAM.—A splendid soil for all purposes; fresh cut or rotted.—Particulars of YOUNG BROS., Betchworth Surrey.

A TIME SAVING BOON An Unique Green Clouding, mixed and removed with simply Cold Water. Lasts whole season Elliott's New Summer Shading "PINGO" for Greenhouses. R.H.S. Medal awarded TRY IT Pkts 1/6 or 7-lb bags 15/6, of Seedsmen, or carr paid, of Maker F. ELLIOTT, ALFRED ROAD, LONDON, W. 3.

SEED POTATOS. — Epicures, 10s. cwt.; Sharp's Express, 14s.; Maincrops, 8s. 6d. Send for price list.—W. J. PLAYER, High Ridge Farms, Haddenham, Cambs.

CONSERVATORY for sale, 36 by 14 plate glass front, with boiler and pipes, complete, in first-class condition.—Apply, G. POCOCK & SON, Temple, Fortune Lane, Golders Green.

FOR SALE, new corrugated Iron Sheets, at following prices:—6ft. 6s., 7ft. 7s., 8ft. 8s. 2d., 9ft. 9s. 3d., 10ft. 10s. 6d.; carriage paid; immediate deliveries; all painted ready for fixing.—Apply, BUILDER, 48, Well Street, Hackney, London.

STRONG stakes for Rose Trees and similar purposes; 1 to 1½ inches diameter; at ½d. per foot length any length up to 8 feet.—COLEMAN & SONS, Cranfield, Beds.

WANTED, Motor Lawn Mower, 24in. or 30in. size.—Price, make, &c., to G. W. YOUNG, Rampton Manor, Retford.

SITUATIONS VACANT.

Twenty words (or three lines including headline) 3s. and 6d. for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office. 6d.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

THE WEST OF SCOTLAND AGRICULTURAL COLLEGE.
THE GOVERNORS invite applications for the post of CHIEF LECTURER IN HORTICULTURE. The commencing salary is £250 per annum, and the person appointed must devote his whole time to the work. Applications, accompanied by 25 copies of three recent testimonials and by a statement of age, present employment, professional training, practical knowledge, and lecturing experience (if any), must be lodged with the undersigned not later than 17th FEBRUARY, 1919.
JOHN CUTHBERTSON, Secretary.
6, Blythswood Square, Glasgow.
3rd February, 1919.

COUNTY COUNCIL OF DURHAM.
HORTICULTURAL ADVISER and LECTURER required. Initial salary £200, with travelling expenses. Particulars of duties, &c., may be obtained from the undersigned, to whom applications must be sent in before SATURDAY, 15th FEBRUARY, 1919.
J. A. L. ROBSON,
County Secretary for Higher Education.
Shire Hall, Durham.
3rd February, 1919.

WILTS COUNTY COUNCIL.
AGRICULTURAL EDUCATION COMMITTEE.
EXPERT IN ORCHARD MANAGEMENT.
REQUIRED, for itinerant work throughout the county, an EXPERT in Orchard Management, who would also act as an INSTRUCTOR in Fruit Culture. Applications, stating experience, and salary desired, to be made to
C. H. CORBETT,
Secretary and Organiser.
Agricultural Education Department,
County Offices, Trowbridge.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)
THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C. 2. Journeymen are required for good situations. Send full particulars of past experience.

GARDENER (HEAD WORKING) required to cultivate and manage Garden and grounds, Vinery and two small Greenhouses, of Wilburton Manor House, 6 miles from Ely; situated close to village; railway station ¾ mile; Under Gardener employed. State age, family, and wages required; good references.—Apply to MESSRS. BIDWELL & SONS, Land Agents, Ely, Cambs.

WANTED, GARDENER (SINGLE-HANDED); thoroughly capable, Inside and Out, and trustworthy to leave in charge in owner's absence; a little Glass (Vine, Tomatos, and Cucumbers), Kitchen Garden, Fruit, Flower Borders, &c.; skilful Gardener essential; cottage rent free on the spot.—Wages required and references to EVANS, Nurseries, Llanishen, Cardiff.

GARDENER wanted; good single-handed; married (no children); wages 35s.; small lodge and vegetables.—CAMPBELL-JOHNSTON, Westwood, Ascot.

SINGLE-HANDED GARDENER wanted; chiefly for Vegetables and Fruit; wages 36s.; no cottage.—Apply by letter, K., Woodside, Stanmore, Middlesex.

SINGLE-HANDED GARDENER required for Flower and Vegetable Garden. Applicant kindly state wages and particulars of experience. — LT.-COLONEL HARRISON, Harthover, Blackwater, Hants.

GARDENER wanted; married man; thoroughly experienced in Herbaceous and Hardy Plants, Lawns, &c.; wages 32s. to 35s.; cottage and garden found.—Apply, with references and experience, to HEAD GARDENER, Wittington, Marlow.

GARDENERS required; one married and two single MEN for Pleasure Grounds and Kitchen Gardens.—Experience and wages, JONES, Shirenewton Hall, Chepstow.

WANTED, GARDENER, single; splendid home; live in; all found; good pay; must understand Flowers and Vegetables.—67, Wigmore Street, W.

WANTED, GARDENER; must be able to use a scythe; help given with digging, &c.; principally outdoor work; cottage found. State all particulars. Good wages given.—G. H. RICHARDS, Arne House, Woldingham, Surrey.

WANTED, a MAN, for Rock Garden and Herbaceous Borders; a good knowledge of Hardy Plants essential; substantial wages given; 1 o'clock Saturdays.—State age and experience to T. W. BRISCOE, The Gardens, Castleford, Chepstow.

WANTED, LEADING HAND, for Pleasure Grounds; good knowledge of Rockery, Herbaceous, and Roses.—Send full particulars, copy of testimonials, wages expected, with Bothy and vegetables (1 o'clock Saturdays), to J. HOAD, Colworth Gardens, Sharnbrook, Beds.

WANTED, reliable MAN, single, to assist Head Gardener; good worker; must thoroughly understand Kitchen Garden work, Lawns, and Herbaceous Borders. Wages 30s.—Write, giving full particulars, age, experience, and references, to REV. H. MALLINSON, Woodlands, Ledbury, Herefordshire.

WANTED, thoroughly experienced MAN for Rock Garden and Herbaceous Borders. State wages, good Bothy and vegetables; 1 o'clock Saturdays; duty and overtime paid.—T. SIMPSON, The Gardens, Newstead Abbey, Notts.

WANTED, good MAN, for General Outside work; single; state age and experience; wages 32s. per week; no Bothy or stoking.—G. BROWN, Aston Hall Gardens, Derby.

WANTED, capable single MAN for Fruit and Plant Houses; also General Gardening; five kept; wages 35s to 40s.—Apply, giving full particulars, copies of testimonials, SEDEN, The Rookery, St. Mary Cray, Kent.

WANTED, good SECOND, for Fruit, Plant, and Orchid Houses; 36s.; no Bothy. Also good MAN, for Fruit Trees, Roses, Lawns, &c.; and a KITCHEN GARDEN MAN, who can take charge of two cows; each 34s.; no Bothy.—Apply, GARDENER, Feltham Lodge, Feltham, Middlesex.

WANTED, SECOND GARDENER, where three are kept; general experience and good references necessary.—Apply, Mr. W. McCALL, Woodlands, Walthamstow.

WANTED, UNDER GARDENER, experienced in growing Orchids; good opportunity for Improver; Bothy or cottage supplied, with free coal. State experience and wages wanted.—Apply, A. B., Box 19, 41, Wellington Street, Covent Garden, W.C. 2.

FOREMAN; thoroughly experienced, for Fruit and Plant Houses; must be specially good on Carnations, Cinerarias, and Chrysanthemums. State wages; good Bothy and vegetables; 1 o'clock Saturdays; overtime paid.—T. SIMPSON, The Gardens, Newstead Abbey, Notts.

WANTED, FOREMAN, for Fruit and Plant Houses. Also two IMPROVERS, one for Inside, the other for Inside and Out.—Apply, stating experience and wages expected, with Bothy and vegetables (12 o'clock Saturdays), to ATTLEASEY, Huntroyde Gardens, Padiham, Lancs.

WANTED, FOREMEN, for England and Scotland; Inside Journeymen and Outside Journeymen for first-class places.—State wages expected and all particulars to STEWART & CO., 13, South St. Andrew Street, Edinburgh.

FOREMAN wanted for Vegetable Department; well up in his work; good wages to suitable man. — Apply, MARTIN, Horticultural College, Swanley.

FRUIT GROWER (FOREMAN) wanted.—An experienced man, both in and outdoor.—Apply, HOLLINGTON, Forty Hill, Enfield.

WANTED, JOURNEYMAN, with some Inside experience; also single MAN as GROOM for two Garden horses; good wages and Bothy.—Apply, E. HILL, Osberton Gardens, Worksop.

WANTED, JOURNEYMAN, for Fruit and Plant Houses; must have had good practical experience; good wages, Bothy, milk, vegetables, and attendance.—Apply, with references, to F. SOMERFORD, Park Place Gardens, Henley-on-Thames.

WANTED, JOURNEYMAN (Inside); experienced in Fruit and Plant Culture; wages 30s., Bothy and attendance; 1 o'clock Saturday; 3s. for duty. State particulars.—JAMES S. KELLY, Claremont Gardens, Esher, Surrey.

WANTED, a JOURNEYMAN, for Fruit and Plant Houses. State age, experience, and wages required, with Bothy, vegetables, and attendance.—W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, JOURNEYMEN, for Fruit, Carnation, and Plant Departments.—State wages expected and all particulars to E. MATTHEWS, The Gardens, Moulton Paddocks, Newmarket.

WANTED, Two JOURNEYMEN; Inside, First and Second, experienced in Fruit and Plant Growing; discharged men preferred; state particulars of experience and wages required; Bothy and attendance provided to GEO. GURNEY, Bodnant Gardens, Taly-Cafn.

WANTED, Two JOURNEYMEN GARDENERS; Inside and Out; rooms provided.—Address, stating age, wages, previous experiences, HEAD GARDENER, Ridgehurst, Shenley, Herts.

WANTED, two JOURNEYMEN; one Outside, one Inside; Bothy, &c.—Wages and experience to H. WENMAN, Temple Newsam Gardens, Leeds.

WANTED, experienced young MAN, single; Inside and Out; lodgings found near Gardens. State wages.—C. LUXFORD, Walmsgate Gardens, Louth, Lincs.

WANTED, young MAN, chiefly Outside; Bothy, milk, and vegetables. State age, experience, and wages.—J. BENSTEAD, St. Nicholas Gardens, Richmond, Yorkshire.

WANTED, strong YOUTH, about 17; Inside and Out; duty alternate week; 22s. per week and rooms.—Apply, J. HIGGS, The Gardens, Biddulph Grange, Congleton.

WANTED, at once, married COUPLE, without children; man for boots, knives, stoking, yard work, &c., in young ladies' school; wife for occasional work in the house; good wages, cottage, and coal.—Address, MISS WALLIS, Highfield, Oxhey Lane, Watford.

WANTED, GARDEN LABOURER, with wife to do laundry work and care of chickens; wages 30s., good cottage and garden; laundry work and chickens paid extra. — Apply to HEAD GARDENER, Ellisfield Manor, Basingstoke.

WANTED, a GARDEN LABOURER; good all-round man; able to use scythe; wages 36s. per week; cheap house and garden.—Apply, G. COOPER, Margam Park Gardens, Port Talbot.

TRADE.

REQUIRED, FIRST-RATE MANAGERESS or MANAGER for Food Production in Garden: must thoroughly understand the culture of Fruit, Early Vegetables, Tomatos, and Forced Vegetables under Glass; Violets and Carnations a speciality; also Mushrooms; good salary and share in profits.—MRS. GEOGHEGAN, Bert House, Alty, Co. Kildare, Ireland.

WANTED, experienced GROWER for Bedding Plants (market sale). Also a SECOND MAN, with some knowledge of Plants.—THOMAS PERKINS & SONS, LTD., 34, Drapery, Northampton.

WANTED, experienced GROWER, Cyclamen, Chrysanthemums, &c. Also a Horticultural Glazier. State experience and wages required. — G. CLARK, The Nurseries, Priory Lane, Putney.

ROSE GROWER, entire charge.—Advertiser, with heavy retail trade, offers position in a thousand to live man, capable of producing high-class stuff in quantity.—M. R., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

ROSE GROWER wanted; must be an energetic man; quick and successful budder.—Apply, stating experience, age, and wage required, to A. B., Box 17, 41, Wellington Street, Covent Garden, W.C. 2.

EMPLOYMENT offered to Two fully experienced CHARGE HANDS for Cucumber and Tomato Houses; wages £3 per week and extras.—Apply personally or by letter to WYNN HAMILTON, "The Ivies," Crossbrook Street, Waltham Cross.

NURSERY WORKERS. — Qualified Cucumber and Tomato Hands (male) wanted, in the neighbourhood of Waltham Cross; wages from 50s. per week, according to experience; extra for overtime and a bonus on production. GENERAL NURSERY HANDS also required; wages from 38s. per week; overtime extra. — Apply, Box 99, "Weekly Telegraph" Office, Waltham Abbey.

GLASSHOUSE MAN wanted (single preferred) for Market Nurseries; seaside town, West of England; wages offered 50s.—Send particulars of experience, &c., to O. H., Box 23, 41, Wellington Street, Covent Garden, W.C. 2.

FOREMAN (WORKING); Glass; North of England; £160 per annum; must be capable, energetic, good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C 2.

WANTED, FOREMAN, with good general knowledge of Nursery Stock, including Fruit Trees, Forest Trees, Roses, Shrubs, &c.; house, with garden, on premises. State wages required, with references.—JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

WANTED, WORKING FOREMAN, for Rose and Fruit Nursery; also Second Man; must be good Knife Men; state wages and experience.—HEATH NURSERY CO., South Kilworth, Rugby.

WANTED, energetic WORKING FOREMAN (Outside), with good general knowledge of Nursery work, Trees, Shrubs, Roses, &c.—Apply, with copies of discharge, ARTHUR S. RITCHIE & CO., Belfast.

TOMATO and CUCUMBER GROWER wanted at once, to take charge of Nursery where Tomatos, Cucumbers, Bedding Stuff, and Chrysanthemums are grown.—Apply, stating full particulars, also wages required, "SURREY," Box 9, 41, Wellington Street, Covent Garden, W.C. 2.

TOMATO GROWER wanted at once; experienced in Indoor and Outdoor work; salary and commission; permanent; 10 miles from London.—J. H., Box 27, 41, Wellington Street, Covent Garden, W.C. 2.

MANAGER or MANAGERESS required, with knowledge of Seeds and Plants; good wages. Apply, stating age, experience, and salary required, to WEBSTER, Nurseryman and Seedsman, 30, East Street, Chichester.

WANTED, MAN, with general knowledge of Nursery work (Outside), near London (16 miles); single preferred.—Apply, in first place, with references, experience, and wages expected, to F. G. WOOD, 161, Walworth Road, London, S.E 17.

SEED TRADE — Wanted, a CHARGE HAND: one who has a thorough knowledge of all Garden Seeds, Sundries, and Nursery Stock, and accustomed to a brisk counter trade.—Apply, with copies of discharges, to ARTHUR S. RITCHIE & CO., Belfast.

LADY ASSISTANT wanted for high-class Florists' and Fruiterers' Business; good saleswoman and experienced in wreath and general floral work; seaside town.—Send particulars of experience, references, and salary, to W. H., Box 22, 41, Wellington Street, Covent Garden, W.C. 2.

SITUATIONS VACANT continued on page ix.

SOW SUTTON'S SEEDS

under glass to obtain early supplies of vegetables.

DWARF BEAN. per pint.

Sutton's Forcing. Very prolific 2/6
Sutton's Superlative. Pods very quickly produced ... 3/-

Sutton & Sons THE KING'S SEEDSMEN, READING.

PEAS. Per pint.

Sutton's Pioneer. The largest podded Dwarf Pea 3/-
Sutton's Little Marvel. An extraordinary cropper 2/6

CLIMBING FRENCH BEAN

Sutton's Tender and True. Excellent for culture under glass 2/6

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THE
Gardeners' Chronicle
No. 1676.—SATURDAY, FEBRUARY 8, 1919.

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LEAF SPOT OF ORCHIDS.

IN his "Notes from Kew—XI." (*Gard. Chron.*, p. 224, Vol. XLIV.), *W. W.* drew attention to "Orchid Spot," and quoted the results of examinations of diseased plants made by the late George Massee, the late Professor Marshall Ward, and myself. May I say that the conclusion to which I came—and this surely is also true of Ward and Massee—referred solely to the particular specimens examined, and must not be accepted as applicable to all those diseased areas on Orchid leaves which horticulturists lump together as "Orchid Spot." "Orchid Spot" is not a single and specific disease, but a congeries of diseases, all little understood, and most urgently in need of detailed investigation. During the past two or three years I have had the opportunity of examining from time to time specimens of such diseased plants, and although no special attention has been given to this subject, a few observations and notes have been made, and a brief synthesis of these may, perhaps, prove to be not without interest to Orchid growers.

One of the most common forms of the disease is that described by Massee in *Diseases of Cultivated Plants and Trees.* It is characterised by small, pale, straw-coloured spots of irregular shape on the upper surface of the leaves, which, in the course of twenty-four hours or so, increase to from a quarter to half an inch in diameter, become somewhat sunken, and brown to purple in colour, and finally show right through to the underside of the leaves. The diseased area ultimately shrivels and dries, never, however, actually falling out to give a shot hole effect. During the early stages the cells contain large, oleaginous globules and much tannin, but these contents rapidly become discoloured and obscured by the brownish-purple disintegration products of the dead protoplasm. Not infrequently, in the later stages, various saprophytic bacteria invade these necrotic areas. As shown by Massee, and as may easily be confirmed by those sufficiently interested, this type of leaf injury is entirely a result of unsuitable cultural treatment, and may readily be reproduced under the specific conditions described in Massee's handbook. Local chilling of cells below the limit of their resistance, so that the physiological balance of the protoplasm is thrown out of gear, is the fundamental cause, and this chilling is most usually produced by spraying with water of too low a temperature. In many cases also this leaf spot is undoubtedly produced by the dripping of condensed water from the cool glass roof of the house upon the plants below.

There is much truth, therefore, in Massee's contention that this particular form of spot "does not require the attention of a plant pathologist, but the attention of a careful gardener who has some sense of proportion with respect to heat and moisture."

The fact that very young leaves are spotted equally with mature ones, is not infrequently brought forward as evidence that this disease is of an infectious nature, and due to the action of parasitic organisms. This, however, is not the case; the equal incidence of disease being a natural and inevitable result of the exposure of all leaves on the plant to the same unfavourable conditions. This particular disease, therefore, cannot spread in the absence of the specific environmental factors noted, and it will be equally evident that it cannot be prevented or checked by the most scrupulous cleanliness or rigorous sponging of the leaves, or by the spraying of the plants with any antiseptic solution.

An almost equally prevalent form of the spot disease is in general appearance almost identical with that described above, but the areas of dead tissues are rarely more than one quarter of an inch in diameter, are more regularly circular in form, and are not so sharply defined at their periphery. This is the type of leaf spot examined by me, the result of which is quoted by *W. W.* in the article already referred to.

Many of the cells about the middle of the blotch contain an amorphous granular deposit which chemically appears to be not unlike the colouring matter indigo. These individual cells and all those immediately contiguous are dead, but with increasing radial distance the tissues become progressively more healthy, merging almost imperceptibly into normally functioning cells. With the common exception that there is no zone of growth stimulation at the periphery, these spots present all the symptoms usually associated with local tissue poisoning. It may be that this poisoning is the result of some nutritive factor; but it would seem more probable that it is the effect of atmospheric pollution. As noted by *W. W.*, this trouble appears to be most prevalent in collections in or near large towns, and it is well known that many Orchids are peculiarly susceptible to the presence in the atmosphere of minute quantities of deleterious substances. If this explanation be correct one would expect these spots to centre in the stomata of the leaf where the gaseous exchanges occur, but at present there is no evidence on this point.

In the checking of this trouble it will be evident that neither antiseptic treatment nor attention to the common hygienic factors affecting the plant's health will be of avail, and the only method—and this, perhaps, hardly feasible—would be the chemical filtration of the air admitted to the houses. Perhaps when the inevitable steps are taken to prevent the wasteful and vile pollution of our atmosphere by the belching forth of smoke and chemical fumes, Orchid growers may see this trouble vanish from their plants.

Both the types of injury above described appear to be common to practically all the more usually grown species of Orchids.

A third type of leaf spot, and one of which I have had no personal experience, is said by Massee to be caused on the leaves of Cymbidium eburneum by the fungus Hypodermium orchidearum, Cke. and Mass. The spots are described as arranged in groups, often extending for a distance of one or two inches, and at these points the leaf turns yellow and dies.

On the leaves of species of Oncidium, Dendrobium, Coelogyne and other unidentified Orchids an olive-green blotching which later often turns brownish-purple, is not rarely seen, and this is caused by a species of Cladosporium, which may be the C. orchidis of Cooke and Massee, although morphologically it does not appear to differ from the ubiquitous C. herbarum, Link. The fungus grows well in pure culture, but no actual inoculation experiments have been carried out with it. Spores, however, taken from the tufts of conidiophores on diseased leaves and placed directly under the raised epidermis of healthy ones have in every case reproduced the disease.

For both of the above diseases sponging the leaves with a dilute solution of potassium permanganate has been recommended by Massee.

A leaf spot of many species of Orchid is not infrequently caused by the fungus Botrytis cinerea, Pers., one of the most common and destructive fungi in glass houses. The flowers are usually involved, and often the plant is killed outright, but occasionally the parasite is confined to local areas on the leaves, where, as in the classical case of diseased Lilies examined by Marshall Ward, moist, brown, sunken lesions are produced. The fungus grows with great readiness in pure culture, and the disease can be reproduced at will in healthy leaves.

The best general treatment for Botrytis disease is to sponge or spray the plants with a 3 to 4 per cent. solution of calcium bisulphate, and this treatment might be tried as a tentative expedient in Orchid houses where this fungus is present. It should also be borne in mind that where a glass-house is infected with pathogenic fungi the most rigorous cleanliness of the plants and cool freshness of atmosphere are imperative, as well as the immediate removal and destruction by burning of every fragment of diseased material. After touching diseased plants the hands should always be washed in soapy water.

Two other types of disease have been frequently noted differing from those described above, but included under the term "Orchid Spot" as used by horticulturists.

Of these, one is characterised by the presence of a series of concentric alternating zones of green to pale straw colour, and brown through purple to black. In these spots, which may vary in diameter from one-eighth of an inch with one ring, to one and a-half inch with many rings, the alternating zones are sharply defined, and may either be complete circles or segments of circles. On examination the deeply coloured zones of tissue are found to contain empty sporangia of a fungus probably belonging to the Chytridiales, a group of lowly organisms, which contains many important parasitic forms. Attempts made to grow this fungus in pure culture completely failed, and it was not further identified. Fragments of tissue taken from the outermost ring of a diseased spot and inserted under the raised epidermis of healthy leaves in most cases reproduced the disease. These spots are remarkably free from bacteria, and there is little doubt that the organism observed is directly responsible for their occurrence.

The very characteristic zonation of the diseased areas is probably correlated with the alternating vegetative and reproductive activity of the fungus. Many organisms are restricted in growth by the toxic products of their own metabolism, and in such circumstances either die out or form highly resistant reproductive bodies which serve to tide the organism over the period of adverse conditions.

In the case of the particular Orchid fungus the toxic products limiting vegetative growth and stimulating reproductive activity would after a time tend to diffuse away through the surrounding host tissues, and the sporangia would then be free to liberate their swarm-spores and spread centrifugally until again checked by the accumulation of toxic substances.

This type of disease has been noted on species of Odontoglossum, Cattleya, Dendrobium and other undetermined species, and is probably spread by splashing and the dripping of water from leaf to leaf, and by the touching of healthy plants when diseased ones have been handled.

In the last type of "Orchid Spot" to be described the symptoms are more or less intermediate between the above noted zonal necrotic areas and the simple blotch of the earlier cases. Beginning as a minute straw-coloured spot which later turns purple or deep brown, there is at first a tendency to a rather diffuse zonation, but the segments soon become joined into an anastomosing pattern by short, irregular, purple radii. The latter spread tangentially until a streaky blotch results, the diameter of which may reach to about three-quarters of an inch.

No special features in the cell-contents may be recognised, the discoloured tissues merely containing the products of the autolytic disintegration of the protoplasm. In the young stages of the disease no organisms of any kind appear to be present, but later various saprophytic bacteria often invade the tissues. Some of these were obtained in pure culture, but failed to reproduce the disease when inoculated into healthy leaves. Fragments of diseased tissues inserted under the raised epidermis of healthy leaves gave a like negative result.

Examination of these leaf blotches leaves one strongly with the impression that parasitic organisms are not concerned in their initiation. There are no symptoms such as usually accompany local poisoning of plant tissues. It would seem most probable that they are the result of some unfavourable cultural factor. This type of "Orchid Spot" has been found in species of Masdevallia, Cattleya, Laelia, Zygopetalum and other but unidentified Orchid leaves.

Thus in the casual examination of "Orchid Spot" as specimens have from time to time come to my notice, seven distinct types of disease have been recognised. Of these it is highly probable that four are the result of the action of parasitic organisms, one of local chilling of the leaf-tissues, one probably of atmospheric poisoning, and one of some other physiological derangement of the protoplasm, due probably to unsuitable cultural conditions in the plant's physical environment.

There can be no doubt that a continuous and intensive study of "Orchid Spot" would show that the seven diseases noted are but a few of the many covered by this name

It is the lack of the recognition of the complexity of plant disease which leads to one half the difficulties experienced by "irate correspondents" in their cultivation of Orchids and other plants. Often on one and the same plant two or more quite distinct types of disease may be present, both with almost identical symptoms, or in an infected house one diseased plant may be submitted for scientific advice whilst in reality the majority of the plants may be suffering from an apparently similar disease of totally different nature. At present all these diseases are lumped together as "Orchid Spot," and horticulturists endeavour to control a disease of physical causation by a fungicidal spray; or a fungal epidemic by regulating to a nicety the temperature of the water supply.

What is really needed is a detailed and intensive investigation of this group of diseases; a patient and critical experimental study of the fundamental physiological relations of the plants to their environment; an understanding of all the complex hygienic factors involved; and a thorough elucidation of the life histories and biological relations of the pathogenic organisms which may be present. Only on such a foundation can a rational scheme of prophylactic and therapeutic treatment be based.

In this country the little recognition given to the study of disease in plants, and the lack of facilities for effective research in the specific diseases of horticultural plants, has greatly impeded progress in this direction. It is to be hoped that the newly-formed Chamber of Horticulture will, amongst its many activities, accord due place to this most important study, and encourage and insist that opportunity be provided for the scientific investigation which is so imperative if the problems of disease in plants are to be solved. *William B. Brierley, Institute of Phytopathological Research, Rothamsted Experimental Station, Harpenden.*

Fig. 22.—Crocus Imperati: flowers striped with reddish-purple.

BULB GARDEN.

CROCUS IMPERATI.

The sketch reproduced in fig. 22 represents Crocus Imperati as it flowers here in the open in the first week of January. C. Imperati is surely one of the most desirable of the winter-flowering species, for its hardiness, for the richness of its colouring, and for its large, sturdy flowers of such substance that they seem able to endure the roughest of weather. Though in some forms the segments are almost entirely unveined, in the typical form the veins are very strongly marked on the three outer petals. There are three main veins on each petal, with more delicate featherings springing from them. The central vein is continued as a dark stripe down the tube, which has six dark stripes on a pale ground, for the central stripe of the three that are found on the lower half of each of the inner petals is also continued down the tube. The stripes are of the deepest red-purple, and the ground colour of the outside of the outer petals is either a greyish white or a pale buff. In quick response to any gleams of sunshine, the outer petals begin to unfold, and then display the reddish mauve of the inner segments and of their own inner surface. The contrast of colour is very striking, and, if the weather is too dull and cold for the flowers to open, it will be found that they will respond rapidly to warmth and artificial light indoors. When the flowers are fully expanded, they display their orange throats and the deep bright orange of the broad stigma, which scarcely overtops the yellow anthers. There are many colour-forms of this Crocus, and an albino with creamy-white flowers, that comes true from seed and has a good constitution. With me, it seems to flower a week or more later than the coloured forms.

It is strange that Maw should have had this Crocus in flower in March and April. At any rate, these are the dates at which his drawings were made, though in the text he gives February as the flowering season. The foliage of C. Imperati is characteristic in that it tends to sprawl widely on the surface of the ground and seldom stands erect.

Crocus Imperati appears to be found only in a comparatively limited area in the South of Italy, for it does not extend far to the north of the neighbourhood of Naples. *W. R. Dykes, Charterhouse, Godalming.*

ORCHID NOTES AND GLEANINGS.

ODONTIODA NORMA.

Mr. Pantia Ralli has sent an eight-flowered inflorescence of this delicately-tinted novelty raised between Odontioda Lutetia (Cochlioda Noezliana × Odm. luteo-purpureum). It is a very desirable hybrid, with colouring which will appeal to all artistic tastes. The flowers are as large as, and formed like, the best type of Odontoglossum crispum; the ground colour is primrose-yellow, the inner halves of the segments bearing irregularly ovate blotches of a delicate reddish-orange tint. The labellum bears distinct evidence of O. luteo-purpureum in the form of the yellow crest, around which are several brownish-red blotches.

Odontioda Lutetia has never been considered a hybrid of the front rank, but in this, as in some other cases which we have noted, the influence of O. luteo-purpureum has given remarkably good results.

ODONTOGLOSSUM LA VICTOIRE.

From Messrs. Sanders, St. Albans, we have received the seven-flowered upper part of a fine spike of this very extraordinary hybrid, which appears to have all the desired floral perfections and unique colouring, with the following remarks: "We are sending you part of a spike of a most magnificent new Odontoglossum, which is the first we have had over from Bruges for

four and a-half years. Our Mr. Louis Sander brought it back with him. We have named it La Victoire, and consider it quite one of the best we have ever seen. In colour we know none like it."

The remarks are fully justified, and the flowers, closely arranged on the spike, are nearly 4 inches across. All the segments are equally broad, and coloured bright claret with a ruby-red glow over the surface. The colour extends through the substance of the flower, the white ground only appearing slightly on the toothed margins of the petals, in a small area at their bases, and on the margin of the lip. The upper side of the column is claret colour. It is one of the finest proofs of the utility of the work of the hybridist, for no known species or combination could be expected to give such richness of colour.

BRASSO-CATTLEYA GATTON LILY.

This hybrid between B.-C. Digbyano-Mendelii var. Fortuna, a white variety, with a slight green shade, and Cattleya Trianae albens, for which Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), was awarded a First-class Certificate at the meeting of the Royal Horticultural Society on Dec. 3, 1918, is a welcome addition to a favourite class, and all the more desirable in that it departs from the over represented general run of Brasso-Cattleyas with flowers of shades of pink and pale rose, and approaches nearer to the distinct B.-C. Cliftonii class, which also has C. Trianae as one of its parents. The introduction of C. Trianae albens, the second of the C. labiata section, into its composition, has given a much more Cattleya-like form to the flower, and extraordinary breadth of petal. The flowers are pure white, the lip having a veined band of violet colour in front and a pale yellow disc.

TREES AND SHRUBS.

CUPRESSUS FUNEBRIS.

With reference to notes that have appeared in recent numbers of the *Gardeners' Chronicle* regarding the production of cones by Cupressus funebris, a tree that was planted by Lord Granville, in the grounds at Walmer Castle, Kent, in 1868, produces cones freely. The tree is 30 feet high, with a branch-spread of 18 feet, the stem girthing 2 feet 7 inches at a yard from the ground. This tree is of particular interest to readers of the *Gardeners' Chronicle* as having been supplied from his nursery at Canterbury by the father of Dr. Maxwell T. Masters, formerly Editor of this paper, and the recognised authority on Coniferous trees. Unfortunately, Cupressus funebris is not to be depended on everywhere in this country, the best developed specimens being in the milder parts of England, and generally in maritime districts.

When seen at its best Cupressus funebris is a tree of unsurpassed beauty, the beautiful, weeping branchlets hanging gracefully downwards for fully 2 feet in length (see fig. 23). Cones are produced in great abundance, and the delicious aromatic fragrance of the foliage is well known to those who are familiar with the tree.

Specimens of Cupressus funebris are rare, the finest I know being that beside the Grand Lodge at Penrhyn Castle, in Wales, and on the lawn at Churchill, in the North of Ireland, where, in the latter case, it is accompanied by a 40 feet high tree of the equally rare and beautiful C. Goveniana.

Another of Masters' trees is growing in the neighbourhood of Walmer, a probably unique specimen of the weeping Maidenhair tree (Ginkgo biloba pendula), which is 28 feet high, with a branch spread 30 feet in diameter, the main stems, for there are two, girthing 4 feet 2 inches and 3 feet 10 inches respectively, at a yard from the ground level. In every respect this is a perfect tree, being well furnished with branches, the tips of which hang downwards for, in some instances, a distance of 4 feet, thus imparting an easy and graceful appearance to this otherwise somewhat stiff-styled Conifer. A full account of these trees will be found in *Coniferous Trees, for Profit and Ornament. A. D. Webster.*

TILIA TOMENTOSA.

As this species flowers quite two weeks later than Tilia vulgaris, the common Lime, it is extremely useful for prolonging the season during which bees can obtain honey, and should be included in all new plantations of forest trees. I am informed that the tree is plentiful on the Continent, but in England it has not received the attention its merits deserve, and in many districts it is absent altogether. The largest specimen I have seen is in the beautiful cemetery at Coventry, which was designed by the late Sir Joseph Paxton. This tree measures 7 feet 8 inches in circumference of the stem at 3 feet above the ground, and I estimated its height to be nearly 60 feet. There are many smaller trees of this Lime, and a good collection of Conifers and other trees at Coventry that have grown into good specimens, but now need judicious thinning and to have Ivy cleared from them. Nicholson's invaluable *Dictionary of Gardening* gives T. alba as a synonym of T. argentea, which is now referred to T. tomentosa; both names were evidently suggested by the silvery whiteness of the underside of the leaf, which is much larger than in the common Lime tree. *W. H. Divers, Westdean, Hook, near Surbiton.*

Fig. 23.—Branch of Cupressus funebris with cones.

MUSTARD-GROWING AS A PREVENTIVE OF WIREWORM.

FOR many years the cultivation of White Mustard has been recommended as one of the best methods of dealing with land infested by wireworms, and since there seem to be some doubts both as to the results which may be expected from the treatment and the manner in which it is carried out, a few notes on the subject may be of interest.

Dealing with the latter question first, the Mustard crop may be treated in three ways: (1) It may be grown as a seed crop, in which case it will be sown in April-May, and will occupy the ground for the whole summer; (2) it may be ploughed in green, usually when about 18 inches to 2 feet in height; (3) it may be eaten off by sheep. In the two last cases the Mustard is usually sown in late summer, after a fallow, or when an early crop has been harvested.

The three methods clearly differ in principle with regard to their influence on the soil, for in the first there is no manurial benefit, and comparatively little of the Mustard plant is left in the ground. In the second and third methods the manurial effect is considerable, but again there is a difference, for in the second the entire Mustard plant is turned under, while in the third the greater part is eaten by the sheep, and there are both the manurial and the trampling (and, in consequence, consolidating) effects of the animals to be considered. Strange to say, each of these methods is recommended almost impartially for wireworm-infested land, the choice being guided mainly by local custom—i.e., where Mustard is usually grown for seed, this method is favoured; in other districts, either the ploughing in or feeding off are more usual.

I come next to the evidence in favour of Mustard-growing as a preventive of wireworm. It must be admitted that there is little direct experimental evidence, and almost the whole of our information has been derived from practical experience on the farm. At the same time this experience has now extended over so many years (successful trials were recorded at the beginning of last century), and has been so greatly in favour of the system, that it may safely be concluded that Mustard-growing does tend to rid infested land of wireworms. It is impossible in a short space to quote many definite cases in support of this view, but the writer's own experience in connection with a farm in the East of England may be of interest. On this farm grasses have been grown for seed for many years, and these grass leys at the end of their term are always so infested with wireworms that when they are broken it is difficult to grow any crop upon them. This difficulty, however, is almost always overcome by growing a first crop of Mustard for seed, with the result that the crop following the Mustard is seldom damaged. The Mustard crop itself usually escapes all injury, but once it suffered considerably. In this case, for reasons which need not be entered into, the grass sods were burnt in early spring instead of being turned under. The field was then absolutely clean, but full of wireworms, and on Mustard being sown, about half the crop was lost by wireworm attack, the pests burrowing into the stems of the Mustard and killing the plants, even when they had grown to some size. After the Mustard crop was harvested, few wireworms could be found in the field; Wheat was sown, and an excellent crop resulted. This case is instructive, and leads to the consideration of what may be the effects of Mustard on the wireworms. In the first place, general experience shows that Mustard is seldom attacked, but at the same time it is clear that when the wireworms have absolutely no other food, they can for a time eat Mustard. Equally, however, it seems that they cannot flourish on Mustard, and if there is little else growing on the land during the summer they gradually die out.

This seems to give some explanation of the effect of the Mustard seed crop, but the ploughing in or feeding off present more difficult problems. The crop then is not on the ground for long, and the partial starvation of the wireworms can hardly occur. In the case of sheep feeding, the thorough trampling and manuring by the sheep is doubtless unfavourable to wireworms underneath, but where the Mustard is ploughed in it would almost appear as if the plant on decomposition released some substance (Mustard oils?) definitely injurious to wireworms. At this point it seems wise to leave speculation on the subject, since wireworms are being fully investigated at Rothamsted Experimental Station, and definite facts may be forthcoming.

The above observations have, perhaps, been made rather from the farmer's point of view, since it is on the farm that Mustard-growing is carried on; but, in conclusion, it may be well to suggest their application in the case of the horticulturist and gardener. In the first place, Mustard growing is a preventive measure. It would be useless, for instance, to grow Mustard among Potatos to protect the latter. If this were done, there would either be no effect, or the wireworms might even be driven to the Potatos, for it is quite clear that wireworms will not eat Mustard if they can get anything else. If Mustard is to be used by the gardener as a treatment for wireworm, probably the best method of so doing is to sow it as a first crop, preferably for seed, on land which is afterwards to be divided into allotments or gardens. It will

FIG. 24.—CLICK BEETLE AND ITS LARVAE, THE WIREWORM.

enable the land to be thoroughly cleaned of weeds, and, apart from its effects on wireworms, will certainly prevent subsequent trouble from such "annual" pests as leather jackets. Nothing is so troublesome to the allotment holder as to find his plot infested by wireworms and other soil pests, and the loss of a year's crop of vegetables would probably be amply compensated by a relative freedom from injury subsequently. When the land is already garden or allotment, then Mustard is well worth growing to be dug in as a green manure. Its value for this purpose alone is worth the trouble and expense, while there is also the general experience that wireworms will be much reduced.

On the whole, the practice of growing Mustard on wireworm-infested land seems much to be commended, although from the scientific point of view its effects on the wireworms are still rather obscure. *T. C. F. Fryer, Board of Agriculture.*

SUNFLOWERS FOR SEED.

LAST year I grew one acre of Sunflowers; half the seed was sown in boxes in cold frames, and the remainder sown in the open. The former batch was much the more successful; the fully-matured heads were cut in September, and when fully ripened the seeds were taken out, crushed, and fed to the fowls with other food.

I think so little of the crop that I shall not extend it; indeed, I prefer to fill the plot with early or late Drumhead Cabbage. *E. M.*

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Digging and Trenching.—When weather permits, digging and trenching should be proceeded with as rapidly as possible, and manure suitable for the crops added to the ground. The soil that is brought to the surface will receive the full benefit derivable from exposure to those winds and frosts that invariably visit us before seed sowing and planting become general.

Peas.—Peas sown in pots during the autumn for the purpose of securing a crop under glass must be encouraged in every way, but fire-heat should not be used except in very severe weather. The plants will now need a light top-dressing composed of equal parts of Mushroom bed manure and loam. Give them the necessary staking, afford an abundance of air during favourable weather, and syringe and close the house early each afternoon to husband the sun-heat.

Peas Out-of-Doors.—A sowing of Peas should now be made out-of-doors on a border facing south. Sow the seeds in trenches made with a 9-inch draw hoe, to the depth of 4 inches; sow thinly, and cover the seeds with about 2 inches of soil, thus leaving the trench level two or more inches lower than the surrounding soil, and so providing shelter for the seedlings from keen winds. Should the soil be sticky, cover the seeds with old potting soil. Early Giant, Early Morn, and The Pilot are splendid varieties for early sowings.

Parsley.—Every endeavour should be made to maintain a constant supply of Parsley. For early summer supplies seeds should now be sown in boxes placed in gentle heat. When large enough to handle prick out the seedlings at 2 inches apart into other boxes. Gradually harden them off, and plant out at 12 inches apart during April in well prepared ground. Plants furnishing the present supply of Parsley, whether in frames or in the open, should have every encouragement; stir the surface soil and give frequent light dressings of soot.

Asparagus.—Where the maincrop Asparagus beds have not been top-dressed this should be done forthwith. Clear weeds from the surface of the beds and apply a dressing of manure.

Spinach.—Good Spinach is always welcome, but the uncertainty of the weather during the next two months prompts one to sow seeds in one or two lights on a gentle hot-bed. The autumn sown out door beds need to be regularly hoed, and frequently dusted with soot and wood ash. A few boughs of Spruce or Yew help to protect this crop if placed on the northern side of the beds.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Disa.—The genus Disa includes some of the most beautiful terrestrial Orchids in cultivation, and yet it is extremely rare to meet with plants in good or even presentable condition, hence they are not generally grown. Their season of growth is during winter—a period of the year when most cultivators dislike soaking a plant with water. The plants grow best in a cool, moist, airy position, in a house having a minimum winter temperature of 40° to 45°, but they must be well supplied with water. They grow well in compost formed of peat and Sphagnum-moss, with the addition of a little coarse silver sand, and I have seen them growing vigorously in a compost to which a portion of fibrous loam has been added, but the pan in which the plants are grown must be thoroughly well drained, or the compost will speedily become unsuitable. The chief details in the successful cultivation of these Orchids are a cool temperature, a shady position, good drainage, and an ample supply of water.

Cypripedium.—No Orchid flowers are more serviceable, both on the plant and as cut blooms, than those of late autumn and winter-flowering Cypripediums. The flowers remain fresh on the plants for many weeks in succession, and they keep surprisingly well when cut and placed in water, provided they are not unduly exposed to dry heat or to cold draughts. Plants in bloom may be kept for a short period in a dwelling-house without suffering thereby. To these excellent qualities, moreover, must be added another, viz., their power of withstanding town fogs, which they resist perhaps better than any other Orchids in cultivation. Winter flowers have a special charm, and, as the numerous varieties of Cypripedium now in cultivation are of great beauty, and conspicuous for their colouring and splendid form, the Lady's Slipper Orchids should be extensively grown in large private gardens where quantities of flowering plants are needed for house and conservatory decoration. It may be said that they are expensive, and this is true of the rarer hybrids, but many beautiful forms may be obtained at almost the prices paid for Pelargoniums. C. insigne, in its remarkable and varied forms, and the numerous varieties of such hybrids as C. Leeanum, C. nitens, C. Calypso, C. Euryades and C. Actaeus, that have originated from C. insigne, are cheap plants comprising some of the most useful and easily accommodated of the whole genus. Their requirements are such as can be afforded by anyone in possession of a greenhouse in which an intermediate temperature can be maintained. A minimum night temperature of 50°, ranging to 80° by day in bright summer weather, is suitable for these plants. Shading is a very important detail in their successful cultivation: an excessively dense shade will result in wonderful leafage, but the flowers such plants produce are seldom of the best quality. Much depends in this respect on the position of the house, but whatever the aspect, plants grown under moderate shading—sufficient only to keep bright sunshine from striking on the leaves—if air is properly admitted, will have foliage firm in texture, and be thus able to produce fine flowers in abundance.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Flowering Plants.—Where Bouvardias have been grown in an intermediate temperature during winter they should be cut back after flowering and placed in a warmer position near the roof-glass and syringed daily, so that strong, healthy cuttings may be obtained quickly. Plumbago rosea is a most useful winter-flowering plant, requiring a temperature of 60°; when the plants have finished flowering shake the soil from the roots of a few specimens, cut the roots into small pieces, and place them in pans of soil plunged in bottom heat. These cuttings will provide useful plants for next winter. Poinsettias that have served their purpose should be gradually dried off and kept at rest in a cool house for a time; afterwards cut them back hardly and place them near the roof glass in a warm house, where they will make new growths suitable for cuttings. Begonia Gloire de Lorraine when flowering is over should be partially cut down, rested for a time, and kept clean and healthy until they make growth, when cuttings may be taken, put into well drained pots or pans and placed on a stage or shelf near the roof glass. Tuberous rooted Begonias are most useful for greenhouse or conservatory decoration in summer: the tubers may now be placed in ordinary propagating boxes filled with a mixture of soil and leaf mould. Put the boxes on a stage in a warm house, spray the tubers occasionally, and when growth commences place them in their flowering pots.

Gloxinias.—The most economical way of starting Gloxinia tubers into growth is to place them in propagating boxes. Put a layer of leaves over the bottom of the box, and then fill with a light mixture of loam, peat, and sand. The surface of the tubers should not be covered with soil, and the soil should be fairly moist. An overhead spraying will provide sufficient water for them until growth has advanced a little. Afford a temperature of 60°, and later on pot the tubers according to their size into 5½ or 6½-inch pots; pot firmly in a compost of fibrous loam, peat, leaf-mould, sand and charcoal. Stand the plants near the glass in a warm house and water carefully. Gloxinia seed sown now will provide plants for flowering in the autumn; drain shallow pans, fill them with finely sifted soil, peat, and sand, and make the surface level before sowing the seed; thoroughly soak the soil with water, and sow the seed on the smooth surface. No covering of soil is necessary if the pans are placed in a warm propagating case and covered with paper until germination occurs.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to C. H. BERNERS, Esq., Woolverstone Park Gardens, Ipswich.

Strawberries.—The earliest forced Strawberry plants will soon be in flower, and when this critical stage is reached advantage should be taken of fine days to distribute the pollen over the principal blossoms. This may be done with a soft, feather brush. The conditions most favourable to perfect setting of the fruits are an elevated position on shelves near the roof glass, a moderately dry atmosphere, a liberal supply of fresh air, and comparatively dry condition at the roots. A temperature of 50° to 55° by night and 65° on sunny days will suffice for the plants whilst in flower. A fresh batch of plants may be introduced into the forcing-house, according to requirements.

Vine Eyes.—The method of raising young vines from eyes is the one adopted generally. From well-ripened growths laid in at pruning time, select the soundest buds, cut them out with about half an inch of wood on either side, and insert them in small 60-size pots filled with fibrous loam, leaf-mould and sand. Place the pots in a warm house for a few days before plunging them in a hotbed of about 75°.

Cucumbers.—Where provision has been made for a successional crop, the winter fruiting Cucumbers will not be worth retaining after another few weeks. To encourage growth afford occasional supplies of weak liquid manure, or some approved chemical stimulant. Thin the growths sufficiently to prevent overcrowding, and pinch the laterals at the second leaf. Maintain a moist atmosphere by damping down the house several times a day and syringing the plants when the weather is favourable. Little or no air should be given at this season of the year. Afford a minimum night temperature of 60°, and a day temperature of 70°, allowing a rise of 10° to 15° with sun heat. Young plants which are forward enough may be put into their fruiting quarters. A hot-bed should be made up as advised for Melons, building up the bed as near to the glass as convenient. A suitable compost will consist of light fibrous loam, leaf-mould, and a good sprinkling of wood ash.

Pines.—Plants of the Queen variety likely to produce fruit during the spring should be top-dressed at once. Remove a few of the old leaves at the base of the plant and the old surface soil, and top-dress with good turfy loam and bone meal. If the soil is dry afford sufficient water at a temperature of 80° to thoroughly moisten it down to the crocks, after which very little water will be required for some time to come. A temperature of 70° by night and 75° to 80° by day, with a bottom heat of from 80° to 85°, will suit the fruiting stock. During severe weather a slight fall in the temperature may be allowed with beneficial effect on the plants. The bottom heat should not exceed 85°; should it do so slightly rock the plants to and fro, so as to create a free air space round the pots.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Cherry Trees.—Dessert varieties of Cherry mostly fruit on spurs. Very little pruning will be required if the shoots were shortened last summer. Where this was not done, they should now be shortened to about 2 or 3 inches, and all weak shoots removed.

Blackberries.—These useful fruits are often neglected, yet they well repay for good cultivation. The method I adopt is to cut out all old wood as soon as the fruit is gathered, and train in young shoots, about 9 feet long, in a slanting direction; any growth beyond this is allowed to remain until the spring, when it is shortened to the top of the trellis, which is 6 feet high. Sand and cold clays do not suit the Blackberry, which enjoys plenty of water and a free drainage. Plants making gross growth are improved by having a spade inserted the full length of the blade in the soil around them. The various kinds of Brambles are easily propagated by notching and pegging down the young shoots. Loganberries may be treated similarly.

Loam for Next Year's Use.—Owing to continued wet weather the condition of the pastures has not been suitable for cutting a supply of turf for stacking, but it should be done as soon as the land is sufficiently dry. Select the turves from an old pasture in order to obtain plenty of fibre in the material. In stacking the turves spread one row turf-side downwards and then sprinkle it with a little lime and crushed bones; add another layer of turves and sprinkle more lime and bones, and continue in this way until the heap is complete. If the turf is not of very rich quality use a layer of well-decayed manure between the turves, or between alternate rows. The centre of the heap should be raised. When the stack is completed it should be protected from heavy rains by boards or sheets of galvanised iron. The compost should be in splendid condition for use by next autumn, when the heap should be chopped straight through from top to bottom. In some districts excellent turves may be obtained from the roadsides, especially where the metal used for making the road contains iron or lime. In some districts the roads are sprayed with tar, and care must be taken not to use sods that have been sprinkled with tar. The thickness of the turves will depend on the quality of the soil and depth of fibre, and may vary from 2 to 5 inches.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Herbaceous Borders.—February is a busy month in the flower garden when much planting, alteration, and making of new herbaceous borders remains to be done. Those who intend to make fresh beds should lose no time before getting the soil well trenched, manured, and put in perfect order for the reception of the plants. If the beds are to be in groups prepare a plan of planting in order that a colour scheme may be arranged. Numerous hardy flowers may be increased by division. Select healthy portions from the sides of the old stools and plant them with due consideration as to height, colour, and season of flowering. Should the soil be very damp and sticky employ a little prepared material about the roots before pressing them into the ground firmly.

Anemone.—If the tubers of Anemone fulgens have not been planted set them forthwith, 3 inches deep and about 6 inches apart, in beds well enriched with decayed manure and rendered porous by the addition of grit. With reasonable attention in keeping the beds free from weeds and the surface lightly pricked up occasionally, the plants should provide a good display of flowers in spring. The merits of A. coronaria should not be overlooked as a spring flower. There are varieties of pleasing colours that will make a good show if planted early.

Antirrhinum.—If suitable accommodation is provided for raising Antirrhinum plants from seed the latter should be sown now if the plants are intended to bloom during the forthcoming season. It is an easy matter to select from among the many excellent varieties plants of tall, intermediate and dwarf habit. Sow the seed in clean, well-drained pans, covering the crocks with a little moss or tree-leaves. Fill the pan to within a couple of inches of the rim with sweet, rather lumpy compost, over which place some finer soil containing plenty of sand. Press the soil firmly, scatter the seeds evenly, cover them with similar soil, and gently press it down.

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APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, FEBRUARY 10—
United Hort. Ben. and Prov. Soc. Com. meet. Bath Gard. Soc. meet.

TUESDAY, FEBRUARY 11—
Roy. Hort. Soc. ann. meet.; Coms. meet. at 12 p.m. Hort. Club ann. meet. and dinner at Anderton's Hotel, Fleet Street.

WEDNESDAY, FEBRUARY 12—
Wargrave Gard. Soc. meet.

FRIDAY, FEBRUARY 14—
Richmond Allotment Association, meet. and lecture, 8 p.m.

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 39.0°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, February 5, 10 a.m.: Bar. 29.8; temp. 33°. Weather—Snowy.

Rural Cottages from Army Huts. The Munitions Inventions Department, which has rendered such valuable service during the war in elaborating methods of destruction, has been prompt to seize the occasion offered by the armistice to turn its ingenuity to peaceful ends, and has designed and erected from standard hutting, used by the War Office and other departments, the cottage illustrated in fig. 25. Inasmuch as the housing problem is so acute that it is difficult to see how it can be solved in reasonable time, even though all the resources of the country are employed upon it, this example of reconstruction should prove particularly valuable. The cottage, which has been erected at Claremont Park, Esher, was designed by Capt. G. B. Imrie, R.E., for the Munitions Inventions Department, and, as inspection of the hut and of the plans shows, it makes a pleasing and commodious dwelling. There are evidently many advantages in the use of standard hutting for supplementing the supply of cottages. Among these advantages are, first, that the bulk of the materials, roof, exterior walls, windows and floors is ready for use, and hence time and labour will be saved. Second, the time taken in the erection of the hut is relatively short; the example at Esher was built in fourteen seven-hour days. Third, any local builder can effect the conversion and erection of the hut, and can produce a dry, warm, and sanitary dwelling. Fourth, the cost is relatively low: in the case of the Esher experiment the net cost of conversion and erection, exclusive of water supply, was just under one hundred pounds, reckoning materials and labour at present-day prices. Thus, assuming that the huts could be procured at a price of £10 per 10-foot section, delivered to the building site, the cost of a 40-foot standard hut of four sections would be £40, and the total cost of a four or five-roomed cottage about £140, a sum considerably less than that required for building a cottage. The plans in fig. 27 show two methods of conversion. In the one type, A, the cottage has four good rooms, and this is the type erected at Claremont Park. In type B there is an extra room, and the rooms generally are slightly smaller than in type A.

The cost of this latter type would be rather less than the former, owing to the fact that there are fewer partitions, and also that less plumbing is required. At a cost of an additional £20, an extra section can be used, and still better rooms obtained. If, after careful investigation, the authorities are convinced that satisfactory cottages can be made in this manner, it is to be hoped that arrangements may be made without delay for putting the standard hutting to this use. It should not be difficult to devise means whereby the hutting could be put at the disposal of local authorities and private owners for the purpose of building cottages in districts where they are particularly needed.

Fig. 25.—A COTTAGE MADE FROM ARMY STANDARD HUTTING.

Horticultural Club. — The annual general meeting of the members of the Horticultural Club will take place on Tuesday, the 11th inst., at 5.15 p.m., at Anderton's Hotel, Fleet Street. The President, Sir Frank Crisp, Bart., will take the chair. The meeting will be followed by the annual dinner, which will take place at 6 p.m. at the same place. After dinner there will be a musical programme.

Royal Horticultural Society's Examinations in 1919. — The Royal Horticultural Society's General Examination in Horticulture, senior and junior, will be held this year on Wednesday March 19. The Teachers' Preliminary Examination in School and Cottage Gardening will take place on Saturday, April 26, and the written part of the Honours Examination will be held on the same date, to be followed by an examination in practical work in June. For the Honours Examination candidates must fill in the form provided and send it with £3 3s. to the Secretary of the R.H.S. at least eight weeks before the examination takes place. The Society's Board of Examiners has decided to accept the Teachers' Certificate in Rural Science (including School Gardening), given by the Department of Agriculture and Technical Instruction for Ireland, in place of the Teachers' Preliminary Examination for candidates sitting for the Teachers' Honours Examination. The examination for the National Diploma in Horticulture will be held in September. Copies of the R.H.S. Examinations Syllabus may be obtained on application (enclosing 1½d stamp) to the Secretary, Vincent Square, Westminster.

Shrewsbury Floral Fête.—We regret to learn that the Shropshire Horticultural Society has been reluctantly compelled to abandon the exhibition it proposed to hold in 1919 because the railway companies have definitely decided that they are unable to grant the usual facilities.

Gift of a Public Park.—The Duke of Buccleuch has offered the town of Langholm the field of Eldinholm, close to the Parish Church, as a public park, together with the footbridge leading to it.

National Diploma in Horticulture. — The Royal Horticultural Society informs us that its Board of Examiners has determined that men who have been on active service for two years or more shall be allowed to enter for the Preliminary Examination for the National Diploma in Horticulture if they have had two years' experience in gardening, instead of the four years as required under Section 6 of the Syllabus;

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MYATT'S ASHLEAF .. (Scotch Grown)	2/6	4/9	9/3	18/–	35/6
EPICURE .. .. .. (Scotch Grown)	1/9	3/3	6/3	12/3	24/–
ECLIPSE.. .. .. .. (Scotch Grown)	2/3	4/3	8/–	15/3	30/–
MIDLOTHIAN EARLY— *Same as* DUKE OF YORK.					
SIR JOHN LLEWELYN . (Scotch Grown)	2/6	4/6	8/6	16/6	32/–
SECOND EARLY VARIETIES.					
BRITISH QUEEN .. .. (Scotch Grown)	1/6	3/-	6/–	12/–	23/–
*GREAT SCOT .. .. (Scotch Grown)	1/9	3/3	6/–	12/–	23/–
MAINCROP VARIETIES.					
ARRAN CHIEF .. .. (Scotch Grown)	1/6	3/–	6/–	12/–	23/–
ARRAN CHIEF .. .. (English Grown)	1/3	2/6	4/9	9/–	17/–
FACTOR .. .. (Scotch Grown)	1/6	3/–	6/–	12/-	23/–
*GOLDEN WONDER .. (Scotch Grown)	1/6	3/–	6/–	12/–	23/–
*GOLDEN WONDER .. (English Grown)	1/3	2/6	4/9	9/–	17/–
KING EDWARD .. .. (Scotch Grown)	1/6	3/–	6/–	12/–	23/–
KING EDWARD .. .. (English Grown)	1/3	2/6	4/9	9/–	17/–
*KERR'S PINK .. .. (Scotch Grown)	2/6	4/9	9/3	18/–	35/6
*MAJESTIC .. .. .. (Scotch Grown)	3/3	6/6	12/6	24/6	48/–
*TINWALD PERFECTION (Scotch Grown)	3/–	6/–	12/–	23/6	46/–
*THE LOCHAR .. .. (Scotch Grown)	1/9	3/6	6/9	13/–	25/–
UP-TO-DATE .. .. .. (Scotch Grown)	1/9	3/3	6/3	12/–	23/–

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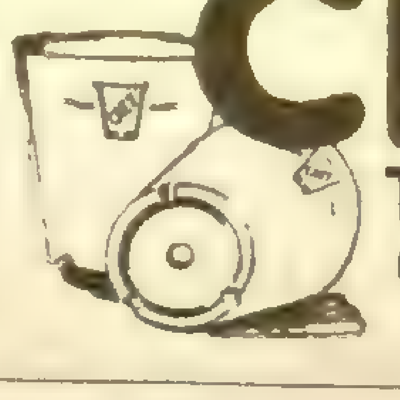

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	Feet.	Per pint.
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CABBAGE—Clibrans' Early Favourite	6d. & 1/-
CAULIFLOWER—Clibrans' Early Giant	1/6 & 2/6
Celery—Clibrans' White	6d. & 1/-
" Clibrans' Red	6d. & 1/-
" Clibrans' Pink	6d. & 1/-
CUCUMBER—Clibrans' Defiance	1/-
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LETTUCE—(Cos) Clibrans' Masterpiece	6d. & 1/-
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and also that candidates who have done one year's military service need only have had three years' experience in horticulture under the same section.

Revival of the Yorkshire Gala.—The Grand Yorkshire Floral Fête and Gala will be held this year, and the dates fixed are June 18, 19 and 20. Like most of the large provincial flower shows, the York Gala has been suspended during the period of the war, the last exhibition having been held in 1914. We congratulate the committee on its decision to resume activities so promptly, and trust that the same splendid success will attend its efforts this year as in the past.

Fruit Growing.—About 10 acres of land at the Holbeach Crown Colony are to be laid out as a demonstration fruit plot. Demonstrations in the pruning of fruit trees have been given recently by experts of the Food Production Department at Aylesham and Harbeston (Norfolk), in the Kesteven district, and at Grantham (Lincs.) and other places.

Army Stable Manure.—An arrangement was made last year between the Food Production Department and the Army for the supply of Army manure to farmers and allotment holders in various parts of the country. A big dump near Aldershot has been distributed, partly by barges working on the Basingstoke canal. Under this scheme about 15,000 tons of manure were supplied to farmers and allotment holders of Surrey and Hampshire at 4s. 6d. per ton. It is stated that had this arrangement not been made a number of agriculturists, chiefly smallholders, would have been unable to get sufficient manure for their land.

Sulphate of Copper.—The Government does not propose to take steps to control the selling price of sulphate of copper this year. The supply available for agricultural and horticultural purposes is reported to be ample, and the necessity for control does not therefore arise.

Selected Seed Potatos.—The Board of Agriculture arranged last year for the growth of a certain quantity of seed of immune varieties of Potatos by Scottish growers. The crops were carefully "rogued" under the supervision of the Department's inspectors, and specially selected. They are being sold through agents in different parts of England and Wales, and a limited amount of seed remains on offer. The varieties represented are Ally, Lochar, Kerr's Pink, Dominion, Majestic, and Tinwald Perfection. Intending growers of Potatos in infected areas who have not yet secured their seed are advised to make early enquiries from the Commercial Secretary, Board of Agriculture, 72, Victoria Street, London, S.W. 1.

Honour for the Clerk of the Gardeners' Company.—Mr. E. A. Ebblewhite, clerk of the Worshipful Company of Gardeners, has been created Chevalier de l'Ordre de la Couronne by His Majesty the King of the Belgians in recognition of "the constant and generous help given to my country in the course of the war." The Foreign Office has intimated that warrants under the Royal Sign Manual, giving formal effect to the King's permission to wear the decoration, will be issued to Mr. Ebblewhite, who has been clerk of the Worshipful Company of Gardeners since 1903, and had already received the Décoration Agricôle Spéciale of the 1st Class by Royal Warrant of the King of the Belgians, dated February 19, 1914.

Revision of Pritzel.—The Rev. W. Wilks, secretary of the Royal Horticultural Society, writes: "I regret that a mistake has crept into the notice of the Pritzel revision which appears in our Report and is noticed in *Gard. Chron.*, January 25. It is quite true that Capt. Hill is taking the greatest possible interest in the revision, but it is to the Keeper of the Herbarium at Kew that we owe our chief thanks, as he is not only supervising the work as it proceeds, but has also most generously consented to act as Hon. Editor."

Brussels Botanic Gardens.—Major A. Simmonds, an old Wisley student, and at the outbreak of war Horticultural Instructor for the County of Hertfordshire, sends the following interesting letter from Brussels, dated January 17, 1919: "In response to a request from the citizens of Brussels to see a representative body of British troops, a review was held yesterday, when bodies of troops marched through the principal thoroughfares. The King of the Belgians, who was accompanied by the Prince of Wales and Prince Albert, reviewed the troops as they passed the Palais du Roi. As one of our companies went to represent the Machine Gun Corps I went into Brussels to see the parade, and whilst there made a point of looking up M. Louis Gentil. It was Sunday, and when I reached the Botanic Gardens I found that M. Gentil was at his house, some ten minutes' walk from the gardens. However, I easily found him, and immediately I introduced myself was greeted most cordially. M. Gentil was very eager for news of his many friends in England. We presently set out for the garden, through which M. Gentil very kindly conducted me. The concierge, from whom we obtained the keys of the glasshouses, is rather an interesting man. From the beginning of the war he secretly distributed anti-German literature, but was eventually discovered and imprisoned for ten months. He is very happy about it all now, and is particularly pleased to think that some information that they were able to get through to the British resulted in the destruction of a Zeppelin by a British aviator's bomb, which got a direct hit on the machine at its moorings. The garden has suffered a good deal during the war, mainly through the shortage of coal, necessitating the closing of some seven houses. As many plants as possible have been saved by crowding them into the remaining houses, but the overcrowding and the low temperature have been detrimental to their health. M. Gentil evidently did not intend to lose them all without a struggle, for he installed ordinary stoves in the houses with a view to using that method of keeping up the temperature if the supply of coal was insufficient to keep the furnaces going. So far he has not had to use them, and it is hoped that as soon as the transport problem is easier plenty of coal will be obtainable once more. The timber museum has also suffered, because the roof of the dome was unfortunately covered with copper. This the Germans removed, quite regardless of the fact that when it was gone the rain would drip through on to the exhibits. However, M. Gentil, in spite of his many trials, is extremely cheerful, and is looking forward to being able to replace his casualties and restore the survivors to their pre-war health. I expect to be demobilised during the next ten days, and if so I shall endeavour to accept the kind invitation of the hon. secretary to dine at the Horticultural Club on February 11."

The Ventilation of Potato Pits. — Serious losses have occurred this season in the pits of Potatos in various parts of the country. The Board of Agriculture advise growers to examine their pits at once. Where these are heated the owner should either turn, dress, and reclamp ware and seed separately or adopt a system of ventilation (1) by making ventilation holes about 1 foot square along the bottom and on both sides of the pit. At the same time the whole ridge of the pit should be uncovered. The bottom of the ventilation holes should be sloped so that rain runs away from, and not into the pit. Provision should be made for moisture to drain away by digging trenches around the clamp. During very severe weather these ventilation holes might be filled with loose straw; or (2) by removing the soil from the side of the pit, in strips, 1 foot wide, extending from the ridge to the base on both sides of the pit at distances of every 10 yards. The ridge of the pit should also be uncovered. During very severe weather these ventilation spaces should be filled with straw. By ventilating the pits in one or other of these ways it is hoped that the temperature will be kept normal, and that the gases developed in the pits will be replaced by fresh air

Fig. 26.—Interior of dwelling-room in a cottage made from army standard hutting.
(See p. 66.)

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Begonia Evansiana (see p. 40).—It is pleasant to read the praise of this handsome and old inhabitant of our greenhouses. It is, I believe, the hardiest member of its genus. I grew it out in the open here for many years, making the first start with some tubers imported direct from Japan. Afterwards, I planted out others from a greenhouse. The plants had no protection given them during winter, and reappeared in early summer for several seasons, but so late that they had insufficient time to reach their full growth before frosts cut them down. For a cool, shady place among Ferns, this Begonia might prove a very interesting plant if a little protection such as some coal ashes or Bracken were spread over the soil above its tubers each autumn. My plants died out through want of a little attention, and the clearing away of intruding neighbours, I fancy, rather than from winter cold. There is a very characteristic black-and-white portrait of a plant in that delightful book on the flora of Japan, *The Somoku-dzusetsu*, 20, *The Node Gardens, Welwyn.*

Damage by Snow at Aldenham Park.—One of the worst falls of snow in this district for many years past occurred on the evening of the 27th ult. Snow started to fall about 4.30 p.m., and though thawing at first, it later settled down heavily. Most of the snow was down before midnight, and the scene here the following morning was almost heartbreaking to an enthusiast, and nearly beggars description. We measured the depth of the fall at several places on the flat, and discovered that during the few short hours quite 9 inches had settled on the ground. The fine old Elms and Oaks in the park and specimen trees on the lawn suffered great damage. Even up to 11 a.m. huge branches could be heard crashing to earth, unable to support their white burden. Some had smashed through iron railings, others crumpled up wooden fences like so much paper, whilst others had fouled telephone wires, thus cutting "lines of communication"; in fact, all round the district telegraph poles and wires were brought down by the weight of frozen snow. Splendid Birches were torn asunder, whilst those which had resisted stoutly were twisted and contorted to destruction. Climbing Roses, Vines, and other climbers on poles were laid flat on the ground, as were clumps of bush Yews and various other bushy plants. It is strange that during my 34 years at Aldenham snow has never before wrought such havoc as it has done this winter and last. The snow has remained until to-day (Feb. 2), and even now the skies are heavy with threatened further falls. The work of salvage is grievously hindered, and many of the smaller plants on the ornamental clumps are still buried. The lesser members of shrub life, indeed, appear to have suffered even more grievously than large plants, and many specimen plants, the wood of which is brittle, have snapped off completely. I never remember seeing so much damage done in so short a time, and a realisation of how rapidly it all took place can be gleaned from an expression used by a neighbour, who described having heard throughout the night the rending and falling of branches in the park, and summed it up as being a "monotonous noise of great regularity, similar to the firing of a number of machine guns." Particularly serious was the damage done to the fine old Crataegus punctata, which was undoubtedly one of the finest specimens of this species in the world. I append a list of trees and shrubs which appear to have suffered most damage, as many of your readers will doubtlessly like to compare it with a list of their own sufferers. Those enumerated certainly do not appear to be good snow resisters on this occasion at Aldenham. Many of the plants are as yet still burdened, for, owing to the snow freezing hard on them, we can afford them very little relief. The value of good pruning stands out very distinctly in all cases, for unquestionably the trees and shrubs which met with the least damage were those which had been carefully tended in the matter of pruning and shaping. The havoc wrought by the snow was no doubt out of proportion to the actual depth of the fall, and I can only think that the reason for such disastrous happenings was that owing to the snow coming down in a semi-thawed condition, it packed very tightly wherever it settled, and its density was far greater than usual. As the half-thawed snow quickly froze, the branches of trees, etc., were actually burdened with several inches of semi-ice rather than snow. Preliminary list of most severely damaged trees, etc.:—Elms (a large number), Celtis, Alnus, Prunus (of sorts), Zelkovas, Robinias, Cydonias, Crataegus (in variety), Loniceras, Pittosporums, Oaks, Silver Birch (severe damage), Pyrus (of sorts), Acers (various sorts), Cornus (standards and bushes), Sophoras, Euonymus (of various varieties and forms), Cercis, Lilacs, Hippophaë (Sea Buckthorn). *Edwin Beckett, Aldenham House Gardens, Elstree, Hertfordshire.*

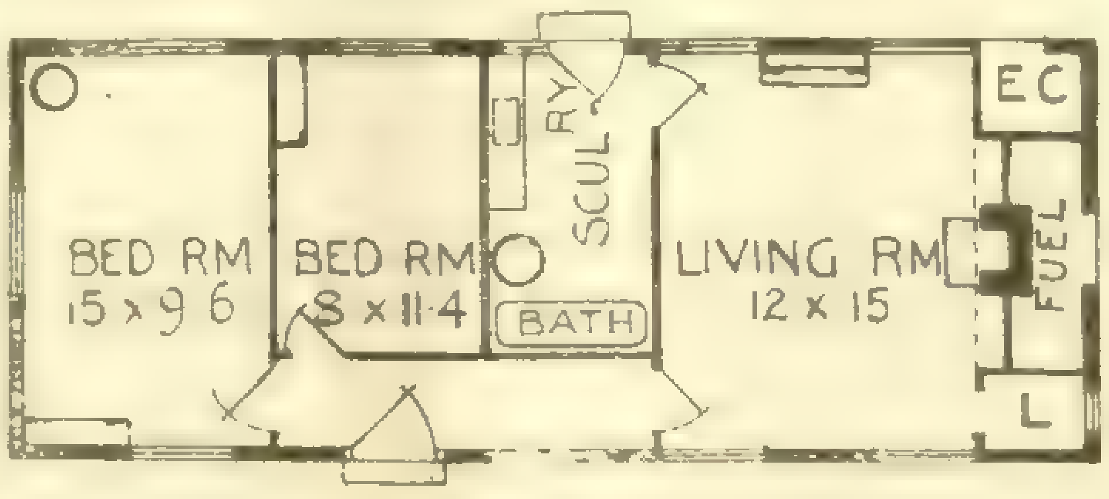
SOCIETIES.

ROYAL HORTICULTURAL.

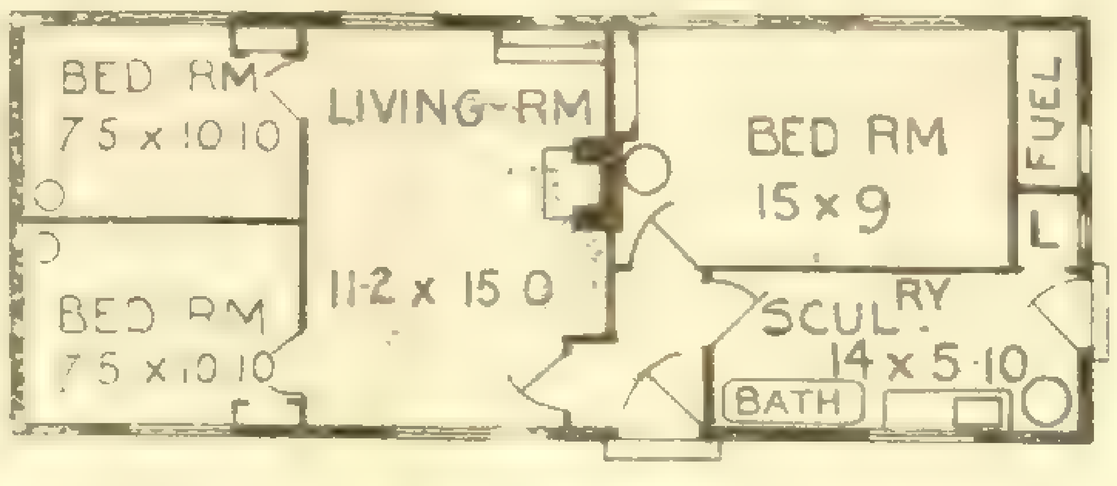
Scientific Committee.

JANUARY 28.—*Present:* Messrs. E. A. Bowles, M.A. (in the chair), F. J. Baker, C. H. Hooper, W. Hales, W. C. Worsdell, and F. J. Chittenden (hon. secretary).

Fruits from Salonika.—Mr. Worsdell reported that he had compared the fruits shown by Mr. Bowles at the last meeting with herbarium specimens, and had identified them as Marsdenia erecta and Periploca graeca.



TYPE A.



TYPE B.

FIG. 27.—PLANS OF COTTAGES MADE FROM ARMY STANDARD HUTTING: TYPE "A" HAS FOUR ROOMS AND TYPE "B" FIVE ROOMS.

(See p. 66.)

Flowers as aids to identification in Apple.—Mr. C. H. Hooper drew attention to a series of photographs of Apple stamens and styles made in Victoria, Australia, and published in the *Journal of the Dep. of Agr. for Victoria*, and remarked upon the great range of variation in arrangement and form exhibited. Unfortunately not all the flowers had been photographed at the same stage of development, but there can be no doubt that floral details may be a great aid in the identification of Apple varieties, and also in all probability to their classification.

Rogues in Beet.—Mr. Baker drew attention to the presence of long, fangy roots of a white colour in a crop of Beets grown from home saved seed of a particularly good stock of Globe Beets in an allotment garden. It had been suggested that the result was due to crossing with Spinach, but it seems more likely that crossing with either Mangolds or some other variety of Beet had occurred, for it is well known that crossing readily occurs among Beets unless they are separated by very long distances. It is, of course, possible that segregation in the F 2 generation was occurring.

Pritzel Committee.—Mr. Bowles announced that the Council were about to appoint an official representative of the Scientific Committee to act upon the Pritzel Committee, and the name of Dr. A. B. Rendle was suggested and unanimously approved. Dr. Rendle is now Professor of Botany to the Society.

Erythraea scilloides.—Mr. T. B. Rhys, of Tenby, wrote saying that he had discovered Erythraea scilloides growing wild in north Pembrokeshire. It had been identified at the British Museum and had never previously been recorded as wild in the British Isles.

BRITISH CARNATION.

OWING to illness Mr. W. E. Wallace, of Eaton Bray, Dunstable, was unable to open the conference arranged to follow a meeting of the General Committee of the British Carnation Society on Monday, the 27th ult., at the offices of the British Florists' Federation, 35, Wellington Street, Covent Garden. Great regret was expressed that illness should have prevented Mr. Wallace from attending, and the meeting agreed to send him a letter of sympathy. Mr. T. A. Weston signified his intention of resigning the secretaryship of the Society, as he proposed to take Charles Kingsley's advice and "Go West!" as soon as he is demobilised.

Instead of allowing the meeting to break up, members suggested a discussion, and Mr. C. Engelman was prevailed upon to open it. He succeeded uncommonly well, and raised such subjects as the classification of Perpetual Carnations, testing novelties by means of first-rate trials, the estimated reduction of Carnation cultivation since war commenced, and the reason why British-raised Carnations occupy such a low position in the flower markets as compared with American varieties. He suggested classification according to habit of growth; testing of novelties by some good grower for two or three years; estimated the reduction in cultivation to be 75 per cent. to 80 per cent., and considered British novelties were sent out before having been fully tested, consequently the market growers did not place much confidence in them.

A capital discussion followed, in which Messrs. W. H. Page, H. Mason, J. Page, junr., W. A. Sherwood, M. Allwood, G. Allwood, P. F. Bunyard, G. Cook, C. H. Curtis, Thos. Stevenson, and Mr. J. S. Brunton (chairman) took part, and, finally, the questions of classification and trials were referred to the Floral Committee for consideration and report.

We may add that the British Carnation Society proposes to hold a dinner and conversazione during the evening of the second day of the R.H.S. Chelsea show.

NATIONAL CHRYSANTHEMUM.

FEBRUARY 3.—As a consequence of the strike among workers on London's tube railways there was a very small attendance at the annual general meeting of the National Chrysanthemum Society, held at Essex Hall, Strand, on Monday evening last. In the absence of the President, Sir Albert Rollit, Mr. Thomas Bevan presided. The business was despatched with promptitude. After the usual preliminary items were passed, the report and accounts as circulated among members were taken as read, and on the motion of Mr. Bevan and Mr. Hawes they were adopted unanimously. The following are a few extracts:—

Notwithstanding the fact that severe war-time conditions prevailed throughout the greater part of the year, the committee has the pleasure of submitting a record of good work accomplished, a successful show held, a satisfactory financial position, and a reserve fund of £— still intact. At the end of 1915 the outlook for floricultural societies was anything but bright, and the shadows deepened as war, with its inevitable distress and financial strain, continued. However, in spite of all difficulties, the National Chrysanthemum Society carried on its work so far as circumstances permitted, and has come through the troublous period of the Great War with an unbroken record, and a position that will allow the revival of its former activities as speedily as trade and amateur growers are able to take up more fully the peaceful art of flower production. It is worthy of record that the Armistice was signed on November 11, a date when Chrysanthemums were the most prominent flower in gardens, markets, and florists' shops. Without the grace and brightness imparted by the Society's name flower the festivities which followed the cessation of hostilities, and the Christmas gatherings of 1918, would have lacked that gaiety, attractiveness, and suggestion of Peace which flowers alone are able to impart.

The work of the Floral Committee was limited, as many raisers felt it was hardly worth their while to submit novelties at a time when there was little prospect of a brisk demand for them. This committee met on five occasions, discussed the merits of seventeen varieties submitted, and granted one First-class Certificate and five Commendations.

At the conclusion of hostilities the committee appointed a sub-committee to draw up select lists of Early-flowering Chrysanthemums. Owing to the length of the trade lists available, and the difficulty of reducing the synonyms, the work is not yet complete, but the committee hopes the lists will be ready for publication before planting time arrives.

At the annual general meeting, held in February, 1918, the presentation to Mr. Richard A. Witty was made by Mr. Thos. Bevan, in the unavoidable absence of the president. Mr. R. A. Witty was compelled to resign the secretaryship of the society at the end of 1917, owing to pressure of business, and the presentation to him of a handsome drawing-room clock and an illuminated and framed address was a tangible recognition of the services he had so ably rendered the society during 11½ years' service.

In the near future the society should find an opportunity to resume and extend its former activities. Already the committee has under consideration the question of frequent general meetings for the discussion of matters relating to the Chrysanthemum, lectures to affiliated societies, and an extension of the show schedule. But to enable the committee to carry out a progressive and educational programme an increased income will be necessary.

The accounts show a turnover of £169, a balance of £17 0s. 7d. carried forward, a surplus over liabilities of assets amounting to £108 14s. 10d., and a reserve fund of £75.

All the officers and members of committee were heartily thanked for past services, and Mr. S. J. Bayley was appointed co-auditor with Mr. R. A. Witty, in the place of Mr. Walker, retired. The officers were all re-elected for the ensuing year, i.e., President, Sir Albert Rollit; Treasurer, Mr. John Green; Chairman of Committee, Mr. Thos. Bevan; Vice-Chairman, Mr. E. F. Hawes; Foreign Corresponding Secretary, Mr. C. Harman Payne; General Secretary, Mr. Charles H. Curtis. The twelve members of Committee retiring by rotation were all re-elected, and Mr. Thos. Stevenson, Mr. M. Sargent, and Mr. B. Carpenter were elected to fill vacancies among those who retire in 1920 and 1921.

Some of the members suggested the revival of the Society's annual dinner and summer outing, and the holding of a smoking concert by way of a reunion for metropolitan members.

A vote of thanks was accorded Mr. Bevan for presiding.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

JANUARY 16.—*Committee present:* Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, D. A. Cowan, J. C. Cowan, J. Cypher, J. Evans, J. Howes, A. Keeling, D. McLeod, J. McNab, W. Pickup, E. Rogers, W. Shackleton, and H. Arthur (Secretary).

AWARDS.

FIRST-CLASS CERTIFICATES.

Lycaste Skinneri alba magnifica, Spathoglottis Petre and *Catasetum splendens Lindenii*, from Mrs. BRUCE and Miss WRIGLEY.

Cypripedium Conference (Chardwar Bulldog × Hera-manii), from S. GRATRIX, Esq.

Odontoglossum crispum Virginale Leeanum var. Pickupiae, from W. PICKUP, Esq.

Odontoglossum crispum var. Wilps, a heavily blotched variety, from P. SMITH, Esq.

Cypripedium The Major (Gaston Bulteel × Harrisianum superbum), from T. WORSLEY, Esq.

AWARDS OF MERIT.

Cypripedium Draco, Bridge Hall var., from Mrs. BRUCE and Miss WRIGLEY.

Lycaste Redwing (supposed natural hybrid), from S. GRATRIX, Esq.

Cypripedium Odin (Sunrise × Antinous), from W. R. LEE, Esq.

Cypripedium Lebal (Leeanum Clinkaberryanum × Hannibal), from T. WORSLEY, Esq.

AWARD OF APPRECIATION—1ST CLASS.

Odontoglossum Gorizia (President Poincaré × Jasper), from W. R. LEE, Esq.

A Silver-gilt Medal was awarded to Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. Rogers), for a group of Cypripediums, and S. GRATRIX, Esq., Whalley Range (gr. Mr. J. Howes), was also awarded a Silver-gilt Medal for a group of Cypripediums and Odontoglossums. WM. PICKUP, Esq., Great Harwood (gr. Mr. H. Mercer); T. WORSLEY, Esq., Haslingden (gr. Mr. T. Wood); W. R. LEE, Esq., Heywood (gr. Mr. C. Branch); P. SMITH, Esq., Ashton-on-Mersey (gr. Mr. E. W. Thompson); Messrs. KEELING AND SONS, and Mr. W. SHACKLETON (Bradford), also staged exhibits, and Messrs. CYPHER AND SONS, Cheltenham, staged a group of various Orchids for which a Silver Medal was awarded.

GLASGOW AND WEST OF SCOTLAND HORTICULTURAL.

JANUARY 29.—At the meeting of the above Society, held on the 29th ult., a paper entitled "A Talk About Potatos" was read by Mr. Robert L. Scarlett, Sweethope, Inveresk, Midlothian. Mr. John Cairns, of Messrs. Austin and McAslan, presided.

The lecturer dealt with his subject in relation to the recent history of Potatos, which is changing rapidly, owing to the prevalence of Wart Disease. The introduction of many new coloured varieties was foreshadowed since allotment holders have seen fit to grow them more extensively. Spraying as a preventive of blight was strongly advocated, more especially when it is borne in mind that many varieties of the best quality are more or less susceptible to disease. In breeding new varieties there has to be kept in the forefront immunity to Wart Disease, and good quality. These are the chief assets in the public's estimation. Emphasis was laid on the recent work of the Scottish Board of Agriculture in their efforts to promote a National Plant Breeding Station to develop new varieties, and the inauguration of organised registration of new Potatos with a view to the elimination of too-much-alike varieties, while the efforts of the Board to control Wart Disease were discussed and strongly supported.

BARNET NATURAL HISTORY.

JANUARY 14.—At the meeting of the above society, held on the 14th ult., Mr. A. Wilson, Hadley Bourne Gardens, Barnet, gave a lecture entitled "Some Insect Pests," illustrated by lantern slides. The lecturer pointed out that wireworms, which are the larvae of the Click Beetle, or Skip Jack, exist in that stage from three to five years, and were the most persistent and destructive of all ground vermin. Soot, lime, salt, nitrate of soda, and superphosphate were manures that were directly destructive to them, and they might be trapped by burying pieces of Potato, or Carrot, or thick slices of Beetroot in the ground and examining them from time to time. Centipedes were carnivorous, but millepedes fed chiefly on soft vegetable matter, and the common snake millepede, and another, not quite so long, the lecturer considered to be the greatest enemies of growing Potatos. Leather Jackets, the larvae of the Daddy Longlegs, could be dealt with in the same manner as wireworms. Mr. Wilson also dealt with the Onion Fly, the Carrot Fly, the Celery and Parsnip Fly, the Black Currant Gall Mite, the Shoot and Fruit Moth of the Red, White, and Black Currant, the Cabbage Butterfly, the Vapourer Moth, and many others, and the best means of destroying them. In replying to a question, the lecturer expressed the opinion that the large increase of caterpillars in the summer of 1917 was due to the number of insect-eating birds which had died during preceding hard winters.

DEVON AND EXETER HORTICULTURAL.

JANUARY 24.—A special general meeting of the Devon and Exeter Horticultural Society was held at the Guildhall, Exeter, on the foregoing date. Mr. P. C. M. Veitch presided.

The hon. secretary, Mr. T. A. Andrews, reported that at the commencement of 1916 the Society had a balance in hand of £46 6s. 9d. Owing to the continuance of the war and the adverse conditions the exhibition proposed to be held in the autumn of that year was abandoned. During 1916, 1917, and 1918, only a very limited number of subscriptions was received, and therefore it was financially impossible to hold a show in either of those years. Owing to the generosity of subscribers the balance was now £88 18s. Under these conditions the Committee recommended that an exhibition be held next autumn.

It was decided by the meeting to hold the show at the end of October.

Mr. E. Plummer was elected President, and the Vice-Presidents were reappointed, with the addition of the incoming High Sheriff of the County (Mr. W. P. Martin), the Mayor of Exeter (Sir James Owen), and the Sheriff of Exeter (Mr. W. Townsend).

WINCHESTER GARDENERS'.

ON the 28th ult. the Rev. A. G. Bather presided at the annual meeting of the Winchester and District Gardeners' Association, held at the Oddfellows' Hall, Winchester.

There was a large attendance of members to receive the Report and Accounts for 1918. The former recorded the holding of six general meetings, participation in the Hospital Fête, several instructive lectures, and a fair membership. The accounts showed a balance in hand of £18 16s. 10½d. The president, who gave an interesting address, was re-elected, as were Mr. Wise, chairman; Mr. Taylor, treasurer; and Mr. H. J. Boorer, hon. sec. Mr. Watts staged a capital exhibit of Potatos and a collection of Wallflowers.

CROPS AND STOCK ON THE HOME FARM.

PREPARATIONS FOR SOWING OATS.

UNDER favourable conditions February is the best month in which to sow Oats in the South of England. When Oats are sown early in well-tilled soil the plants escape many of the troubles which beset those sown later. When sown in April a firm, deep root-hold is not obtained before dry weather sets in, and the crop is severely handicapped. Early-sown Oats are ready to harvest early, and ripen more uniformly than those sown later. These late sowings germinate unevenly and grow irregularly, and the straw is liable to ferment in the rick, thus reducing its feeding value for cattle.

Another point in favour of early sowing is that much less work—ploughing, harrowing and rolling—is required. For Oats sown on a "stale fallow"—autumn or winter plough—the ground does not, as a rule, require more than three, or at the most four, harrowings after sowing, and hardly ever ploughing or rolling, because the soil will have been thoroughly pulverised by frost, rain and wind.

Now is the time to determine whether a certain field will require ploughing before sowing. For example, Oats are to follow a last season's Wheat crop, the stubble of which was ploughed during November or December. If the field promises to be weedy by the middle or end of February it should be ploughed at once, to provide a clean surface. I need hardly say that ploughing should not be done during wet weather, especially if the soil is retentive. Stubble or other land carrying surface weeds should be carefully ploughed, using the skim coulters adjusted to ensure the burial of weeds.

The best variety of Oat to sow will depend upon local circumstances. If Oats are grown for home use, i.e., for horses, cows, pigs, poultry and sheep, and the straw for bedding and feeding, it is difficult to name a better variety than the Black Tartarian, as this gives a heavy yield of corn and good straw. From 48 bushels to 60 bushels of corn per acre is a reasonable yield, and 30 cwt. to 2 tons of straw per acre is not an uncommon return. Where Oats are grown for sale as well as for feeding, then local requirements should be taken into consideration. In some counties White Oats are popular, but black ones are usually preferred. Of white varieties, White Hero, Victory, and Abundance are desirable: the first is of sturdy growth and yields well. Of black Oats I know none superior to Black Tartarian as an all-round variety. I am a firm believer in sowing good seed. Oats weighing from 38 lbs. to 40 lbs. per bushel, after being well screened to take out weeds and small corn, I regard as good seed. *E. Molyneux, Swanmore Farm, Bishop's Waltham.*

FAIR WAGES.

CASES have been brought to the notice of the Agricultural Wages Board in which yearly hiring contracts have been made which provide for

payment of agricultural workers at less than the minimum rates of wages fixed by the Wages Board for the district. Such contracts, like all agreements for payment or acceptance of less than the minimum rates, are void under the provisions of the Corn Production Act, and the payment of any worker at less than the minimum rate applicable to him under the Act would render an employer liable to prosecution notwithstanding any hiring contract or other wage agreement to the contrary.

FOOD FOR PHEASANTS.

As the Food Controller has revoked the Feeding of Game Order, 1917, the Board of Agriculture has revoked the Pheasants (Rearing) Order, 1917, which prohibited, except under licence, the hatching and rearing of pheasants by any artificial means.

TRADE NOTES.

DISSATISFACTION in the horticultural trade with regard to the competition of co-operative societies continues to spread. Meetings are being convened by a certain co-operative society in all parts of the country, at which the opportunity is taken to advertise a trading concern with which it is intimately connected, and to urge customers to buy from the latter rather than from the recognised firms who have devoted so many years to training a skilled staff for the purpose of producing reliable stock. These meetings are frequently attended by Government officials, who speak in support of the society.

IT would not be surprising if the Chancellor of the Exchequer, in his search for further sources of revenue, were to make careful inquiry into the development of co-operative societies in general, and the immunity from income tax which they at present enjoy. Societies of this nature were originally regarded as being somewhat in the light of friendly societies, but in recent years many of them have developed into commercial concerns, seeking by every means in their power to attract business away from the ordinary trader. Every firm and company has to pay income tax on its profits with the exception of co-operative societies, and it is difficult to see why the latter should not contribute in equal proportion. The loss of revenue in this direction can be estimated by the fact that one well-known co-operative society, together with those affiliated to it, can boast a turnover of over £6,000,000 per annum.

IT is a favourite argument against the liability of co-operative societies to pay income tax that, although they are not called upon to pay on their profits, their members are nevertheless liable to include in their individual returns for income tax purposes the value of any benefits which they may receive as members of such society. In practice, of course, the matter does not work out in any such way. There must be comparatively few cases in which those members who make any income tax returns remember to schedule the benefits received as part of their assessable income, but the question goes far beyond this. Since the Industrial and Provident Societies Act was passed, the minimum income in respect of which income tax is payable has been considerably reduced, and in order to facilitate collection many employers deduct, as agents for the Government, income tax from the wages of their workpeople. No enquiry is made of the workman as to whether any additional income tax is chargeable against him on account of his membership of a co-operative society, and in consequence the whole of this source of revenue at present appears to be lost to the Exchequer.

IT is certainly anomalous that even the smallest trading company registered under the Companies Acts is liable to pay income tax on its profits, while a commercial concern registered under the Industrial and Provident Societies Act goes free.

THE scheme for a League of Trade Associations, representing horticulture in all its branches, appears to be now assured of success. The best evidence that the Chamber of Horticulture is determined to hold the balance evenly between the various sections of the trade may perhaps be found in the fact that hitherto the chief criticisms in the fruit trade have been mutually destructive; that is to say, some growers' associations have suggested that the salesmen's section may become too largely represented, while on the other hand at least one salesmen's association has hesitated to apply for membership for fear lest the growers' element should become so powerful as to over-ride the former's interests. These matters have, however, now been adjusted, apparently to the satisfaction of both parties.

A MUCH more difficult question will probably arise for the decision of the Chamber of Horticulture in connection with the desirability or otherwise of a policy of free imports. Home growers naturally wish for some machinery to prevent the market being glutted with supplies from outside sources during such time as there may be a sufficient supply of home produce. On the other hand, agents in England for foreign growers, with equally natural enthusiasm, support a policy of free imports without restriction during any period of the year. A debate on the subject convened by the Chamber of Horticulture would furnish an interesting topic, but it remains to be seen whether the Chamber will decide to give any lead in either direction, or whether the executive will decide that, in default of reasonable unanimity on the point, they should leave the matter to be dealt with by the various trade associations. Certainly there are enough reforms overdue for the benefit of horticulture, in respect of which there is no disagreement in the trade, sufficient to occupy the energies of the Chamber for some time to come, and under the remarkably able leadership which the Chairman, Mr. George Monro, junr., has already shown, it is safe to assume that members will not be kept short of food for reflection in various directions.

Now that so many soldiers are being demobilised it is very desirable that certain doubtful points as to the extent to which their terms of employment (in the absence of express agreement to the contrary) are affected by ancient custom should be placed beyond the possibility of dispute. It is hoped to publish in an early issue an article dealing with this subject, particularly as regards the length of notice to be given when either employer or workman wishes to terminate the engagement. The position of a head gardener has already been decided in a well-known case, but the position of under gardeners appears to be open to considerable doubt.

THE concession which the Japanese Bulb Control Committee has secured from the Board of Trade will probably not be utilised to the full by Japanese growers this season. However, steps are already being taken by the Committee with regard to next season's imports, and it is hoped that by that time larger supplies may be available.

THE Horticultural Trades Association of the United Kingdom is taking a vote of its members as to the advisability of registration under the Companies Acts as a company not for profit, limited by guarantee. It is proposed to apply to the Board of Trade for leave to omit the word "Limited." Now that the Association is enlarging its organisation the suggestion should prove convenient in several respects, and other associations may be expected to follow suit.

Obituary.

C. G. van Tubergen.—It is with deep regret we have received intimation of the death of Mr. C. G. van Tubergen, which took place on January 25, at Haarlem. The deceased gentleman was well known among lovers of hardy plants and rare bulbs as head of the firm to which he gave his name, a firm comprising the brothers Hoog and Tubergen. Mr. C. G. van Tubergen was 74 years old, and his remains were laid to rest on January 28 at the Shoterweg Cemetery.

Answers to Correspondents

DAMAGED RHODODENDRON LEAVES: *G. F.* The Rhododendron leaves have suffered, as you suggest, from the application of an excessively strong insecticide, and nothing will bring them back to their original form and colour. Very careful treatment will be necessary to prevent the leaves from falling. An excess of water at the roots must be guarded against, and new growth should be encouraged by frequent light syringings in fine weather and by top-dressing the roots with leaf-soil and peat.

FAILURE WITH RICHARDIAS: *Calla.* From the small amount of evidence received it is difficult to judge accurately the cause of failure, but as the few remaining surface roots are healthy, and all the lower ones dead, over watering seems to be the cause. All plants with tuberous or bulbous roots require very little water for some time after they are potted, provided the soil used to pot them in is fairly moist.

LAWNS: *I. O.* A useful little book giving the particulars you require is *Lawns and Greens*, by F. W. Sanders; this can be obtained from our publishing department, price 1s. 9d., post free.

NAMES OF FRUITS: *G. A.* The specimens were badly shrivelled, and therefore not in a good condition for naming; they probably represent Bramley's Seedling.

NAMES OF PLANTS: *C. A. W.* 1, Buddleia variabilis; 2, Skimmia japonica; 3, Colletia spinosa; 4, Acacia armata; 5, Cupressus (Retinispora) pisifera plumosa; 6, Juniperus communis nana.—*Hythe.* 1, Iris japonica (syn. chinensis); 2, Epidendrum radicans.—*F. G. A.* 1, a species of Cotoneaster; 2, Olearia Haastii; 3, Euonymus japonicus aureus; 4, Cytisus fragrans; 5, an Oncidium (send when in flower); 6, not recognised—the specimens were miserable scraps and altogether unsuitable for the purpose of identification.

SLUGS ATTACKING POTATOS: *T. B. A.* Superphosphate acts as a deterrent to slugs, and is an excellent fertiliser to use for the Potato crop. Dust the fertiliser along the rows when they are opened for planting the sets, at the rate of 2 or 3 ozs. to the square yard. A little sulphate of ammonia applied either when the rows are filled with the soil or just previous to the haulm appearing above the ground will also be of value.

TRAINING IN HORTICULTURE: *Miss C. D. W.* Insert an advertisement in one of the gardening papers, offering your services, as you suggest, in return for training, board, and lodgings.

THE PAJARITO FLOWER: *H. E.* There are several Chilian plants known by the name of Pajarito, but obviously the plant described in your letter under this name is Pasithea coerulea D. Don., syn. Anthericum coeruleum Ruiz and Pav.

WAGES BOARD: *B. C.* We can give you no further advice beyond that contained in the official note published on p. 43. You will notice that the Wages Board expressly stated that they cannot give legally binding decisions in such cases as yours, but that gardeners employed in private or estate gardens, the produce of which is grown wholly or partly for sale, would, in the Board's view, come within the scope of the minimum rates.

Communications Received.—R. G. H.—J. B. F.—H. A. B.—A. H.—L. G., Brussels—K. L. S.—C. P. B.—H. A. B.—R. E. N.—Sir E. G. L.—W. L.—C. H.—C. H. P.—R. C. A. J.—M. C. H.—W. T.—C. C.—T. O.—S. W. D.—C. A. J.—E. J.—K. L. S.—N. F. B.—W. L.—L. C.—A. H.

MARKETS.

COVENT GARDEN, February 5.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Ericas, con.—	
— Sprengeri	10 0–12 0	— melanthra 48's per doz. ...	30 0–36 0
Aspidistra, green ...	30 0–60 0	Marguerites, white	18 0–24 0
Cyclamen	30 0–36 0	Palms, Kentias ..	18 0–24 0
Ericas—		— — 60's	15 0–18 0
— hyemalis ...	24 0–30 0	— Cocos	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum, 48's, per doz.	10 0–12 0	Nephrolepis, in variety, 48's ...	12 0–18 0
— elegans ..	9 0–10 0	— 32's	24 0–36 0
Asplenium, 48's, per doz.	10 0–15 0	Pteris, in variety, 48's	9 0–12 0
— 32's	21 0–24 0	— large 60's ...	4 0– 5 0
— nidus, 48's ...	10 0–12 0	— small 60's ...	3 0– 3 6
Cyrtomium, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arums—			
— (Richardias), per doz. bl'ms.	15 0–21 0	Hyacinths, Roman, 12's, per doz. bun.	3 6– 4 0
Azalea, white, per doz. bunches ..	8 0–10 0	Lilac, white, per bunch	3 6– 4 0
Bouvardia, white, per doz. bun.	30 0–36 0	Lilium longiflorum, long	18 0 21 0
Camellias, 12's–18's per box ...	4 0– 6 0	Lily-of-the-Valley, per bun. ...	4 0 5 0
Carnations, per doz. blooms, best American var.	6 0– 8 0	Orchids, per doz:—	
		— Cattleyas ...	24 0–30 0
		— Cypripediums,	6 0– 8 0
Croton leaves, per bun.	2 6– 3 0	Pelargonium, double scarlet, per doz bunches...	10 0–12 0
Daffodils, single, per doz. bun.—		— white, per doz. bunches	10 0–12 0
— Emperor ...	18 0–24 0	Roses, per doz. blooms—	
— Golden Spur ...	12 0–15 0	Richmonds ...	10 0–18 0
— Henry Irving...	9 0–10 0	Snowdrops, per doz. bun.	3 0– 4 0
— Victoria ...	15 0–18 0	Tulips, per doz. blooms—	
— Princess ...	12 0–15 0	— mauve	3 0– 4 0
Narcissus ornatus, per doz. blooms	10 0–12 0	— white	4 0– 5 0
Freesia, white, per doz. bunches ..	4 0– 5 0	— yellow per doz. blooms ...	3 6– 4 6
Heather, white, per doz. bun....	6 0–10 0	Violets, single, per doz. bun. ...	6 0 10 0

REMARKS.—The supplies of most home-grown flowers have been lessened by the severe weather during the past week. Arums (Richardias) and Lilium longiflorum are greatly reduced in number, and the prices have risen accordingly. Daffodils appear to be sufficient for the demand, although prices are higher. Pheasant-Eye Narcissus increases in quantity as well as quality, and prices are becoming normal. The supplies from Guernsey and Scilly have been reduced during the past week, as also those from the West of England. The arrivals of French flowers have been very erratic. Paper-White Narcissi begin to show signs of finishing, and the best flowers have practically doubled in price. A few Violets are now arriving in good condition and selling freely at high prices. There is abundant supply of Acacia, and Anemone and Ranunculus are arriving more freely.

Fruit: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Cranberries, per case	52 6 —	Nuts, con.—	
Grapes:—		— Brazils (new), per cwt.	230 0–240 0
— Almerias, per barrel (about 3½ doz. lbs.)	60 0– 90 0	— Cobnuts, per lb.	1 9 —
— Alicante, per lb.	4 0– 6 0	Walnuts, kiln dried, per cwt. ...	180 0–200 0
— Gros Colmar, per lb.	4 0– 7 0	Pears, Californian (Easter Beurré), cases containing 8 to 10 doz., per case	100 0 —
Nuts:—			
— Almonds, per cwt.	130 0–150 0		
— Barcelona, per cwt.	130 0–140 0	Pineapples, each...	4 0– 8 0

French and Guernsey Flowers: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Anemones—		Narcissus, paper white, per doz. bunches ...	3 6– 4 0
— de Caen, per doz bunches...	21 0 24 0	— Soleil d'Or, per doz. bun. .	4 0– 6 0
— double pink, per doz. bunches ...	6 0–8 0	Ranunculus, red, per doz. bun .	18 0–24 0
— fulgens, per doz. bunches ..	5 0– 6 0		
Mimosa, per pad...	12 0–14 0	Roses, Safrano, per packet... ...	2 6– 3 6

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Jerusalem, per bus.	3 0– 3 6	Herbs, per doz bun.	4 0– 6 0
— Globe, per doz	15 0 —	Horseradish per bun.	3 6– 4 6
Asparagus, Paris Green, per bundle	13 0–15 0	Leeks, per doz. bun.	2 6– 3 0
— Sprue, per bundle ..	1 10 —	Lettuce, Cabbage and Cos per doz	3 0– 4 0
Beans, French, per lb.	10 0–12 0	Mint, per doz. bun.	8 0–10 0
Beetroot, per bus.	5 0– 6 0	Mushrooms, per lb.	6 0– 7 0
Brussels Sprouts, per bus. ...	6 0– 7 0	Mustard and Cress, per doz. punnets	1 0– 1 3
Cabbage, per tally	7 0–10 0	Parsley, per ½ bus.	5 6– 6 6
Carrots, per bag ...	10 0–12 0	Parsnips, per bag .	5 0– 6 0
Cauliflowers, per doz	4 0– 7 0	Potatos, new, per lb.	1 6– 1 9
Celeriac, per doz..	10 0–10 6	Radishes, per doz. bunches ..	2 6 —
Celery, per doz ...	21 0–48 0	Rhubarb, forced, per doz. ...	3 0– 3 3
Chicory, Belgian, per lb.	0 9– 1 2	Savoys, per bag ...	2 6– 3 0
Cucumbers, per doz	48 0–54 0	Seakale, in boxes (6-8 lbs.), per lb.	1 6– 1 8
Endive, per doz. ...	4 0– 4 6	Shallots, per lb.	0 6– 0 8
Garlic, per lb.	0 5– 0 7	Spinach, per bus....	8 0 10 0
Greens, per bag ...	2 6– 3 0	Turnips, per bag ..	5 0– 6 0
		Watercress, per doz	1 0– 1 3

REMARKS.—Supplies of black Grapes are equal to the demand, and Almerias (Spanish) Grapes are plentiful. Pears (E. B.) Californian are available in fairly large quantities. The first consignment of Pineapples, consisting of about 3,000 cases, containing six to ten fruits each, is on sale. Canary and West Indian Bananas and Grape Fruits are arriving. Forced produce is a very limited supply. *E. H. R., Covent Garden Market, February 5, 1919.*

GARDENING APPOINTMENTS.

Mr. W. Baillie, for more than 2 years Gardener at Stoneythorp Hall, Southam, Warwickshire, and previously at Llanfoist House, Abergavenny, Monmouthshire, and Llangibby Castle, Newport, Monmouthshire, as Gardener to Mrs. HARDCASTLE, Blaston Hall, Uppingham, Leicestershire.

Mr. W. E. Evans, for the past 3 years General Foreman at Coombe Court Gardens, Kingston Hill, as Gardener to Lord MARCUS BERESFORD, Sunninghill Park, Ascot, Berkshire.

Mr. J. B. Davies, having obtained his discharge from H.M. Forces, has resumed his duties as Gardener to His Grace the Duke of BUCCLEUCH, Boughton House, Kettering, Northampton.

Mr. H. H. Challoner, who has served for 2½ years with H.M. Forces, has resumed his duties as Gardener to Major-General Sir IVOR PHILLIPS, K.C.B., D.S.O., M.P., Cosheston Hall, Pembroke.

CATALOGUES RECEIVED.

THE ALDER RIVER NURSERY, Iver Heath, Buckinghamshire.—Rare and interesting Trees and Shrubs.
STUART LOW CO., Bush Hill Park, Enfield, Middlesex.—Orchids.

SEEDS.

GEO. COOLING & SONS Bath.
JOHN MCKERCHAR, 35, Giesbach Road, Upper Holloway, London, N. 19.
"PREMIER" SEED CO., LTD., 117, London Road, Brighton.
D. G. PURDIE, Glasgow.
EDMONDSON BROS., Dublin.
CHARLES TURNER, Slough.
E. P. DIXON & SONS, LTD., Hull.
BROWN & WILSON, 10, Market Place, Manchester.
COOPER, TABER & CO., 90 and 92, Southwark Street, London, S.E. 1 (wholesale)
KELWAY & SON, Langport, Somerset (wholesale).
HURST & SON, 152, Houndsditch, London, E. 1 (wholesale).
DAVID BELL, Leith and Belfast (wholesale).
WILLIAM WATT, Cupar and Perth.
BARR & SONS, 11, 12, and 13, King Street, Covent Garden, London, W.C. 2.
W. DRUMMOND AND SONS, LTD., 57 and 58, Dawson Street, Dublin.
DICKSONS, Chester.
JAMES VERT AND SONS, Saffron Walden.
DANIEL BROS., Norwich.
HARRODS, LTD., Brompton Road, London, S.W. 1.
H. CANNELL & SONS, Eynsford, Kent.
STORRIE & STORRIE, Glencarse, Perthshire.
KENT & BRYDON, Darlington.

Foreign.

BABCOCK PEONY GARDENS, Jamestown, N.Y., R.F.D., No. 79.—Irises, Paeonies, Phloxes, and other Hardy Plants.
SLUIS & GROOTS, Enkhuizen, Holland.—Seeds

PRESENT-DAY GARDENING

SWEET PEAS

NEW edition by Horace J. Wright, with chapter on "Sweet Peas for Exhibition" by Thos. Stevenson. Contains 8 plates in colour. Price 3 - post free.

THE PUBLISHER,
The Gardeners' Chronicle, Ltd., 41, Wellington Street, Covent Garden, London, W.C.

Continued from page iii.

FLORISTS. — SALESWOMAN required for West-end trade; thoroughly qualified.—Apply, P. G., Box 15, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, SPADE and KNIFE HANDS; up-to-date terms; permanent positions; Roses only.—MURRELL, Rose Acre, Shepperton.

WANTED, a good MAN for general Outdoor work; able to grub up trees, cut and lay turf, &c.—Apply, CARTER PAGE & CO., LTD., 53, London Wall E.C. 2.

WANTED, strong LAD, used to plants, to assist in Nursery.—STROUD & CO., Florists, 182, Green Lanes, Finsbury Park.

SITUATIONS WANTED.

Twenty-six words 1s. 6d., and 6d. for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office, 6d.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

GARDENER (HEAD) or GARDENER-BAILIFF.—H. MARTIN GIBBS, Esq., highly recommends his Gardener to anyone requiring a first-class man for large establishment; has been with him 2 years, previously 11½ years Head Gardener to the late Sir W. R. Anson, Bart., Pusey House, Faringdon; age 45; married (family grown up); life abstainer.—Apply, JONES, Barrow Court Gardens, Flax Bourton, Bristol.

HEAD GARDENER-BAILIFF.—A keen, energetic, and competent MAN desires responsible post; first class all branches; expert Fruit Grower and exhibitor; just demobilised.—Apply, with terms, to GEO. MORBEY, Town Hall, Knutsford, Cheshire.

GARDENER (Head of four or more); 20 years' first-class experience in the cultivation of Fruit, Flowers, and Vegetables, Inside and Out, and management of well-kept Garden; excellent references; age 35; married (no family); disengaged. — RIDGEWELL, "Buckthorpe," Chertsey Road, Addlestone, Surrey.

SIR WILFRID PEEK, Bart., highly recommends his HEAD GARDENER who has held position of trust over large establishment for past 20 years; thoroughly experienced in all branches; married; age 46.—BAILEY, Rousdon Gardens, Devon.

LADY JACKSON highly recommends her temporary HEAD GARDENER, where four or more are kept; well up in all branches; 18½ years' experience; married (no family); age 36.—W. JOHNSON, Stansted House Gardens, Stansted, Essex.

GARDENER (HEAD), married, requires situation where four or five are kept; 14 years' sound experience, Inside and Out; good references and done military service.—Apply, F. J. RUFF, 368, New Cross Road, New Cross, S.E. 14.

HONBLE. MRS. WYNN will be pleased to recommend WM. B. BURCHILL as GARDENER (HEAD) to any lady or gentleman requiring the service of a thoroughly experienced and trustworthy man; land and stock if required; married (no family). —BURCHILL, Rûg Gardens, Corwen, N. Wales.

MRS. PALMER highly recommends her late HEAD GARDENER for large establishment, with life experience; very energetic and capable manager; excellent references; demobilised A1; age 41; married (no family).—WESTRON, Marlston House Gardens, near Newbury.

GARDENER (HEAD); life experience in all branches, Inside and Out, in good establishments; repatriated prisoner of war; released from Army when suited; age 31; married (one child).—C. RALPH, Eynsham, Oxon.

MR. F. JENNINGS, Chatsworth Gardens, wishes to recommend HENRY EDGE to any nobleman, lady, or gentleman requiring the services of a thorough practical HEAD GARDENER; life experience in all branches of his profession, including Carnations, Fruit, Kitchen Garden, and Pleasure Grounds; good manager of men; aged 33.

GARDENER (Head); 26 years' experience; thorough practical knowledge of all branches, gained in first-class establishments; 9 years as Head in last situation; last 3 years on munitions and local Food Production; age 40; married (one daughter, age 10).—H. COTTON, 54, Woodland Road, Northfield, Birmingham.

GARDENER (Head).—Mr. GEO. RELF, Royal Botanic Gardens, Regent's Park, N.W. 1, can with all confidence recommend a first-class, experienced MAN; thoroughly conversant in the high-class culture of all kinds of Fruits, Flowers, and Vegetables, Landscape, and all work connected with a large Garden, the management of which he has long been associated with. —Apply as above.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; Inside and Out; lifetime experience in large establishments; skilful cultivator of choice Fruits, Vegetables, and Plants; first-class qualifications as Head; energetic and hard working; trustworthy; Home Counties preferred.—F. W., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

E. MILLER MUNDY, Esq., wishes to highly recommend his HEAD GARDENER, who has been with him 9 years, as a thoroughly capable and practical man; life experience in all branches; previously Chief Foreman at Sandringham; excellent testimonials; age 43; married (no family).—Apply, in first instance, to W. H. GOODMAN, The Gardens, Shipley Hall, Derby.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; lifetime experience; skilful cultivator of choice Fruits, Vegetables, and Plants; energetic and hard working; married (no family); age 47.—JOSEPH COLLINS, 22, Highfield Road, Chertsey, Surrey.

GARDENER (Head), age 35, requires situation, where six or more are kept; 2 years in France; demobilised; previously 5 years Head of five; 19 years' experience in all branches, including Royal Gardens, Windsor, Castle Gardens, Alnwick; married (no family).—Apply, JONES, c/o T. Jones, Honing Fruit Farm, Worstead, near Norwich, Norfolk.

SCOTCHMAN requires permanent situation as HEAD GARDENER, where several are kept; where a fully competent man is required for producing in large quantities choice Fruits, Flowers, and Vegetables; Inside and Out; good organiser; highly recommended; age 48; married (two children); Southern Counties preferred. Please state wages, with full particulars of requirements.—A. FYFE, "Clifton," Milner Road, Burnham, Bucks.

GARDENER (Head) seeks re-engagement in good situation; thorough experience in all branches of Horticulture, gained in good establishments; 12 years present situation; age 40; married (no family); excellent references. — H. C., Box 20, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (Head), where several are kept; life experience, Inside and Out; 12 years as Head; excellent testimonials, including 2 years with the R.H.S.; married; age 43.—J. SMITH, Linholme Cottage, Holmbury St. Mary's, Dorking.

HEAD GARDENER of several seeks re-engagement; first-class experience gained in all branches, both under Glass and Outside; married; age 46.—C. H., Box 6, 41, Wellington Street, Covent Garden, W.C. 2.

HEAD GARDENER of two or three; a thoroughly practical married man, without family, requires situation; well up in his work in all branches; middle-aged, and of good character. State wages given and if cottage provided.—T. K., The Bush, Milton Road, Mill Hill, N.W.

GARDENER (Head); age 41; married; life experience in all branches, seeks re-engagement where a fully competent man is required for a first-class establishment; 8 years in present place; Head of 12; leaving through death.—Please state wages and full particulars to H. MANTON, Paxhill Park, Lindfield, Sussex.

GARDENER (Head) seeks re-engagement, with two or more under; thoroughly experienced; Vines, Peaches, &c., Stove and Greenhouse Plants, Orchids, Flower and Kitchen Gardening; 12½ years' reference; age 45; married (two children).—A. WALKLING, Sun Oak Lodge, Coalhurst, Horsham, Sussex.

GARDENER (Head); demobilised from Army, seeks situation; life experience in all branches, Inside and Out; highly recommended; age 33; married (no family); last place sold while on Active Service.—C. JOHNSON, 25, Windsor Road, Ealing, W. 5.

GARDENER (Head) demobilised, open to re-enegage with any lady or gentleman desiring the service of a thoroughly practical, trustworthy, life experienced man; first-class Fruit, Flower, and Vegetable Grower; Herbaceous Borders, Lawns, Flowering Trees, and Shrubs; age 43; married (one boy, age 10).—W. LEITH, School Cottage, Alton, Hants.

GARDENER (Head); age 46; life experienced; efficient in requirements of good establishment; skilled competitor all branches of Horticulture; 18 years Head; excellent credentials; disengaged; Home Counties preferred.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (Head) seeks re-appointment; life experience in large establishments; 4 years' Head previous to Service; age 37; married (three children); R.C.—CPL. FRIEND, Wormley, Broxbourne, Herts.

J. C. POTTER highly recommends his HEAD GARDENER; thoroughly efficient in all branches; 4 years present, 9 years previous; no family; age 48.—A. ELBOURN, Woodhay, Windlesham, Surrey.

GARDENER (Head), where two or more are kept; 15 years' all-round experience, Inside and Out; capable of taking charge of electric light plant; excellent references; married; two children (age 2 and 4 years).—S. E., Box 3, 41, Wellington Street, Covent Garden, W.C. 2.

HEAD GARDENER, just discharged from Army, seeks Post where several are kept; life experience in good establishments previous to joining Colours; 3 years and 8 months Head to late Lord Bishop of Peterborough.—A. MORPHETT, The Common, Cranbrook, Kent.

LADY BINNING highly recommends her late HEAD GARDENER, W. E. DADSON, to any lady or gentleman requiring the services of a practical and trustworthy man; highest credentials from previous employers; age 32; married (no children); recently demobilised.—W. E. DADSON, Germains Gardens, Chesham.

GARDENER (Head); age 42; married.—WILLIAM TURNER, 18, Blomfield Street, Bury St. Edmunds, is open for engagement with any lady or gentleman requiring the services of a thoroughly practical first-class man, both Inside and Out; very highly recommended; late Royal Air Force.

GARDENER (Head or Single-handed); experienced; understands cows, &c.; age 48; one girl (14); wife could help in house if required or caretake; good references. — Please state wages, &c., to WADLEY, Woodbine Cottage, Towcester, Northants.

GARDENER (Head Working); 23 years' practical experience, Inside and Out, in large establishments; age 36; married (one child); discharged from Army, 1916; 3½ years present situation as Head.—D. C., Box 5, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (Head Working); 18 years' thorough practical experience all branches Horticulture on well-kept establishments; choice Plant, Fruit Culture under Glass, Pleasure Grounds, Fruit and Vegetable Culture, &c.; excellent testimonials to character and ability; now disengaged; age 34; married. Please state wages, &c.—F. KING, 13, Reginald Road, Northwood, Middlesex.

GARDENER (Head Working); 21 years' general experience with Glass, Kitchen Garden, and Lawns; good references.—W. B., Box 3, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (Head Working), just demobilised Active Service, desires re-engagement with lady or gentleman requiring same; 25 years' thorough practical experience in all branches; excellent references; 12 years as Head; age 40; married.—HENRY BURFOOT, 2, Blenheim Cottages, Clayton Road, Hook, Surbiton, Surrey.

GARDENER (Head Working), where others are kept; 20 years' practical experience in all branches; excellent references; 7 years Head of four; married (three children, 10, 7, 4); age 43 years.—JOHN SAUNDERS, 21a, Clyston Street, Wandsworth Road, Clapham, S.W. 8.

GARDENER (Head Working), demobilised), seeks re-engagement; 25 years' experience in large establishments; excellent references from previous employers, also from the Army; age 37; married (no family).—SUTTON, 8, Leffern Road, Shepherd's Bush, London, W.

GARDENER (Head Working), where several are kept; life experience in the cultivation of Fruit, Flowers, Vegetables, and management of a well-kept Garden; well recommended; age 33; one child.—PIDGEWELL, 16, Dickson Road, Eltham, S.E. 9.

GARDENER (Head Working), where four or more are kept); life experience Inside and Out in all branches; age 34; married; with good references.—E. MESSIDER, 10, Sunney Hill Road, Hammerfield, Hemel Hempstead, Herts.

GARDENER (Head Working); life experience all branches, Inside and Out; good references; war work last 3 years.—F. W. VENN, 7, Eton Street, Regent's Park, N.W. 1.

GARDENER (Head Working) seeks re-engagement, where three or more are kept; thoroughly experienced in all branches; first-class references; married; age 48; one daughter (home, 16).—T. FOWLES, Hanstead House Gardens, Bricket Wood, near St. Albans.

A FIRST-CLASS WORKING HEAD GARDENER, with excellent references for energy and proved ability in all branches, seeks re-engagement; Orchids speciality; age 45.—GARDENER, Gables Cottage, Surbiton.

GARDENER (Head Working), where three or four are kept; life experience in all branches, Inside and Out; married (one child, age 3); 4 years' last situation as Head; excellent references.—HARBERT, Cricklewood Dormansland, near Lingfield, Surrey.

GARDENER (Head Working); life experience in all branches; age 38; married (two children); very highly recommended from last situation (left through death); first-class R.H.S. Certificate, just demobilised; excellent testimonials.—H. G. WORSFOLD, 1, Pounsley Cottages, Dunton Green, Sevenoaks, Kent.

GARDENER (Head Working) seeks appointment; long experience in all branches; well recommended as competent and reliable; Midlands preferred. WM. BURNS, Sandy Lane, Tettenhall, Wolverhampton.

GARDENER (Head Working); just demobilised; age 41; married (grown-up daughter); life experience in all branches, Fruit, Flowers, and Vegetables; good references; disengaged.—ELLIS, 60, Tankerton Terrace, Mitcham Road, West Croydon.

GARDENER (Head Working), where several are kept; age 46; married (no family); life experience in all branches of Horticulture; 19½ years as Head; excellent testimonials; North or Midlands preferred. Please state wages.—J. H. O., Box 14, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (Head Working), where three or more are kept; good Flower, Fruit, and Vegetable Grower; Inside and Out; highest references; age 37; married (one child, 3½).—A. W., Box 12, 41, Wellington Street, Covent Garden, W.C 2.

HEAD GARDENER (Working), where three or four are kept; life experience in all branches, land and stock; age 51; married (no family). —J. D., Woodbury Cottage, Farley Hill, Reading.

GARDENER (Head Working); life experience, Inside and Out; married (one child); disengaged; South or Midlands preferred; wife useful.—DRAGE, c/o Allen, Agden Smithy, near Altrincham, Cheshire.

GARDENER (Head Working), where one or two more are kept; 12 years' good practical experience; good references; age 26, widowed mother, one sister.—H. GREEN, The Gardens, Baldon House, Marsh Baldon, Oxon.

GARDENER (Head Working), seeks situation, where several are kept; life experience in all branches in good establishments; age 38; married (no family); excellent references. — WREN, 3 Row, Platt Lane, Felbridge, East Grinstead.

GARDENER (Head Working).—Ex.-Cpl. Grenadier Guards seeks re-engagement, where several are kept; first-class experience in all branches, Inside and Out, gained in large establishments; excellent credentials; age 31; married (one child).—A. BLANDFORD, Barnside, West Horsley, Surrey.

GARDENER (Head Working), where one or two more are kept; good references, married (boy 9); late Gardener demobilised cause leaving; nearly 2 years here.—E. RELF, The Gardens, Kingswood Court, Tadworth, Surrey.

WANTED, situation as HEAD WORKING GARDENER; married (no family); good references.—Apply, GARDENER, Mount Pleasant, Dedham.

GARDENER (Head Working). — Mr. DUMBLETON, Chipstead Place, will be pleased to highly recommend his FOREMAN to any lady or gentleman requiring a thorough good all-round GARDENER; life experience; 8 years in present situation; married; age 33.—A. GULVIN, Chipstead Place, Sevenoaks.

GARDENER (HEAD WORKING); London district preferred; good, practical experience, Inside and Out; well recommended; disengaged when suited; married; age 34.—G. HOWE, Holmhurst Cottages, Loughton, Essex.

GENTLEMAN highly recommends HEAD WORKING GARDENER; thorough good all-round life experience all branches; thoroughly reliable, hard working; married; age 43; one son (19); excellent references. Please state wages. — GARDENER, care of Mr. Bucknell, Green Park, Pentrecagal, Newcastle Emlyn, Carmarthenshire.

GARDENER (HEAD WORKING), where several are kept; experienced Inside and Out; Fruit, Flowers, Vegetables; age 38; married (no family); strongly recommended; 2 years' aircraft work. — F. WICKS, 10, Kohinoor Avenue, Bushey, Herts.

GARDENER (HEAD WORKING), where one or two Under kept; experienced Fruit, Flowers, Vegetables; Inside and Out; 6 years' last situation.—PALFREYMAN, 68, Lydgate Lane, Crookes, Sheffield.

GARDENER (HEAD WORKING); age 31; 14 years' experience in good establishments, Inside and Out; good decoration; Army release when suited.—J. M. AYERS, 6, Barmouth Cottages, Park Road, Rickmansworth.

GARDENER (HEAD WORKING). — Lady MURIEL DIGBY highly recommends her late HEAD GARDENER, who has been with her 12½ years; released from National work; thorough knowledge of Gardening in all branches; age 41; married (two children, age 12 and 6).—T. BANTING, Evershot, Dorset.

GARDENER (HEAD WORKING) seeks re-engagement; practical experience Gardening, Inside and Out, gained in good establishments; land and stock if necessary; 13 years and 4 years last place; age 48; married (no family); temporary here. — H. TUCK, O[illegible]hrope Gardens, Branksome Wood Road, Bournemouth.

GARDENER (HEAD WORKING); life experienced all branches; electric light; land and stock if required; 16 years last situation as Head Working; well recommended; age 44; married.—J. COOPER, Park House, Colnbrook, Bucks.

GARDENER (HEAD WORKING) seeks engagement; life experience, Inside and Out; good references; married; age 45.—Apply, W. HILL, The Gardens, Totteridge House, Totteridge, Herts.

GARDENER (HEAD WORKING) requires permanent situation; good experience and references.—H. A. DOUBLE, The Gardens, Blundeston Lodge, Lowestoft.

GARDENER (HEAD WORKING) seeks situation, where several kept; life experience, Inside and Out; married (no family); 32; abstainer; excellent references; free now.—BAGG, Sunnyside Gardens, Holmwood.

GARDENER (HEAD WORKING or good SINGLE-HANDED, with help); life experience; Inside and Out; married (no family); good references. Please state wages.—GARDENER, 30, Hursley, Winchester.

GARDENER (HEAD WORKING or good SINGLE-HANDED, with help); married; 20 years' experience; Inside and Out; would cultivate large Garden for profit; not a looker-on, but a worker.—G. H., Box 13, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING or SINGLE-HANDED), with help; just demobilised; life experience; 19½ years good reference; married (no family); age 46; disengaged.—ANDREWS, The Gardens, Rosemead, King's Road, Windsor.

HEAD WORKING GARDENER or CHAUFFEUR-GARDENER; 30 years' experience; 9 years present employer; understands electric light plant; age 49.—G. PLUMTREE, Burcote, near Abingdon, Oxon.

GARDENER seeks situation; single-handed or otherwise; life experience in all-round Gardening, Inside and Out; also capable superintending stock; energetic, trustworthy; age 60; place where cottage provided preferred; good references; 4 years last place.—Address, J. H., 93, Howard's Lane, Putney.

GARDENER (SINGLE-HANDED, or with help) requires situation; thoroughly experienced, Inside and Out; married; well recommended.—P. MILLS, Reyntots Croft, England's Lane, Loughton, Essex.

GARDENER (SINGLE-HANDED) requires situation; age 32; 5 years' reference; married (one child, age 4).—STEWARD, Orche Hill Chambers, Gerrard's Cross.

GARDENER (SINGLE-HANDED or SECOND); 9 years' experience, Inside and Out; 2½ years single-handed in last place; good reference.—W. ODELL, 2, Royal Oak Lane, Pirton, Hitchin, Herts.

GARDENER; capable, reliable; Inside or Inside and Out; 16 years' practical experience. Vines, Cucumbers, Melons, Flowers, and Vegetables; age 30; married (two children); excellent references.—S. P., Box 8, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER seeks situation, where help is given; age 26; good knowledge of Inside and Outside; 10 years' experience in good establishments; married when suited; Sussex preferred.—R. BROWN, 151, Cottenham Terrace, Hornsey Rise, N.

GARDENER, discharged from the Army, requires situation as GARDENER, where two or several are kept; good all-round experience, Inside and Out; good references, gained in good establishments; age 32; married. — THOS. BARNETT, 30, Holmewood Road, Brixton Hill, S.W. 2.

GARDENER; practical; experienced, Inside and Out, age 34; married; just demobilised; 2 years overseas; can be recommended.—GARDENER, Vernon Lodge, Berrylands Road, Surbiton.

KITCHEN Garden or Pleasure Grounds; life experience; age 41; married (no family); 4 years here. Please state wages.—H. RANGER, Marden Park Gardens, Woldingham, Surrey.

GARDENER - CHAUFFEUR; 17 years' Garden, all branches; 7 years' driving, running repairs; competent, careful; interview by appointment; demobilised; 3½ years' war service.—Wages offered to FORDER, 17, Ladbroke Road, Notting Hill Gate, W. 11.

SECOND GARDENER seeks situation on demobilisation; age 28; 9 years' experience, Inside and Out; good references; Bothy preferred. — GNR. Read, 352,200, A Section, 10 M.A.A. Battery, Godmersham, near Canterbury, Kent.

GARDENER (SECOND) seeks situation; Inside and Out; can be recommended; married (no children; disengaged; South preferred.—H. T. B., 3 Bungalow, East Riggs, Dumfriesshire.

FOREMAN GENERAL; 10 years' good experience, including Harewood and Vaynor Park; married; age 30; Army discharged. — Address, S. MITCHELL, Shady Grove, Alsager, Cheshire.

FOREMAN; Inside or General; 16 years' experience; age 31; married (two children); Army discharge.—J. SLATER, Carrington House, Deptford, S.E.

JOURNEYMAN seeks situation; 4 years' experience before the war; good references; Bothy preferred; discharged soldier; age 23.—W. HIPGRAVE, 273, Arundel Street, Portsmouth, Hants.

YOUNG MAN (demobilised) seeks situation; Pleasure Grounds or Inside and Out; 8 years' experience in first-class establishments; age 26; single; good references; Bothy preferred. — LAWRENCE, 38, North Street, Wilton, Wilts.

VICAR OF GERRARD'S CROSS can thoroughly recommend his late GARDENER HANDY MAN; has served in the war; single or where boy kept.—VICAR, Gerrard's Cross, Bucks.

TWO WOMEN GARDENERS require Post as HEAD and UNDER, or equals; college trained; where excess produce is marketed preferred; cottage, coal, and vegetables required. Salary to be arranged.—Apply, S. D., Box 18, 41, Wellington Street, Covent Garden, W.C. 2.

LADY GARDENER desires re-engagement, under good Head; experienced Inside and Out; good references.—Apply, M. VEITCH, 31, Salisbury Gardens, Jesmond, Newcastle-on-Tyne.

LADY GARDENER, some experience Inside and Out, desires position under good Head Gardener or in good Nursery.—P. G., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

YOUNG WOMAN GARDENER desires change; Flower Garden work preferred; 2 years' experience.—Apply, C. N. COOPER, 29, Elm Road, Bournville, Birmingham.

LADY GARDENER.—J. ELDER, Head Gardener, Hursley Park, can recommend D. E. ASHWORTH to anyone in want of a reliable, hard-working LADY GARDENER; had charge Carnation Houses; take similar post, or Plant Houses; leaves to make room for man discharged. — Apply, D. E. ASHWORTH, Gardens, Hursley Park, Winchester.

LADY GARDENER, some experience Inside and Out, desires Post in gentleman's Garden, under practical Gardener; Middlesex preferred. State terms.—MISS ORR, Akrokerri, Elers Road, W. Ealing, W. 13.

TRADE.

WORKING MANAGER or FOREMAN seeks re-engagement in Market Nursery; life's experience in Cucumbers, Tomatos, Grapes, Peaches, Mushrooms, and Chrysanthemums, and general Market work under Glass; please state wages offered; good references; disengaged; age 50; married; total abstainer. —A. J., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

MANAGER or FOREMAN, small retail Nursery, Seed, and Florist; life experience; very interested in all branches.—Apply, E. G., Box 17, 41, Wellington Street, Covent Garden, London, W.C. 2.

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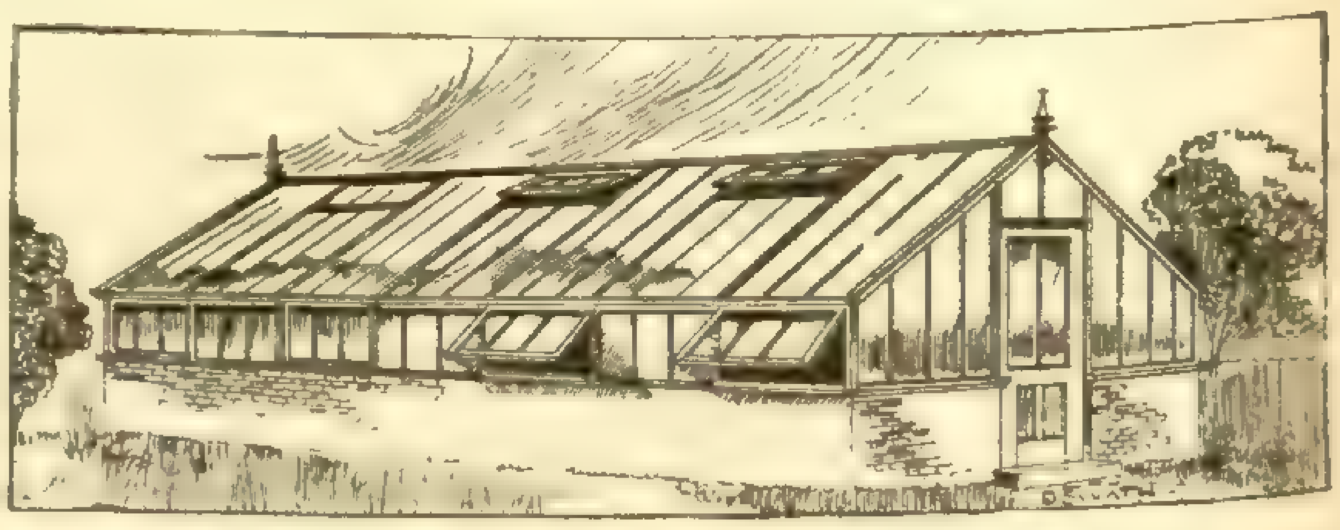

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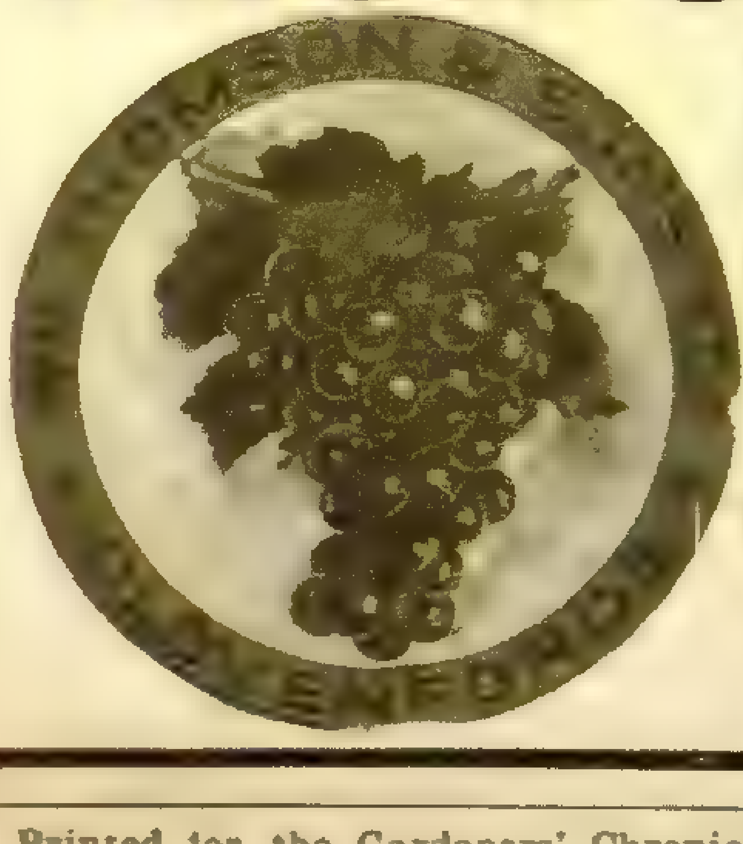

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THE above Association will hold its great SCOTTISH NATIONAL POTATO EXHIBITION in the Waverley Market, Edinburgh, on Wednesday and Thursday, 29th and 30th October. Preliminary Prize Lists may now be had from the Secretary, to whom also applications for space for non-competitive exhibits and advertisements should be directed.

A. D. RICHARDSON, Secretary.
34, St. Andrew Square, Edinburgh.

SHROPSHIRE HORTICULTURAL SOCIETY.

THE Committee much regret that in consequence of the Railway Companies having definitely decided they are unable to grant the usual facilities, the Committee are reluctantly compelled to abandon the Show for 1919.

W. G. BRAZIER, Secretary.

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Poplar, Black	10 to 12	....	12s.
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Sycamore	12 to 14	....	24s.

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			Each.
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			Per doz.
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The Nurseries, Faringdon, Berks.

R. TEMPLEMAN, Nurseryman, Seedsman, and Florist (Estab. 1882), Cape Town, South Africa, desires to be kept in touch with developments in the English and Foreign trade, and welcomes inquiries for South African Products.
BULBS.—20,000 selected Watsonia albs for sale at £3 per 1,000.—Local Agents, FINLAY, BROCK & CO., LTD., 17, Fenchurch Street, London, E.C.

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Twenty words (or three lines including headline) 3s., and 6d. for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office. 6d.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them ***copies*** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

THE WEST OF SCOTLAND AGRICULTURAL COLLEGE.

THE GOVERNORS invite applications for the post of CHIEF LECTURER IN HORTICULTURE. The commencing salary is £250 per annum, and the person appointed must devote his whole time to the work. Applications, accompanied by 25 copies of three recent testimonials and by a statement of age, present employment, professional training, practical knowledge, and lecturing experience (if any), must be lodged with the undersigned not later than 17th FEBRUARY, 1919.

JOHN CUTHBERTSON, Secretary.

6, Blythswood Square, Glasgow.
3rd February, 1919.

WILTS COUNTY COUNCIL.
AGRICULTURAL EDUCATION COMMITTEE.
EXPERT IN ORCHARD MANAGEMENT.

REQUIRED, for itinerant work throughout the county, an EXPERT in Orchard Management, who would also act as an INSTRUCTOR in Fruit Culture. Applications, stating experience, and salary desired, to be made to

C. H. CORBETT,
Secretary and Organiser.

Agricultural Education Department,
County Offices, Trowbridge.

HUNSLET UNION.
SUPERINTENDENT AND MATRON OF CHILDREN'S HOMES.
SHOEMAKER AND FOSTER PARENTS.

THE Guardians of the Hunslet Union invite applications for the above joint appointments at their Children's Homes.

Candidates must be husband and wife in each case, and between the ages of 25 and 40 years.

The Superintendent must be a competent Gardener, and he and the Matron, together with the Shoemaker, will serve as Industrial Trainers, and all will have to act as Foster Parents.

The total salaries per annum will be as follows:—Superintendent £60 and Matron £40; Shoemaker and Foster Mother £26 9s. (for present), together with rations and furnished apartments and premiums on guarantee policy.

Applications, giving the fullest details, must be in my hands by 10 a.m. on MONDAY, the 17th inst.

Canvassing is prohibited and will disqualify.

By Order,
FRED W. MEE, Clerk.

Union Offices, Hunslet, Leeds.
4th February, 1919.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C. 2. Journeymen are required for good situations. Send full particulars of past experience.

WANTED, good HEAD GARDENER, for gentleman's Garden in Yorkshire; five to six men under, with a view to development for Market purposes; good opening and wages paid to a progressive and competent man; good market within 5 miles. Please state all particulars of experience, &c.; man who has been accustomed to disposing of produce preferred. —Please apply to MR. LEWIS SMITH, Cadland Park Gardens,. Southampton.

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GARDENER (HEAD WORKING); good all-round; good references essential; Church of England; good cottage; assistance from two men.—Apply, giving full particulars, to JOHN ANGERSTEIN, Esq., Holbrook, Wincanton.

HEAD WORKING GARDENER wanted; one under; Vines, Peaches; good cottage.—MRS. TRAHERNE, Coedarhydyglyn, near Cardiff.

WANTED, for Wales, good SINGLE-HANDED GARDENER and wife, with knowledge of milking and laundry work; wages, with cottage and garden and other advantages, up to 30s. a week; reliable references as to character and efficiency essential; preference to ex. soldier.—CAPTAIN DICKINSON, 6, Inverness Place, Bayswater, London, W. 2.

WANTED, good all-round SINGLE-HANDED GARDENER, with help; some Glass, Vines, Flowers, but chiefly Vegetables. State experience, age, and wages; good cottage. — Address, MRS. SEVERNS, The Lodge, Thenford, Banbury.

GARDENER (SINGLE-HANDED), handy man; unmarried. Write, stating wages and references. — MAJOR E. FEILDEN, The Mirne, Denham, Bucks.

WANTED, good Carnation GROWER; also JOURNEYMAN and IMPROVER; for Fruit and Plant Houses; and a smart BOY for Gardens; good wages and Bothy.—Apply, HEAD GARDENER, Nostell Priory, Wakefield.

GARDENER (abstainer) wanted for institution; one interested in lads preferred.—Apply, stating age, experience, and wages required.—SUPT., Turner's Court, near Wallingford, Berks.

GARDENER required for gentleman's country house; must be man with good experience. —Apply, stating age, experience, and salary required, to M. H., Box 13, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER wanted; married man; thoroughly experienced in Herbaceous and Hardy Plants, Lawns, &c.; wages 32s. to 35s.; cottage and garden found.—Apply, with references and experience, to HEAD GARDENER, Wittington, Marlow.

GARDENER wanted at once; experienced in Herbaceous Plants, Lawns, &c.; little Glass. State age, experience, and wages required.—TAYLOR, Oakwood, Briton Ferry, S. Wales.

WANTED, experienced GARDENER, Flowers, Vegetables, Fruit, Orchids, cottage.—HILL, Llanishen, Glam.

GARDENER wanted; good all-round man; one who can drive a car; married (no family); excellent four-room cottage.—Apply, with particulars, to Pine Tree Hill, Camberley, Surrey.

WANTED, a thoroughly experienced young GARDENER at once, to take over new Gardens now being made; reconstruction being done independently; 2 acres Herbaceous, Fruit, and Vegetables; Under Gardener when work completed; no cottage. Write full particulars, stating wage, age, and experience.—PEECH, Gunsgreen, The Drive, Wimbledon.

WANTED, thoroughly experienced MAN for Rock Garden and Herbaceous Borders. State wages, good Bothy and vegetables; 1 o'clock Saturdays; duty and overtime paid.—T. SIMPSON, The Gardens, Newstead Abbey, Notts.

WANTED, experienced MAN, for Kitchen Garden and Pleasure Grounds; able to take duty.—Apply, stating wages and giving full particulars, to HEAD GARDENER, Llantarnam Abbey, Monmouthshire.

WANTED, reliable MAN, single, to assist Head Gardener; good worker; must thoroughly understand Kitchen Garden work, Lawns, and Herbaceous Borders. Wages 30s.—Write, giving full particulars, age, experience, and references, to REV. H. MALLINSON, Woodlands, Ledbury, Herefordshire.

WANTED, an experienced, reliable MAN for Fruit and Plant Houses; good wages, with Bothy; duty alternate weeks.—Apply, J. LEICESTER, Boconnoc Gardens, Lostwithiel, Cornwall.

WANTED, experienced single MAN, for Fruits and Plants under Glass. Give particulars, wages expected, with bedroom. — Apply to H. CUNNINGHAM, The Gardens, Bishop's Hall, near Romford, Essex.

WANTED, experienced MAN for Fruit and Plant Houses.—Apply, with particulars, stating wages expected, with Bothy and vegetables (1 o'clock Saturdays), J. HILSON, Flixton Hall Gardens, Bungay, Suffolk.

WANTED, a reliable MAN; married; thoroughly experienced in general Garden work, Herbaceous and Hardy Plants, and Lawns; cottage found.—Apply, with references and experience, to HEAD GARDENER, Butler's Court, Beaconsfield.

WANTED, MAN, for Inside; experienced in Fruit, Plants, and Decorating; duty paid.—State wages required, with Bothy &c., to H. KEMP, Priory Gardens, Reigate.

WANTED, a MAN, chiefly for Kitchen Garden; single; no Bothy; lodgings found.—State age, wages, and experience to W. LOW, Euston Gardens, Thetford.

WANTED, single MAN as SECOND, for Inside and Out, with good knowledge of Herbaceous Borders, &c. State wages and full particulars, PHILLIPS, Leighton Hall Gardens, near Iron Bridge, Shropshire.

WANTED, good SECOND GARDENER, single; to live in Bothy.—Apply, with references, and wages asked, WOOSNAM, Cefnllysgwynne, Builth Wells, Breconshire.

WANTED, at once, SECOND GARDENER; well up in Kitchen duties and Fruit; 32s. and cottage.—Apply, MR. BUCKBY, Bilton Grange, Rugby.

WANTED. SECOND GARDENER, single; experienced in Vines, Peaches, Pot Plants, &c. State particulars and wages required (no Bothy) to WM. CAIRNS, Southill Gardens, Biggleswade. Beds.

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WANTED, UNDER GARDENER, experienced in growing Orchids; good opportunity for Improver; Bothy or cottage supplied, with free coal. State experience and wages wanted.—Apply, A. B., Box 19, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, UNDER GARDENER, Inside and Out; married (no family); live in lodge; wife to attend gate. State wages required. Apply, J. A. COX, The Gardens, Havering Park, Romford, Essex.

WANTED, experienced UNDER GARDENER.—Apply, C. D. LORD, 15, Crescent Wood Road, Sydenham Hill, S.E.

GARDENER (UNDER) wanted, where three are kept; good cottage and wages.—Apply, J. C. JAY, Oak House, Ganwick Corner, Barnet, N.

WANTED, two UNDER GARDENERS, to live together in Bothy; Glasshouses and good Garden. Write full particulars, ages, wages, &c., MR. BULLEY, The Gardens, Burkham House, Alton, Hants.

SITUATIONS VACANT continued on page x.

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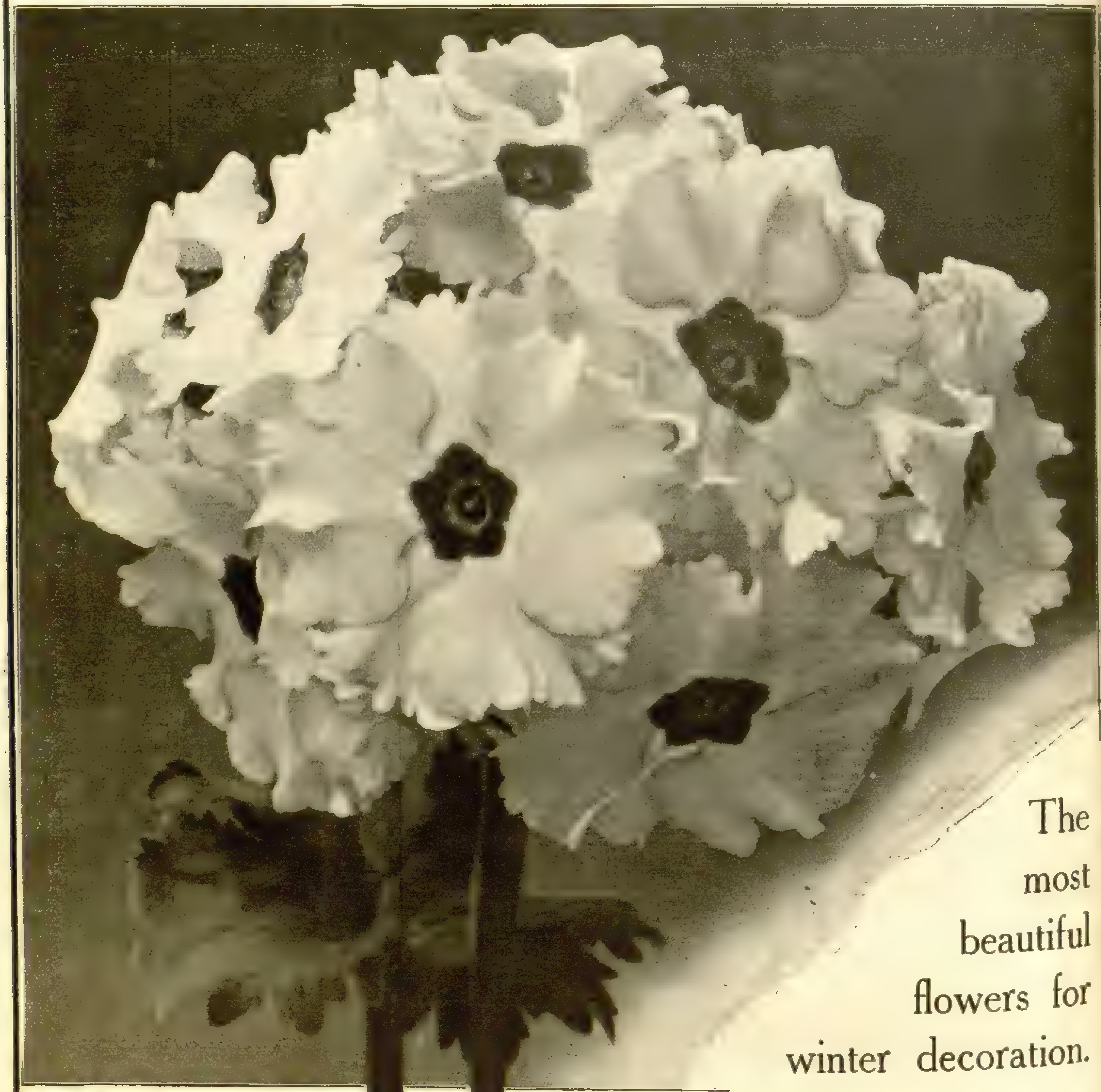

SUTTON'S Superb, mixed, including our finest single Primulas of the plain leaved class.
Per packet, 5*s.* and 2*s.* 6*d.*

Detailed List of all the best varieties post free on application.

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SUTTON'S Giant, mixed, including the giant varieties named in our Garden Seed Order List for 1919, and many others which, though true Giants, are not sufficiently fixed from seed to be offered separately. If all the seedlings, even the smallest, are pricked out, a very charming collection will be obtained.
Per packet, 5*s.* and 3*s.* 6*d.*

SUTTON & SONS, The King's Seedsmen, READING.

THE
Gardeners' Chronicle
No. 1677.—SATURDAY, FEBRUARY 15, 1919.

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THE SELECTION AND PROPAGATION OF PARADISE STOCKS.

THE completion of the first stage in our work amongst fruit-tree stocks, marked by the sorting out of the varieties into their true types, and the establishment of true stool beds, has come at a very opportune moment in many ways.

During the years of war, the fruit-tree trade has been very uncertain, and planting in a large measure restricted. The importation of stocks from abroad has ceased, and, owing to the shortage of labour, the stock beds of many nurserymen, who were accustomed to raise their own Apple and Quince stocks, have received scant attention.

The signing of the armistice, the talk of extensive land settlement, the high prices of English Apples, and the prospect of the removal of restrictions, have all tended to create a boom in the fruit-tree world, and there is a general call for stocks.

If the researches at East Malling on this question are to be of real value to the present generation of fruit growers and fruit-tree nurserymen, now is the time.

SUMMARY OF CLASSIFICATION.

The Report from the Experiment Station at East Malling in 1917 on "Paradise Apple Stocks" (*Journal R.H.S.*, Vol. XLII.), amply proved the existence of a wide range of root systems of very different vigour and desirability, all masquerading under the name of "Paradise." Whilst at one end of the scale there were found root systems approaching what is generally described as "free" or "crab" rooting in character, at the other end there were types so lacking in coarse roots and so surface rooting that without further experiment they could safely be pronounced as very dwarfing in tendency.

After lifting many hundreds of stocks of the various types, it is possible to say that there is a remarkable uniformity of root system in each group

Moreover, the characters portrayed in the roots have been very generally confirmed in the vigorous or stunted appearance of wood growth, so that it has become to some extent safe to predict what are likely to be desirable or undesirable root systems for special purposes.

The logical conclusion at which these experiments are aiming is to test these series of root systems, worked with strong, medium, and weak-growing varieties, and to plant them in heavy, medium, and light soils. Batches of trees are now actually worked for this purpose, but it must necessarily be a matter of some years before we can draw any more very definite conclusions.

Nevertheless, we are faced at this moment with the dearth of stocks in this country, with the opportunity of establishing fresh and true stock-beds very widely, and thus of very rapidly improving the general level of trees both from the fruit-grower's and the nurseryman's point of view. Therefore, those laying down new stool beds, who have decided in future to raise the bulk of the stock they require themselves, look to East Malling for some indication of the most promising types to propagate as quickly as possible. Growers also want to know on what variety of stock to ask for worked trees.

PRACTICAL RESULTS ALREADY OBTAINED.

In October, 1918, a representative Conference of Nurserymen, under the auspices of the Horticultural Trades' Association, met at the Fruit Experiment Station, East Malling, and discussed these matters at some length.

The Conference marked a distinct step forward in ideas about fruit-tree production. Nurserymen were only too ready to acknowledge the diversity and confusion amongst the stocks often in common use, and they were equally agreed as to the desirability of having uniformity within a specified type. First, it was decided that the classification made at the Fruit Station should be accepted by the trade, and that a recognised and uniform naming should be adopted as follows:—

Type 1.—Broad-leaved English Paradise.
Type 2.—Doucin (commonly "English Paradise").
Type 5.—Improved Doucin (Amélioré).
Type 6.—Nonsuch Paradise.
Type 8.—French Paradise.
Type 9.—Jaune de Metz Paradise.

The other types, the identity of which appears as yet to be uncertain, were still to be known by their numerals. Type 7 appears rather a desirable stock of this class.

In the second place, nurserymen immediately put in hand the question of having their stock-beds "rogued" and named according to type.

At the present time the Fruit Experiment Station has supplied some 26 nurserymen with a limited number of stocks of various types for stool bed-making, and we have already started the "roguing" of existing stock-beds. Therefore, within a very short time, fruit growers may look forward to buying their bush Apples upon guaranteed stocks of definite type.

They will be wise to recognise this real advance by ceasing to clamour for "cheap" trees, and be anxious to buy only the best. Cheap trees are never cheap to the commercial fruit grower. To encourage the trade in this advance in practice, growers must be prepared to pay slightly above normal prices for guaranteed trees.

RELATIVE MERITS OF VARIOUS STOCKS.

The only moot question at the present stage in the researches is which stock is most desirable. About this nurserymen were not entirely in agreement. That Type 1, the Broad-leaved English Paradise, has the name and reputation everyone was willing to admit, but our investigations long since revealed that it was far less commonly used than is supposed, though the name was frequently used for other varieties. From general observations, it appears a desirable stock for several reasons.

It is easily raised from layers and cuttings. It grows sturdily and healthily and is little feathered. As it matures it has a well balanced root system between coarse lateral roots and branched fibre.

Of the Paradise Stocks it is probably one of the most vigorous, and should be highly suitable for permanent bush trees and possibly even for half-standard trees.

It is an easily recognised stock.* It does not appear to be raised abroad at all, but it shows every sign of being both a nurseryman's and a fruit-grower's stock.

Type 2, the Doucin, commonly known as "English Paradise," is by far the most widely used stock both in this country and abroad, which fact should testify to its desirability. On our soil it is less easy than Type 1 to root from layers, and very uncertain from cuttings. It grows sturdily and healthily, but is distinctly coarser and more feathered than the Broad-leaved Paradise. As it matures, it appears to develop little branched fibre from its coarse lateral roots. In all probability it produces a bush tree of moderate size. One would suppose it to be slightly more dwarfing than the Broad-leaved. By some of the older writers it is commended as a stock for heavy soils.

Perhaps the main disadvantage to the wide use of this stock in the past has been the fact that it has been so largely imported from abroad, whence it frequently arrives mixed with two very undesirable types of Paradise, Types 3 and 8 (the French Paradise). Standardisation and home-raising should counteract this disadvantage.

Type 5, the improved Doucin, would appear to be a stock altogether more dwarfing in habit, and possibly more suitable than Types 1 and 2 for cordon trees, espaliers, and other forms of trained trees used in gardens.

* The method of identifying the various stocks is fully described in the copiously illustrated report in the *R.H.S. Journal* already referred to.

It roots very readily from layers or cuttings. It is moderate in vigour, healthy, and with a clean stem for working. It does not develop a very spreading root system, but forms a considerable amount of fibre around the collar.

That this might make a very good stock where a dwarfing characteristic is especially desired seems likely. It very often comes from abroad mixed with undesirable types.

Type 6, the Nonsuch Paradise, is, in fact, in far more common circulation than the Broad-leaved Paradise at the present time. Opinion as to its virtues are, however, far more varied. It is said to encourage very early cropping. On our ground it is raised very easily, from layers or cuttings. It grows somewhat coarse and sappy, and often continues in growth late in the season, retaining its leaves until Christmas or even later. It appears generally healthy, and as it matures it develops a vigorous root and branch system. It is difficult without further data to compare its merits with those of the Broad-leaved, though it does not produce a stock for working of nearly such good quality.

If another stock of distinctly more dwarfing tendency is required, either Type 9, Metz Paradise, or Type 4 (M. pumila) may be chosen: both appear healthy, dwarfing, and are fairly easily raised. Whilst the former is somewhat late in coming into leaf, the latter is very early.

At the other end of the series is a group of types numbered from 10 to 16, some of German and some of English origin, which appear far more vigorous even than Broad-leaved English Paradise. They are easy to raise from layers, and probably from cuttings, and yet they develop a root and branch system which appears to possess the necessary qualities for a selected "free" stock for standard work. Types 13 and 16 seem especially promising in this respect. Thus it is hoped also to standardise "free" stocks along similar lines. *Ronald G. Hatton, Director, South-Eastern Agricultural College, Wye, Kent.*

(*To be concluded.*)

NOTES ON IRISES.

AN EARLY-FLOWERING IRIS.

Iris Bakeriana is a delicate little species from the hills in Northern Mesopotamia, and though it lived and flowered here for some years with a glass roof over its head, I am afraid it has now succumbed to lack of attention during the war. It is, therefore, some consolation to find that the original of the accompanying sketch (see fig 28), of which Max Leichtlin sent me a single bulb some ten or twelve years ago, is able to hold its own in the open, and thus to atone to some extent for the loss of one of its parents. For, although it usually goes by the name of I. Bakeriana melaina, it is really a hybrid between I. Bakeriana and I. reticulata. This, I think, I have proved by making the cross and obtaining a range of forms, of which one or two were practically identical with Leichtlin's plant. The foliage of the hybrids is interesting, for, while the leaves of I. Bakeriana are cylindrical, with eight projecting ribs, and those of I. reticulata are four-sided, those of the hybrids have six ribs.

Leichtlin's name of melaina, or black, is very appropriate, for the tips of the falls are of the most intense, velvety, dark reddish-black-purple. The central portion is white with a number of irregular linear blotches of the same colour. It is interesting to note that, although all the members of my present little colony of bulbs have sprung as offsets from one original bulb, yet the markings are never exactly similar on any two flowers. Differences, at any rate in colour, can therefore arise in individuals that have originated in vegetative, as opposed to sexual, methods of increase. *W. R. Dykes, Charterhouse, Godalming.*

THE MARKET FRUIT GARDEN.

Work was quite as much interrupted by bad weather in January as it was in the preceding month. There were only nine days without either rain or snow, the total fall at my place being 5.28 inches, which is much above the average. At no time was the land in a fit state for planting fruit trees, and the women diggers have not been able to dig the ground for six weeks. Thus there are serious arrears of winter work to be overtaken, and it is to be hoped that February will give ample opportunities for this to be accomplished. Fortunately it has been possible to make fair progress with pruning, although this has been done under very depressing conditions. It was not until the end of the month that wintry weather set in in my district, which escaped the

Fig. 28.—Iris Bakeriana melaina (I. Bakeriana × I. reticulata.)

heavy falls of snow reported earlier from many localities. The first snow fell on the 27th, but did not lie. It was not until the 30th that there was anything like a heavy fall, and it is still coming down as I write. The snow is not particularly welcome, but the lower temperature that accompanies it is desirable as a set-back to too-forward vegetation. Primroses have been blooming in the hedgerows for some time. Crocuses are just showing yellow in the garden, and some of the female blooms have appeared on Cobnut trees. The lowest temperature recorded during the month was 11° of frost 4 feet from the ground on the night of the 30th.

Fruit Prospects.

After the rest which most fruit trees had during 1918, they may fairly be expected to crop well during the coming season. The present appearance of Apple, Pear, Plum, and Cobnut trees bears out this hope, for they are, generally speaking, well supplied with fruit buds. Plenty of bloom may therefore be predicted with certainty, but the fate of the crop will, of course, be decided by the weather at blooming time. Needless to say, a full yield is greatly desired this year, not only by growers, but also by the public and the jam makers. No one wants prices to be so high as in 1918, but they are sure to be good, however big the home crop, because imports cannot be expected to reach anything like pre-war dimensions for some time to come. One reason why a heavy crop is very desirable is that it might steady public opinion with regard to fruit-growing. As a result of last year's short harvest, restricted imports, and consequent abnormal prices, fruit-culture is being boomed to an extent that is not justified by prospects. People are planting largely, and both the Government and the jam manufacturers have schemes for encouraging still more planting. It is difficult to understand what excuse there is for this. By the time these newly-planted orchards are in bearing it is more than probable that overseas supplies will be normal, and we shall return to the old conditions of full markets and low prices. The fruit scarcity and high prices of one quite abnormal season have caused some people to forget the many years in which fruit has been almost given away in the wholesale market.

Ploughing in Orchards.

Digging under fruit trees in winter has always been something of a nightmare to fruit-growers, partly because the work is so often interrupted by the weather, but still more because of its expense. During the war, with labour scarce and wages high, some growers have found it impossible to get all their digging done, and orchards have been allowed to fall down to grass. Fortunately the situation has stimulated invention, and it is now possible to cultivate quickly and cheaply with a special plough in a great many orchards. I have thoroughly tested the new Fruit Farm Plough introduced by Messrs. Seabrook and Udall, and am very well satisfied with the result. Wherever the spacing of the trees allows of its use this implement effects a big saving of time and expense as compared with digging, and weeds are covered much more thoroughly than by digging with forks, as is usually done. The special feature of the plough is a simple adjustment of head and handles which enables them to be set at an angle to the beam. This allows the horse or horses and man to walk outside the spread of the branches whilst ploughing right under the trees. The horses (harnessed in line if two are used) are not attached to the head, but by a single chain to a staple on the beam of the plough near the breast. The adjustable head merely guides the chain. At first the ploughman, probably prejudiced against the novelty, finds it rather awkward, but he quickly learns to make the necessary adjustments, and can then handle the plough just as easily as an ordinary one, whilst he appreciates the comfort of walking clear of the branches. I have used the plough with success where there is only 6 feet of space between the rows of trees and Black Currant bushes, but it has done its best work in half a plantation of half-standard trees from which the bushes have just been grubbed, so that the rows of trees stand 12 feet apart, though they almost meet overhead in places. This ground was green with Twitch, but the plough has covered the grass completely, turning thin furrow-slices towards the stems of the trees, and leaving a shallow open furrow down the middle of the alleys, which gives capital drainage. The other half of this plantation, where the bushes are still standing, and are so big that there is no space for ploughing, is being forked by women. They find it impossible to cover all the Twitch, and the dug ground is still green with it. If desired

the plough can be set to plough away from the stems in spring, but I do not think this will be necessary, as the soil will be returned to the alleys sufficiently by the use of the horse cultivator and hand hoeing.

There are, of course, orchards that cannot be ploughed, as, for instance, where there are bushes between the rows of trees, and they have grown so large as practically to fill the space. Digging may be necessary for two or three years whilst this condition lasts, but the plough can be used instead for several years after the bushes have been planted and again after they have become worn out and are grubbed.

Pruning Neglected Trees.

On the ideal fruit farm all the trees would be pruned every year, but there are probably not many farms of any size where this is accomplished. The younger trees must be pruned, and this means that some of the older ones get neglected for a year or two for want of time or labour. As a matter of fact, trees that have reached a fair age, and are bearing freely but making little growth, can be left unpruned for several years without much harm. After a time, however, they begin to look decidedly neglected. Rank growths have sprung from the stem or main branches, and are taking most of the sap and growing up through the centre of the tree. There are also branches broken by the fruit-pickers, and dead wood, probably carrying some fungous disease.

I am dealing with several neglected patches this winter. It is slow and laborious work, particularly where there are many dead spurs to cut out, as is often the case with old Plum trees. High steps are needed, and there is none too much space to shift them about, and the work is much less interesting than the training of younger trees. However, there is great satisfaction in the smart and rejuvenated appearance of the trees when finished. The work is simple enough, though it requires some judgment. Beginners can be put to it rather than to the younger trees, though they are apt to do either too much or too little pruning. Thinning-out is the main object. I like to attack the tree first with the saw, cutting out any branches that are crowding the centre or resting upon others, as they often do after several crops have borne them down. Then the secateurs are used to remove smaller superfluous shoots and dead spurs. Labour in future years is saved by cutting shoots clean out or to a fruit-bud where possible. Shortening to a wood bud means the multiplication of shoots and necessitates annual pruning. Leaders hardly ever need shortening on old trees. The worst trees to prune are Apples that are badly cankered, and must have the diseased parts pared away and dressed with Stockholm tar, and Plums that have many dead spurs and shoots as a result of brown rot disease. All saw-cuts should be pared smooth with the knife and coated with Stockholm tar or one of the dressings sold for the purpose. The finishing touch is given by spraying with a caustic winter wash to remove the mossy growth which is generally to be seen on neglected trees.

Rabbits.

Complaints of rabbits gnawing fruit trees seem to be more general than usual this winter. This is peculiar, as the weather has been mild, and rabbits do not, as a rule, give much trouble until hard frost sets in. The barrier of tarred string, described in a recent article, has proved a failure. At first it seemed to be answering the purpose, but the rabbits have evidently become used to it, as they have again done much damage, in spite of renewed tarring of the string. Evidently the only efficient plan is the erection of a wire-netting fence round the plantation or a return to half-standard trees, which can have a 3-feet band of netting placed round the stem. Personally, I prefer the latter plan, as it is cheaper and altogether less troublesome. *Market Grower.*

ORCHID NOTES AND GLEANINGS.

ORCHID SALE.

At the sale of Orchids at Messrs. Protheroe and Morris' Rooms, Cheapside, London, on Friday, February 7, Mr. J. B. Slade, who presided in the absence through illness of Mr. H. G. Morris, said that this was the first of the sales of Orchids which it was intended to hold at frequent intervals throughout the year. Unfortunately the railway troubles prevented the sending of all the plants expected. The greater part of the lots submitted sold at fairly low prices, Dendrobiums and other popular kinds, useful for cut flowers, finding purchasers readily. The rarer kinds and small, unflowered hybrids, of which there was a good selection, commanded attention in proportion to their merits.

NEW HYBRIDS.

Mr. F. C. Puddle, gardener to W. H. St. Quintin, Esq., Scampston Hall, Rillington, York, sends flowers of two excellent hybrids. The one, Cattleya Merope, resulting from crossing Cattleya Trianae with C. Fabia (Dowiana aurea × labiata), while adhering closely to the best coloured forms of C. Trianae, is an improvement on that species, and evidently extends the period of flowering into the mid-winter season when flowers are most in request. The form of the flower is perfect, the petals and lip being unusually broad and well displayed. The sepals, petals, and tube of the lip are bright rosy mauve; the lip is purplish crimson, a series of bright lines extending from the base to the centre, which has a yellow blotch on each side.

Fig. 29.—Cypripedium Perseus.

CYPRIPEDIUM PERSEUS.

The fine form of this excellent hybrid illustrated in fig. 29, raised between C. Lady Dillon (Mrs. Mostyn × nitens Sallieri) and C. Alcibiades illustris (Leeanum giganteum × Monsieur de Curte), was shown by W. R. Lee, Esq., Plumpton Hall, Heywood, Lancashire (gr. Mr. Branch), at the meeting of the Royal Horticultural Society on January 14, and received an Award of Merit. The plant is one of the best of the C. Alcibiades crosses; the flower is of good shape, fine substance, and rich colouring. The dorsal sepal is pure white with heavy blotchings of dark claret colour, the spotting being lighter and smaller in size towards the outer part. The lip and petals are brownish-rose with a dark purple line up the middle of the petals and a narrow yellow margin at the edge of the labellum on the upper side.

Dendrobium Erota, two forms of which have been sent by Mr. Puddle, as its record would lead us to expect, shows signs of a reversion towards Dendrobium aureum, with improvement in size and substance. It was raised from seeds borne by D. chessingtonense (aureum × Wiganiae) crossed again by D. aureum. The flowers of both varieties are primrose-yellow, the labellum of one form having an orange disc with red-brown base and short, radiating lines, the other having the base entirely chocolate colour on a yellow ground, with lighter veining on the side lobes and margin. The D. nobile in D. Wiganiae is entirely eradicated, but the other parent—the yellow D. signatum—can be traced in the wax-like substance of the flower of D. Erota, although its bright yellow colour is toned to the lighter D. aureum.

WINTER FLOWERS.

I WAS interested in the lists of plants in flower in winter sent by your several correspondents, and especially the remarks by Mr. Rickards on p. 32 relating to Garrya elliptica. Here, at Fota, Queenstown, there are three specimens of Garrya elliptica, including male and female plants, and G. Thuretii, planted close to each other. Two trees to which I especially wish to refer stand side by side; in fact, touch one another.

Each winter the male plant of Garrya elliptica has its appearance spoilt by frost, the female plant suffering no damage.

The first-named suffers all over, and not only on the side caught by the sun, but inside the bush, where the growths get protection, the leaves and catkins are less injured. Until the end of last year the bush was a perfect picture; now, and for the past fortnight, its beauty has gone, whilst the racemes of flower and foliage on the seed-bearing plant are uninjured, also the catkins and foliage of G. Thuretii. At the present time the bush presents a more pitiable appearance than it did after the unusually severe winter of 1916-1917. I have read statements concerning the hardiness of this shrub, and that it does not need the protection of a wall. I am interested to know whether the plant here is an isolated case of a bush in the open, but well protected by the shelter of neighbouring trees and shrubs, being so tender. The variegated Abutilon vexillarum covering several feet of space on a wall facing south has many blooms open. A plant of Cytisus aeolicus on a west wall, with last year's growths a yard long, is freely studded with the white blossoms, defying injury by rains and sudden severe white frosts. On the same wall Acacia neriifolia is a mass of flower, and has been for the past two months, and is likely to continue in bloom for as long again. Azara microphylla is practically in full blossom in sheltered situations; Olearea stellulata has a great many fully expanded flowers; whilst Grevillea rosmarinifolia and G. juniperina (syn. sulphurea) are more or less always in bloom, as also is Teucrium fruticans. Another shrub in full bloom and absolutely hardy here is Hakea fugioniformis. Erica arborea some 12 feet high and well proportioned is getting quite white with flower. *E. Beckett, Fota Gardens, Queenstown.*

JANUARY FLOWERS AT LA MORTOLA.

READERS of the *Gardeners' Chronicle* may be interested in the enclosed list of plants flowering in the gardens in the open air at La Mortola, Ventimiglia, Italy, which I have just received from Mr. Joseph Benbow, the head gardener.

Acacia dealbata, A. cultriformis, A. Hanburyana, A. longifolia, A. Riceana, A. obliqua, A. podalyriaefolia, A. uncinella, *Abutilon striatum, Ageratum mexicanum, *Arbutus Andrachne, *A. Unedo, Aloe arborescens frutescens, A. a. natalensis, A. a. Milleri, A. a. Ucriae, A. caesia, A. ciliaris, A. comosa, A. longifolia, A. spinosissima, A. pluridens, A. Salm-Dyckiana, A. supralaevis, A. Winteri, A. rubrolutea, Agathaea coelestis, Anemone coronaria, *Berberis glauca, *B. asiatica, Billbergia speciosa, Bougainvillea Sanderiana, B. braziliensis, Buddleia auriculata, B. madagascariensis, Bouvardia leantha, Camellia japonica var., Caesalpinia Cacalaco, Cassia tomentosa and other species, Calpurnia aurea, Casuarina stricta, Celosia floribunda, Cercis Siliquastrum (a deciduous tree, which usually flowers before leaves appear, has flowered while the tree bore leaves—a most unusual procedure), Chimonanthus fragrans, *Citrus Aurantium (Orange), *C. Medica (Citron), *C. nobilis (Mandarin), Colletia spinosa, Coronilla glauca, C. valentina, Coriaria japonica, Correa Lawsoniana, Crassula lactea, Dodonaea viscosa, Datura arborea, D. chlorantha, D. sanguinea, Dahlia Imperialis, Diplopappus filifolius, D. fruticulosus, Echeveria coccinea, E. pachyphytoides and Echium giganteum, *Elaeagnus macrophylla, *E. reflexa, Erica arborea, Euphorbia splendens, Eupatorium grandiflorum, E. micranthum, *Ephedra altissima, Eriocephalus africanus, *Fatsia japonica, *Freylinia oppositifolia, Genista monosperma, Globularia Alypum, Grevillea glabrata, G. Thelemannianae, Gymnosporia buxifolia, Hakea laurina, H. suaveolens, H. varia, Hexacentris coccinea, Heliotropium peruvianum var's., Heteropteris aceroides, Hebeclinium ianthinum, Iberis semperflorens, Iris unguicularis and var's., Jasminum nudiflorum, J. primulinum, J. revolutum, Kalanchoe var's., Kleinia Anteuphorbium, K. Mandraliscae, Leptosyne gigantea, Lippia asperifolia, Lantana Camara var's., Lardizabala biternata, Lavandula abrotanoides, L. dentata, L. multifida, Lonicera Standishii, Montanoa bipinnatifida, M. mollissima, M. tomentosa, Othonna triplinervis, Olearia Forsteri, Osmanthus fragrans, *Oreopanax capitatus, *O. dactylifolium, *O. palmatus, *O. xalapense, Opuntia var's., Pteronia incana, Phylica ericoides, P. rosmarinifolia, *Photinia serrulata, Pandorea australis, Phaedranthus buccinatorum, Polygala apopetala, P. myrtifolia, Pittosporum bracteolatum, Passiflora actinia, *Rosa Banksiae and var's., R. sinica (Anemone), R. Bourbonia, *Raphiolepis indica, Reinwardtia trigyna, Rosmarinus officinale, Sparmannia africana, Senecio hadiensis, S. longifolius, S. Petasitis, S. grandiflorus, Statice macrophylla, S. macroptera, *Solanum auriculatum, *S. Hartwegii, *S. lanceolatum, *S. jasminoides, Spiraea myrtiloides, S. confusa, Sida mollis, Sphaeralcea umbellata, Streptosolen Jamesonii, Sempervivum arboreum, Tacsonia manicata, Templetonia retusa, Tecoma capensis, *Veronica Andersoni and var's., V. salicifolia, *Visnea Mocanera, Viburnum Tinus, Clematis cirrhosa, Halleria lucida, Monnina ciliolata, Narcissus var's., Dodonaea attenuata, Helleborus foetidus, *Peumus Boldus, and Vinca minor.

The majority of these plants are flowering in season, or approximately so, but those marked with an asterisk are phenomenally early, which Mr. Benbow attributes to the extraordinarily dry, warm autumn of 1918 on the Riviera. *Cecil Hanbury, Kingston Maurward, Dorchester, Dorset.*

FRUIT REGISTER.

THE HAILSHAMBERRY.

IN December of 1917 I treated one dozen plants of Hailshamberry, which had been moved in December, 1916, in the following manner, instead of transplanting them as usual.

With a draining spade a narrow trench about 15 inches deep was cut on each side of the row and about 16 inches apart. A cross trench was cut between each pair of plants, the trenches half filled with well-rotted farmyard manure, and the remaining space filled. The object of the trenches is to cut all runners whilst burying the manure, and the draining spade cuts them deeply with a minimum of labour. The old canes were pruned to the ground in January, 1918, and four shoots only were allowed to remain on each stool. The results were startling.

The canes grew about 7 feet high, and not withstanding the very unfavourable season, were smothered in berries. The fruit was deficient in sweetness owing to lack of sunshine, but was otherwise the best and largest crop I have ever seen of any kind of Rubus.

I am not prejudiced in favour of any particular variety, and am growing the above late Raspberry simply because I happen to have it, and because its crop is large, certain, clean, and of fine quality. I have yet to learn the effect of a very dry season. *T. of Kent.*

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Parsnips.—If the ground is in good, friable condition a sowing of Parsnip seed may be made from the middle of the month onwards, according to locality. Quarters that were occupied with early Celery will form an ideal position for this crop. The ground will be found well pulverised through the action of the weather, and all that will be needed now is a light forking over, adding, as the work proceeds, a good dressing of soot and burnt garden refuse. Smooth the surface with a garden rake, and draw drills a good inch in depth. Make the rows 18 inches apart. If exhibition roots are required the best results are obtained by boring holes 3 to 4 feet in depth at 18 inches apart, filling the holes with a finely sifted compost of loam, sand, and leaf-soil.

Onions.—The middle of this month is an excellent time for raising Onions in boxes. Crops treated this way are heavier and also more free from the Onion fly than those sown in the open. Sow the seed in a compost of sand, loam, leaf-soil, and a small amount of Mushroom bed manure, filling the boxes within an inch of the top. Make the soil firm and level, sow the seed and cover them with half an inch of fine mould. Stand the boxes in cold frames until the seeds germinate, then admit air on all favourable occasions, gradually hardening the seedlings, prior to planting them out during April. Water and syringe the plants only when needed.

Peas in Boxes.—Sow during the next four weeks a few boxes weekly under glass of the finer varieties of Marrowfat Peas. Heavy and even crops will be the result of adopting this method, whereas Peas sown outside early, particularly on heavy soils, are injured by insects and by frost. Sow the seeds rather thickly in boxes, and stand the latter in a cold house or frame; later on expose fully to the air, finally pulling them apart singly and planting them in zig-zag double lines, as one would plant Broad Beans. Duke of Albans, Quite Content, Alderman, and Criterion are suitable varieties for growing in this manner

Celery.—An early batch of Celery can be obtained if seed is sown about this date. Do not hurry germination unduly; a steady heat is all that is required. Sow the seed in pots, using a fine, sandy compost. Cover the pot with a sheet of glass, over which lay a piece of paper until germination has taken place, then expose the plants gradually to the light.

Lettuce.—Where good autumn-sown Lettuce plants are at hand, transplant them in sheltered positions, at 1 foot apart. Some of the more forward plants should be placed in a cold frame and encouraged by good, fertile soil and careful ventilation. Seed of suitable varieties should now be sown in gentle heat.

Tarragon, Mint, and Chives.—These herbs may be introduced into a warm pit or similar structure as required. If the Tarragon crop is short it can readily be increased by taking cuttings from the stools when the shoots are 2 inches long.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cypripedium.—Many of the Cypripediums have passed out of flower, and if any are in need of repotting the present is the most suitable time for attending to them. A liberal shift should be given to root-bound plants, as the majority make roots freely. Use clean pots, and, if new, soak them in water for several hours previous to potting. About an inch deep of drainage material is all that is needed, and it should be properly arranged and covered with a layer of rough Sphagnum-moss, or peat, or loam fibre, to prevent the finer portions of the potting material from becoming washed down and block-

ing the drainage. The plants are best placed a little below the rim of the pot. The compost may consist of one-third part of turfy peat or A 1 fibre, one-third good, fibrous loam, and one third Sphagnum-moss and partly decayed leaves in equal parts, adding a good sprinkling of coarse silver sand, small crocks, and broken charcoal. Work the materials well among the roots, and pot moderately firmly. The larger the specimens the rougher should be the state of the potting materials — then further root-disturbance will not, perhaps, be needed for a year or two. If the potting compost is fairly moist watering should not be necessary for a week, then give a thorough soaking, after which, with extra care, until such times as the roots are growing freely in the soil. Copious supplies of moisture are needed throughout the season of active growth.

Platyclinis. Whilst neither of the two species of this small genus is generally met with in cultivation, P. filiformis and P. glumacea, possess any marked attraction in colour, they are, on the contrary, unsurpassed in the grace and elegance with which the flowers are displayed. The former species should be quite at rest during the winter months, its flowering time being about July. The latter species flowers in early spring, and should now be growing and developing its flower-spikes freely. Both species will thrive in the intermediate house, and delight in a liberal supply of moisture both in the atmosphere and at the roots during their active period. When the flowers are fully expanded the plants may be removed to a cooler house, where, if the atmosphere is moderately dry, they last in perfection a considerable time. The best time to repot Platyclinis is when the new roots commence to make their appearance from the base of the new growths.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to C. H. Berners, Esq., Woolverstone Park Gardens, Ipswich.

Melons.—Young Melon plants raised from seeds sown early in January and kept growing steadily in a position near the glass, will now be ready for planting out in the bed. The most suitable method of obtaining early Melons is by means of a bed of fermenting material placed over hot-water pipes. A steady and continuous bottom heat is necessary at this season; also the house must be thoroughly clean, and, if possible, free from drip. The fermenting material should consist of equal parts of stable manure and leaves. When forming the bed the fermenting material should be trodden very firm, particularly round the sides, otherwise it is apt to sink unevenly. A layer of turves with the grassy side downwards should be placed over the beds, and on these a ridge of soil built, composed of heavy fibrous loam, to which sufficient old lime rubble and wood-ash is added to keep the soil sweet and in a good open condition. If the soil is moderately dry when introduced into the house it may be rammed down very firmly to induce steady growth; should the soil be rather wet allow it to lay loosely in the ridge until its condition is suitable for hard ramming, without the risk of making it sticky and impervious to both water and air. When the temperature of the hot-bed has fallen to 85° the plants may be set out 2 feet apart. Tie each plant to a stake to hold it in position, and afford sufficient water at a temperature of about 80° to settle the soil around the roots. Maintain a night temperature of 65° to 70° (during severe weather a slightly lower temperature will be advisable), with a rise of 5° to 10° during the day. If protecting material is placed over the glass it will help to maintain an equable temperature without unduly heating the water-pipes. Melon seeds may now be sown for raising succession plants.

Tomatos.—The batch of earliest plants will now be ready for their fruiting quarters, either in pots, boxes, or borders under glass. A suitable compost consists of good loam to which is added a sprinkling of wood ash and a little old mortar rubble well divided; if the soil is somewhat adhesive, leaf-mould should be added. Make the soil very firm as planting proceeds. The plants should be placed as near the glass as may be convenient, and water should be applied sparingly until the roots are active. Maintain a steady temperature of 60°, a rather dry atmosphere, and afford free ventilation in mild weather. Sow seeds thinly in a light compost, and germinate them in a temperature of 65°. When the seedlings are fit to handle put them in 3-inch pots.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Draining.—It is of the utmost importance that land for fruit-growing should be drained efficiently of superfluous moisture. Some soils allow water to pass through them freely, but others do not, and in consequence such ground at certain seasons is very cold and wet. Cold, undrained land causes the atmosphere about it to be damp and chilly, and this condition is often the cause of fruit-blossom being destroyed by frost in spring, whilst the wood does not ripen so readily in the autumn. Certain soils have a natural free drainage, but where any doubt exists as to the free passage of water a simple method of ascertaining is to dig holes about 4 feet deep and about 30 yards apart in the autumn, cover them to keep out surface-water, and if water is found in them, or they fill with moisture that remains for more than a week, then it is necessary to put in drains. Stone or tile drains may be used; I recommend tile drains, as they are the cheapest and best. Before commencing the work choose a suitable place for an outlet at the lowest level of the ground. The land should then be levelled from this point, using a surveyor's level or rods. The latter is a simple method, and consists in having three rods, each 4 feet long, 3 inches wide, and about ½ inch thick, with cross-pieces 13 inches wide and 4 inches deep nailed on the top. The cross-pieces should be painted white, and the one to be used at the farthest point should have a red line about ¾ inch wide painted on the top to catch the eye. A broad peg should be driven in the ground level with the surface at the point of outlet and a length of about 15 feet should be levelled with a straight-edge and spirit-level. Next insert a peg at the end, place one rod on each peg, and by looking over these the third rod can be lowered until its top is level with the others. It may be necessary to take another straight-edge length from the point of the last peg; by this method a fairly accurate estimate of the amount of fall can be made. After ascertaining the amount of fall a main 6-inch drain (4-inch piping may be used for less than 5 acres) should be inserted. This main drain should run along the lowest point of the land with enough slope to give it a fall to the outlet. All minor drains should enter the main drain diagonally in the direction the water runs; they should not be put in at right angles. Minor drains may be of 2- or 3-inch pipes; I prefer those of 3-inch diameter. The depth at which the drains are placed varies with different soils, and should not be nearer the surface than 3 feet nor deeper than 4 feet. The reason I advise a depth of 3 feet is that 2 feet of soil is needed for the roots of fruit trees, and another foot below that should be free of stagnant water; moreover, drains, say, 2 feet deep are liable to become blocked with the roots of the trees. In laying a drain where there is ample fall a good plan is to take out a length of 15 to 20 feet, and if there is no water in the trench, by pouring some in, the direction of fall will be ascertained. Where there is only a slight fall it is best to use a spirit level on each pipe. In filling the trenches where the soil is of a clayey or sticky nature first cover the pipes with broken bricks, stones, or clinkers, to within 1 foot of the surface, otherwise the soil will settle around the joints of the pipes and render them useless. Where sand is present in the soil it is a good plan to cover the pipes with straw before filling in the trench, as this prevents the pipes silting up for a long time. The distance of side-drains must be determined by the nature of the soil; in the case of very retentive soil they should be placed 12 feet apart, and for sandy soils up to 30 feet apart. The outlet should have an iron grating placed in front to keep out animals. Draining tools, consisting of three different-sized spades, a drag and pipe-layer, should be used: these spades are made narrower than ordinary spades and enable the work to be done more expeditiously.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Lobelia.—If Lobelia compacta is to be raised from seed instead of propagated from cuttings, for bedding purposes, the seed should be sown during the present month. If the plants are given reasonable attention they will develop into sturdy specimens, regular in height. Sow in pans containing sweet, gritty soil pressed rather firm, and be very sparing with water until after the plants attain a reasonable size.

Hollyhock. — Seed of both the double and single varieties of Hollyhock may be sown forthwith and, if the seedlings are duly attended to, good plants will be ready to plant out in deeply-cultivated land that is in good heart. Sow the seeds in a well-drained pot or seed-pan filled with sweet soil well mixed with grit, and germinate them in a temperature of 60°.

Thinning and Transplanting Shrubs.—Where shrubberies have become very crowded there is still time to carry out the work of thinning with good results, notwithstanding that the best time for removing large plants is in the autumn. Very choice plants should be carefully lifted with a large amount of soil adhering to the roots, and the planting should be completed at once in sites previously prepared for their reception. Use plenty of soil, work it well amongst the roots, and ram it moderately firmly. After planting place over the root area a good mulch of decayed manure and litter.

Pruning Trees.—The work of pruning may be carried out whenever the weather is suitable. Keep the heads of the trees as symmetrical and graceful as possible, and prune so that there is practically no evidence of the use of saw and knife.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Chrysanthemum.—In all stages of its development the Chrysanthemum should be grown in cool conditions. A good method of rooting the cuttings is to insert them in a propagating frame placed near the roof-glass in a house with a temperature from 40° to 50°, the bottom of frame sprinkled with fine coal ashes. Cuttings inserted early singly in small pots for the purpose of raising plants producing large blooms are rooted, and should be shifted into 4-inch pots. The soil should consist of two parts good loam, one part leaf-mould, mixed with manure from a spent Mushroom-bed and sharp sand. Place the plants on a shelf near the roof-glass in a cool house. Cuttings inserted in three or four 3-inch pots for raising plants to produce cut blooms and for decorative purposes are rooted, and should be shifted into 5-inch pots and placed on a shelf. For economy of space, cuttings rooted in a warm house on a slight hot-bed should, as soon as rooted, be potted, three or four in each 4-inch pot, placed in a warm house until their shoots are rigid, then removed to a cool house in a position near the roof-glass. Cuttings of the latest flowering varieties may still be inserted.

Decorative Pelargoniums. — These plants should be finally potted in small receptacles. Pot firmly, using rich loam, mixed with a plant fertiliser. Place the plants in an airy, well-ventilated house near the roof-glass. Water the roots with extra care until growth is established, and keep the plants clean from green fly by occasional fumigations.

Conservatories and Flower Houses.—With a little warmth it should not be difficult to keep the houses gay with subjects that require only mild forcing, such as bulbs of Narcissus, Crocus, Scilla, Lilacs, Azalea indica, A. mollis, Deutzia, Spiraea, and Lily-of-the-Valley, all of which respond readily to a little warmth. Camellias, where planted in borders, may be hastened into flower with a little warmth, giving the roots occasional waterings with manure-water. Forced plants that have finished flowering should be picked over, placed in heat, and syringed daily, to have them in suitable condition for forcing next season.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Special Notice to Correspondents. — *The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, FEBRUARY 17—
Nat. Chrys. Soc. Executive Com. meet. at 35, Wellington Street, Covent Garden, W.C., at 6 p.m.

THURSDAY, FEBRUARY 20—
Manchester and N. of England Orchid Soc. meet.
Brighton Hort. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 39.5°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, February 12, 10 a.m.: Bar. 30.3; temp. 34°. Weather—Sunny.

Prohibition of Imports of Plants into the United States. British horticulturists have learned with great surprise and regret that the United States proposes to prohibit, as from June 1 of this year, the importation of many kinds of plants and bulbs. This decision will affect very seriously those members of the horticultural trade in this country who had made it their business to supply the requirements of America. They have devoted many years to building up this business, and certain of the plants which they raise for this purpose are of slow growth; these nurserymen have, therefore, sunk a considerable amount of capital in it. Now, peremptorily and without warning, it is declared that the American ports are to be closed to their produce. It is to be hoped that vigorous representations will be made by the Government of this country, and that the hardship due to the suddenness of the decision will be urged with the object of securing at least a delay in putting the regulation into practice. It is said—we cannot believe either authoritatively or seriously—that the object of the regulation is to guard the United States against the immigration into that country of pests in the shape of insect or fungous diseases which might do damage to the cultivated plants already growing there. Although each nation must be a law unto itself with respect to its fiscal policy, all nations have an interest in securing that each shall act according to the dictates of common sense and with regard to the teachings of science. We are unable, therefore, to believe that we can be correctly informed with respect to the reasons which have led to the prohibition it is proposed to enforce. For it is quite certain that, whatever other effect it may have, it will not prevent the arrival of pests in America. To prevent this, the absolute exclusion of all vegetable produce would be necessary; for example, the American Bureau of Plant Industry, which has done such admirable work in introducing from all parts of the world plants of economic potentiality, would have to stop its enterprise. So long as it continues, no member of the U.S.A. Federal Board of Horticulture would be able to sleep in his bed without the chronic nightmare of the possible introduction of some pest on the earth attached to the roots of the plants which the Bureau collects from all parts of the world, not excepting British Possessions. It is a grimly ironical fact, on which we have commented more than once, that the plant pathologist, who, in so far as he is concerned with horticulture at all, has as his main duty the discovery of remedies for plant diseases, is so modest of his own powers in this direction that he is often among the first of those who clamour for restrictions on the free exchange of living commodities. We are of opinion that in adopting this course of action as a means of excluding chance pests the pathologist takes the narrow instead of the broad view. The United Kingdom has suffered much from introduced American plant pests, but it is probable, nay, certain, that the advantage which this country has gained by the introduction of the plants which bore those pests is many hundred times greater than the disadvantages. Decisions arrived at by a State have to be respected, even though they press hardly on other communities; but it may be said without fear of contradiction that if this particular decision is based upon a desire to exclude pests, it is a wrong decision, and one which will press at least as hardly on the horticulturists of the United States as upon those of Europe. We would, therefore, urge our colleagues in America to use all their influence in pressing for an immediate reconsideration of this question.

Royal Agricultural Society's Show. — The Royal Agricultural Society of England has arranged to hold a show at Cardiff on June 24 to 27, 1919. A horticultural section will be included under the management of Mr. PETER BLAIR, Trentham, Stoke-on-Trent.

National Standard of Hours and Wages for Gardeners.—The following standard of hours of work and wages has been adopted by the British Gardeners' Association, and the Association will endeavour to obtain this standard throughout the country. Members of the Association are reminded that the wage rates are minimum, and are advised not to accept fresh situations at terms under these rates. The General Secretary (Mr. CYRIL HARDING, 22, Buckingham Street, W.C.) will welcome information as to conditions prevailing in local areas throughout the country. Private gardens:—In all districts the prevailing county agricultural rate has been selected as a basis for fixing the standard. Juniors: 2s. 6d. per week above mimimum county agricultural rate up to age when minimum rate for adults begins to apply. Adults: Less than 12 months' experience, 2s. 6d. per week over county rate; exceeding 12 months' experience, 5s. over county rate; exceeding 7 years' experience, 7s. 6d. over county rate. Foremen: 15s. over county rate. Head gardeners and single-handed gardeners: 30s over county rate. Hours: 52 in summer, 48 in winter. Overtime: Time and a quarter ordinary working days; time and a half Saturday afternoons, Sundays, and holidays. Market nursery workers.—Hours and overtime: In all cases as for private gardeners. Workers: Over 3 years' experience, 45s. Charge hands: 55s. These rates to apply to workers over the age when the minimum county agricultural rate begins to apply. Juniors: Up to county rate age, 2s. 6d. above agricultural minimum. In nurseries.—Workers up to foremen: Same rates as laid down for private gardeners. Departmental foremen: 60s. per week. Jobbing gardeners: The sub-committee does not think it advisable at the present time to fix a definite scale of rates for jobbing gardeners. In public parks and gardens.—Boys and improvers: 15 years, 22s. 6d.; 16 years, 25s. 6d.; 17 years, 27s. 6d.; 18 years, 30s. Under gardeners: 18 to 21, 30s., rising to £2; over 21, £2 10s. Foremen: £2 15s. to £3 5s. minimum, according to responsibility.

Sweet Pea Annual for 1919.—Through good and through evil years the National Sweet Pea Society has continued the publication of its "Annual," and the issue is regularly looked forward to with great interest by all who have an enthusiastic regard for the Society's elegant and fragrant name-flower. The "Annual" for 1919 is devoted very largely to a consideration of Sweet Peas as grown for flowers or seed in the United States, New Zealand, New South Wales, and Nova Scotia. Home news is confined to the Society's annual report and accounts, descriptions of new Sweet Peas, too-much-alike varieties, and the suggestion to form a branch of the N.S.P.S. in Scotland. The contents are interesting and instructive, and their international character indicates the widespread love of the flower HENRY ECKFORD did so much to improve and bring into popularity. The price of the Annual to non-members is 2s., post free.

M. Ed. Godard.—We learn but now of the death, on April 26 of last year, of M. ED. GODARD, whose coloured drawings of plants were for long so valuable a feature of the *Revue Horticole*. M. GODARD'S work began in 1877, and continued until 1902. His accurate drawings form the major part of *l'Album des Clichés* of Messrs. VILMORIN. M. GODARD was a man of exceptional modesty but of ardent patriotism; he took part in the defence of Paris in 1871. He bequeathed all his possessions to the Paris Natural History Museum and to the Observatory.

Celebrated Trees.—Great Britain's wonderful and unrivalled collection of exotic trees was the subject of a delightful lecture given recently by Mr. HENRY J. ELWES, F.R.S., before the Gilbert White Fellowship. He referred to the fact that since LOUDON'S days there had been no systematic collection of records of such trees and of their growth; but in justice to the lecturer it must be interpolated that dendrologists are indebted to him more than to anyone else for the very considerable work which has been done in this direction. The race of naturalists of which Mr. ELWES is a distinguished member still flourishes in this country, and there are signs that the laboratory botanists are getting a little disillusioned of their belief that theirs is the oracle that alone can whisper the secrets of Nature. Mr. ELWES did well to recount to this commercial age the story of

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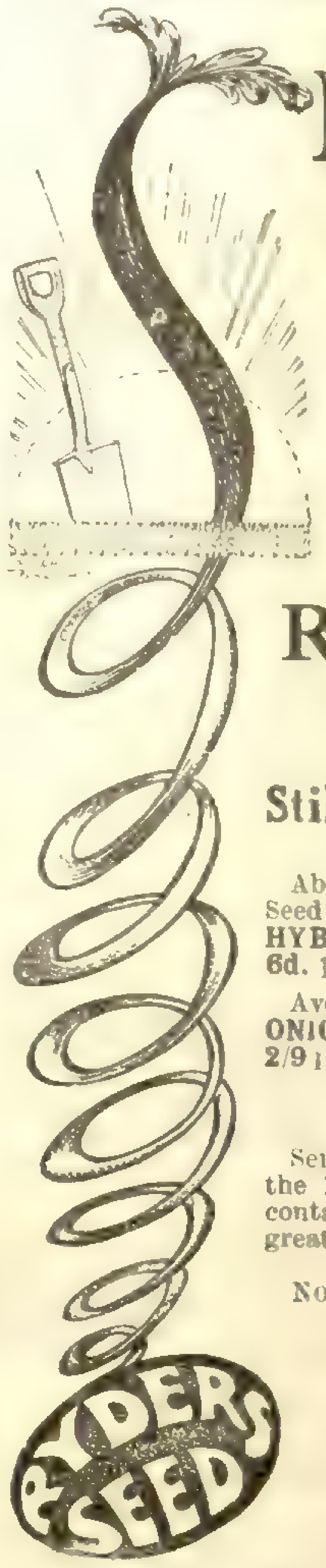

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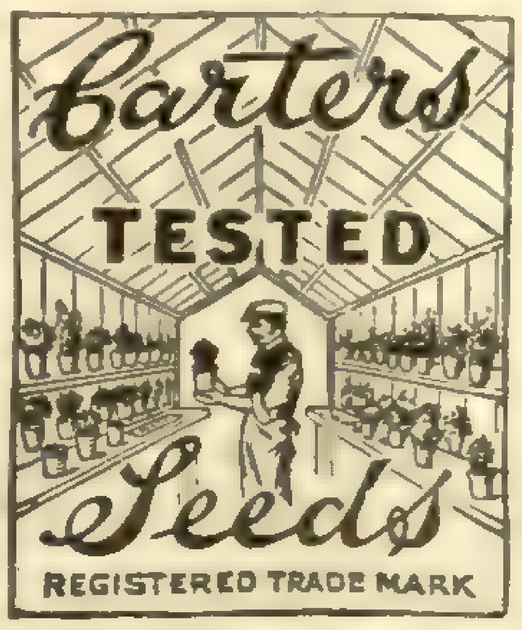

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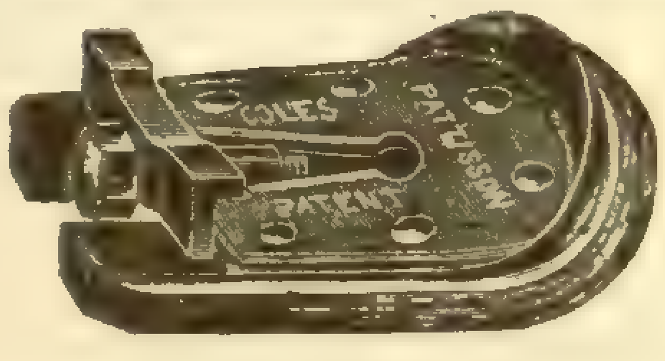

Fig. 1.

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Fig. 2, A Quality.

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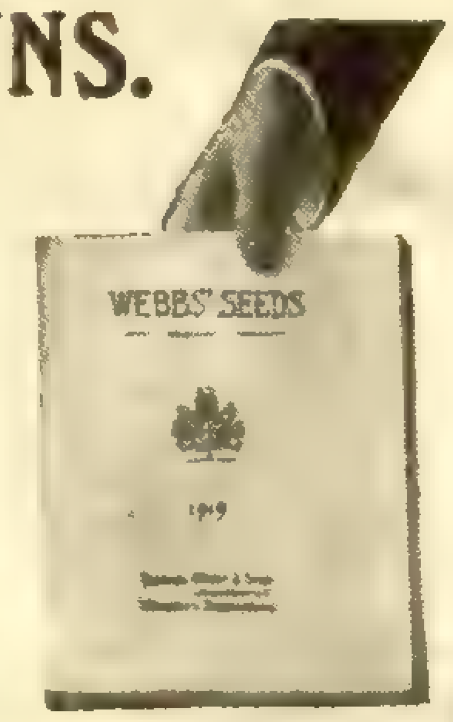

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WEBBS' New Early Favourite Tomato .. 1/- and 1/6 „ „
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Lord BAGOT, told him on a visit to Bagot's Park, Staffordshire, famous for its Oaks. Asked why he did not relieve his relative penuriousness by disposing of his timber—the Oaks were estimated to be worth £50,000—Lord BAGOT replied : "The BAGOTS are not timber merchants."

Mahogany.—Mahogany! How many woods are worked under thy name? Prof. DIXON enumerates* no fewer than 45 kinds of timbers which take the names belonging to Swietenia Mahagoni and S. macrophylla not commercially in vain. At the present time it is doubtful whether any Mahogany comes from either of the regions in which these species grow; the former is found in Cuba and St. Domingo, the latter in Honduras, Tabasco, and Columbia. Prof. DIXON, on the basis of his microscopic examination, suggests as a definition of Mahogany—all red or red-brown timbers in which the fibres of adjacent layers cross obliquely.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Rosa Moyesii.—In *Gard. Chron.*, February 1 (p. 56) *A. B. B.* raises several interesting points in connection with Rosa Moyesii. It is unfortunate for the reputation of this magnificent Rose that some (horticulturally) worthless varieties or sub-species are in cultivation. These are almost indistinguishable from the real plant except when in flower, for the foliage and fruits are practically identical. I have had two of them growing close to a plant of the first-rate type, so there can be no question, I think, of cultural differences being responsible for their inferiority. The genuine plant is a good, strong grower, and it likes (with me) a rich, stiff loam, and a damp situation. Every year after flowering it receives a good mulch of manure, and last year the bush, which is about six years old, produced a number of new shoots from the base, the largest of which is about an inch in thickness at 1 foot from the ground, and about 10 feet long. Every year all the shoots are wreathed with splendid blossoms along their whole length, and the flowers, the best of which are 2 inches or more in diameter, are of that gorgeous red colour which I have never seen in any other species of the flowering plant. The fruits, which are very handsome, are very freely produced, but I strip most of them off whilst they are still young, in order to prevent undue exhaustion of the plants. This Rose is not too easy to propagate, but I find cuttings root fairly freely in pure sand. It would be interesting to know what the experience of others is on this matter of propagation, for I am far from thinking I have hit on the best method. Can any of your correspondents say whether it grows readily from seed? I have tried it for several years, but with unsatisfactory results. *J. B. F.*

Women in Horticulture.—On page 247, Vol. LXIV., *W. W.* refers to the advent of the woman gardener at Kew 23 years ago, and reviews her progress up to the present time. In his concluding paragraph he sums up "with the conviction that unless the conditions are considerably improved, gardening will not hold out good prospects for educated young women." I entirely agree with that statement, and after a fairly varied experience of women labour during the past four years, I have come to the conclusion that few head gardeners wish to see them remain in the profession—not altogether because the conditions are unsuitable, but because, speaking generally, women have proved to be unsuitable for gardening. This may be regarded as merely male prejudice, but it is not. In pre-war days I was under the impression that there was a wide field for women in gardens, and the war gave them a great opportunity, but I feel convinced now that women will never be serious rivals to the men and boys of pre-war days. There are various reasons for this; in the first place, the so-called training given in many horticultural colleges and schools leaves much to be desired, and it is practically useless in the average garden. A vast amount of hard work is necessary in most establishments if the garden is to be a success, but one finds that in many cases young women have been told by their doctors (very often after a serious breakdown in health at other work) that gardening would be a very suitable occupation. One can scarcely blame the young women if this appeals to them, but is it fair to the employer, to find that these young women (who are usually extremely enthusiastic and loud in their pronounced love of trenching and other strenuous work), are absolutely physically incapable, not only of trenching, but of any real or sustained effort, such as is constantly required of all persons, male or female, employed in gardening on strictly business lines? Not 10 per cent. of the women who start gardening will be found in it after a very few years' experience, and, personally, I have met with very few who regard it seriously: in fact, I think one of the principal reasons of the apparent failure to make headway in gardening is that they enter on it too lightly. I have met a few brilliant exceptions of women gardeners who were striking successes, but they usually express themselves as very disappointed with the work of the majority of women who have rushed into gardening. *Dubious.*

FIG. 30.—SWIETENIA MAHAGONI : THE MAHOGANY TREE.

Apple Edward VII. (see pp. 21, 56).—I have grown this Apple here for several years, and although several of your correspondents have praised it, I have failed to get good results from it. The fruit also cracks very badly when it starts to swell. The subsoil of these gardens is a heavy clay, and perhaps that fact may account for the variety not doing well with me. *T. Pateman, Node Gardens, Welwyn.*

* Sci. Proc. Royal Dublin Society, XV., p. 431.

SOCIETIES.

ROYAL HORTICULTURAL.

February 11. The wintry weather prevailing on this date and for a week previously was chiefly responsible for the small attendance at the Royal Horticultural Society's meeting at the London Scottish Drill Hall, and for the paucity of exhibits. The Narcissus and Tulip Committee met for the first time this year, but its business consisted only in passing previous minutes and signing the attendance book. The Fruit and Vegetable Committee spent some time discussing the merits of seedling Apples, but the only award made in this section was a Silver Knightian Medal. The Floral Committee, kept out of its usual meeting-room by a burst pipe, conducted its small amount of business in the body of the hall: no novelties came before it, but three medals were awarded to groups. Although Orchids were far less numerous than usual the Orchid Committee had to inspect numbers of novelties and granted six Awards of Merit.

Garden plans and paintings and drawings of flowers added to the interest of the meeting, but of even more interest than these were the photographs showing Melons, Chrysanthemums, Rose beds, Daffodils, Sweet Peas, displays of vegetables and other crops grown at Ruhleben camp by the members of the Ruhleben Horticultural Society: a framed and illuminated testimonial to the Royal Horticultural Society occupied a position of honour. It was worded as follows: "Ruhleben Horticultural Society. — We, the committee and members of the Ruhleben Horticultural Society, desire to express to the Royal Horticultural Society and friends at home our heartiest thanks for the valued gifts and generous support which have made possible our work in Ruhleben. We request the acceptance of this testimonial as a token of our gratitude and appreciation."

Floral Committee.

Present: Messrs. Henry B. May (in the chair), C. Dixon, John Heal, J. W. Barr, W. Howe, George Paul, C. R. Fielder, H. R. Darlington, E. H. Jenkins, W. J. Bean, W. H. Morton, J. Jennings, A. Turner, G. Reuthe, Andrew Ireland, John Dickson, H. Cowley, Clarence Elliott, Thos. Stevenson, and E. F. Hazelton.

Groups.

Small specimen plants and cut branches of a large number of conifers submitted by Messrs. J. Cheal and Sons commanded attention by reason of the extent of the exhibit, which contained representatives of 160 species and varieties. The collection was especially rich in Pines and Abies, and contained such dwarfs as Abies balsamica hudsonica, Picea orientalis nana, and P. excelsa Remontii, as well as a number of Golden Cupressus. (Silver-gilt Banksian Medal.) Daffodils, blue Primroses, Polyanthuses, and Iris reticulata combined to make a bright exhibit from Mr. G. W. Miller. (Silver Banksian Medal.) Well grown and freely-flowered Cyclamen, representing a good strain, were displayed in a fair-sized group by Messrs. Barr and Sons, and gained a Silver Flora Medal.

About a dozen and a half seedling varieties of Freesias raised and shown by Messrs. Herbert Chapman proved very interesting, especially as indicating the range of floral colouring now possible in this genus. Very dainty were Lavender Queen, Sepia, and Mother-o'-Pearl, while Aurantiaca and Gilt-Edge were brighter and larger. Messrs. S. Low and Co. sent a few cut blooms of Perpetual Carnations.

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Messrs. Jas. O'Brien (hon. secretary), Arthur Dye, R. A. Rolfe, W. Bolton, Frederick J. Hanbury, R. Brooman-White, C. J. Lucas, J. Charlesworth, Chas. H. Curtis, S. W. Flory, Fred. K. Sander, Pantia Ralli, and J. E. Shill.

AWARDS.

Awards of Merit.

Odontoglossum Empire (*eximium* × *Marathon*), from Messrs. Armstrong and Brown, Orchidhurst, Tunbridge Wells. — A very large and beautifully marked flower, with broad segments closely blotched with claret-red on the inner two-thirds, the blotches having intersecting lines of white. The outer parts of the segments are blush-white.

Odontoglossum crispum The Marquis, from Messrs. Charlesworth and Co., Haywards Heath.—A very charming home-raised variety, pure white and of fine shape, the petals and lip being finely fringed.

Odontoglossum Radians (*Dora* × *Alexandra*), from Messrs. Charlesworth and Co.—A fine variety of the cross reported in *Gard. Chron.*, Feb. 1, p. 57. The present variety had very large flowers with rosy-mauve ground-colour profusely spotted with dark claret colour.

Odontoglossum St. George (*eximium* × *Alexandra*), from Messrs. Charlesworth and Co.—A fine flower, the white ground blotched with dark mauve. The bases and tips of the segments are white.

Odontoglossum Gatton Emperor var. Tiberius (*Lambeauianum* × *hybrid unrecorded*), from Sir Jeremiah Colman, Bart., Gatton Park, Surrey. —The darkest of the violet-coloured type raised at Gatton, several forms of which have been already shown. The present variety had flowers of good form, and of a uniform violet colour with blush white tips to the sepals and lip.

Brasso-Laelio-Cattleya Imogen (*L.-C. Trimyra* × *B. C. langleyensis alba*), from Messrs. Flory and Black, Slough.—A very desirable hybrid, and one of the few Brassavola crosses retaining the large-flowered Cattleya shape. The flower is of excellent form, pure white, with chrome-yellow disc to the lip, which has a pretty fringed margin.

Cultural Commendation.

To Mr. Farnes, Orchid grower to Pantia Ralli, Esq., Ashtead Park, Surrey, for a fine plant of Cymbidium Gottianum (insigne × eburneum), with six spikes, bearing together twenty-five flowers.

Other Exhibits.

Messrs. Armstrong and Brown, Orchidhurst, Tunbridge Wells, showed a selection of new hybrids which included Odontioda Flambeau (Oda. Cooksoniae × Oda. The Duchess), with fine cinnabar-scarlet flowers; Oda. Victory (Oda. Henryi × Odm. amabile), with white ground marked with deep maroon and having violet margin; Oda. Joan, Orchidhurst variety, entirely dark scarlet; Odontoglossum Alcibiades, a fine flower which had previously secured a Preliminary Commendation, and Odm. Columbine.

Messrs. Charlesworth and Co. included in their group of novelties Odontoglossum Faustina (Dora × eximium), rich claret colour with lilac tips and margin; a selection of very fine home-raised Odontoglossums, and several promising Odontiodas.

Messrs. Flory and Black, Slough, showed three plants of the pretty white Cattleya Douai (intertexta alba × Suzanne Hye de Crom); the finely-marked Odontoglossum Pallas (illustrissimum × Doris), and Odm. Portia (illustrissimum × Aglaon), a flower of good shape and effective marking.

Messrs. Sanders, St. Albans, staged a small group, the finest novelty in which was Odontioda St. André (Oda. Sanderae × Odm. amabile), with a fine spike of perfectly-formed flowers, densely blotched with orange-scarlet. The yellow Cymbidium Capella var. Orange Prince, and the rare Cypripedium Sanderae, were also shown.

Baron Bruno Schroder, The Dell, Englefield Green (gr. Mr. J. E. Shill), showed three flowers of varieties of his superb strain of Cypripedium Eurybiades The Dell variety.

Narcissus and Tulip Committee.

Present: Messrs. E. A. Bowles (in the chair), Chas. H. Curtis (hon. sec.), Col. H. Warrender, F. Herbert Chapman, and P. R. Barr.

There were no exhibits before this meeting.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (in the chair), J. Cheal, Owen Thomas, E. Beckett, E. Harriss, P. T. Tucker, A. Bullock, A. R. Allan, A. W. Metcalfe, F. Jordan, E. A. Bunyard, W. H. Divers, S. P. Berry, W. Bates, W. Poupart, and W. E. Humphreys.

A capital display of winter vegetables made by Messrs. Sutton and Sons was a reminder of the variety of foodstuffs obtainable from a well-arranged kitchen garden at this season of the year. The exhibit included Brussels Sprouts, Savoys, Cabbages, Kohl Rabi, Carrots, Parsnips, Onions in variety, Beet, Swedes, Turnips, winter Radish, Leeks, Kales, Salsafy, and Celery. (Silver Knightian Medal.) Mr. W. Peters, Givons Park Gardens, Leatherhead, sent samples of Bedford Champion, Ailsa Craig, and Nuneham Park Hero Onions.

The bottled and dried fruits and vegetables set up by Mr. Vincent Banks, who has been chief instructor to the Food Production Department in the art of treating surplus fruits and vegetables for winter use, were of special interest, as the exhibit, of about one hundred and fifty bottles, constituted the "travelling exhibit the Board of Agriculture is prepared to send, in charge of an expert, to horticultural food production and similar exhibitions in various parts of the country, on application."

Annual Meeting.

In the unavoidable absence of Lord Grenfel and Sir Harry J. Veitch, Sir Albert Rollit presided over the annual meeting, held at 3 p.m. in the Council Chamber. There was a moderate attendance, and among those present were Sir J. Llewellyn, Capt. Hill, Rev. W. Wilks, Major Nix, J. Cheal, A. Sutton, E. A. Bowles, H. B. May, Jas. Hudson, F. J. Hanbury, W. H. Divers, W. H. Page, W. A. Bilney, W. Hales, and M. Allwood.

Seventy-one new Fellows, nine Associates, and fourteen affiliated Societies were elected.

In moving the adoption of the Report Sir Albert Rollit said it was the best Report ever presented to the members, as it gave ample evidence of hard and excellent work accomplished by the Society's staff, and told of national service rendered by the Society in connection with food production. Sir Albert referred to the Society's publications on allotment gardening, to its expert lecturers, its food production exhibits sent to various parts of the country, and its panel of 2,000 gardeners. So excellent was the programme arranged and carried out by the Society that it had been imitated by the United States, which was a great compliment. Sir Albert considered the educational work of the Society throughout the country and at Wisley deserved the heartiest support, and in this connection he referred to the Lindley Library, which was essential to horticulture and of immense value to the Fellows and in no sense a luxury.

Sir John Llewelyn seconded the motion, and thanked the Council for having moved the Sugar Controller to allow private growers to have sugar for preserving their home-grown fruit.

Mr. Arthur Sutton was then presented with the Lawrence Medal, awarded for a series of special exhibits illustrating the success and value of late-sown vegetable crops. Sir Frank Crisp could not be present to receive the award of the Victoria Medal of Honour in Horticulture.

Mr. C. Harper reviewed the accounts, and said that notwithstanding all the educational work carried out by the Society in 1918, a surplus of £4,000 remained at the end of the year, even after the expenses of the Wisley Gardens had been met. Major Nix moved the adoption of the accounts, and they were accepted.

The chairman declared the president, vice-presidents and retiring members of Council duly elected, as there were no other nominations and therefore no need for a ballot.

Mr. W. A. Bilney formally moved that a declaration of the aims of the Society be placed at the head of the bye-laws, and that all "shows" should be called "meetings," such meetings to include lectures and exhibits of a scientific and educational character. It was agreed that the addition and amendments be made

At the request of the chairman M. Georges Truffaut gave a brief account of the work of food production carried out in army gardens in France, firstly of the French military authorities under his direction and secondly by the British Army. There were, he said, 56 nursery gardens and 70,000,000 vegetable seedlings were grown at Versailles alone for the supply of the army gardens, while the total number of vegetable seedlings raised was not less than 250,000,000, by

means of which the food supply of the armies had been enormously improved and increased. He thanked the R.H.S. on behalf of the French people for the great help it had given to France through the War Horticultural Relief Fund, but he expressed sorrow that some of the work would have to be done over again, as, in the case of 15,000 young fruit trees planted to replace trees destroyed by the Germans, the Huns again overran the new planted districts and lifted and conveyed the young trees to Germany.

Having announced that the Society would hold a "meeting" at Chelsea on May 20, and that probably the Society's Hall would be available for the fortnightly meetings about three months hence, Sir Albert Rollit was accorded a vote of thanks for presiding.

EXTRACTS FROM THE REPORT OF THE COUNCIL.

In issuing the one hundred and fifteenth Report of the Society, the President and Council feel that they have very great cause to congratulate the Fellows, not only on the conclusion of the most terrible war which this country (or indeed any other country) has ever had the misfortune to have been forced to engage in, but also on the fact that, notwithstanding the financial strain which has fallen upon all classes of the community, the Society has been able to weather the storm, and even, in this last year, to restore, to some slight extent, its numbers, which the first year of the war had so greatly depleted.

The Society has spent over £2,500 during the year on its Food Production work, for which a grant is being given by the Treasury through the Food Production Department.

Whether the present allotments can in all cases be continued depends on many different considerations, but the Council are unanimous in expressing their opinion that so far as accessible land can be found, an allotment garden ought to be available for every man in this country who, having no garden attached to his dwelling, desires one; and that the provision of them ought to be made out of national funds, and with fairness and even generosity towards the present land-owners. The President and Council are convinced that such provision of national allotment gardens to all who desire them and work them well, will be of inestimable value to the country at large in promoting the health, happiness, and well-being of the community in general.

The Society's war publications, pamphlets, and leaflets have continued to be in demand. After the very heavy issue of 1917 and the first four months of 1918, it was no little relief to the office staff to know that their immediate purpose had in the main been accomplished, and some little falling-off from the previous demand for them gave welcome relief from the heavy strain which the Publications Department had borne during the previous months.

The Lindley Library has been maintained in a state of efficiency, and though the number of horticultural books put on the market during the war has not been so great as before, no opportunity has been lost of acquiring any valuable books which have been offered.

Seeds and bulbs were again sent to our fellow-countrymen prisoners in Germany, and to camps and hospitals in France and in the Mediterranean regions.

The work at Wisley, as in all other gardens, has been greatly handicapped by shortage of labour and the absence on special Government war-work of almost the whole of the laboratory staff. The difficulty has been met to some extent by the elimination of all trials of flowers for the period of the war, and by postponing all new developments in the Garden.

The vegetable trials, which are such an important feature of the Society's work, have been continued, and a number of trials of plants of possible garden value have also been made, some of them at the request of the Food Production Department of the Government.

Of cultural experiments made in the Garden during the past year special mention may be made of planting to ascertain the most economical method of spacing Parsnips and Potatos. Tests of the value of "sludge" manures, and of organic manures as compared with chemical fertilisers, have also been made. The experiments on the pruning of fruit trees are being continued, whilst many of the new crosses of Vines, Strawberries, and Rubi raised in the Gardens should fruit next season and show their value.

Mr Ramsbottom, who has now taken up a new position, was able to carry out another season's work upon the eelworm disease of Narcissi, a report of which will be published in the Society's *Journal*. Mr. Ramsbottom has consented to continue this investigation till its completion.

Dr. F. V. Darbishire, M.A., has been appointed to carry out researches into the comparative composition of different varieties of the same vegetable, in order to ascertain whether one variety is of greater food value than another, as appears probable. He took up his duties in August. Mr. Ramsbottom's place has been filled by Mr. A. J. Rudge, an old student at Wisley.

The Food Production work of the Society has undoubtedly brought it into wider relationship with the country at large. This has recently been made manifest in many ways. One of these was a request by the Birmingham Corporation for the Society to take up the direction and supervision of a series of demonstration plots for which it was prepared to provide the ground and the labour if the Society would provide the seeds of the plants to be grown, and generally direct their sowing and cultivation on similar lines to those adopted by the Society in its own gardens. The object of the Corporation in providing these demonstration plots is that their allotment holders may work more intelligently and be better informed as to the varieties which are most likely to bring about the best results in their neighbourhood. The Council viewed the proposal favourably, and plots have now been set up and the work is in progress. The Manchester Corporation are now taking similar steps, and have asked the Society to identify itself with them on similar lines.

With the view of further encouraging and extending the general range of horticultural knowledge throughout the country, not only amongst working and professional gardeners, but also amongst horticultural instructors and teachers of all grades, the Society's Examinations have been considerably revised in the direction of making them a more practical test of horticultural knowledge and experience. A Board of Examiners has been set up, which first dealt with the syllabus and regulations for both the General, and School Teachers' Examinations, so that not only has their standard been raised, but the practical experience and knowledge required of candidates in future will be increased. The School Teachers' Examination particularly has been revised, and now consists of both an Elementary and an Honours Examination, in both of which evidence of actual practical work will be required of all candidates. In the Honours section practical work will form an actual part of the examination itself.

The Degrees in Horticulture of the University of London have now come into operation, inasmuch as five candidates have entered for the Bachelor's Degree this year.

Representations have been made to the Prime Minister on the subject of Afforestation; to the Minister of National Service on Man-power and its Application to Gardeners; to the Controller of Mines on the Provision of Fuel for Horticultural Purposes, which resulted in special consideration being given in the case of valuable stocks of plants; to the Rt. Hon. R. E. Prothero concerning Seed Potatos; and to the Commission on the proposed Luxury Tax on the Exemption of Scientific and Educational Books from Taxation.

The President and Council greatly regret the unavoidable delay which has attended the publication of the Society's *Journal* during the past year—delay due entirely to the threefold cause of (1) depletion of staff, (2) extreme shortage of paper, and (3) the difficulties which have attended the printing trade all over the country. It is confidently hoped that the present year may see a great improvement in all of these respects and a consequent resumption of the *Journal's* regular publication.

Negotiations with the Government are now in progress as to the possibility of the Society receiving discharged soldiers at the Wisley Gardens for training in horticulture.

There being only one vacancy in the roll of the Victoria Medal of Honour, the Council have had very great pleasure in nominating Sir Frank Crisp, Bart.,

The Lawrence Medal for 1918 the Council have awarded to Messrs. Sutton and Sons for the excellent quality and great educational value of their frequent and really wonderful exhibits of summer-sown vegetables.

The following table shows the Society's position with regard to numerical strength during the past year:—

	No.	£	s.	d.
Loss by Death in 1918.				
Life Fellows	3	0	0	0
4 Guineas	1	4	4	0
2 Guineas	55	115	10	0
1 Guinea	56	58	16	0
Associate	0	0	0	0
	115	£178	10	0
Loss by Resignation, &c.				
4 Guineas	0	0	0	0
2 Guineas	117	245	14	0
1 Guinea	106	111	6	0
Associates	6	3	3	0
Affiliated Societies	1	2	2	0
	230	£362	5	0
Total Loss	345	£540	15	0
Fellows Elected in 1918.				
4 Guineas	7	29	8	0
2 Guineas	220	462	0	0
1 Guinea	703	738	3	0
Associates	16	8	8	0
Affiliated Societies	195	214	4	0
Commutations = £101 15s. 0d.	5			
	1,146	£1,452	3	0
Loss		540	15	0
Net Increase in Income		£911	8	0

Deaths and Resignations	345
New Fellows	1,146
Numerical Increase	801
Total on December 31, 1917	13,831
Total on December 31, 1918	14,632

W. WILKS, *Secretary*.

ROYAL GARDENERS' ORPHAN FUND.

February 6.—The annual general meeting of the subscribers to the Royal Gardeners' Orphan Fund was held on the 6th inst., at Simpson's Restaurant, Strand.

Only a very few persons were present. The Chairman, Mr. H. B. May, presided. After the minutes of the last annual meeting had been read, the Chairman submitted the report of the Executive Committee on the work of the institution for the year ending December 31, 1918, from which we give the following extracts:—

EXTRACTS FROM THE REPORT OF THE EXECUTIVE COMMITTEE.

In presenting the thirty-first Annual Report to the supporters of the Royal Gardeners' Orphan Fund, the Committee is glad to be able to place before them a statement of accounts which, while showing a smaller total revenue than was obtained in the previous year, yet indicates that the Fund has held its own exceedingly well under the very trying conditions which obtained during the last year of the war. The indebtedness to the Bankers has been increased by £150, and the Committee will be most thankful for any help towards liquidating this debt.

At the commencement of the year 117 children were receiving the full benefits of the Fund, and fourteen—a smaller number than for some years previously—were added to the list at the annual meeting. The amount disbursed in allowances and grants-in-aid was £37 less than in the previous year, eleven children having ceased to receive allowances during the year. For the coming annual meeting there is again only a small list of candidates for election, but your Committee anticipates a considerable increase in the near future.

Early in February your treasurer received the following most gratifying communication from the Right Hon. Sir Thomas Mackenzie, High Commissioner for New Zealand: "I have read with much interest the printed notice regarding the work of the Royal Gardeners' Orphan Fund, and the cases to be considered at the annual meeting. I note that certain of the candidates—11 and 12, for instance—are in especially distressing circumstances, and I therefore have much pleasure in enclosing herewith a cheque for £100 as a donation towards the Fund. This sum is a portion of an amount sent to my care from the Gore Fund, New Zealand, for the relief of British distress." A benevolent supporter—Mrs. Ward—voluntarily gave an undertaking to pay the sum of £13 per annum in support of the boy, Victor Robinson, so long as he is entitled to receive the benefits of the Fund.

Your Committee desires again to tender its grateful thanks to Messrs. Hurst and Son for their handsome gift of £100, and most cordially expresses its gratitude to Sir Frank Crisp, Bart., Messrs. Sutton and Sons, Mr. Roland R. Robbins, J.P., Mr. Whitpaine Nutting, Mr Tom Smith, and others, for substantial financial help.

The Committee has received with great regret the resignation of Mr. T. Neve, the honorary local secretary for the Reading district, on his leaving Sindlesham House Gardens, Wokingham. Your Committee desire to place on record its high appreciation of his long and valuable services. Mr. A. H. Tucker, 44, New Road, Reading, has kindly undertaken to carry on the office vacated by Mr. Neve.

Your Committee much regrets that, owing to the shortage of paper and labour and the increased cost of both, it does not consider it advisable to issue a list of the subscribers to the Fund in 1919.

THE ROYAL GARDENERS' ORPHAN FUND.

Cash Statement for the Year Ending December 31, 1918.

Receipts.

	£	s.	d.	£	s.	d.
To Subscriptions: General	210	4	0			
Local Secretaries	48	3	11			
				258	7	11
" Donations: General	122	10	0			
Local Secretaries	20	16	6			
				143	6	6
" Response to Special Appeal				531	14	9
" Legacy: Mr. Walter T. Ware				250	0	0
" New Zealand's Gift from Gore Fund				100	0	0
" Dividends on Stock				394	9	6
" Income Tax returned				34	16	8
" Loan from Bankers*				400	0	0
				2,112	15	4
" Balance last Account				397	12	9
				£2,510	8	1

* The indebtedness to the Bank on December 31 amounted to £950.

	£	s.	d.	£	s.	d.
By Children's Allowances	1,547	10	0			
" Grants in Aid	67	13	6			
" "Emma Sherwood Memorial"	13	0	0			
" "Maybud Campbell Grant"	13	0	0			
" "James Campbell Grant"	13	0	0			
				1,654	3	6
" Secretary's Salary				200	0	0
" Rent, Insurance, Firing and Lighting, etc.	55	14	0			
Payments.	£	s.	d.	£	s.	d.
" Printing and Stationery	37	12	6			
" Advertising	3	2	6			
" Annual General and Committee Meetings	20	15	5			
" Postages	29	4	3			
" Bank Charges, Interest, etc.	46	13	8			
" Petty Cash: Sundries	3	14	7			
				196	16	11
" Loan from Bankers repaid				250	0	0
				2,301	0	5
" Balances: Cash at Bank	207	4	2			
Cash in hand	2	3	6			
				209	7	8
				£2,510	8	1

Having inspected the Securities and examined the Books and Vouchers supplied to us, we hereby certify the above Account to be correct.

PETER R. BARR,
W. A. BILNEY,
Auditors.

January 21, 1919.

Commenting on the report Mr. May referred to the loss of income sustained by the Fund through various causes, and especially the withholding of the annual festival dinners, from which the Fund, in normal times, derived a great part of its income. They had been compelled to incur an overdraft from their bankers for a very considerable sum, and he appealed for support to make good this indebtedness. Their good work had been recognised by the High Commissioner for New Zealand, the Rt. Hon. Sir Thomas Mackenzie, who had given them the sum of £100 from the Gore Fund, raised by his countrymen.

The Committee had endeavoured to work the Fund at a minimum of expense, and, as a matter of economy, it was decided not to print the list of subscribers as usual last year, as printing was a very expensive item in these days. In conclusion, Mr. May referred to the loss by death of several strong supporters of the charity, and appealed for others to come forward to take their places.

Mr. McKerchar seconded the adoption of the report, which was carried without further comment.

The officers and committee were all re-elected, and Mr. G. F. Tinley was appointed to a vacancy on the committee caused by the death of Mr. R. Hooper Pearson. Eleven orphans were submitted by the Executive Committee for election by resolution, and as no poll was necessary, the meeting, on the proposition of the Chairman, seconded by Mr. Curtis, placed the whole of the eleven on the funds. Their names are as follows:—Frances Goldstraw, Ellen Higson Goldstraw, John Lankester, Terence William Nichols, Thomas W. Nichols, Elizabeth Ewart Pritchard, Mary Nicholson Pritchard, Livingstone Shand Reid, Isaac Bayley Balfour Smith, Charlotte Sangster Souness, John Souness.

CROPS AND STOCK ON THE HOME FARM.

THE AGRICULTURAL POSITION.

THE Crop Reporters of the Board of Agriculture, in reporting on the agricultural position on February 1, state that the continual rains, followed by frost at the end of the month, hindered field work much during January. Fair progress was made on light land, and the last few days of the month gave opportunity for carting manure in some districts, but otherwise work is distinctly behindhand. Wheat appears to have suffered somewhat on very heavy or wet land, but is elsewhere satisfactory; autumn-sown Oats and Beans seem to be good, strong plants almost everywhere.

The condition of ewes is reported as fair to good, the wet weather having proved trying. Lambing prospects are considered fairly satisfactory on the whole. The Dorset Horn flocks have practically finished lambing; the fall of lambs is reported as moderate, and the mortality light.

Live stock are generally in fair condition. In most parts of the country, but not all, the supply of winter keep is rather short.

The steady demobilisation of agricultural labourers from the Army is relieving the scarcity of farm hands, and in several parts of the country the supply has been nearly, if not quite, sufficient for the requirements of a wet month. Skilled labour is, however, still scarce. Owing to the lateness of the season, and the deficiency of labour, proper cultivation in the autumn was frequently neglected, and it is expected that the preparation of the land for the spring crops will require more labour than usual.

TRADE NOTES.

JAPANESE LILY BULBS

MR. CHAS. H. CURTIS, as secretary to the Japanese Bulb Import Control Committee, writes: "Those who wish to share in the supplies of Lily bulbs under the recent concession, allowing an importation of 10,000 cases, should apply not later than February 28, 1919, to those importers from whom they obtained bulbs in 1915-16. It is anticipated, however, that only a small proportion of this quantity will be available, and at an enhanced price, owing to the lateness of the season, enormously high freights, lack of shipping facilities, and the uncertainty of the condition of the bulbs on arrival. A copy of the Regulations supplied to importers may be seen at the offices of the British Florists' Federation, 35, Wellington Street, Covent Garden, W.C."

A SPECIAL Sub-Committee appointed by the Chamber of Horticulture has had under consideration the American Nursery Stock Plant and Seed Quarantine No. 37, which is ordered to be effective on and after June 1, 1919. Acting under the instructions of this Committee, the Government and the Foreign Consulates have been communicated with and interviewed. The result is that steps are now being taken to secure a revision of the Quarantine regulations. All exporters of nursery stocks and bulbs covered by the Order, who have not already done so, are urged to send to the Secretary of the Chamber of Horticulture, Norfolk House, Norfolk Street, Strand, W.C. 2, in confidence, figures giving (a) the total annual turnover of their American export trade, and (b) the value of stocks which have to be kept on hand in order to meet American requirements.

AT the next committee meeting of the Chamber of Horticulture the following important matters are down for discussion: (1) Labour Conditions, (2) Regulation of Imports, (3) Protection of New Varieties. The views of existing Associations connected with the trade or others interested therein are cordially invited by the Committee, and any letters on the subject should be sent to the Secretary, Norfolk House, Norfolk Street, Strand, on or before Monday next.

Obituary.

Edward Cox.—We learn with deep regret of the death, on the 5th inst., of Mr. Edward Cox, aged 81 years. Mr. Cox was for many years foreman at Messrs. Smith's Nurseries, Worcester, in the Rose and fruit tree department. He afterwards started business as a nurseryman on his own account, being joined by two of his sons, and he maintained his interest in the business until the end. His ability as a first-class propagator of fruit trees and Roses was well known to a very large number of Messrs. Smith's customers, both trade and retail, especially those who were in the habit of visiting the nurseries to select their trees. He was a man of high integrity and kindly nature.

ANSWERS TO CORRESPONDENTS.

AGROSTIS NEBULOSA: *W. and E. B.* Agrostis nebulosa is one of the most elegant of ornamental grasses, and its spikes are peculiarly suitable for association with cut flowers. If the inflorescences are cut just before the spikelets open, and are dried carefully, they will provide useful material for winter decorations. Agrostis nebulosa is hardy, and seeds may be sown out-of-doors in spring or autumn, but it is a common practice in private gardens to raise seedlings in gentle heat, or in a frame, and plant them out about 6 inches apart in April or early May. If this grass is to be grown in quantity, seeds should be sown in good soil and a warm position in early April; sow thinly in drills about 9 inches apart, and thin the seedlings lightly. If the soil is in poor condition the spikes will be short in the stem, and therefore less valuable for decorating than if 15 to 18 inches high.

CORRECTION: In the article on "Leaf Spot of Orchids," page 61, line 26, column 3, should read "3 to 4 per cent. solution of calcium bisulphite," and not bisulphate as printed.

DISEASED PEACH STEMS: *A. J. F.* The Peach growths are affected with Botrytis disease, which appears mostly on young and improperly ripened shoots. All diseased growths should be cut out, making certain that the whole of the diseased portion is removed. Spray the affected trees with a weak solution of permanganate of potash.

EFFECT OF CREOSOTED TIMBER UPON PLANTS: *J. B.* Plants in houses the wood-work of which has been treated with creosote have been known to lose their foliage as a consequence of the fumes given off by the creosote. Whether Tomatos would suffer if grown against a creosoted fence out-of-doors we cannot say, but if the wood has been treated quite recently we should regard such planting as a very risky proceeding. A few years ago, in two different localities, we saw large numbers of tuberous Begonias defoliated and quite spoilt owing to their close proximity to newly-made roads in which creosoted or similarly treated wood blocks were used. There was no other reason for this disaster, as the Begonias had been grown successfully on the same sites in previous years. Hard-leaved plants may not suffer much, but soft-leaved plants do appear to suffer considerably.

FORESTRY TRAINING: *K. L. S.* Your best course is to obtain a post as assistant on any well-wooded property and under a good, practical forester. Write to W. Michie, Esq., Woods Manager, Woodhouse Hall, Welbeck; the Woods Manager, Woburn, Beds; or one of the big Scotch estates, such as Drummond Castle, Durris, or the Seafield, applying to the Head Forester, with whom terms could probably be arranged.

GOOSEBERRY CATERPILLAR: *C. P. B.* Spraying will not prevent sawfly larvae from appearing on Gooseberry bushes, but they are readily killed if the bushes are sprayed when the pests are first seen. The best wash to use is made by dissolving 6 oz. of arsenate of lead paste in 10 gallons of water. This wash is poisonous, and should be applied at least a month before the fruit is to be eaten; non-poisonous washes are of no use. Unfortunately is often happens that the fruit is too far advanced for spraying to be done. When the larvae first appear they are congregated in colonies, and may easily be picked off by hand if the bushes are not too numerous. To clear Gooseberry bushes, Peach, Apricot, and Cherry trees of mossy growth, spray them now with lime-sulphur wash, bought in concentrated liquid form and diluted according to the maker's directions for winter spraying. This must be done before the trees start into growth.

NAMES OF PLANTS: *A. P.* 1, Cypripedium Dicksonianum (Hera × villosum); 2, C. rubescens (Boxallii × oenanthum).

PLOUGHING CLOSE TO APPLE TREES: *M. B.* If the Apples are on the free stock no harm will follow ploughing quite close to the tree stems, but if they are on the Paradise stock ploughing should not be done so closely as you suggest, because surface roots would be damaged. A space of 3 feet to 4 feet on each side of the trees should be left for hand cultivation.

SCALE INSECTS ON PEAR TREE: *J. J. T.* The common Mussel Scale (now known as Lepidosaphes ulmi), so frequently found on Apple and Pear trees, varies in shape, and the rounder form is generally designated Oyster Scale. The ordinary winter wash will not effect a general clearance of this pest, but a winter spraying with paraffin emulsion and Woburn Winter Wash has been found effective.

SWEDES FOR SEEDING: *H. S.* If the seed sown was from a first-rate stock the resulting crop of seed should be good so far as type and strain are concerned. The seedlings submitted are of excellent size and strength for the time of year. Thin them to one foot apart directly weather permits, and plant the surplus seedlings a foot apart in rows 20 inches asunder if hand cultivation is to follow, but 2 feet 3 inches apart if under horse cultivation. The seedlings which remain where sown should produce a heavier crop of seed than those transplanted.

Communications Received.—L. F. B.—C. E.—Miss G.—E. T. E.—J. M.—H. S. A.—J. A. P.—H. H.—Miss G. E. T. E.—J. M.—H. S. A.—J. A. P.—H. H.—J. O. R. E. N.—C. C.—T. C.—S. W. D.—E. J.—J. W. W. W. L.—R. H. L.—E. L.—F. G., Palestine—J. O. W.—S. A.—A. J. Ward R. F. M.—C. H. P.—J. F. S. P. R. P. B.—C. H. H.—T. A. W.—G. H. C.—F. S. P.

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AWARDED UPWARDS OF 50 GOLD MEDALS.

By Appointment to H.M. The King.

NOW—more than at any time—is it essential that the largest possible Crops of Vegetables should be produced. HIGHEST QUALITY SEEDS are an essential foundation for success. We append a selection:—

	Feet.	Per pint.
PEA—Clibrans' Masterpiece	1½	2/9
" Clibrans' Exhibitor	4½	3/-
" Duke of Albany	5	2/-
" First of the Season	2½	2/3
" Glory of Devon	4	2/6
" Gradus (Extra selected)	3	2/3
" King Edward VII.	1½	2/6
" Quite Content	5	3/-
" Rent Payer	2	2/3
" Senator	2½	2/-
" The Pilot	3	2/6
" The Gladstone	3	2/9
BEAN, BROAD—Clibrans' Exhibition Longpod		1/9
" " Clibrans' Mammoth Green Longpod		1/6
" KIDNEY—Clibrans' Wonderful		2/3
" RUNNER—Clibrans' Exhibition		2/6

	Per pkt.
BEET—Clibrans' Exhibition Black	1/-
" Clibrans' Red Globe	6d. & 1/-
BROCCOLI—Clibrans' Winter White	6d. & 1/-
" Clibrans' Early Spring	6d. & 1/-
" Clibrans' Late Spring	6d. & 1/-
BORECOLE—Clibrans' Exhibition	6d.
BRUSSELS SPROUTS—Clibrans' Exhibition	6d. & 1/-
CABBAGE—Clibrans' Early Favourite	6d. & 1/-
CAULIFLOWER—Clibrans' Early Giant	1/6 & 2/6
Celery—Clibrans' White	6d. & 1/-
" Clibrans' Red	6d. & 1/-
" Clibrans' Pink	6d. & 1/-
CUCUMBER—Clibrans' Defiance	1/-
LEEK—Clibrans' Exhibition	2/6
LETTUCE—(Cos) Clibrans' Masterpiece	6d. & 1/-
" (Cabbage) Clibrans' Royal Malta	1/-
ONION—Clibrans' Exhibition	1/6
PARSNIP—Clibrans' Exhibition	6d.
SAVOY—Clibrans' Harbinger	6d.

DESCRIPTIONS of above and all other choice varieties of Vegetables and Flowers, together with "Garden Wants" of all kinds, are contained in our

GARDEN SEEDS LIST FOR 1919. FREE ON REQUEST.

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MARKETS

COVENT GARDEN, February 12.

Plants in Pots, &c.: Average Wholesale Prices.
(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Ericas, con.— — melanthra 48's per doz. ...	30 0–36 0
— Sprengeri	10 0–12 0	Marguerites, white	18 0–24 0
Aspidistra, green ...	30 0–60 0	Palms, Kentias ...	18 0–24 0
Cyclamen	30 0–36 0	— — 60's	15 0–18 0
Ericas— — hyemalis ...	24 0–30 0	— Cocos	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum, 48's per doz.	10 0–12 0	Nephrolepis, in variety, 48's ...	12 0–18 0
— elegans	9 0–10 0	— 32's	24 0–36 0
Asplenium, 48's, per doz. ..	10 0–15 0	Pteris, in variety, 48's	9 0–12 0
— 32's	21 0–24 0	— large 60's ...	4 0– 5 0
— nidus, 48's ...	10 0–12 0	— small 60's ...	3 0– 3 6
Cyrtomium, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6

REMARKS.—The sharp frosts has stopped the supply of pot plants for the present.

Cut Flowers, &c: Average Wholesale Prices.

	s.d. s.d		s. d. s.d.
Arums— — (Richardias), per doz. bl'ms.	21 0–24 0	Lilac. white, per bunch	3 6– 4 0
Azalea, white, per doz bunches	10 0–12 0	Lilium longiflorum long	21 0–24 0
Camellias, 12's–18's per box ...	5 0– 6 0	Lily-of-the-Valley, per bun. ...	4 0– 5 0
Carnations, per doz. blooms, best American var.	8 0– 9 0	Orchids, per doz:— — Cattleyas ...	24 0–30 0
Daffodils. single, per doz. bun.—		— Cypripediums,	6 0– 8 0
— Emperor ...	18 0–24 0	Pelargonium, double scarlet, per doz bunches ..	10 0–12 0
Golden Spur ...	18 0–21 0	— white, per doz. bunches ..	10 0–12 0
Henry Irving...	10 0–12 0	Roses, per doz. blooms—	
— Victoria ...	18 0–21 0	Richmonds ...	18 0–24 0
Princess ...	15 0–18 0	Snowdrops, per doz. bun.	3 0– 4 0
Narcissus ornatus, per doz. blooms	10 0–12 0	Tulips, per doz. blooms— — mauve... ...	3 0– 4 0
Freesia, white, per doz bunches ..	6 0– 8 0	— white	4 0– 5 0
Heather, white, per doz. bun....	6 0–10 0	— yellow per doz. blooms ...	3 6– 4 6
Hyacinths, Roman, 12's, per doz. bun.	2 6– 4 0	Violets, single, per doz. bun. ...	6 0–10 0

REMARKS.—Supplies of cut flowers this morning were considerably shortened owing to the severe weather, and a rise in prices may be expected, especially for white flowers. Daffodils are arriving in excellent condition; the varieties offered are Emperor, Golden Spur, Henry Irving, Princeps, and obvalaris. Pheasant-eyed Narcissus is sufficient for the demand. Richmond is the leading variety in Roses, and soon sells at high prices. A large supply of white Lilac has arrived from Holland during the past fortnight, also a few white and coloured Tulips. The supplies from the Channel Islands have been greatly reduced during the past week, and the supplies from this quarter are likely to be limited for some time. The whole consignment of French flowers which arrived this morning were frostbitten and unfit for immediate use. Paper-white Narcissus rose to 30s. per pad of 48 bunches on Saturday. Large portion of last week's arrival consisted of Acacia (Mimosa). Several pads of double white Stocks were received last week in good condition, and sold quickly. Anemones and Violets are more plentiful.

Vegetables: Average Wholesale Prices.

	s. d. s.d.		s. d. s.d
Artichokes, Jerusalem, per bus.	3 0– 3 6	Herbs, per doz bun.	4 0– 6 0
— Globe, per doz	5 0–10 0	Horseradish, per bun.	3 6– 4 6
Asparagus, Paris Green, per bundle	15 0 —	Leeks, per doz. bun.	4 0– 6 0
— — Spru , per bundle ...	2 2 —	Lettuce, Cabbage and Cos. per doz	2 6– 3 0
Beans, French, per lb.	10 0–12 0	Mint, per doz. bun.	8 0–10 0
Beetroot, per bus.	5 0– 6 0	Mushrooms, per lb.	5 6– 6 0
Brussels Sprouts, per bus. ...	6 0– 7 0	Mustard and Cress, per doz. punnets	1 0– 1 8
Cabbage, per tally	7 0–10 0	Parsley, per ½ bus.	7 0–10 0
Carrots, per bag ...	11 0–12 0	Parsnips, per bag...	5 0 –6 0
Cauliflowers, per doz	5 0– 7 0	Potatos, new, per lb.	1 6– 1 9
Celeriac, per doz..	10 0–10 6	Radishes, per doz. bunches ...	2 6– 3 0
Celery, per doz. ...	3? 0–48 0	Rhubarb, forced, per doz. ...	3 0– 3 3
Chicory. Belgian, per lb... ...	1 0– 1 2	Savoys, per bag ...	2 6– 3 6
Cucumbers, per doz	48 0–54 0	Seakale, in boxes (6–8 lbs.), per lb.	1 4– 1 6
Endive, per doz. ...	2 6– 3 6	Shallots, per lb.	0 6– 0 8
Garlic, per lb. ...	0 5– 0 7	Spinach, per case	10 0–12 0
Greens, per bag ...	2 6– 3 0	Turnips, per bag ...	5 0– 6 0
		Watercress, per doz	1 0– 1 3

REMARKS.—Supplies of black Grapes are now decreasing, but fairly large supplies of Almerias (Spanish) are on offer. Californian Pears now available consist of Winter Nelis and Easter Beurré, the former packed in boxes containing 165 to 210 fruits, the latter 8 to 10 dozen. Californian Seedless Oranges are on offer, and also some fine fruits of Pines (St. Michael's). A consignment of Teneriffe Tomatos is due. Forced vegetables continue very limited in supply. *E. H. R., Covent Garden Market, February 12, 1919.*

Continued from page iii.

FOREMAN; thoroughly experienced, for Fruit and Plant Houses; must be specially good on Carnations, Cinerarias, and Chrysanthemums. State wages; good Bothy and vegetables; 1 o'clock Saturdays; overtime paid.—T. SIMPSON, The Gardens, Newstead Abbey, Notts.

WANTED, FOREMEN, Inside and Outside); JOURNEYMEN, Inside and Outside; English and Scotch establishments.—STEWART & CO., 13, South Street, Andrew Street, Edinburgh.

FOREMAN required for Glass Department; 25-30; single; Bothy, coal, and light. State wages required.—W. BURGESS, Whitney, Herefordshire.

WANTED, FOREMAN, for Fruit and Plant Houses. Also JOURNEYMAN. State experience, wages required, with Bothy and vegetables.—C. JENNINGS, Littlegreen, Petersfield, Hants.

WANTED, FOREMAN and JOURNEYMAN for the Houses. State age, experience, and wages, with Bothy, &c. — J. T. SHANN, Betteshanger Park Gardens, Eastry, Kent.

WANTED, JOURNEYMAN, with good experience, to take charge (under Head) of small range of Glass, chiefly Plants; good at Carnations; duty and overtime paid; 1 o'clock Saturdays. State wages, with Bothy, milk, and vegetables.—C. RUSE, Folly Farm Gardens, Sulhamstead, near Reading.

WANTED, experienced JOURNEYMAN, for Fruit and Plant Houses, to take charge. Also strong YOUTH for Outside; take duty; comfortable Bothy and attendance; overtime paid; 1 p.m. Saturdays. —Apply, stating experience and wages, HEAD GARDENER, Brockhampton Park, Andoversford, Glos.

WANTED, JOURNEYMAN, for Fruit and Plant Houses; wages 30s.; 1 o'clock Saturdays; 3s. for duty. State experience.—M. CROOKE, Kidbrooke Park Gardens, Forest Row, Sussex.

WANTED, JOURNEYMEN, for Pleasure Grounds, also Kitchen Garden; wages 35s. to 40s., including bonus, Bothy. — State experience to W. ANDERSON, Close House Gardens, Wylam-on-Tyne.

WANTED, Two JOURNEYMEN; Inside, First and Second, experienced in Fruit and Plant Growing; discharged men preferred; state particulars of experience and wages required; Bothy and attendance provided. to GEO. GURNEY, Bodnant Gardens, Taly-Cafn.

JOURNEYMEN. —Two required as FIRST and SECOND, for Fruit and Plant Houses; wages 28s. and 24s. respectively, with Bothy, milk, and vegetables.—Apply, with testimonials, to THE AGENT, Estate Office, Lavington Park, Petworth, Sussex.

WANTED, two JOURNEYMEN; one to take charge of House, one for Fruit Trees, Roses, &c.; under Foreman.—Write, stating experience, wages required, Bothy, vegetables, and attendance (1 o'clock Saturdays), to H. NAYLOR, Pleasaunce Gardens, Overstrand, Cromer.

WANTED, two JOURNEYMEN; one for the Houses, one for Pleasure Grounds. State age, particulars of experience, wages required; Bothy and attendance provided.—T. WARRINGTON, Foliejon Park, Windsor, Berks.

WANTED two JOURNEYMEN, for Fruit and Plant Houses.—Apply stating experience, wages required, with Bothy, &c., WINTER, Grove Gardens, Stanmore.

JOURNEYMEN; Inside; experienced.—W. HUNTER, Strathfieldsaye Gardens, Mortimer, Berks.

WANTED, experienced young MAN, single; Inside and Out; lodgings found near Gardens. State wages.—C. LUXFORD, Walmsgate Gardens, Louth, Lincs.

WANTED, at once, Two good IMPROVERS, for Lawns and Kitchen Garden; wages £1 per week and Bothy.—Apply, E. STUBBINS, Lyburn Park Gardens, Lyndhurst, Hants.

WANTED, Two IMPROVERS, one for Fruit and Plant Houses, the other for Inside and Out. State experience and wages expected, with Bothy and vegetables; 12 o'clock Saturdays. — Apply, A. H. CASEY, Huntroyde Gardens, Padiham, Lancs.

WANTED, LADY GARDENER; trained, Inside, Outside; work with ladies; live in. — Apply, stating references, experience, MISS HASELL, Dacre Lodge, Penrith.

WANTED, GARDEN LABOURER, with wife to do laundry work and care of chickens; wages 30s., good cottage and garden; laundry work and chickens paid extra.—Apply, HEAD GARDENER, Ellisfield Manor, Basingstoke, Hants.

WANTED, COWMAN, in about 3 weeks' time, to take charge of two cows and rabbits and assist in Kitchen Garden; single preferred; wages 32s.—M. ABRAHAM, Grove Lodge, Muswell Hill, Middlesex.

TRADE.

ROSE GROWER wanted; must be an energetic man; quick and successful budder.—Apply, stating experience, age, and wage required, to A. B., Box 17, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, two GROWERS for Tomatos and Ferns; must be experienced men and capable of taking full charge of their own department; wages 45s. weekly; overtime and bonus extra; Government controlled hours of work; single men preferred owing to housing difficulty.—W. S. WATNEY, LTD., Bostal Nursery, Bexley Heath, Kent.

WANTED, four experienced GARDENERS, for Jobbing and Landscape work; permanent. State wages.—J. WRIGHT, 13, College Avenue, Leicester.

WANTED, MAN, as GENERAL GROWER, in a small Nursery; good house and garden in Nursery.—Wages and all particulars to MANAGER, Sackville Nurseries, Hove.

WANTED, for Nursery, experienced GARDENER, to take charge of and carry out Seed Trials, raising of Seedlings, and Propagation; a capable Vegetable Grower and with a good idea of Landscape work; comfortable modern lodge, convenient to city. — Apply, with copies of testimonials, stating wages, age, if married, family, to WM. POWER & CO., Nurserymen and Seed Merchants, Waterford.

WORKING FOREMAN for Branch Nursery. PAUL & SON (Cheshunt), LTD., require a practical WORKING FOREMAN for their Branch Nursery at Cheshunt; a practical Budder, Grafter, and Knifesman, with a knowledge of Orchard Pruning and Fruit Picking. The Nursery is 31 acres, of which one-third is Farm.—Apply, stating experience and wages required, to PAUL & SON (Cheshunt), LTD., The Old Nurseries, Cheshunt.

WANTED, for small Nursery, WORKING GROWER; Chrysanthemums, Bulbs, General Pot Stuff, Tomatos, Cucumbers, for retail shop. State wages and experience.—NASH & SONS, The Nurseries, East Horsley, Surrey.

FOREMAN (WORKING); Glass; North of England; £160 per annum; must be capable, energetic, good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, FOREMAN, with good general knowledge of Nursery Stock, including Fruit Trees, Forest Trees, Roses, Shrubs, &c.; house, with garden, on premises. State wages required, with references.—JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

WANTED, energetic WORKING FOREMAN (Outside), with good general knowledge of Nursery work, Trees, Shrubs, Roses, &c.—Apply, with copies of discharge, ARTHUR S. RITCHIE & CO., Belfast.

WANTED, WORKING FOREMAN, for growing Carnations, Chrysanthemums, Tomatos, Sweet Peas, and one with knowledge of Orchids preferred. State wages.—Apply, C. F. WATERS, Dearfield Nursery, Balcombe, Sussex.

WANTED, a thoroughly up-to-date WORKING FOREMAN, for a Fruit Farm in the South of England; must be able to instruct students in all branches of Orcharding, Pruning, Spraying, Grafting, Budding, &c. Apply, "FRUTUS," Box 14, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, a good MAN for general Outdoor work; able to grub up trees, cut and lay turf, &c.—Apply, CARTER PAGE & CO., LTD., 53, London Wall E.C. 2.

WANTED, for Retail Nursery, useful MAN, principally for packing shed; rooms found for single man; cottage if married. State experience and wages required.—E. P. DIXON & SONS, LTD., Barton Constable, Hull.

TO MARKET GROWERS. — Wanted, for Monmouthshire, a capable MAN to develop Private Gardens on commercial lines.—State age, experience, wages, &c., to B. M., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, WAREHOUSEMAN, for Agricultural Department, Seed Trade, Waterford; preference given to one with experience of Grass Seed cleaning.—Reply, with copies of trade reference, stating when disengaged, and salary to "SEEDSMEN," Box 19, 41, Wellington Street, Covent Garden, W.C. 2.

SEED TRADE — Wanted, a CHARGE HAND; one who has a thorough knowledge of all Garden Seeds, Sundries, and Nursery Stock, and accustomed to a brisk counter trade.—Apply, with copies of discharges, to ARTHUR S. RITCHIE & CO., Belfast.

WANTED, FLORIST, for small suburban shop; good saleswoman and Floral Designer; wages and commission.—Apply, 34, Church Road, Wimbledon, S.W. 19.

LADY FLORIST wanted to take management of Florist's shop; also an ASSISTANT.—Apply, with references, stating age, experience, and salary required, T. K. INGRAM, Parkstone Nurseries, Dorset.

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Twenty-six words 1s. 6d., and 6d. for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office, 6d.

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Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

GARDENER (HEAD) or GARDENER-BAILIFF.—H. MARTIN GIBBS, Esq., Barrow Court, Flax Bourton, Somerset, can with confidence recommend his GARDENER, C. JONES, to anyone requiring a first-class man for large establishment; life experience all branches; previously 11½ years Head Gardener to the late Rt. Hon. Sir W. R. Anson, Bt., Pusey House, Faringdon; age 45; married (family away); life abstainer.—Apply, JONES, as above.

ADVERTISER seeks engagement as GARDENER (HEAD) or STEWARD and GARDENER, in good establishment; experienced in the management and development of large Gardens, Home Farm, and Estate Work; can be highly recommended as to character and ability; married; age 46. — Particulars to STEWARD, c/o Mr. T. Lewis, 45, Uxbridge Road, Hanwell, London, W. 7.

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GARDENER (HEAD); just demobilised; 2½ years in France, desires engagement; 25 years' experience; thorough knowledge of Fruit, Vegetable, and Flower Production; also stock and continuous cropping. Since the signing of the Armistice one of the 49th Division Instructors in Agriculture and Horticulture, at the French School of Agriculture and Horticulture, Wagnonville, Douai, where I have learnt the system of pruning and training Fruit Trees as taught by Professor Edouard Quesnay; age 38; married when suited.—RIDOUT, Red Lodge, Embley Park, Romsey, Hants.

GARDENER (HEAD).—Hry. COTTON is open to engagement with any nobleman, lady, or gentleman, requiring the services of a thoroughly practical man; skilful cultivator of choice Fruits, Vegetables, and Flowers; conversant with the requirements of an establishment in town and country; 26 years' experience gained in first-class establishments; 9 years as Head in last situation; age 40; married; one daughter (10).—Address, 54, Woodland Road, Northfield, Birmingham.

HEAD GARDENER, age 46, desires re-engagement; 34 years' practical experience, Inside and Out, good establishments; skilled cultivator of Vegetables, Salads, Choice Fruits, Plants, Orchids, Carnations, &c.; keen, competent, and energetic; 18 years' Head; highest references; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; Inside and Out; lifetime experience in large establishments; skilful cultivator of choice Fruits, Vegetables, and Plants; first-class qualifications as Head; energetic and hard working; trustworthy; Home Counties preferred.—F. W., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD), where four or more are kept; 20 years' thorough practical experience in all branches; 4 years last situation as Head; excellent references; age 35; married (one child).—REYNOLDS, Hillside Cottage, Dormansland, Surrey.

F. MONCKTON, Esq., Stretton Hall, Stafford, highly recommends his HEAD GARDENER; a thoroughly efficient all-round man; 18 years' practical experience, Inside and Out, gained in first-class establishments; excellent testimonials; age 33; married (no family).—A. NEAL, Stretton Hall Gardens, Stafford.

GARDENER (Head of four or more); 20 years' first-class experience in the cultivation of Fruit, Flowers, and Vegetables, Inside and Out, and management of well-kept Garden; excellent references; age 35; married (no family); disengaged.—RIDGEWELL, "Buckthorpe," Chertsey Road, Addlestone, Surrey.

SIR WILFRID PEEK, Bart., highly recommends his HEAD GARDENER, who has held position of trust over large establishment for past 20 years; thoroughly experienced in all branches; married; age 46.—BAILEY, Rousdon Gardens, Devon.

GARDENER (HEAD WORKING); 16 years' thorough experience in Fruit, Flowers, and Vegetables; Inside and Out; age 34; married; demobilised; 3½ years in France.—W. RICHARDSON, Clay Hill, Goudhurst, Kent.

HEAD GARDENER.—Previous to joining His Majesty's Forces for 14 years' Head Gardener to Col. A. H. Thurburn, Cransley Hall, Kettering; life experience in good establishments; well recommended; age 44 years; married. — Address, CHARLES FORD, Cransley, Kettering.

GARDENER (HEAD); life experience; efficient in the requirements of good establishments; first-class experience in all branches of Horticulture; 15 years Head; highest testimonials; age 44; one daughter (10); Army discharged, A1; disengaged.—J. A. PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (HEAD) seeks situation; life experience in all branches; demobilised from Army; 3½ years in France; last 18 months in charge of large Depôt Garden at Rouen; married; age 38 years; excellent references gained in large establishments.—Plase state wages and full particulars to F. PHILPOTT, Steeple Langford, Salisbury, Wilts.

GARDENER (HEAD), where several are kept; life experience in all branches; age 45; demobilised; expert with P.F. Carnations; 10½ years last place; good references.—R., c/o Mr. Simmons, 232, High Road, Wood Green, N. 22.

GARDENER (HEAD), where several are kept; thoroughly experienced in all branches, Inside and Out; age 47; personal recommendation.—H. TETHERTON, 51, Lorna Road, Hove, Sussex.

REVD. R. F. RUMSEY highly recommends his late GARDENER (demobilised) to anyone requiring a first-class man as HEAD, where several are kept; life experience all branches; Head 16 years; age 41; married (two children, 12, 9); understands electric plant.—Please state terms to PHILLIPS, 75, Wolverton Road, Stony Stratford, Bucks.

THE EARL OF JERSEY can highly recommend W. J. SHORT (married, no family) as a thoroughly capable HEAD GARDENER. He has had charge of the Gardens at Middleton Park for the last three years during the temporary absence on military duty of the permanent Head Gardener, who is now demobilised. He was 12 years in previous situation, and has excellent testimonials.—Apply, in first instance, to MR. W. D. LITTLE, Estate Office, Middleton Park, Bicester, Oxon.

MRS. BRISTOW, Borstaldene, Bickley, Kent, will be pleased to recommend her HEAD GARDENER to any lady or gentleman requiring a good, reliable man; life experience in all branches; demobilised; married; age 47; one daughter (15).—Apply, C. H. WOODERSON, The Lodge, Ravenshill, Chislehurst, Kent.

HEAD GARDENER of two or three; a thoroughly practical married man, without family, requires situation; well up in his work in all branches; middle-aged, and of good character. State wages given and if cottage provided.—T. K., The Bush, Milton Road, Mill Hill, N.W.

HEAD GARDENER, just demobilised, seeks Post in good establishment; life's practical experience in all branches; 3 years and 8 months Head to the Lord Bishop of Peterborough, previous to joining Colours.—A. MORPHETT, The Common, Cranbrook, Kent.

MR. F. JENNINGS, Chatsworth Gardens, wishes to recommend HENRY EDGE to any nobleman, lady, or gentleman requiring the services of a thorough practical HEAD GARDENER; life experience in all branches of his profession, including Carnations, Fruit, Kitchen Garden, and Pleasure Grounds; good manager of men; aged 33.

MR. JACKSON, Ford Castle Gardens, Northumberland, would be pleased to recommend D. J. HENDERSON as HEAD GARDENER, where several are kept; age 35; married (one child); life experience in all branches; just released from Army.—Apply, D. G. HENDERSON, Hinxworth, Baldock, Herts.

GARDENER (HEAD); age 42; married.—WILLIAM TURNER, 18, Blomfield Street, Bury St. Edmunds, is open for engagement with any lady or gentleman requiring the services of a thoroughly practical first-class man, both Inside and Out; very highly recommended; late Royal Air Force.

LADY JACKSON highly recommends her temporary HEAD GARDENER, where four or more are kept; well up in all branches; 18½ years' experience; married (no family); age 36.—W. JOHNSON, Stansted House Gardens, Stansted, Essex.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; lifetime experience; skilful cultivator of choice Fruits, Vegetables, and Plants; energetic and hard working; married (no family); age 47.—JOSEPH COLLINS, 22, Highfield Road, Chertsey, Surrey.

SCOTCHMAN requires permanent situation as HEAD GARDENER, where several are kept; where a fully competent man is required for producing choice Fruits, Flowers, and Vegetables; Inside and Out; good organiser; highly recommended; age 48; married (two children); Southern Counties preferred. Please state wages, with full particulars of requirements.—A. FYFE, "Clifton," Milner Road, Burnham, Bucks.

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GARDENER (Head of two) requires situation; 15 years' experience, Inside and Out; also with cows and poultry; single; aged 33; good references.—RAYNER, Frith Knowl Cottage, Elstree, Herts.

E. MILLER MUNDY, Esq., highly recommends his HEAD GARDENER, who has been with him 9 years, as a thoroughly capable and practical man; life experience in all branches; previously Chief Foreman at Sandringham; excellent testimonials; age 43; no family.—Apply, W. H. GOODMAN, The Gardens, Shipley Hall, Derby.

GARDENER (HEAD), with or without help; life experience, Inside and Out; good reference; repatriated Prisoner of War; released from Army when suited; age 31; married (one child); near London preferred. — L. RENAUD, 6, Grove Buildings, Manor Street, Chelsea, S.W. 3.

GARDENER seeks situation as HEAD of two or four; life experience in all branches; experienced Kentish Fruit and Rose Grower; married (no family); age 32. — Address, GODDEN, Heath Wood, Cranbrook, Kent.

REPATRIATED Prisoner of War (demobilised). — HEAD GARDENER seeks re-engagement; 35; married (two children); 18 years' experience in all branches.—Apply, JOHN G. DAVIDSON, Abbotsfield, Auchterarder, Perthshire.

HEAD GARDENER seeks re-engagement thorough experience in all branches of Horticulture, gained in good establishments (two sons, young men); excellent references.—H. BUCKLAND, Naboth Cottages, Gerrard's Cross.

GARDENER (HEAD), demobilised, open to re-engage with any lady or gentleman desiring the service of a thoroughly practical, trustworthy, life experienced man; first-class Fruit, Flower, and Vegetable Grower; Herbaceous Borders, Lawns, Flowering Trees, and Shrubs; age 43; married (one boy, age 10).—W. LEITH, School Cottage, Alton, Hants.

GARDENER (HEAD); life experience in all branches, Inside and Out, in good establishments; repatriated prisoner of war; released from Army when suited; age 31; married (one child).—C. RALPH, Eynsham, Oxon.

R. WALLACE & CO., LTD., Kilnfield Gardens, Colchester, can recommend an exceptional HEAD GARDENER; life experience in large establishments, and second to none as a cultivator. Also another HEAD, with exceptional experience in Hardy Ornamental Gardening.

HEAD GARDENER; thoroughly recommended; life experience in Fruit, Flowers, Vegetables, Pleasure Grounds, &c.; hard working and energetic.—Apply, ESTATE OFFICE, Honingham, Norwich.

GARDENER (HEAD); life experience all branches; thoroughly competent in growing choice Flowers, Fruit, and Vegetables under Glass; married (one child); pre-war Gardener returned. — CRICK, Marchwood, Southampton.

GARDENER (HEAD); practical experience Fruits, Plants, Kitchen Garden, &c., gained in good establishments; previously Head; married (two children); age 36; release on engagement.—T. LARKBEY, Mess 28, R.A.F., Isle of Grain.

MRS. SCOTT-BROWNE highly recommends her HEAD GARDENER; thoroughly efficient in all branches; 5 years' Head of five; demobilised; age 35; married.—WELLS, Outsey, Trull, Taunton.

VISCOUNTESS KNUTSFORD wishes to recommend her HEAD GARDENER, who is a thoroughly capable man; life experience in all branches; married; age 43.—H. SYMONDS, Kneesworth Hall, Royston, Herts.

MRS. PALMER highly recommends her late HEAD GARDENER for large establishment, with life experience very energetic and capable manager; excellent references; demobilised; A1; age 41; married (no family).—WESTRON, Marlston House Gardens, near Newbury.

GARDENER (HEAD), where several are kept; thoroughly experienced in all branches, Inside and Out; age 47; personal recommendation.—H. T., Box 21, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD or good SINGLE-HANDED); demobilised, Air Force; life experience, Inside and Out; handy, carpentry, painting, glazing; good references; 9 years present situation; married; age 46; one girl (age 12). State wages, with house and garden.—FARROW, 15, Mount Road, Braintree, Essex.

GARDENER (Head of two or three or good SINGLE-HANDED); age 33; married; life experience in all branches; Army discharge; highly recommended by previous employer.—H. SIMMONS, 18, Holly Park Road, New Southgate, N. 11.

GARDENER (HEAD WORKING), age 35, requires situation where others are kept; over 2 years in France; demobilised; previously 5 years Head of five; 19 years' experience, including Royal Gardens, Windsor, and Castle Gardens, Alnwick; married (no family).—Apply, B. JONES c/o T. Jones, Honing Fruit Farm, Worstead, near Norwich.

GARDENER (HEAD WORKING); 18 years' thorough practical experience all branches Horticulture on well-kept establishments; choice Plant, Fruit Culture under Glass, Pleasure Grounds, Fruit and Vegetable Culture, &c.; excellent testimonials to character and ability; now disengaged; age 34; married. Please state wages, &c.—F. KING, 13, Reginald Road, Northwood, Middlesex.

GARDENER (HEAD WORKING), demobilised, seeks re-engagement; 25 years' experience in large establishments, Inside and Out; excellent references from previous employers; also from the Army; age 37; married (no family).—SUTTON, 8, Leffern Road, Shepherd's Bush, London, W.

GARDENER (HEAD WORKING), where several are kept; experienced Inside and Out; Fruit, Flowers, Vegetables; age 38; married (no family); strongly recommended.—F. WICKS, 10, Kohinoor Avenue, Bushey, Herts.

GARDENER (HEAD WORKING), demobilised, requires situation; last post Head Gardener to the Rt. Hon. Lord J. Joicy Cecil; life experience in first-class establishment; energetic; good manager and producer of all choice Fruit, Flowers, and Vegetables, Early and Late Forcing, Expert Carnation Grower; excellent references; age 38; married (one child). — ARCHER, Goldings Gardens, Hertford, Herts.

GARDENER (HEAD WORKING). — Advertiser, demobilised, 3½ years' active service, requires situation as above; life experience, Inside and Out; excellent references; last place 2 years Head to Sir Charles Woldstein; previous 10 years Head to Hon. A. Hood; age 43; married (family grown up).—Apply, J. TUCK, Little Shelford, Cambs.

GARDENER (HEAD WORKING); life experience in all branches; 8 years as Head; demobilised; excellent references; age 35; married (three children).—G. A. BRUTON, Frimhurst Gardens, Frimley Green, Surrey.

GARDENER seeks re-engagement, HEAD or SINGLE-HANDED); life experience, Inside and Out; married (no family); good references; leave when suited.—SELBY, Scads Hill House, Orpington, Kent.

A GENTLEMAN highly recommends his HEAD WORKING GARDENER, where four or more are kept; 36 years' thorough practical experience, Inside and Out; age 53; near London preferred.—H., Quendon Hall Gardens, Quendon, Essex.

MRS PALMER, Marlston House, highly recommends her FOREMAN as HEAD WORKING GARDENER; disengaged; experienced in all departments in large Gardens, including Balcarres, Harewood House, Revesby Abbey, and other large establishments; highest testimonials as to character and abilities.—CROMBIE, Marlston, Newbury, Berks.

GARDENER (HEAD WORKING), where three or more are kept; ex-Army man, Active Service, demobilised; life experience in all branches; well recommended; age 29; married (one child, 3); disengaged.—J. CRUMP, Clutton, Handley, Chester.

GARDENER (HEAD WORKING); first-class experience, Inside and Out, in large establishments; 13 years previously as Head, 2 years present place; age 48; married (no family).—HEATH, The Lodge, Hillingdon House, Harlow, Essex.

GARDENER (HEAD WORKING); life experience in all branches; 5 years Head previous to Forces; previously 5 years Foreman, Newstead Abbey; highest testimonials from all previous employers; age 38.—HOWELL, 122, Derbyshire Lane, Hucknall, near Nottingham.

GARDENER (HEAD WORKING), just demobilised, Active Service, desires re-engagement with lady or gentleman requiring same; 25 years' thorough practical experience in all branches; excellent references; 12 years as Head; age 40; married. — HENRY BURFOOT, 2, Blenheim Cottages, Clayton Road, Hook, Surbiton, Surrey.

GARDENER (HEAD WORKING), age 43, seeks re-engagement, where four or more are kept; life experience in all branches, Inside and Out; 4 years in present situation; 14 years previous; disengaged March 8.—E. PEARCE, Duncote Hall Gardens, Towcester, Northants.

GARDENER (HEAD WORKING), where one or two are kept; 11 years' practical experience; Inside and Out; good references; age 30; married (two children); just demobilised, Cpl. R.A.M.C.—F. PRYER, Front Road, Woodchurch, Ashford, Kent.

J. J. JOICEY, Esq., highly recommends his HEAD GARDENER (WORKING), who has been with him 8 years, 3 previous); life experience in all branches of Gardening, both Inside and Out; recently demobilised; age 36; (married, one child, age 6).—W. ROLLETT, The Hill Gardens, Wormley, Godalming, Surrey.

GARDENER (HEAD WORKING), where others are kept; life experience in all branches; 11½ years as Head in last situation; good personal reference from previous employer; age 44.—REYNOLDS, The Grange, Butterley, near Derby.

GARDENER (HEAD WORKING). — Mr. DUMBLETON, Chipstead Place, will be pleased to highly recommend his FOREMAN to any lady or gentleman requiring a thorough good all-round GARDENER; life experience; 8 years in present situation; married; age 33.—A. GULVIN, Chipstead Place, Sevenoaks.

MR. CHARLES BEWES highly recommends his HEAD WORKING GARDENER of four or more; thoroughly practical all branches; over 2 years present situation; leaving through former Head Gardener demobilised; successful grower and exhibitor; age 48.—BREWER, The Gardens, Gnaton Hall, Yealmpton, Plymouth.

GARDENER (HEAD WORKING), discharged soldier, now quite fit, seeks re-engagement through financial difficulties of late employer; 18 years' good general experience; 4 years Head; age 34; married (two boys). — TOLHURST, Kinnersley Manor, Reigate, Surrey.

F. S. PHILLIPS, O.B.E., wishes to highly recommend L. BAGG as a thoroughly efficient HEAD WORKING GARDENER, where several kept; life experience in all departments; married (no family); age 32; abstainer.—BAGG, Sunnyside, Holmwood.

GARDENER (HEAD WORKING), where several are kept; life experience in the cultivation of Fruit, Flowers, Vegetables, and management of a well-kept Garden; well recommended; age 33; one child.—RIDGEWELL, 16, Lickson Road, Eltham, S.E. 9.

GARDENER (HEAD WORKING), where three or more are kept; skilful cultivator of Hardy Fruits and Vegetables; also Flowers; Inside and Out; highest references; age 37; married (one child, 3½).—A. W., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), demobilised, open to re-engage with any lady or gentleman; life experience in all Glasshouses, Kitchen Gardens, Pleasure Grounds; age 34; married; excellent references.—E. MESSIDER, 10, Sunney Hill Road, Hammerfield, Hemel Hempstead, Herts.

GARDENER (HEAD WORKING); life experience in all branches, gained in good establishments; can be thoroughly recommtnded by late employer; married when suited; age 34; Army discharge.—H. STEVENS, 4, Castle Street, Guildford, Surrey

GARDENER (HEAD WORKING), where several are kept; 13 years' experience in first-class establishments; Army dicharged; excellent references; age 32; one child. Please state wages.—S. WOODARD, 37, Camplin Street, New Cross, S.E.

GARDENER (HEAD WORKING).—E. W. LUFF, Groesfford, Threecocks, R.S.O., Breconshire, seeks situation as above; life experience of all branches in good establishments; 4 years as Head previous to enlistment; excellent testimonials; age 37; married (one child).

GARDENER (HEAD WORKING), just demobilised, seeks situation where others are kept; life experience in all branches of Gardening, Inside and Out; age 35; married (two children); good references—A. SPOLTON, Rose Cottage, Gordon Road, Curdridge, Botley, Hants.

HEAD WORKING GARDENER requires re-engagement. A very qualified, reliable, and energetic man, with excellent references; life time experiences in large establishments; a skilful Grower of all choice Fruits, Inside and Out, landscape, rock work.—Apply, J., c/o Taylor & Colbridge, Hall Gate, Doncaster.

GARDENER (HEAD WORKING); life experience all branches, Inside and Out; good references; war work last 3 years.—F. W. VENN, 7, Eton Street, Regent's Park, N.W. 1.

GARDENER (HEAD WORKING); good wages, house, &c.; recently demobiilsed; life experience general routine, practical Gardening; highly recommended; age 32; married (no children).—UPTON, Southplain, Plummersplain, Horsham.

WANTED, situation as HEAD WORKING GARDENER; age 30; married; good references; discharged from Royal Navy.—WELLS, 16, Barnsdale Road, Paddington.

GARDENER (HEAD WORKING); permanent or temporary; first-class life experience; good reference; age 38; demobilised.—H. MARTIN, 5, London Road, Kelvedon, Essex.

GARDENER (HEAD WORKING); life experience with Fruit, Flowers, and Vegetables; Inside and Out; 9 years Head; age 41.—TANNER, Gardeners' Cottage, Honeys, Twyford, Berks.

GARDENER (HEAD WORKING); just demobilised; life experience, Inside and Out, in good establishments; 12 years' excellent reference from last employer; widower, age 44 (two children, 14 and 10).—ARSCOTT, 48a, Westexe South, Tiverton, Devon.

GARDENER (HEAD WORKING) seeks engagement; practical experience, Inside and Out; well recommended; age 34; married; Army discharge.—W. GRIFFITHS, Keepers' Cottage, Ludford, Ludlow, Salop.

GARDENER (HEAD WORKING); life experience in all branches; for many years Foreman at Charlecote Park, Warwick; married (no family).—R. RODGER, 33, Market Square, Leighton Buzzard.

GARDENER (HEAD WORKING) requires situation; free when suited; exceptional character; aged 50 years.—POWELL, Hillside Cottage, Groombridge, Kent.

GARDENER (HEAD WORKING) seeks situation, where several are kept; life experience in all branches in good establishments; married (one child); excellent references. Please state wages and particulars. WILLIAMS, The Gardens, Rolls Park, Chigwell, Essex.

GARDENER (HEAD WORKING); life experience previous to enlistment; 2 years as Head last situation; good references; age 34; married (one child); demobilised; Home Counties preferred.—J. TAYLOR, 167, Victoria Street, London, S.W. 1.

GARDENER (HEAD WORKING or good SINGLE-HANDED, with help); just demobilised; Inside and Out; Flowers, Fruit, and Vegetables; good references; age 46; married (one child); South preferred.—SNOW, Tackley, Oxon.

GARDENER (HEAD WORKING or SINGLE-HANDED) seeks situation on demobilisation; life experience, Inside and Out; 4½ years here; age 40; married (three children); good reference. — KENCH, Gardeners' Cottage, Kemble Lodge, near Cirencester, Glos.

GARDENER (HEAD WORKING or SINGLE-HANDED); age 34; married; demobilised from Army. State wages.—H. SMITH, 18, Park Street, St. Peters, Tunbridge Wells, Kent.

GARDENER (SINGLE-HANDED, or with help); good experience, Inside and Out; age 26; good references; married (no family).—H. BRADLEY, Orchard House, Mickleton, Campden, Glos.

GARDENER (SINGLE-HANDED or with help) requires situation; thoroughly experienced, Inside and Out; married; well recommended. — P. MILLS, Reyntots Croft, England's Lane, Loughton, Essex.

GARDENER (SINGLE-HANDED); life experience in good places, Inside and Out; age 36; married (two children); excellent references; disengaged Feb. 22.—GARDENER, Sylvan Mount Cottage, Woldingham, Surrey.

GARDENER seeks situation; single-handed preferred; just demobilised; age 36; married (no family); well recommended; disengaged.—W. J. COVINGTON, Broom Hall Farm, Waltham Abbey, Essex.

GARDENER (SINGLE-HANDED or good SECOND); age 34; single; good references previous joining the Army. — Apply, J. ROGERS, Longcroft, Rotherfield, Sussex.

GARDENER seeks situation where two or several kept; first-class all-round practical experience, including Landscape Gardening; excellent testimonials; 2 years' Head; married; age 34; two children; 3 years' war service; just demobilised; leaving through place being sold; abstainer.—Particulars to A. WHITBY, The Cottage, Cholmley Lodge, West Hampstead, N.W. 6.

GARDENER requires post near London; thorough knowledge Market Gardening, Flower Gardening, &c.—Apply, MISS HAWKINS, c/o Agricultural Secretary, Women's Legion, 115, Victoria Street, S.W.

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GARDENER seeks situation; Inside or Out; married (no children); wife's help if wanted; just demobilised.—C. EAMES, 11, Daux Road, Billingshurst, Sussex.

GARDENER-HANDY MAN (SINGLE-HANDED) wants situation, with cottage; good with Vegetables, Fruit, &c., some Glass, two cows, poultry, &c; married (two children); hard working. State wages.—G. DARBY, Rectory Cottage, Southfleet, Gravesend, Kent.

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SECOND GARDENER seeks situation on demobilisation; age 28; 9 years' experience, Inside and Out; good references; Bothy preferred. — GNR. Read, 352,200, A Section, 10 M.A.A. Battery, Godmersham, near Canterbury, Kent.

GARDENER (SECOND) seeks situation; Inside and Out; can be recommended; married (no family); disengaged; South preferred.—H. T., B. 3, Bungalow, East Riggs, Dumfriesshire.

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FOREMAN or good SECOND; married; 15 years' good experience; Inside and Out; good references; expecting to be demobilised.—T. A., Box 17, 41, Wellington Street, Covent Garden, W.C. 2.

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JOURNEYMAN seeks situation, Inside and Out, in good establishment; good character; age 26. Army discharge when suited.—State wages and particulars to W. KENT, Brambletye, East Grinstead, Sussex.

JOURNEYMAN, in Houses in good establishment; age 21; 4½ years' experience; with good character; demobilised from R.N. — F. WADHAM, Grange Gardens, Steeple Aston, Oxon.

JOURNEYMAN (SECOND), Inside.—Mr. FULLER, the Gardens, Lavington Park, Petworth, Sussex, will be pleased to recommend F. MORGAN as above; 4 years' experience, Inside and Out; willing and respectable; age 18. Please state wages, with Bothy.

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JOURNEYMAN seeks situation, Inside, in good establishment; 8 years' experience; age 24; ex. soldier; Eastern Counties preferred.—E. CARTER, Shrubland Park Gardens, Coddenham, Ipswich.

YOUNG MAN, demobilised, age 21, seeks situation in Garden; previous experience; Bothy preferred. — SPINKS, Oldlands, Fairwarp, Uckfield, Sussex.

H. CHANDLER, Coombe Abbey Gardens, Coventry, wishes to recommend E. HARGREAVES as IMPROVER (Inside); age 19; Midlands or North preferred.

LADY GARDENER (HEAD WORKING); 10 years' experience; competent in all branches, seeks re-engagement in March; good references.—MISS L. A. MOORE, c/o Mrs. Butter, Shrivenham, Berks.

LADY GARDENER, well educated; 10 years' experience, desires work February under good Head, wishes extend knowledge Hardy Fruit; take duty; last 2 years' Glass Forewoman; preferably Home Counties and cottage. — GILBERT, Danesbury Bothy, Welwyn, Herts.

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LADY GARDENER desires Post as HEAD on small estate, Tomato culture; good experience and references; Surrey or Kent preferred.—Apply, MISS GRIMES, 165, Selsdon Road, South Croydon, Surrey.

LADY GARDENER requires post as HEAD, where five or six are employed; college trained; over 9 years good general experience; testimonials good.—MISS HEBDITCH, Silverlands, Chertsey.

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A KEEN and competent business MAN desires engagement as MANAGER in Market Nursery; 30 years experience in Cucumbers, Tomatos, Grapes, Peaches, Melons, Mushrooms, and General Market Work, both Inside and Out; excellent references. — Apply, "PRACTICAL," Box 19, 41, Wellington Street, Covent Garden, W.C. 2.

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FOREMAN (WORKING), married, requires situation, Cucumbers, Tomatos, Chrysanthemums, Roses, Bedding and General Stuff; good references.—A. BARNARD, 3, Rosslyn Cottages, Cadmore Lane, Cheshunt, Herts.

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SHOPMAN seeks responsible position in Seed and Corn Trade; capable of taking charge; age 39; good references.—Apply, W. BRACE, c/o A. McMullen & Co., Ltd., Seed Merchants, Bishop's Stortford.

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The Gardeners' Chronicle.

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Printed for the Gardeners' Chronicle, Limited, by Love and Malcomson, Ltd., Dane Street, High Holborn, London, W.C., and Published weekly by the Gardeners' Chronicle, Ltd. 41, Wellington Street, Covent Garden, City of Westminster, Saturday, February 15, 1919. Agent for Manchester, John Heywood.

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For Advertisement Charges see page xiii.

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Douglas Fir, thrice transpd.	4 to 5	300s.
Douglas Fir, Glauca, thrice transpd.	3 to 4	200s.
Douglas Fir, Glauca, thrice transpd.	4 to 5	300s.
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Chestnut, Horse	10 to 12	21s.
Chestnut, Horse	12 to 14	30s.
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Limes	12 to 14	30s.
Limes	14 to 16	42s.
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Oak, English	8 to 10	15s.
Oak, English	10 to 12	24s.
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Poplar, Black	10 to 12	12s.
Poplar, Black	12 to 14	18s.
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		Each.
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Cedrus Desdara	8 to 10	7s. 6d.
		Per doz.
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Yews, English	4 to 5	36s.
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WORKING HEAD GARDENER required for Cockley Cley Hall (4 miles from Swaffham, Norfolk), where four other men are kept; must have first-class testimonials as to character and ability, and be capable of producing a succession of Flowers, Fruit, and Vegetables, both out-of-doors and under Glass, and of discharging all other duties of a first-class Working Head Gardener, must also be competent to take charge of the water (hydraulic ram) and petrol gas supplies; if with one or two grown-up sons work could probably be arranged for them. Apply, in first case by letter, stating wages required, and full particulars, including number in family, to MR. J. A. ALLEN, Messrs. Chas. Knight & Co., Ltd., 227-239, Tooley Street, London, S.E. 1.

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SITUATIONS VACANT continued on page x.

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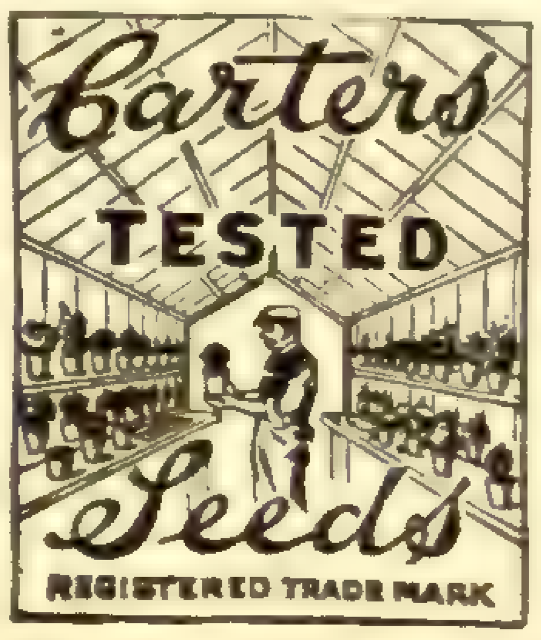

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IT IS THE STANDARD FOOD FOR PLANTS.

NEW SEEDLING APPLE, ST. CECILIA

R.H.S. Award of Merit, Jan. 15, 1918. *R.H.S. First Class Certificate, Jan. 28, 1919.*

MESSRS. J. BASHAM & SONS have decided to distribute stock of their seedling apple, St. Cecilia, in autumn, 1919. This is one of the very best dessert apples that has been offered for many years. The trees are of robust and sturdy growth, a regular and heavy bearer, and the fruit is of brilliant crimson colour, medium size, and of excellent quality; season, January and February.

Strong Maidens, 10/6; 2 year trees, 21/-; and a limited number of 4 year, 30/- each, all on paradise.

The "Gardeners' Chronicle," February 2, 1918, says:—

The new dessert Apple, St. Cecilia, was raised from Cox's Orange Pippin crossed with an unknown variety. The seedling has much of the excellent quality of the Cox's Orange Pippin parent, and is a dessert Apple of first-rate quality, keeping longer than Cox's; fruits shown at the R.H.S. Exhibition on January 15 by Messrs. John Basham & Sons were solid and juicy, without the least sign of shrivelling. To these qualities is added a strikingly handsome appearance, the fruits, though of small size, being as shapely as the best of Worcester Pearmain, and coloured a deep red all over, enhanced on the side next to the sun. The stalk is rather deeply set and somewhat slender. The illustration shows the fruits in their natural size. The variety will prove a valuable addition to late dessert Apples, and a successor to Cox's Orange Pippin.

The "Horticultural Advertiser," Feb. 5, 1919, says:—

Apple St. Cecilia (John Basham & Sons). A pretty, brilliantly-coloured Apple, just the right size for a table fruit. The quality is equal to the appearance; in fact we never tasted a better flavoured Apple at the end of January; a very promising novelty, and worthy the attention of all fruit-growers. (F. C. C.)

J. BASHAM & SONS,

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BIRMINGHAM,
NOVEMBER, 1919.

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£100 IN PRIZES
FOR POTATOES
WILL BE OFFERED BY
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THE NATIONAL HORTICULTURAL FERTILISER.

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Supplied by all Seedsmen and Nurserymen.
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LISTS ON APPLICATION.

THE

Gardeners' Chronicle

No. 1678.—SATURDAY, FEBRUARY 22, 1919.

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A REVIEW OF THE YELLOW ROSES

"WE want a Rose with the form, colour, and fragrance of Maréchal Niel, and as strong and hardy as Caroline Testout, so that it will grow and flower well out-of-doors with ordinary care."

This, or something to this effect, was the wish most commonly uttered by rosarians twenty years or so ago, with regard to yellow Roses, and the fact that a similar wish was expressed to me in the train a few days since by a well-known Rose grower, has led me to consider how far we have travelled on the road to this wished for goal.

That some progress has been made can scarcely be denied. We have, for instance, yellow Roses of various shades, some of which approach the pure, rich yellow of Maréchal Niel; even in form there has been some progress, but size and substance of the flower leave much to be desired, while we have nothing as yet with the hardiness and vigour of growth and general good behaviour in the garden of Caroline Testout, while fragrance appears as yet to be altogether wanting. It may be, therefore, that we are still a long way from the desired end, but it is never well to despair in Rose growing, and a new "break" may come when and where we least expect it.

Maréchal Niel itself is far from satisfactory as an out-of-door plant in this country, or at least in those parts of it with which I am best acquainted. Under glass we can get a good crop of flowers in spring, but in the open a few blooms on standards, usually malformed and rather late in the season, seem to be the best we can expect. As a climber, on a south wall, it may do rather better, but even there it is far from satisfactory.

As a starting point it may be convenient to consider the yellow Roses in cultivation at the end of the 19th centuary. The old double yellow Rose, which dated back to the time of Parkinson, and which he thought of great account from the variety and doubleness of its flowers, and Cloth of Gold (1843), had both been given up in despair from the difficulty experienced in inducing them to flower at all. The small-flowered Noisette, Celine Forestier (1848), was still grown to some extent, and Gloire de Dijon (1850) was popular, as with many it still is. It is, however, far from being a true yellow, having shades of pink and apricot, and though a full flower, has no pretensions to the form of Maréchal Niel. Mme. Falcot, which came a few years later (1858), marked some improvement in colour, and a standard of this Rose in full flower is still bright and pleasing, but the flowers are not large, and show little beauty of form. Rêve d'Or (1869), another Noisette, is one of the best of the group because of its lovely foliage, good growth, and freedom of flower. Its colour, though variable, is a buff-yellow, often with a tinge of apricot, and it is a wonderful autumn flowerer. It requires wall protection, however, to give its best, and considerable attention in pruning and training.

Mme. Bérard (1870) was a Dijon Tea, and slightly deeper in colour and better in form than the type, as also was Bouquet d'Or (1872), another buff-yellow Rose. Two dwarf Tea Roses also may be mentioned as among the first of the bedding Teas, Marie van Houtte (1871), lemon-yellow with a pink edge to the petal, and Anna Olivier, a very pale buff-yellow, but somewhat deeper when grown under glass. Perle des Jardins (1874) was a distinct advance, the colour often being a deep canary-yellow, but the flower is lacking in form and distinction. Wm. Allen Richardson (1878) is a fine, deep orange with small flowers freely produced; Gustave Régis (1890), nankeen-yellow, is beautiful in the bud and a good grower, but the flower is thin. Mme. Ravary, which appeared in the last year of the century (1899), is in many respects the most satisfactory yellow Rose that had then appeared. Its habit of growth is short, stocky, and yet vigorous, and it has a good constitution, which makes it a satisfactory garden Rose. The form of the flowers also shows considerable improvement, and the colour in early summer is a good apricot-yellow. The autumn flowers, however, become increasingly poor in colour as the season progresses, and at its best the colour is far from the pure golden-yellow of Maréchal Niel.

It will be noticed that down to this period the yellow Roses were, with a few exceptions, drawn from the Noisettes and Dijon Teas. The first year of the new century, however, gave us an entirely new departure in yellow Roses. This was obtained by M. Pernet-Ducher, who sought to introduce the strain of the old double Persian Yellow, the origin of which is lost in antiquity, among our garden Roses. The first of the new break was Soleil d'Or, obtained from Persian yellow and Antoine Ducher, and the colour was certainly striking. The plant, however, was scarcely satisfactory in the garden, showing many of the characteristics of the well-known Austrian Yellow and Austrian Copper. It was difficult to manage; it seemed to resent pruning, and yet if left to itself soon became leggy and unsightly, and the branches would not infrequently die back in the winter. It was not very free flowering, and the flowers themselves were of a somewhat primitive type and of little beauty of form; but, defective as it was, it held the promise of better things in store.

The same year (1900) appeared Sulphurea, another bedding Tea. This Rose has most beautiful bronzed foliage, which sets off its sulphur-yellow flowers well. These are good early, and again in autumn, the summer flowers being generally less valuable. The blooms are very thin, with no great number of petals, and best in the bud state. Still, it is a good garden Rose and a useful bedder, though the individual flowers are not long-lived.

Lady Roberts, which appeared in 1902, is a coppery-orange sport from Anna Olivier, and a useful bedding Tea Rose, with good foliage. The deep orange colour is very variable, but at its best is very fine, and the Rose, of the decorative type, is one of the best. Its fine orange colouring seems to come particularly well in the hands of the raiser, Mr. Frank Cant, which may indicate that it responds readily to liberal cultivation. Souvenir de Pierre Notting (also 1902) is, when at its best, a beautiful exhibition Tea Rose, and the plant is a good grower, but the outside petals are so rough, and the flower so easily spoilt by rain, that it has proved a disappointment in most gardens. Passing over Joseph Hill (1903) as containing too much salmon-pink for our purpose, and Le Progrès (1904), a useful decorative Rose in its day but of little beauty of form, I come to Mme. Mélanie Soupert (1905), one of the most beautiful and refined in form of any of the full Roses we have. It was an especial favourite of the late Mr. Edward Mawley, and has the distinction, which is, I think unique, of being described in the N.R.S. Rose Catalogue as "one of the most beautiful of all Roses." It is, moreover, of good constitution, and useful alike as a bedding Rose, for exhibition, or decorative treatment. Its defects are that from an exhibitor's standpoint its petals are rather easily bruised during transit, and that the colour of its later blossoms is not so good as that of the early ones. Like many yellow Roses, the colour seems to gradually fade out as the season advances. One might almost have thought here was the Rose all have been seeking for, but it is not so, for the colour of Mme. Mélanie Soupert is far from the pure golden-yellow desired. The colour is difficult to describe, as may be seen from the N.R.S. description, "pale sunset-yellow suffused amethyst!" When one knows the flower one can perhaps see all this in it, but a stranger to it would, I fancy, hardly recognise it, and would rather conjure up in his mind something of the rainbow hues we find in Beauté Inconstante, and to such a one I would rather class it as a buff-yellow with a brighter or glowing centre. We owe this Rose also to M. Pernet Ducher.

Instituteur Sirdey was of the same year (1905), and may perhaps be described as a deeper coloured and stronger-growing Le Progrès. I once planted a bed of Mme. Ravary, Le Progrès and Instituteur Sirdey, intending yearly to weed out and replace the less satisfactory plants, and within a few years Mme. Ravary had the bed to itself. As in Le Progrès, the flowers are lacking in form.

The next year, 1906, produced two Roses quite remarkable for their deep orange-yellow. Lena is a little decorative Tea, of pretty shape and extremely useful for a button-hole flower, and worth growing for this purpose alone, but the growth and constitution are not good enough for a first-class garden Rose. The other is Marquise de Sinéty, golden-yellow, shaded copper. This also has proved somewhat difficult as a garden plant; for a time the growth is usually good, but the plants seem short-lived, and to require frequent renewal or re-budding.

Harry Kirk (1907) was classed as a Tea, a distinction it scarcely merits. The flower is of fair form and a bright sulphur-yellow, but (*pace* the R.H.S., which has included it in a list of mildew-proof Roses) it is one of the Roses most susceptible to mildew in the garden, otherwise both foliage and growth are vigorous and good. Other yellows of this year were James Coey, pretty in early summer, and Mrs. Aaron Ward, a Rose at one time highly popular in America. The flower is of the decorative type, of fair form, Indian-yellow in colour, paling to white at the edge of the petals. It is a nice little Rose, and tolerably free from disease, but I think without much distinction as a flower.

Mrs. A. R. Waddell, reddish or coppery-yellow, is a nicely-formed decorative Rose, with good growth and very pronounced thorns on the stems. The colour is particularly striking in plants grown under glass. *White Rose.*

(*To be concluded.*)

JANKAEA HELDREICHII.

The charming plant illustrated in fig. 31 has been introduced into this country several times, but few growers have been successful with it, and now it is extremely rare, probably not existing in half-a-dozen gardens. Some fine examples have been shown at meetings of the Royal Horticultural Society by Sir Everard Hambro. Among other places, it was also successfully cultivated and well flowered by Mr. T. H. Burroughes at Ketton some twenty years ago. At Kew a plant was kept in a cold frame for some years, but it could never be increased, and it eventually died. The species is said to be very rare in its native home on Mount Olympus, in Thessaly, where it grows at an elevation of from 4,500 to 8,000 feet. Like the well-known Pyrenean Ramondia in habit, the upper side of the leaf is covered with white, silky hairs, while the under-side is covered with a thick brown felt. The rosettes of leaves are about 3 inches across, and the deep blue flowers are borne two or three together on stems 2-3 inches high during the summer months. With the coming of peaceful times there is a possibility of further importations of this desirable plant, when efforts may be more successful in establishing it in rock-gardens, especially in those gardens that are not within the smoky fog radius. *W. I.*

Fig. 31 Jankaea Heldreichii: flowers deep blue.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM EVERSHOTENSE.

Eustace F. Clark, Esq., Evershot, Dorsetshire, sends a pretty first flower of a very small plant raised between Odontoglossum Lawrenceanum (Rolfeae × triumphans) and O. gandavense (ardentissimum × Vuylstekeae), which was purchased as a seedling in a batch from Messrs. Sanders, at Messrs. Protheroe and Morris's Sale Rooms, some years ago. The species entering into the composition of this variety in varying degree are O. triumphans, O. Pescatorei, O. crispum, O. Harryanum, and O. luteo-purpureum. Features which readily present themselves in the flower suggest O. Wilckeanum albens in the form of the slightly incurved sepals and petals; O. ardentissimum in the colouring, and O. triumphans in the crest of the lip and its shape. It is a pretty and distinct flower which may develop satisfactorily on a strong plant. The ground is white, uniformly blotched with mauve, the blotches being divided by irregular white bands. The lip is white, closely spotted with dark mauve and fringed at the margin. This Orchid was raised in Messrs. Sanders' nursery at Bruges.

THE SELECTION AND PROPAGATION OF PARADISE STOCKS.

(*Continued from page 72.*)

Of Paradise stocks which are undoubtedly of inferior character, are those of Type 3 (possibly Dutch Doucin, nick named by us "Holly-leaved," which has an evil habit of suckering badly at the collar, whilst it is very liable to Black Spot and Mildew on the leaves and shoots, and appears quickly to deteriorate. Type 8, the French Paradise, cankers and scabs badly on our soil, and in a few years the stools deteriorate, and even die out altogether.

At the present time, then, it would appear safe to recommend commercial fruit growers to ask for their bush trees preferably upon Broad-leaved, Doucin, or Nonsuch Paradise stocks. I think they may reasonably expect a rather more vigorous tree, and therefore possibly less early maturing upon the Broad-leaved. If these three stocks are unavailable, then our Type 7 appears to be quite a desirable stock, somewhat similar to the Doucin, but less coarse and feathered. If the grower is looking for a tree of less permanent nature to be used as a "filler," one would feel inclined to recommend either Type 5, the Improved Doucin, or the still more dwarf Type 4, Malus pumila.

From the nurseryman's point of view, undoubtedly the Broad-leaved and the Improved Doucin are the most easily propagated types which produce a stock of a quality altogether desirable for budding or grafting. Such, at any rate, is the six years' experience upon our soil, which may be described as a lightish loam. To sum up, our efforts have been in two directions: 1, to ensure a generally higher level of young trees for the fruit-grower, trees which may reasonably be expected to fulfil certain predictions; 2, to help to supply the nurseryman with a healthy, standard-sized stock, easy to propagate and suitable for a definite purpose.

We have made the first step in both directions with regard to Apples, and we have collected information enough to enable us to work on similar lines with other fruit tree stocks.

Whilst the full influence of the stock upon the scion is at yet imperfectly understood, one practical result at any rate is assured, i.e., a much more general uniformity in vigour and health of the young tree, an advantage both to the raiser and the grower.

Fruit tree raisers of all classes have only too often in the past relied upon "buying in" the bulk of their stocks from abroad. The raising of stocks is almost an industry in itself, and I do not suppose it will ever become a part of the business of the smaller nurseryman or of those who do not specialise in commercial fruit trees, but it is worth pointing out that, although some of the foreign nurseries have carried out this business on a larger and more accurate scale in the past than some of our own, yet they do not produce, so far as I have been able to ascertain, a single stock of two of the most valuable types of Paradise for this country, i.e., Type 1, the true Broad-leaved, or Type 6, the Nonsuch Paradise.

The bulk of the Paradise stocks from France is the true Doucin (Type 2), commonly sold on the market as "English Paradise," and very frequently wrongly as "Broad-leaved English Paradise." The other types which the French nurseries supply are the Improved Doucin (Type 5) and the Jaune de Metz Paradise (Type 9), to both of which I have already referred as possessing a value of their own for distinctly dwarfing trees. Finally, they supply the true French Paradise (Type 8), which is altogether unsuitable for this climate. From Holland, the other country to which we have looked most in the past for a supply of stocks, we receive a certain amount both of the Doucin and the Improved Doucin, and also a considerable bulk of that very distinct and dwarfing Type 4, which we have referred to as probably "Malus pumila." Both these countries need to adopt steps similar to those which our own Horticultural Trade Association is encouraging, in order to purify their stock.

Meanwhile, without raising the controversial question of these imports, our own stock raisers have a clear field for raising the true Broad-leaved Paradise, which there seems no doubt will be ever in greater demand. The wholesale destruction of trees in parts of France, the general impetus given to replanting and fresh planting, and the world-wide neglect and consequent shortage of stock beds should give us on this side of the water encouragement to increase our production of home-grown stocks as systematically and rapidly as possible during the next few years.

It is with these facts in mind that I have already summed up the general conclusions arrived at with regard to the various dwarfing Apple stocks, and that I now append for the information of those interested some details as to the results of experiments in the various methods of raising the most desirable types.

Stool Propagation.

At the outset of our experiences we resorted to planting out the stocks we received, 4 feet apart, with 6 feet between each row. We now plant them at 3 feet, with the rows 4 feet apart. These stocks were of average size for working.

but we allowed them to stand in the ground a year before heading them back for stools. Early in the second spring they were cut back to within two or three buds from the ground level, and as soon as the resulting shoots had grown out 4 or 5 inches we started earthing them up, usually early in July. This process of earthing was repeated several times during the growing season, until the stool appeared as a small mound some 6 to 12 inches high.

At the end of the growing season the mound of earth was drawn away with a fork and the stool stripped of all its shoots. We found it best to leave the stool thus uncovered until the new shoots had grown out again to 5 or 6 inches in the coming spring, then the whole process was repeated. Stools thus treated from 1912 onward are still in full bearing with us.

Certain points are worthy of notice:—

1. We started our stools slightly wider apart than necessary in the first instance in order to be able to keep separate any admixture we might find.

2. The first year or two the new stools produced fewer and coarser shoots than they are doing now. These rooted less regularly than those of medium strength, and were often too coarse for working after six months' bedding.

3. The amount of established rooting that we obtained as a result of our careful earthing up well repaid us for the labour expended. Our rooted shoots, and with most types nearly 100 per cent. rooted, compared very favourably indeed, with one- and even two-year bedded stocks from other sources.

4. We found the wood of the current year's growth much more ready to root adventitiously than hardened wood of the last year's growth.

The number of rooted shoots obtained annually varied somewhat, according to the type of Paradise, but generally it increased as the individual shoots became less coarse with the age of the stool. It would probably be fair to average the annual take per stool as 7 or 10.

Laying the Stock.

As an alternative method of stock-bed making we tried planting each stock in the first instance on the slope, so that we could lay the whole along the surface of the ground. As before, we allowed the stock to establish itself for a season before taking any layers off it. At planting the stock was lightly tipped, and the lateral shoots cut to within a bud or two of the main stem. As with the stools, we found it better to leave the stock uncovered until it had sent out shoots some few inches long. This it was induced to do all along the stem as a result of the tipping and cutting in. The whole stem was then moulded over several times in the season as before, which process we started the first year in this case, and in the course of a season or two we found the whole stem rooted in the ground. A whole series treated in this fashion affords a continuous row of stocks. This is a safe method where one is sure no rogueing will be required. From a commercial point of view, provided all the stocks are true, we recommend this laying method for several reasons:—

1. It is inclined to produce rather more shoots annually, and apparently they are more even in quality.

2. The less freely rooting types, such as Doucin, Type 4, and Type 7, appear to root distinctly more readily this way.

3. The individual stocks are straighter than those off the stools already described, where the weight of earth gives them a noticeable bend.

4. The actual earthing process is easier by this method, and could probably even be performed by the use of a strike-plough.

The Severing of Stocks from Stools.

With some varieties which root adventitiously as far as earthed up, such as Broad-leaved, Improved Doucin, and Nonsuch Paradise, we found it quite simple, either with a Hop knife or very strong secateurs to cut the rooted layers from the parent stool. But with types which root mainly towards the base, and even then somewhat shyly, we found it necessary to tear them off from the parent, often with a slight heel of old wood. It might be supposed that this drastic treatment would materially injure the stool in the coming year, but so far we have not found this to be the case, though certainly less damage is done on the laying system than to individual stools. In the former system especially it is quite easy every now and again when the row seems getting worked out to renew it by leaving here and there strongish shoots and pegging them down in the gaps.

As regards the rooting habit generally of these one-year shoots, it is nearly always the medium growths which root well and form the best quality stocks. The coarsest growths in every type root most shyly, and we make it a practice now to break out these when the season is advanced enough. On the contrary, the finest growths, the whips and feathers, are almost as shy to root, but we find these very useful in the laying system to cut in each year to two or three buds which in the following season produce several admirable stocks, which root readily. As already stated, as the stool matures the quality of the stocks appears to increase.

The Bedding of Stocks.

In many commercial nurseries which I know, little or no earth is drawn up to the stools from which are annually taken shoots of any age which appear to be of a workable size. These are often sparsely rooted or not rooted at all, and they may be regarded more or less as cuttings. They are bedded in the ground for a year, are treated as cuttings, and then transplanted into their permanent position for working. In other words, they are at least eighteen months old before they are fit for budding, and they may have been several years upon the parent stools before that.

From the point of view of quickness and labour-saving, our method of rooting well the one-year shoots on the stool saves 12 months, for we find that all the medium growths, and that is the vast majority, are fit to plant out at once as stocks, requiring no bedding, and they take the bud well in the coming summer. In the country's present shortage of stocks, surely this is a great consideration; moreover, the one- and two-year bedded stocks above described do not compare in rooting vigour with this type. We have now budded and grafted several thousand trees on stocks raised in this manner, and everyone testifies to the vigour of the maiden trees.

A small minority of the stocks raised by the methods we have described of course require bedding for a season, because they are not stout enough to work, but even then they are much better rooted than the average bedded stock. *Reginald G. Hatton, Director, South-Eastern Agricultural College, Wye, Kent.*

(*To be concluded.*)

FIG. 32.—ALLIUM KANSUENSE IN ITS NATIVE HABITAT.
(See p. 84.)

THE ALPINE GARDEN.

ALLIUM KANSUENSE.

THE dainty little blue Garlic illustrated in fig. 32 is not so hardy as several other species, but I grew it for a considerable number of years until an almost arctic winter deprived me of my bulbs. It is a small, delicate-looking plant, some 6 inches or so high, with charming, drooping blue flowers. My plants grew well in dry, sandy soil, and, but for the untoward winter, which was such as only comes once or twice in a lifetime, it would have been with me still. I have not replaced them as there have been so many others to become acquainted with. But Allium kansuense may be commended to the consideration of those who love out-of-the-way and beautiful little bulbous plants. It is, I believe, still obtainable from the trade. *S. Arnott.*

[The illustration in fig. 32 is reproduced from a photograph taken by Mr. Reginald Farrer on the Roterdspitze.—EDS.]

HERB-GROWING.

THE war has taught us many lessons. It has revealed to us the fact that we have neglected an industry and thus necessitated the importation from Germany and Austria of plants and herbs used in medicine and for cooking purposes. It is true there are to be found herb farms that are worked in connection with pharmaceutical manufactories, notably at Mitcham, Carshalton, Hitchin, Ampthill, Wisbech, and one or two other places, but these are not sufficient to meet the needs of the country. There is also a herb-growing school and nursery at Chalfont St. Peter, under the directorship of Mrs. M. Grieve.

This new industry is one that should commend itself to all lovers of outdoor occupations—allotment holders and others—and there are undoubtedly many such who could spare a few square yards of their land for the cultivation of a few herbs.

The question of soil should be considered, and to make a beginning a few of the commoner kinds grown—Parsley and Mint on a clay soil, Thyme and Sage on a chalky soil. Later, the Poppy might be grown; it is one of the plants the Board of Agriculture strongly recommended for cultivation. Its cultivation combines profit with patriotism, present prices being high, and likely to be maintained for some considerable time.

Individually, a herb-grower may not be able to do much, but it might be possible for a few holders to unite on a co-operative basis, and cultivate such herbs as may be easily disposed of in the open market, the several holders harvesting at the same time and sharing the profits.

It is therefore to be hoped that herb-growing, instead of being confined to a few, scattered here and there, will be recognised as an industry which will commend itself to many who will take up the work feeling that they are providing for the wants of the nation from both commercial and medical standpoints. *J. C. Wright.*

BULBOUS CHERVIL.

LATELY we have been rejoicing over dishes of this vegetable, and all friends who partake of it acclaim its merits, and take more than one helping. We usually serve it as an "entremet" by itself, but it would lend itself well to use as a "force" for turkey or guinea-fowl where a chestnut stuffing is appreciated. I fancy that many uses could be made of it, such as in pudding form with chocolate. We have the roots boiled whole and the skins removed afterwards, and our cook informs me that the contents "pinch" out readily, especially if the roots are kept in the hot water till they are treated, as if they are dried off the skins do not part so readily; smaller sized roots can be dealt with by the ordinary Potato-masher, in which the skins are retained by the gauze screen.

In the cultivation, the great point is to remember that when exposed in the ordinary way the seeds lose their germinating power. My first attempt to grow it was with seeds supplied in ordinary packets in the spring, which one of our leading seedsmen supplied; naturally, not a single seedling appeared. Either the seeds must be sown soon after they have ripened (e.g., in October), or they must be preserved by storage in layers with dry earth, and sown, if possible, about February; if the pot containing them is sunk in the soil and sheltered by a slate or cloche, they keep well, but are apt to commence germinating in February. On the whole, it is better to sow without storage, and keep a pot full of "stratified" seeds in case of accident. A rich soil appears to be requisite, and one may, perhaps, assume from the wants of other sugary roots that a liberal supply of potash should be forthcoming; water, too, must not be stinted in dry weather. A friend once remarked to me that he would not try growing this vegetable, as he could not supply "the sewage and sunshine of Rome."

The small, delicate seedlings, which start forming round little "tubers" whilst still in seed leaf, are rather difficult to thin, but good spacing is requisite to get roots of fair size. The ground is soon cleared for another crop, as by the end of June the Chervil may be lifted—in fact, it facilitates matters if the leaves are not allowed to die off completely ere the harvesting takes place. Owing to the early loss of germinating power, it is probably advisable to put out a few of the best roots for seed production. So far as my experience goes, slugs seem to be the only enemy, and no disease has so far appeared; as noted with Sugar Parsley, blossoms on some plants "miff off" for some reason or another, so that for seed-saving it is well to have several plants. *H. E. D.*

NOTES FROM BELGIUM.

M. LOUIS GENTIL informs us that the annual meeting of the Royal Linnean Society of Brussels was held on January 26, while the British troops were marching through the streets of Brussels. M. Jean Massart, chairman of the Royal Society of Botany, and Professor at the University of Brussels, proposed the following motion, which was unanimously passed:—"The Royal Linnean Society of Brussels, meeting together for the first time in annual meeting since the liberation of Belgium, January 26, 1919, has decided: (1) To remove from its list of members, and not admit in future, Germans, Austrians, Bulgarians, and Turks. (2) That its members shall resign from all societies of the Central Powers, and refuse to exhibit, to act as jurymen, or to take any part in any horticultural exhibition anywhere where Germans, Austrians, Bulgarians, or Turks are invited: in fact, to cease their collaboration in any enterprise where they would meet men of the Central Powers. (3) To stop the exchange of its publications with the societies of the Central Powers. (4) To engage its members to stop all individual exchange of publications or works with natives of the Central Powers. (5) The Society decides to exclude for ever those of its members who have compromised themselves with the enemy during the abhorred occupation."

Mr. Arthur De Smet, president of the Général Association of Belgian Nurserymen, and chairman of the High Council of Horticulture of Belgium, has been appointed State Counsellor for Horticulture, attached to the Board of Agriculture.

The great question of the American prohibition of the importation of plants in the U.S. is viewed with great concern by Belgian horticulturists.

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Cucumbers.—Seedlings raised as previously advised should have made good progress, and be ready to plant out on the hot-bed, which should be prepared six days previous to planting. This allows time for the bed to settle and the compost to become warm. A suitable soil at this season consists of three parts turfy loam and one of flaky leaf-soil, with a little mortar-rubble to keep the compost porous and sweet. Place it in hillocks at 3 feet apart and 8 inches in depth to receive the young plants, and just cover the whole of the hot-bed with the same compost. Plant, and stake to the bottom wire, at which position stop the leading growth; train thinly, and do not overcrop. Maintain a moist atmosphere, but water very carefully until the plants are well established. A temperature of 65° at night, rising to 85° by day, with sun-heat, will suit these young Cucumbers.

Autumn-Sown Onions.—Should the weather and the soil be favourable, seedling Onions should soon be transplanted. Lightly fork over the surface, adding a dressing of burnt garden-refuse. Rake level the surface, and plant in rows at 1 foot apart, observing the same distance from plant to plant. All spare plants should be taken from the seed-bed and planted thickly and firmly on a side border for early use. If Shallots and Garlic are not yet planted lose no time in inserting them at a foot apart each way.

Onions under Glass.—Onions sown early in the year will now need pricking off into boxes. The plants should first have developed three or four good roots; they will then be in a position to grow sturdy and strong. Use soil composed of three parts loam and one part each of sand and finely-sifted Mushroom-bed manure. Prick out at 3 inches apart, and grow on in a temperature of 50-55° for the present. Later, inure the seedlings gradually to more fresh air in readiness for April planting.

Cabbage.—The weather has been very trying for this indispensable crop. Give every aid, when possible, by frequent hoeings, with broadcast sowings of soot and wood-ashes, also fill blanks with spare plants from the seed-bed.

Turnips.—Make a sowing of Turnips on a very gentle hot-bed, in a layer of 6 inches of prepared soil. Do not unduly force the plants. Good varieties for this sowing are Long Forcing and Red and White Milan.

Potatos.—When the weather permits, stores and clamps should be examined and the tubers turned. Break off all growths, so as to retain the firmness and flavour so essential to good cooking qualities.

Red Cabbage.—Now is an excellent time to sow this crop. Sow in boxes in gentle heat, and prick off when ready into other boxes, planting out at the end of April.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Soils.—Certain land is more adapted for fruit-growing than others, and to grow fruit successfully it is necessary to have a knowledge of the composition of the soil. Manures that will suit one kind of soil are not always the best to use in other cases. A rich loam may be considered the best rooting medium for fruit trees; loams are mixtures of clay, sand and humus, the clay and sand being in small quantities. Sandy land incorporated with clay and decayed vegetable matter may be made a good fruit-growing soil. Clay soils, when drained, limed, and lightened by adding sand, are also suitable for fruit-growing. Clay soils should be turned to a good depth and exposed to the weather for a long time before making an attempt at planting. Well-drained peaty soils mixed with loam and

lime are suitable for fruit-growing. Loamy marl constitutes one of the best soils for fruit-growing, especially for Cherries and stone fruits. All marly soils are not good, as some contain an excessive amount of clay, whilst others are too porous. In almost all cases soils may be made suitable for fruit-culture provided the necessary work is done and the necessary ingredients, of which they may be short, are added.

Preparations for Grafting.—Trees intended for grafting should be headed back, but not in frosty weather. The stumps are best left a little longer than they will be when the graft is inserted, to allow of cutting down to fresh tissue. Select well-ripened shoots of last year's wood for grafts; place them in a trench under a shady wall and cover them nearly to the tips with soil till they are wanted for grafting.

Winter Treatment of Raspberries. This consists of cutting out the old canes and weak growths and, where trellis-work is used, tying the shoots about 6 inches apart. Clear away all rubbish and weeds and apply a mulching of farmyard manure about 2 inches thick. The soil about Raspberries should never be forked deeply, as this would damage the surface-roots; all that is necessary is to remove the weeds. Where farmyard manure is not available a mixture of 4 parts superphosphate, 3 parts kainit and 4 parts bone-meal, at the rate of 4 lbs. to the rod, may be given. All this work is best done in the autumn, but it may be undertaken now. All canes not required for forming arches should be shortened to 6 feet or less.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Thunia.—Although the Thunias are now referred, botanically, to the genus Phaius, they form a remarkably distinct, beautiful, and graceful group of Orchids, and I know no others of equal merit more easily grown and propagated. The plants can be grown in an ordinary plant stove, freely exposed to the light, but shaded from the fiercest rays of the sun, and where the atmosphere is kept humid. At this season of the year the plants will show signs of growth, and when the young shoots are about 2 inches long new roots are freely produced from their base, therefore repotting should take place before this stage is reached. Annual repotting is necessary, and all the old material should be shaken from the plants, while the roots, being dead, must be cut away, except a short length to help keep the bulbs firm in the new material. The pots require extra good drainage, as Thunias need a large amount of water at their roots when in full growth, and they also need only a moderate amount of soil, therefore the pots require to be filled to one-third of their depth with drainage material. The compost should consist of two-fifths peat, two-fifths fibrous loam, and one-fifth Sphagnum-moss. Use this in a rough state with plenty of coarse sand and crushed crocks added to keep it open. By using 24-sized pots four or five stems may be planted together, and to fix the plants with the greatest ease each old stem should be tied tightly to a neat stake, so that when the pot is prepared and the soil brought up to about an inch below the rim, the stakes may be fixed in the pot, just leaving the base of the stem in the soil. Water must be given somewhat sparingly at first, but as the roots begin to fill the pots and the young growths extend, more will be required. Frequent damping between the pots and occasional overhead sprayings will do much to encourage growth.

Propagation.—Strong stems will each produce two or more young growths, and provide a means of increasing the stock. Thunias will grow readily from cuttings, and the best time to take cuttings is when the plants have become firmly established and the new growths are about half grown. Then remove about half the length of each old stem, cut these into lengths of about 6 inches, and insert close to the sides of a pot filled with sand and chopped Sphagnum-moss. Place them in a warm propagating frame, and when new growths are produced, pot them singly and give the plants every attention. They will not require a long rest the first season, and it will be at least two years before such plants grow to flowering size. Where a stock of Thunias is grown a few plants should be started earlier and others kept back for a time, so as to prolong the season of flowering.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to C. H. Berners, Esq., Woolverstone Park Gardens, Ipswich.

Early Vineries.—Vines in the earliest house will now be progressing rapidly, and thinning the berries should receive early attention. This work should be carried out boldly, so that it will not be necessary to thin the bunches again. By this time all growths should be tied into position, and the laterals kept pinched back, allowing sufficient growth to extend to provide a good spread of foliage without crowding. When the berries are swelling freely, and up to the time of their ripening, lateral growth is very slight, and due account of this should be taken into consideration when shoots are being stopped in the early stages of growth. The temperature fluctuates so rapidly at this time of the year that much harm may be done in a few minutes by faulty ventilating. Maintain a humid atmosphere, but not excessively so, and aim at a night temperature of from 60° to 65°, allowing a rise of 10° during the day.

Second Early Vines.—During the flowering period afford a somewhat drier atmosphere and admit a moderate amount of fresh air, according to the climatic conditions. Black Hamburgh and Foster's Seedling Grapes require little assistance beyond a sharp tap on the Vine about mid-day, to assist fertilisation, but setting may be further assisted by lightly drawing the hand over the bunches. If not already done, all superfluous bunches should be removed to relieve the strain on the Vines. Stopping and tying down the growths must be closely attended to, and where it is desirable to lay in young rods the best placed growth near the base of the Vine should be allowed to grow on unchecked to a length of 5 to 6 feet, when it may be stopped, the ensuing growth being allowed to extend the full length of the old Vine before further stopping is required.

Late Vineries.—The necessary work preparatory to starting late Vines should be completed without delay, and the house kept close, without fire-heat, until the buds commence to burst, when a little fire-heat will be beneficial. In the colder districts it is advisable to start the latest Vines by the end of February, and a week or ten days later in more favoured parts. Referring to an old note-book I find the latest house was started about February 21, in the north-east part of Yorkshire. Grapes from this house kept up the supply until the earliest forced bunches were fit to be cut.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Zonal Pelargoniums. — Pelargoniums required for the decoration of greenhouses or conservatories in summer should be transferred to 6- or 7-inch pots, using fresh loam and leaf-mould mixed with a plant food. Place the plants in a warm house. When the pots are well filled with roots, give the latter a liberal supply of manure water. Varieties of Zonal Pelargoniums suitable for winter flowering may be propagated from cuttings inserted now and the old plants retained for planting in the open.

Climbing Plants.—The present is a suitable time to prepare climbers for the coming summer, either in a warm conservatory, a warm plant house, or a cool greenhouse. For the former structure Allamandas, Bougainvilleas, Clerodendron Thomsonae (syn. Balfouri), and Stephanotis are suitable kinds if planted in a border not exceeding 3 feet square. For slender-growing plants less space will be needed. Provide good drainage, and soil composed of fibrous loam, peat, and sand. In the case of old-established plants, remove some of the old top soil, sprinkle a little good plant fertiliser on the exposed surface, and apply a top-dressing of fresh soil. Thin out and cut back the previous season's growth. For a cool greenhouse red and white Lapagerias, Passifloras, Plumbago capensis, Swainsonias and Fuchsias are suitable subjects. Lapagerias grown in a cool house, preferable on the back wall of a house facing north, well repay careful attention. Provide a border 2 feet wide and 4 feet deep; put in 2 feet of drainage material, on this place turves of loam, and then fill in with a mixture of good loam, peat, sand and lumps of charcoal. Given these conditions Lapagerias will make strong growths, but as these are liable to be destroyed at an early stage by slugs, protection must be provided by means of sulphur, lime, or soot, or rings of zinc. Train the shoots up the back wall and along under the glass roof. If grown in pots, good drainage is equally essential for Lapagerias.

Achimenes. — Place the Achimenes tubers thickly in shallow boxes, cover them lightly with soil, and provide a temperature of 60° until they make a little growth, when the plants may be transplanted into pans or hanging baskets for conservatory decoration.

Foliage Plants. — Where it is desirable to raise a fresh stock of ornamental foliage plants, Crotons and Dracaenas may be ringed now. Roots of Dracaenas cut into small pieces, put in pans in sandy soil, and plunged in bottom heat, offer a ready means of increase. Coleus and many other plants may be propagated from cuttings at this season of the year.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Herbaceous Paeonies. — The varieties of herbaceous Paeonies are numerous, and include many with beautiful colouring and some that are sweetly scented. They should be given a good, open position, and be planted in deep, mellow loam with plenty of rotted manure added; the site should be well drained.

Paeonia Moutan.—The tree Paeonies should be given a partially sheltered position, and in severe weather a little protection should be afforded. Bracken or light strawy litter distributed amongst the branches will prove effective. Well-established plants need feeding to assist them to maintain vigour and to produce good crops of bloom; a good mulching of decayed manure, especially if the soil is light and poor, will greatly help the plants.

Summer Bedding.—If the designs for the coming season have been decided upon the stocks of plants and seeds should be examined in view of propagating. Pelargoniums and many other useful subjects will be scarce, therefore annuals may have to be employed freely. Chrysanthemums in variety, Coreopsis, Clarkias, Dianthuses, Gaillardias, Eutoca viscida, Godetias, Lavateras, Malopes, Phlox Drummondii, Poppies, Asters, Stocks, Salvias, Scabious, Tropaeolums and Antirrhinums are all useful, and may be employed for summer flowering, both in beds and borders, with good effect.

Pelargonium.—Where Pelargonium cuttings were rooted in boxes last autumn, for bedding-out purposes, now is a good time to shake them free from the old soil and pot them into 3-inch pots, in a sweet and light compost. Pot moderately firm. Place one or two plants in each pot and stand them in a warm greenhouse to encourage fresh roots. Keep the soil just moist and do not over-water. If more plants are needed allow the leading growths to elongate, and when sufficiently long cut them off and insert them as cuttings. Placed in heat these should root quickly and develop into useful plants.

Propagation of Dahlias.—Examine the stored Dahlia roots, and if the stock is to be increased put some in light soil in boxes and place them in gentle heat. As soon as the young growths are large enough, stock may be increased by cuttings or division. For cuttings the very sandy soil must not be kept too moist. Seeds of both double and single strains of Dahlias may be sown at once. If carefully attended to and given every encouragement, fine plants will be obtained by the first week in June, and these may (assuming they have been duly hardened) then be planted out on rich land.

EDITORIAL NOTICE.

Special Notice to Correspondents. — *The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, FEBRUARY 25—
Roy. Hort. Soc. Coms. meet: Lecture by Capt. Arthur Hill, M.A., at 3 p.m., on "The Care of Our Soldiers' Graves."

SALES FOR THE ENSUING WEEK.

WEDNESDAY, FEBRUARY 26—
Sale of Rose and Fruit Trees, Herbaceous Plants, Begonias, Flower Seeds, &c., at 67/68, Cheapside, by Protheroe & Morris, at 1 o'clock.
Sale of several hundred cases of Retarded Japanese Lilies at 67/68, Cheapside, E.C. 2, by Protheroe & Morris, at 4 o'clock.

THURSDAY, FEBRUARY 27—
12,000 Fruit Trees, Apples, Pears, Plums, and Cherries, &c., at The Nurseries, Halton, near Feltham, by order of Messrs. S. Spooner & Sons, by Protheroe & Morris, at 12 o'clock.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 40.1°

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, February 19, 10 a.m.: Bar. 29.28; temp. 41°. Weather—Dull.

Plant Dyes. To the botanist who takes an interest in the chemical attributes of plants, no less than to the professional chemist, the publication of a full and authoritative account of the natural colouring matters of plants* is a noteworthy and welcome event.

The authors, who are well known for their researches in the chemistry of plant pigments, have produced an exhaustive work, to which the botanist may turn with the certainty of finding all that is at present known on the important and difficult subject of the chemistry of plant pigments. It is the fault not of the authors but of Nature that the chemical constitution of these substances is so complex; but in spite of the formidable formulæ which represent the constitution of flower- and other plant-pigments the serious student who has some general knowledge of chemical principles will be able to obtain probably for the first time a clear understanding of the nature and mode of formation of vegetable pigments. From the industrial point of view this work is in a sense an obituary notice which commemorates the virtues of bodies which once played a conspicuous part in the world, but which are now all but industrially defunct—having, as is the way of the world, been superseded by artificially produced substitutes.

Such is the fate which has befallen the queen of natural pigments, Tyrian purple—the dye derived from a marine mollusc, and such that of Madder, at one time the most universally used of all pigments. Natural indigo still lingers in the land of the living colours, but is fighting for its life with synthetically-produced indigo.

It is small wonder that the ancient world made use of plant dye stuff, for once the art of mordanting became known, it was soon discovered that almost every kind of plant is capable, in the presence of a mordant such as alum, of yielding a more or less valuable dye stuff—Onion skins, Alder bark, Walnut skins, fungi of various kinds, dry Heather—still used in remote districts of Scotland and Ireland—as well as hosts of plants of tropical origin have all been used, for, besides making colours for the adornment of her flowers and fruits, Nature has supplied to almost all her children of the plant world colourless or yellow chemicals known as flavones which, when used with mordants give yellow or green dyes. These colourless or faintly coloured mothers of dyes occur in the plant in combination with sugar, in the form of glucosides. When the plant tissues are destroyed the combination of sugar and potential dye is broken up, often by the agency of enzymes contained in the plant itself, and the potential dye is transformed into a gaudy colour at the chemical touch of a mordant. Thus it may be claimed for Nature that her potentiality for beauty is greater even than her actual display, lovely though that be. Known long years ago to Egyptians, Persians, and Indians, Madder is one of the most ancient and important of natural dyes. It is extracted from the root of Rubia tinctoria, which in many countries is called alizari—hence the name, alizarin of its artificial supplanter.

To the botanist the most interesting of the natural pigments are those known as anthocyans, which give the blue, purple, and red colouration to flowers. Thanks to the researches of Willstätter, Everest, and others, the chemical constitution of these pigments has now been settled beyond doubt. They are closely related chemically to the yellow or colourless flavones to which reference has already been made. The blue, for example, of the Cornflower is now known to be a potassium salt of a complex compound which in the free state has a violet colour, and the red a combination between this substance and a plant acid. In the plant the anthocyan is in the form of a glucoside, though a small amount of the uncombined, i.e., non-glucoside pigment, known now as cyanidin, may also be present.

When oxidised the cyanidin gives rise to a yellow substance which is, or closely resembles, a "flavone." Similarly, by reduction, red pigments are to be obtained from the flavones. Thus the laboratory at long last has succeeded in discovering the nature of the raw material from which these natural pigments are produced by the plant and the method whereby they give rise to pigments. Much, however, remains for the botanist to discover before it can be claimed that Nature's infinite book of secrecy may be read right through. He must be able to tell us how it is that the colours of plants are in general so stable, and how different varieties of a species contrive to breed perfectly true to a definite shade of colour. It is true that there are examples of flower colours which change as the daylight passes, but they are rare. How Nature makes constancy out of such inconstant things is the puzzle here as elsewhere.

In any case, the scientific botanists and the hybridists are deeply in the debt of the authors of this work, and will profit greatly by the labours of the authors not only in writing it but by their researches, which made possible the writing of many of its most valuable pages.

* *The Natural Organic Colouring Matters.* By H. G Perkins and A. E. Everest. Monographs on Industrial Chemistry. (Longmans, Green & Co.) 1919. 28s. net.

Coloured Plate in our Next Issue. — The issue for March 1 will contain a supplementary, full-page, coloured illustration of Odontadenia speciosa. Readers should see that this illustration accompanies each copy of the *Gardeners' Chronicle* of the above date.

Allotments in the London County Council's Parks.—It is announced that holders of allotments in the parks administered by the London County Council will have to surrender their plots on January 1, 1920.

Horticultural Degree.—At the annual meeting of the Royal Horticultural Society, held on the 11th inst., the Chairman, Sir ALBERT ROLLIT, stated that the society had been the means of linking up elementary and secondary horticultural education with scientific training at the University of London, on the Senate of which he had moved and carried the conferment of Degrees in Horticulture, which had thus been, for the first time, raised to University rank. The first examination for the Degree of Bachelor in Science for Horticulture, for which there were already five candidates, is just about to take place.

New Roses at Bagatelle.—A trial of Roses will be conducted at Bagatelle, Paris, during 1919-1920. Plants sent for trial should, so far as possible, be raised in pots, and five at least of each variety are required; they should reach Bagatelle before April 30 next. The plants will be inspected by the jury during two seasons, and the final awards made in October, 1920.

Wart Disease in the South.—According to the Parliamentary Secretary to the Board of Agriculture, wart disease was first reported among the Potato crops in Kent in 1914. Eight cases were reported in 1918—including one case in the administrative County of London. In certain districts in the North of England the planting of susceptible varieties has been prohibited, but the approved immune varieties that are allowed to be planted in these areas include some of the heaviest cropping varieties under cultivation. As regards the movement of disease from the infected areas of the North of England, under the Wart Diseases of Potatos Order of 1918 the planting of Potatos grown in an infected area is prohibited except in that or in another infected area. In several cases in-

fection has been traced to "seed" imported from Scotland, especially of the Arran Chief variety, and the Board have under consideration the issue of an Order prohibiting the movement into England and Wales of "seed" of the susceptible varieties from Scotland without due safeguards.

Allotments at Bushey Park.—The Allotments Committees of the Hampton and the Teddington District Councils are endeavouring to persuade the Office of Works to extend the tenure of the allotments in Bushey Park. Owing to the lateness of the season when the ground was available for cultivation and the prolonged bad weather at that time, the results which the holders obtained from their plots were so discouraging that, particularly as the plots have to be relinquished at the end of this year, few are inclined to work them. It was hoped that the Office of Works, in view of the need for Food Production, would be inclined to let the land for a period of five years. To this request the official reply is that the authorities are unable to vary the conditions stated in their letter of March 18 last, but the use of the ground would not be withdrawn until the crops which will shortly be planted had been secured. It was then, however, decided to make a further application to the Office of Works, and to send a copy of the correspondence to the Middlesex War Agricultural Committee, requesting support for the Council's application. In the meantime, the Hampton Wick Cricket Club is anxious to get a portion of the ground in order for cricket during the coming season.

A Chair of Forestry at Edinburgh.—At a meeting of the Edinburgh University Court, on the 18th inst., a letter was read from the Treasury intimating that an advance of £7,000 by way of a grant from the Development Fund would be made to the University in aid of the endowment of a Chair of Forestry on the condition already accepted by the University—that the remaining £7,000 required was provided by the University from other sources. The Court resolved to institute a chair.

Appointment.—Mr. William Clark has succeeded Mr. Robert Walker as superintendent of the Aberdeen Public Parks and Gardens. Mr. Walker has retired after nearly half a century's service. His successor was for nearly five years in charge of Duthie Park, where he has done excellent service.

Public Gardeners' Increased Wages.—The Metropolitan Borough of Bermondsey has increased the wages of under-gardeners employed in the public gardens and open spaces to 45s. weekly. A war bonus of 20s. is also being paid to the whole of the garden staff.

Open Spaces as War Memorials.—At a recent meeting of the Metropolitan Public Gardens Association particulars were given regarding the planting of 41 acres of land acquired as a war memorial adjacent to Wimbledon Common, for which a sum of £7,000 is required. The Association draws attention to the advantages attaching to open spaces as war memorials.

Dwarf Rhododendrons.—In recent years collectors in Western China have sent home a large number of low-growing Rhododendrons that promise to be specially suitable and valuable for the rock-garden. In *Notes of the Edinburgh Botanic Garden* Prof. Bayley Balfour enumerates some thirty-four species belonging to the lapponicum section, all but three of which are found in China. Several of these dwarf Chinese species are in cultivation in this country, and one of the earliest introduced is R. intricatum. Seeds of this species were sent home by Mr. E. Wilson when collecting for Messrs. J. Veitch and Sons, who raised plants which flowered in March, 1907. A specimen was exhibited at the meeting of the Royal Horticultural Society on March 19 of that year under the name of R. nigro-punctatum, and was awarded the R.H.S. First class Certificate. On further examination it was found not to be that species but R. intricatum. R. intricatum is a densely branched shrub which in its native habitat grows from 1 foot to 3 feet high; it flowers profusely in a very early, small state. The small leaves are crowded and persistent, and are densely clothed with small scales on both surfaces. Terminating the branches are lilac-coloured flowers, mostly in clusters of five, and they are produced very freely during the early spring. The undivided bloom is about three quarters of an inch in diameter, and opens almost flat, with the stamens shorter than the corolla. The species has proved to be free-growing, easily propagated by cuttings and seeds, and adapted for growing in masses in large beds. Closely allied is R. fastigiatum (see fig. 33), one of Messrs. Bee's introductions, seeds having been sent home from Yunnan by Mr. Forrest. This species appears to be dwarfer and more spreading in habit, with smaller leaves and deep lilac flowers, in which the stamens much exceed the corolla. Another and still dwarfer species is R. prostratum, which Mr. Forrest found up to a height of 16,000 feet on the Lichiang range in Yunnan, where it grew only a few inches high, trailing over rocks at the extreme limit of vegetation. R. prostratum has hairy leaves and large, wide-open, rosy-purple flowers.

[Photograph by E. J. Wallis.

Fig. 33.—Rhododendron fastigiatum flowering on the rock garden at Kew.

Publications Received.—United States Department of Agriculture Bulletins. (Washington: Government Printing Office): - ***The Work of the Belle Fourche Reclamation Project Experiment.*** By Beyen Aune; ***Report of the Porto Rico Agricultural Experiment Station, 1917***; No. 727, ***Anthracnose of Cucurbits.*** By M. W. Gardener; No. 677, ***Soils of Southern New Jersey and their Uses.*** By J. A. Bousteel.—University of California Publications: ***The Use of Lumber on Californian Farms.*** By Merritt B. Pratt. Bulletin No. 299. (Berkeley: University of California Press.)

CONFESSIONS OF A NOVICE.

FROST AND THAW.

WHEN the thaw came, although the "bone" was still in the ground, I could not restrain my eagerness to put in operation my reconstruction scheme. Unfortunately the Ministry of Reconstruction had omitted to offer me guidance—at least, of the multitude of counsel which it has vouchsafed to us I have seen no pamphlet on the Reconstruction of the Rock Garden. So, free from Government control, I proceeded to carry out my own scheme in my own way. I did little, but I learned much. What I learned is, I suppose, only what every gardener knows, but nevertheless I set it down for the benefit of the rising generation of novices. Just now, of course, they will not read it, for they are engaged in explaining to us how inefficient we all are. It is good for us who have bored the young with advice, to get some of our own back, and they who have done the fine things in the war have a right to despise us who have only done the finicking things—grown food and suffered our hearts to break with the news of their suffering and loss. So though to me the flowers of my garden may never have the brightness they used to have, I still go on tending them, because some day, when the eager young have reformed the world and buried us, they, tired of their Titanic task, will come back to the garden, and perhaps love what we have lost. Besides, it is less tedious to go on learning as we go on living, and when all is said and done a story with a moral is less dull than a cinema. So to my morals! When, after moving freely through the patch of soil which I stirred last autumn, I broke the prongs of the fork in the unstirred frozen ground, I realised the value of the frequent stirring of the soil which all good gardening books recommend.

The frozenness of the unstirred soil when the stirred had thawed, showed well how the stirring helps the drainage—for the cause of the frozenness is to be attributed to the excess of water contained in the unstirred soil. I was pleased at this effort of reasoning, and remembered my school lessons on the latent heat of water, and Humboldt's explanation of the reason why baked Apples burn your mouth —because water takes a lot of cooling, and conversely a lot of heating. Thus I discovered why some of my choice things were looking miserable; their roots were rotten owing to the water-logged soil, now frozen, in which they were embedded. A little kindly stirring of the crust once or twice in open autumn and winter weather would, I think, have saved them. I should like to know the views of expert gardeners on this theory of what may be called the winter mulch. The summer mulch protects the plant from the risk of too little water, and the winter mulch from that of too much. What is the rate of heat-radiation from a finely broken surface in comparison with that from an unbroken surface of soil? In the case of a light soil which is rather late because of insufficient means of drainage, would it be better to stir the top 3 or 4 inches once or twice in late autumn or winter, and then to dig it in early spring, or to follow the—with me—usual practice of leaving it alone till digging time? What I gained in better drainage should I lose in increased loss of soluble food by the leaching action of winter rains? I don't think I could lose much more, for as it is I seem to lose everything delectable to plants, and must manure constantly to get any but vegetables fit for Liliputians. Some will say trench! But it does not seem as though trenching helped much in this light soil, which behaves like sand in summer and like clay in winter, when it covers itself with a skin and waterlogs itself.

The forcing effect of frost is always fascinating, and this year showed up beautifully in the Pear buds, which, dormant until the recent spell, now show their mosaic of brown and pearl. Now that they have signalled the return to life of garden trees, and with the Crocus sheaves appearing, the sleeping beauty of the garden is stirring in its bed, instinctively making ready to be wakened by the kiss of spring. To be candid, I plucked this pretty metaphor from the leaves of the *Gardeners' Chronicle.*

The last of the Leeks are off the lawn, and in their place I shall hope this spring to grow Red Fescue and Poa pratensis, and trust that my venture in vegetables may be rewarded by a better turf than languished on the lawn before the war taught us the virtue of cheerful sacrifice, and wore out our nerves so that we begin already to forget the lessons which it taught. *A. N.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Dimorphism in Polygonum amphibium.—It is well known to botanists and others that two forms of Polygonum amphibium are met with in a wild state. For some years the dry land form was recorded under the name of P. a. terrestre, but the name has been abandoned, in the belief that there is no permanency or distinctness between the two forms, but that one would give rise to the other if the conditions were reversed. I have not made the experiment any more than has Sir Herbert Maxwell (see p. 33), but in 1885 I gathered the two forms in such proximity that they could easily have been one and the same plant. They were certainly in one and the same colony. On the grassy bank of a canal, about 1 foot above the level of the water, the dry land form, with very short petioles and long, lanceolate leaves, was growing freely and flowering. Other stems from the face of the bank at the same spot extended over the water, and bore short, broad leaves with petioles 2 inches long. These stems were flowering even more profusely. It is my experience that the species always flowers most profusely when growing in water, and that acres of low-lying and slightly damp land may be more or less covered with the terrestrial state without showing a single spike of bloom. I have flowers, however, from a bank 6 feet above the level of a river. Alisma ranunculoides also has a marsh and a floating state when the water is sufficiently deep to lengthen the leaf-stalks. *J. F.*

Romneya Coulteri.—If your correspondent, *T. J. Hicks*, examines the tips of the growing shoots, he may possibly discover the cause of this plant "going blind." A very minute greenish caterpillar feeds on the embryo flower-buds (one grub to each bud), the foliage showing no damage at this stage. If this is found and destroyed in time the result will probably be a glorious blossom terminating every "branch." I have not discovered what fly or moth lays the egg. *M. C. H., Co. Dublin.*

—— I agree with Mr. T. J. Hicks that Romneya Coulteri is not worth the trouble of growing if his plants are the same as mine—i.e., seedlings. I have had two plants growing at the foot of a south-east wall in a narrow border for the past five years, and during that time, although good growth was made, both by cutting down the plants to the ground-line as well as treating them otherwise, I have not had six satisfactory flowers from them. Plants from layers or suckers taken from a good source previously flourished in the same site, and flowered continuously into the autumn. *E. M.*

Wireworm and Mustard (see p. 64). — Mr. Fryer states: "Wireworms will not eat Mustard if they can get anything else." It would be interesting to know if any of your readers hold the opposite opinion, that, indeed, the wireworm feeds on the Mustard so ravenously that they burst themselves. *Jonathan Fiona, Ultima, N.B.*

Gardeners' "Victory" Memorial. — I was especially interested to note the generous space given in the issue of February 1 to the report of the Gardeners' Royal Benevolent Institution. It has survived the war period, although the funds are a little restricted. Yet we note the same generous spirits are still at work, giving of their (shall I say in many cases) diminished incomes as freely as in past years. Gardeners throughout the country are greatly indebted to these gentlemen, who act so generously toward members of their profession. I doubt if any other profession can boast of such generosity; in connection with this charity a united effort should be made during 1919 to obtain subscriptions for the Institution from every gardener or past gardener in the country, to establish a reserve fund as a lasting memorial to those gardeners who have given their lives for their country during this terrible war. A little while ago I ventured to suggest the erection of a tablet in the Horticultural Hall to the memory of gardeners who had fallen in battle. This, of course, would be in addition to the greater memorial, which might also be shared by the Royal Gardeners' Orphan Fund. I venture to suggest that most gardeners would subscribe a little towards such a memorial as this. Other suggestions for a gardeners' memorial may be forthcoming, but the one I propose is worth consideration. Mr. Reginald Cory's action in contributing the sum of £500 to the Gardeners' Royal Benevolent Institution in spite of the fact that the Institution was unable to raise the sum he stipulated, and further to renew his offer for this year, 1919, was exceedingly generous. I only hope that with the aid of the festival dinner about to be resumed more than the stipulated sum may have been contributed. *G. A. Cranstone.*

Silver Leaf Disease.—About 16 years ago a Barrington Peach tree at Rotherfield Park developed Silver Leaf badly. The tree was growing under glass. I cut the most affected parts clean out, and then attended to the roots—in my opinion there lies the source of all the trouble—adding fresh and rich compost. The tree answered to the treatment, and made growth, and has borne good crops of fruit every year since, without showing any trace of Silver Leaf. *Wilmot H. Yates, Alton, Hants.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

FEBRUARY 11.—*Present:* Mr. E. A. Bowles, M.A. (in the chair), Col. H. Rawson, Messrs. W. Hales, W. C. Worsdell, and F. J. Chittenden (hon. secretary).

Nectria cinnabarina.—Mr. E. A. BOWLES showed a branch of an Acer covered with the numerous coral spots produced by this fungus in its fruiting stage. The fungus is exceedingly common on a variety of woody plants. It is a wound parasite, invading and killing the healthy tissue about the wound, and not producing its fruit until it has killed the wood invaded. The treatment consists of cutting out the infected portions well behind the part on which the fungus fruits are produced and behind any parts showing a brown discoloration in the wood.

Hardy Maize.—Prof. R. C. PUNNETT sent an exhibit showing ripe cobs of two varieties of Maize ripened in Cambridge, one yellow, the other cream, and both of the hard-corn type. These had been raised by him by crossing different varieties as recounted in *Gard. Chron.*, January 11, 1919. A Certificate of Appreciation was unanimously recommended for the work done by Prof. PUNNETT in raising these varieties.

Primula variabilis and Narcissus Tazetta var. —Mr. G. C. DRUCE sent specimens of the hybrid between Primula vulgaris and P. veris with small coloured flowers, often grown in gardens under the name P. variabilis, and found in abundance near Pulborough in an apparently wild state. He also showed a form of Narcissus Tazetta, near "Paper White," collected as an escape near Yiewsley, Middlesex.

TRIALS OF BRUSSELS SPROUTS AND CARROTS.

The following awards have been made by the Royal Horticultural Society after trial at Wisley:—

BRUSSELS SPROUTS.

Awards of Merit.—Dundee, sent by Messrs. Barr and Sons; Favourite, sent by Messrs. Artingstall.

Highly Commended.—Dalkeith, sent by Mr. Scarlett, Musselburgh; Holborn Exhibition, sent by Messrs. Jas. Carter and Co.; Rosny, sent by Messrs. Barr and Sons. *Commended.*—Aigburth Giant, sent by Messrs. R. Veitch and Son; King of the Market, sent by Messrs. Barr and Sons; Perfection, sent by Messrs. E. W. King and Co.; Darlington, sent by Mr. Scarlett.

CARROTS.

Highly Commended.—Early Frame, Early Queen, both sent by Messrs. Barr and Sons; New Intermediate, sent by Messrs. R. Veitch and Son. *Commended.*—Champion Horn, Improved Long Red Surrey, both sent by Messrs. Sutton and Sons, Reading; New Scarlet Intermediate, sent by Messrs. Sydenham, Ltd.; Perfection, sent by Messrs. Dickson and Robinson.

HORTICULTURAL CLUB.

FEBRUARY 11.—The annual general meeting of the Horticultural Club was held at Anderton's Hotel, Fleet Street, on this date. The president, Sir Frank Crisp, occupied the chair. The hon. secretary read a letter from the chairman and treasurer, Sir Harry J. Veitch, regretting his inability to be present owing to indisposition. The chairman announced that owing to difficulties of travel caused by the railway strike, the annual dinner fixed for that evening had to be postponed, and it was decided to hold it later in the year, May 20 being suggested as a suitable date. The annual report of the Management Committee was submitted, from which we extract the following :—

Notwithstanding the serious effect which the war has had on all institutions of a social character, the membership of the Horticultural Club is very little diminished. On February 26, 1918, the number of members was 193, and on January 28, 1919, it was 183. It may be stated that before the war, i.e., at the beginning of 1914, the total membership was 209, so that during the 4½ years of war the numerical strength has been diminished by only 26 members, including a number of deaths.

The arrangement made with the Farmers' Club to share their premises has worked very well, and the committee have been invited to continue it for as long as the members may find it convenient.

In June, 1918, the club sustained a severe loss in the death of the hon. secretary, Mr. R. Hooper Pearson. Mr. Pearson had endeared himself to all the members of the club, and his great interest in the progress of the club, and the earnest work by which he furthered its interests and gave it an ever-increasing popularity, left their mark on its membership and on its standing.

It will be remembered that in April, 1916, it was decided to contribute the sum of £50 to the R.H.S. War Horticultural Relief Fund, and this amount is now payable.

A luncheon for members and friends was arranged on October 8, at which forty were present, and another on November 5. Committee meetings were held on June 18, July 30, October 8, and December 3, 1918.

During Mr. Pearson's prolonged illness, his colleague, Mr. G. F. Tinley, assisted him in matters connected with the club, and took his place on several occasions at the meetings. On Mr. Pearson's death he was elected by the committee to fill the vacancy.

The committee hopes to arrange for a resumption of the monthly dinners and lectures.

The balance-sheet showed a balance carried forward to 1919 of £35.

Sir Frank Crisp, Bart., was re-elected president; Sir Harry Veitch was reappointed chairman and treasurer; and Mr. G. F. Tinley re-elected hon. secretary. The other officers and members of the committee were all re-appointed.

BRITISH CARNATION.

THE hon. secretary, Mr. T. A. Weston, informs us that the following new varieties of Carnations were registered with the British Carnation Society during 1918: *Mrs. Edward Douty*, seedling; crimson, very free. *Winter Glow*, seedling; glowing cerise (Award of Merit). *Brilliant*, seedling; glowing scarlet; very free (Award of Merit). (Registered by Stuart Low and Co.) *Marion Wilson*, seedling; maize-yellow, flaked red (Award of Merit). *Wivelsfield Beauty*, seedling; yellow, flaked pink; strong habit. *Sussex Pink*, flesh; suitable for planting out of-doors. *Toreador*, seedling; pale pink, flaked red; very strong. (Registered by Allwood Bros.) *Speckles*, sport from Lady Northcliffe; salmon, spotted dark pink. *Coquette*, seedling; heliotrope, cerise-pink centre. (Registered by C. Engelmann.) *Enid*, seedling; bright crimson; very free. *Romeo*, seedling; dark crimson; good habit. *Daydream*, sport from Mayday; deeper colour; very fine for all purposes. (Registered by W. E. Wallace.)

NATIONAL CHRYSANTHEMUM.

FEBRUARY 17.—Considering the inclement weather, the attendance at the meeting of the Executive Committee, held at 35, Wellington Street, Covent Garden, was good. Mr. Thos. Bevan presided. The members were in an optimistic mood, and entered heartily into the consideration of a forward programme presented by the secretary, which was endorsed. The programme includes an enlarged schedule of prizes for the November meeting, encouragement of early-flowering varieties, lectures to affiliated societies, and the publication of the Society's Transactions. All these items were agreed to in general terms, and referred to the sub-committees concerned for their consideration and report.

The Schedule, Finance, and Publication Sub-Committees were re-elected, and the retiring members of the Floral Committee were re-appointed, while Mr. Sargent, Kingston, was elected to fill a vacancy arising.

ROYAL SCOTTISH ARBORICULTURAL.

FEBRUARY 8.—The annual business meeting of this society was held at 5, St. Andrew Square, Edinburgh, on this date, the Duke of Buccleuch, K.T., president, in the chair. About 50 members attended.

The report of the Council showed that the membership was now 1,655, over 300 having been added as the result of a personal appeal by the president. The financial statement, which was moved by Mr. W. H. Massie, the convenor of the Finance Committee, showed that the society possessed about £2,400 of invested capital, and was in a better position financially than it had ever been before.

Sir John Stirling Maxwell, the Assistant Controller of the Timber Supply Department of the Board of Trade in Scotland, stated that the exhibit of home-grown timber which his department intended to set up at the Highland and Agricultural Society's Show in Edinburgh in July would demonstrate that the capacity of the Scottish soil for growing timber had been greatly under-estimated in the past.

Colonel Sutherland, of the Forestry Department of the Board of Agriculture for Scotland, said that ex-officers of the Army who might wish to apply for forestry posts would have to undergo a thorough course of technical education, but the number of men wanted for these higher posts would be very limited. He also stated that one of the difficulties in connection with immediate afforestation was the shortage of the seed reserve.

The following motion, which was moved by Mr. Geo. Leven, Bowmont Forest, Roxburghshire, was unanimously adopted :— "This meeting of the Royal Scottish Arboricultural Society, while cordially welcoming the appointment of the Interim Forest Authority, respectfully urges the Government to pass without delay the necessary legislation setting up a permanent Forest Authority with Local Executives, endowed with adequate funds and the fullest powers to enable it to carry out effectively a progressive forest policy for the United Kingdom, having regard to the extent of suitable land available in each country as well as to the timber requirements of the whole kingdom."

The Duke of Buccleuch was re-elected president; Mr. James Whitton, Superintendent of City Parks, Glasgow, was elected to the vacant vice-presidency; and the new councillors were Messrs. Wm. Gilchrist, Mount Melville; Geo. Leven, Bowmont Forest; J. F. Annand, M.Sc., Newcastle-on-Tyne; Alex. Finlayson, Newbattle; and A. B. Robertson, The Dean, Kilmarnock. The honorary secretary (Sir John Stirling Maxwell), secretary and treasurer (Mr. Galloway), honorary editor (Dr. Borthwick), auditor, and consulting scientist were re-elected.

SCOTTISH HORTICULTURAL.

FEBRUARY 1.—On the evening of February 1 Mr. Fife, the president, and Mrs. Fife, entertained the Council of the Scottish Horticultural Association in Ferguson and Forrester's Rooms, Princes Street, Edinburgh. Among the other invited guests were Sir Robert Greig, of the Board of Agriculture for Scotland, who proposed the health of the Association; Mr. McCallum, Edinburgh and East of Scotland College of Agriculture; Mr. Wm. Cuthbertson, and others. A most enjoyable evening was spent.

FEBRUARY 4.—The monthly meeting was held on this date. The occasion was the opening address for the session by the president, Mr. Robert Fife, but owing to a sudden attack of illness he was unable to be present, and only the formal business was transacted.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

FEBRUARY 10.—The monthly meeting of this society was held in the R.H.S. Hall on Monday, the 10th inst. Mr. C. H. Curtis presided. Three new members were elected. The death certificate of one deceased member was received, and the sum of £20 17s. 6d. was passed for payment to his nominee. The sick pay for the month on the ordinary side was £75 0s. 7d., and on the State Section £41 14s. 2d., and maternity claims £6. It was announced that the annual meeting will be held in the R.H.S. Hall on Monday, March 10th, at 7.30 p.m.

SURBITON, KINGSTON AND DISTRICT CHRYSANTHEMUM.

AT a general meeting of the above society (the first since December, 1915), held on the 12th inst., it was decided to hold a Chrysanthemum Show next autumn. Mr. J. Salter Cox, who presided, was elected president, and a committee was appointed. Mr. T. A. Hill, who has been secretary for many years, expressed his intention of relinquishing the office, and Mr. T. Smith was elected honorary secretary.

CROPS AND STOCK ON THE HOME FARM.

MUSTARD.

THE very interesting article by Mr. Fryer on p. 64 of the *Gard. Chron.* of February 5 is well worth the attention of all interested in land cultivation, whether as farming on a large or small scale, or as market gardening, or even as small-holdings and allotments. Apart from its value as the means of either killing or driving away wireworm, a full crop of Mustard is valuable from a manurial aspect. Mustard sown in July or August on stiff, badly-working land gives a heavy crop if assisted by 2 cwt. of superphosphate per acre at sowing time, spread broadcast in front of the seed. Such Mustard, ploughed in when 2 feet high, and thoroughly buried by the aid of the presser, very much improves the working of such soils by allowing a quick percolation of surplus surface water. It is surprising how much better stiff soil can be tilled if so treated, even after a crop of Wheat has been taken in the following August.

If such a field is required for spring-sown Oats, and is ploughed again in January, the tilth would be almost perfect for an Oat crop to be sown early in March. As a manurial agent I consider Mustard is more valuable ploughed in than fed off by sheep.

Farmers, except under special circumstances (shortage of food generally), do not highly prize Mustard for sheep, as it is considered to possess little "stay" or "proof," but with other food, such as Sainfoin or mature Italian Rye grass, the Mustard crop often helps to tide over a scarcity. Where the land is stiff the treading by the sheep is more injurious than beneficial. In the case of light soils, and especially chalk, the treading by sheep is beneficial, especially if Wheat is to follow the Mustard.

On some farms where sheep are not kept Mustard is the exclusive preparation for Wheat, and gives surprising results.

In a small garden or allotment Mustard grown and ploughed or dug in is an excellent manure, but it is rarely that space can be provided early enough for the crop.

Where wireworm, leather jackets, and other soil pests are numerous, and injurious to Carrots, Parsnips, Swedes, Spinach, and Brassicas, I strongly advise the use of Vaporite, as giving much less trouble and at a small cost. This

material should be sprinkled over the surface of newly dug ground and lightly forked or harrowed in seven days before sowing the seed; 2 cwt. per acre, or 1½ lbs. per rod, is sufficient. *E. Molyneux, Swanmore Farm, Bishops Waltham.*

TRADE NOTES.

Mr. R. F. Martin, for many years alpine and herbaceous foreman to Messrs. T. S. Ware, and recently in charge of Messrs. Toogood and Sons' nursery and trial grounds at Nursling, has entered the service of Mr. H. Hemsley, nurseryman, Crawley, Sussex, and will have charge of the alpines department.

A special sub-committee of the Chamber of Horticulture met on Thursday, February 13 (when Mr. Edward Laxton and Mr. Roots, of Messrs. Shawyer, attended to explain the present position of raisers of new varieties), and gave consideration to a scheme, drawn up by Messrs. Laxton Bros., and supported by other firms, to effect some kind of protection in the future.

The committee instructed the secretary to invite expressions of opinion on the existing grievances and the possibility of such being amended, to be sent to him at Norfolk House, Norfolk Street, Strand, forthwith. All raisers of new and improved varieties of fruits, vegetables, and flowers of economic importance are urged to write fully to the Chamber in order that the committee may arrange for a conference at an early date.

In reply to a question in the House of Commons as to whether, in view of the probability of the dumping of foreign fruit and vegetables in this country, the Board of Agriculture would take steps to arrange for preferential rates for fruit and market-garden produce grown in this country, Colonel Sir A. Griffith-Boscawen, Parliamentary Secretary to the Board, stated that it was not within the powers of the Board of Agriculture to determine railway rates or to arrange for preferential rates for home-grown produce, but they will continue their endeavours to ensure equitable treatment for British growers.

Obituary.

Sir C. T. Dyke Acland.—On the 18th inst. Sir Charles T. Dyke Acland died at Killerton Park, near Exeter, of bronchitis, aged 77 years. He took a great interest in horticulture and agriculture, and at Killerton he cultivated a large collection of trees and the rarer hardy plants. For many years he was a member of Parliament for the Launceston Division of Cornwall, and in 1886 he held the position of Secretary to the Board of Trade. As recently as 1917 he conveyed his rights in Exmoor to the National Trust.

Henry W. Wood.—Born in Newark in 1864, Mr. H. W. Wood went to America with his father, who founded the firm of T. W. Wood and Sons, of Richmond, Va. Mr. H. W. Wood eventually became the head of this horticultural business, and was at one time President of the American Seed Trade Association. He died suddenly at New Orleans on January 14, while on a visit to California for the benefit of his health.

G. H. Leak.—It is with profound regret we have learned of the great loss Mr. and Mrs. G. W. Leak, of Wisbech, have sustained by the death of their eldest son, which occurred on the morning of February 16. After leaving school, Mr. G. H. Leak was employed for two years in the seed department at Messrs. R. H. Bath's Floral Farms, Wisbech, and then spent two years on the seed farms of M. H. Desbois, Brain-sur-L'Authion, Marne-et-Loire. In May, 1917, he came home, enlisted in the Kensington Rifles, and in October of that year he went out to France, where he underwent special training in connection with the Lewis gun. His first engagement was at Vimy Ridge, and he fought in this and various other battles without being wounded, until the advance on August 8, 1918, when he received a severe wound in the thigh and was subsequently sent to Bangour Hospital, N.B., and afterwards to a hospital in Edinburgh. On recovering, he was transferred to an Agricultural Company at Peterborough, and finally came home to Wisbech on agricultural furlough. The end came with tragic suddenness. On Thursday, the 13th inst., he was taken ill with influenza, which brought on dysentery, from which he had suffered considerably in France, and to this he succumbed on February 16, at the early age of 22 years. He was a fine lad, beloved of all who knew him, capable and modest. Readers will join us in expressing deep sympathy with Mr. G. W. Leak and his family in their great and sudden loss.

ANSWERS TO CORRESPONDENTS.

Dead Bees: *T. S. T.* We have examined the bees superficially and find no symptoms to attribute their decease to Isle of Wight disease. This complaint can only be discovered by a careful microscopic examination of the bees. The death of bees may be due to no special cause. Since the outer frames were so mouldy, it would be wise to put the stock into a clean, dry hive, with new, dry quilts. It would be wise, also, to perform the operation in the sunny summer-house, as you suggest, choosing a bright day, and doing the work as quickly as possible, to conserve the heat and to cause as little disturbance to the colony as possible, for bees should not be manipulated in winter except under the most urgent circumstances. Get everything ready that will be needed before opening the hive. Too many warm quilts of non-conducting material can scarcely be used.

Dwarfness in Plants: *V. R.* Dwarfness in some cases is an inherited character; for example, dwarf (Cupid) Sweet Peas and dwarf culinary Peas. The general explanation given is that stature of plants depends on, say, two factors: if both are present = tall; if one only, intermediate; if both absent = dwarf. In other cases dwarfness of habit is apparently due to environmental influence, e.g., in arctic regions. Artificial dwarfness, e.g., of Japanese Conifers, is said by some to be due to special methods of cultivation—restriction of root space, but by others it is said to be brought about by rooting a lateral branch of limited growth and potting it.

Eucalyptus: *H. J.* The name of the fruiting spray you sent is Eucalyptus amygdalina, and it was probably part of a recent consignment of cut branches received from the Riviera. The plant is a native of New Zealand, and although generally considered to be one of the hardiest species, it would scarcely withstand the winters of your locality—such weather as is being experienced at the time of writing would, for instance, be fatal. If you possess a greenhouse of moderate height, seedling plants could be very easily grown in it, though they may not blossom so freely as the examples which are now to be seen in the leading florists' shops. Seeds should be sown shallowly in light soil in the spring, and the receptacles placed in moderate warmth. Seeds of all Eucalypti received in this country are often rather slow in germination, but a goodly percentage may usually be relied upon to grow within a few weeks of sowing. When large enough to handle the seedlings should be potted singly into thumb-pots, using a compost composed of leaf-mould, loam, and sand in equal proportions. In due course transfer the plants to larger pots, increasing the proportion of loam in the compost, and potting more firmly. During the winter the plants may be stored in a cool greenhouse, but should be placed out-of-doors for at least seven months of the year. After the plants have produced their adult leaves, which are of the shape and texture of those on the spray you send, flowering may be hastened by pruning the bushes in spring just before growth recommences. Many species of Eucalyptus, including E. amygdalina, may be used in summer bedding with good effect.

Fleur de Lis: *J. M.* This is a French term for the Iris, stated to be derived from Fleur de Louis, from its having been assumed as his device by Louis VII. of France. In France the appellation is usually referred to Iris germanica, and sometimes to the common yellow Iris, I. Pseud-acoris.

Greengrocer's Business: *L. F. B.* By taking an empty shop you are adopting the best method of starting a greengrocer's business, provided the demand exists for an opening of this description. Your having been a lifelong gardener will certainly be a qualification, as it will help you to judge the best vegetables, flowers and fruits to meet your customers' requirements. Always bear in mind that "it takes a good salesman to sell inferior produce, but good ware sells itself." If you cannot obtain produce to stock your shop locally you could obtain it from Covent Garden Market or Kew Bridge Market; the former market always provides the best selection. If there are market growers in your neighbourhood it would perhaps be possible to obtain supplies delivered direct to you at market prices, which would save you cost of cartage, and the vegetables would be fresher than when obtained through a large market. It is also absolutely essential that in addition to gardening experience one should possess business ability, foresight, reliability, and sufficient capital to carry over the period of establishment. In purchasing do not overstock at the commencement, particularly with greens and choicer vegetables. Bear in mind the fact that the fresher you can supply vegetables to the customer the better and quicker will your business be established. It is necessary for you to obtain a licence from your local authorities. Make yourself acquainted with the Potato, Apple, and other Orders, market weights and measures, that are connected with your proposed trade. At the commencement you will probably find progress slow, but, with energy and ability, a fair business should be worked up in a few months. Should any part of the venture prove a failure, cut it at the earliest possible moment. It is generally a good policy to conduct a fruiterer's and greengrocer's business in conjunction, in preference to one section alone.

Hives Infected with Isle of Wight Disease: *G. H. S.* The quilts and frames should be destroyed, but the hives may be retained if they are treated, both inside and out, with a solution made as follows:—Mix one part of Calvert's No. 5 carbolic acid with two parts of water, and work the liquid into all cracks and joints with a paint brush. Use the disinfectant very liberally. Leave the hive open and exposed to brilliant sunshine until it is quite dry and free from odour, then paint the outside in the usual way, and it will be fit for use in May. Hives can scarcely be placed in too much sunshine. Remember that strong carbolic acid will burn the skin, and should be used with care.

Names of Plants: *E. S.* 1, Eupatorium micranthum (syn. Weinmannianum); 2, Cytisus (Genista) fragrans.—*H. S.* 1 and 2, Cypripedium insigne; 3, Masdevallia Schlimii; 4, Begonia semperflorens gigantea.—*C. L.R.S.* Varieties of Veronica Andersonii, one the variegated form.

Re-filling Empty Boiler and Pipes: *S. J. B.* So far as possible the movable parts should be cleaned inside and every part should be tested by tapping to discover any faults. All valves and air-taps should be examined and put in order before the boiler and pipes are filled with water, and the air taps should be left open while filling is proceeding. Start with a small fire. If everything appears satisfactory gradually work up a vigorous circulation of water by increasing the heat; then test the water by means of the draw-off tap, and if it is very dirty let it run away gradually, but keep the feed-box filled, until the water is clean. Some joints may have to be re-packed if they leak under the pressure of highly-heated water.

Communications Received.—J. M. S.—J. W. T.—F. W.—H. C.—D. J.—H. O'H.—C. H. P.—Bourne End—P. S. H.—H. H.—A. G., Tasmania—E. L.—Pte. H. I.—J. W. W.—F. G. P.

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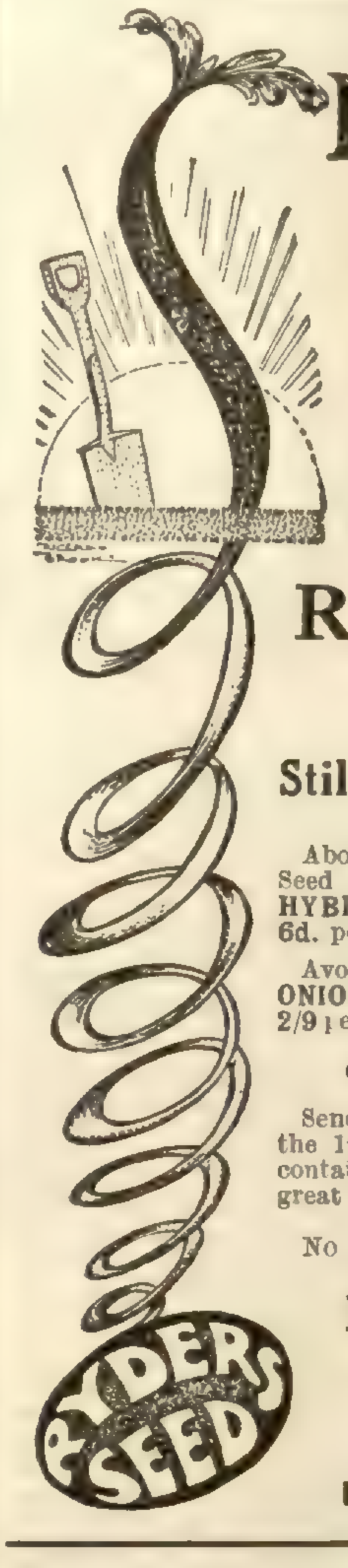

PRING

The charm of Spring lies in its magic reawakening of Nature.

The strength of a watch-spring depends upon the tempering of the steel.

The vigour and virility of **RYDERS SEEDS** is due to the infinite care with which they are grown, harvested and preserved from every baneful influence.

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Still at 1½d. per packet

Abolish disease by growing healthy Seed Potatoes from **RYDERS HYBRIDIZED POTATO SEEDS**, 6d. per packet.

Avoid Onion Fly by planting **ONION SETS** (Ailsa Craig type), 2/9 per quart.

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HORTICULTURAL ROLLED SHEET GLASS 6% MORE LIGHT

A SUBSTITUTE for ordinary 21-oz. glass, which is now so scarce. The **new British Rolled Sheet** is about $\frac{1}{10}$ in. (or equal to stout 21 oz.) in thickness. Can be supplied to buyers' sizes, at favourable prices delivered free and sound in the country in quantities. We also offer ordinary **21-oz. British Sheet Glass**, under the same conditions.

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"BLACKFRIARS BRAND."
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'ESKIMO' WHITE (LEADLESS) PAINT.
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Many Rare and Choice Varieties.
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"Victory Vegetables."

NO Garden Complete without

JOHN K. KING & SONS' LORD KITCHENER PEA.
Unquestionably the finest first-early Wrinkled Pea. The pods frequently attain to over six inches in length, and are filled with from 10 to 13 large Peas of delicious flavour. **Price per packet, 1/-; per pint, 2/8; per quart 5/-**
"Your Pea Lord Kitchener is one of the finest early Peas in cultivation. It was gathered on June 30th. It is of exceptionally fine quality and very productive."—From Mr. H. McCulloch, Gardener to the Rt. Hon. Lord Cadogan.

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A remarkably fine stock. The flesh is of exceedingly dark colour and of delicious flavour.
Per packet, 6d.; per ounce, 1/6

JOHN K. KING & SONS' PRIDE OF THE MARKET BRUSSELS SPROUTS.
Produces large solid sprouts, delicious in flavour, which come early. For market purposes it will be invaluable on account of the solidity of the sprouts.
Per packet, 6d.; per ounce, 1/6

JOHN K. KING & SONS' ELEPHANT PRIZETAKER RUNNER BEAN.
The largest and handsomest Runner Bean, and unsurpassed for length of pod and delicious quality. The pods frequently grow 16 inches in length, and are indispensable for Exhibition.
Per pint, 2s.; per quart, 3/6
"Your Elephant Prizetaker Runner Bean is the finest Runner Bean I have seen. It is wonderfully prolific, large and handsome shape."—From Mr. Carr, Gardener to the Rt. Hon. Lord Iveagh.

JOHN K. KING & SONS' EARLY SNOW QUEEN BROCCOLI.
For Autumn use no variety approaches this. It matures very quickly, the heads are firm in texture and snowy-white. Sown in March it will be ready to cut at Michaelmas.
Per packet, 6d. & 1/-; per ounce, 2/6

JOHN K. KING & SONS' READING DEFIANCE CABBAGE.
The hearts are wonderfully solid, tender, crisp, and of delicate flavour. Its merit consists in the short time it takes to mature. If sown in February and March, heads may be cut in July; and sown in August, it is ready for cutting the end of May.
Per packet, 6d. & 1/-; per ounce, 1/6
"Please send me another packet of your Reading Defiance. It is the best type of garden Cabbage I ever had."—From Mr. W. Goodman, Winslow.

JOHN K. KING & SONS' READING PRIZE WINNER INTERMEDIATE CARROT.
The best type of Red Intermediate Carrot. The skin is a bright crimson, has very little core, and the flesh is of close texture. It is unsurpassed for Exhibition. **Per ounce, 1/3**

JOHN K. KING & SONS' PERFECTION MARROW PARSNIP.
The most perfect Parsnip in cultivation. It is clean and handsome in shape, free from fangs, and of delicious marrow flavour, while as an Exhibition variety it is absolutely unequalled. **Per ounce, 9d.**

JOHN K. KING & SONS' SNOWDONIAN CAULIFLOWER.
A distinct variety, producing enormously large, very firm, and snow-white heads.
Per packet, 1/-, 1/6, and 2/6

JOHN K. KING & SONS' MATCHLESS WHITE CELERY.
This is the best of the white Celeries. It is remarkably solid and of splendid flavour.
Per packet, 6d. & 1/-

JOHN K. KING & SONS' GIANT SELF-HEARTING WHITE COS LETTUCE.
Unsurpassed in quality, grows to a large size, is self-hearting, requires no tying, and is very solid and crisp. **Per packet, 6d. & 1/-; per ounce, 2/6**

JOHN K. KING & SONS' WONDERFUL CABBAGE LETTUCE.
The best Cabbage Lettuce ever introduced. The hearts are large, wonderfully solid, and very compact. The quality is exceptionally fine, beautifully crisp and of splendid flavour.
Per packet, 6d. & 1s.; per ounce, 2/-

JOHN K. KING & SONS' EXHIBITION GLOBE ONION.
Somewhat oval in shape, with bright yellow skin and strikingly handsome. It is frequently grown from 2 lb. to 3 lb. in weight, and is an enormous cropper. Its mild and delicate flavour will ensure for it general cultivation. **Per packet, 1/-, 1/6, 2/6, and 5/-**

Post Free, send for MANUAL OF GARDENING, Full of Useful Information.

JOHN K. KING & SONS,
Seed Growers, COGGESHALL, ESSEX.

MARKETS.

COVENT GARDEN, February 19.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0-15 0	Ericas, con.—	
— Sprengeri ..	10 0-12 0	— melanthra 48's per doz. ...	30 0-36 0
Aspidistra, green ...	30 0-60 0	Marguerites, white	18 0-24 0
Cyclamen	30 0-36 0	Palms, Kentias ...	18 0-24 0
Ericas—		— — 60's	15 0-18 0
— hyemalis ...	24 0-30 0	— Cocos	24 0-36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum, 48's, per doz.	10 0-12 0	Nephrolepis, in variety, 48's ...	12 0-18 0
— elegans ..	9 0-10 0	— 32's	24 0-36 0
Asplenium, 48's, per doz.	10 0-15 0	Pteris, in variety, 48's	9 0-12 0
— 32's	21 0-24 0	— large 60's ...	4 0- 5 0
		— small 60's ...	3 0- 3 6
— nidus, 48's ...	10 0-12 0	— 72's, per tray of 15's	2 0- 2 6
Cyrtomium, 48's ...	10 0-12 0		

REMARKS.—The sharp frosts has stopped the supply of pot plants for the present.

Cut Flowers, &c: Average Wholesale Prices.

	s.d. s.d		s. d. s.d.
Arums— — (Richardias), per doz. bl'ms.	21 0-24 0	Lilac, white, per bunch	3 6- 4 0
Azalea, white, per doz. bunches...	10 0-12 0	Lilium longiflorum long	21 0 24 0
Camellias, 12's-18's per box ...	5 0- 6 0	Lily-of-the-Valley, per bun. ...	4 0- 5 0
Carnations, per doz. blooms, best American var.	8 0- 9 0	Orchids, per doz:— — Cattleyas ...	24 0-30 0
		— Cypripediums,	6 0- 8 0
Daffodils, single, per doz. bun.—		Pelargonium, double scarlet, per doz. bunches...	10 0-12 0
— Emperor ...	18 0-24 0	— white, per doz. bunches ...	10 0-12 0
— Golden Spur ...	18 0-21 0	Roses, per doz. blooms—	
— Henry Irving...	10 0-12 0	— Richmonds ...	18 0-24 0
— Victoria ...	18 0-21 0	Snowdrops, per doz. bun.	3 0- 4 0
— Princess ...	15 0-18 0	Tulips, per doz. blooms—	
Narcissus ornatus, per doz. blooms	10 0-12 0	— mauve... ...	3 0- 4 0
Freesia, white, per doz. bunches...	6 0- 8 0	— white	4 0- 5 0
Heather, white, per doz. bun....	6 0 10 0	— yellow per doz. blooms ...	3 6- 4 6
Hyacinths, Roman, 12's, per doz. bun.	3 6- 4 0	Violets, single, per doz. bun. ...	6 0 10 0

REMARKS.—Supplies of cut flowers this morning were considerably shortened owing to the severe weather, and a rise in prices may be expected, especially for white flowers. Daffodils are arriving in excellent condition; the varieties offered are Emperor, Golden Spur, Henry Irving, Princeps, and obvalaris. Pheasant-eyed Narcissus is sufficient for the demand. Richmond is the leading variety in Roses, and soon sells at high prices. A large supply of white Lilac has arrived from Holland during the past fortnight, also a few white and coloured Tulips. The supplies from the Channel Islands have been greatly reduced during the past week, and the supplies from this quarter are likely to be limited for some time. The whole consignment of French flowers which arrived this morning were frozen hard and unfit for immediate use. Paper-white Narcissus rose to 30s. per pad of 48 bunches on Saturday. Large portion of last week's arrival consisted of Acacia (Mimosa). Several pads of double white Stocks were received last week in good condition, and sold quickly. Anemones and Violets are more plentiful.

Vegetables: Average Wholesale Prices.

	s. d. s.d.		s. d. s.d
Artichokes, Jerusalem, per bus.	3 0- 3 6	Leeks, per doz. bun.	4 0- 6 0
— Globe, per doz	5 0- 8 0	Lettuce, Cabbage and Cos. per doz	5 0 —
Asparagus, Devonshire, per bndle.	12 0-18 0	Mint, per doz. bun.	8 0-10 0
— Paris Green, per bundle ...	13 0-15 0	Mushrooms, per lb.	5 6- 6 6
— — Sprue, per bundle ...	2 2 —	Mustard and Cress, per doz. punnets	1 0- 1 3
Beans, French, per lb.	10 0-12 0	Parsley, per ½ bus.	12 0-18 0
Beetroot, per bus.	5 0- 6 0	Parsnips, per bag .	5 0 -6 0
Brussels Sprouts, per ½ bag ...	8 0-10 0	Potatos, new, per lb.	2 0 —
Cabbage, per tally	7 0-10 0	Radishes, per doz. bunches ..	2 6- 3 0
Carrots, per bag ...	11 0-12 0	Rhubarb, forced, per doz. ...	3 0- 3 3
Cauliflowers, per doz	6 0- 9 0	Savoys, per bag ...	2 6- 3 6
Celeriac, per doz..	9 0-10 0	Seakale, in boxes (6-8 lbs.), per lb.	1 4- 1 6
Celery, per doz. ...	36 0-48 0	Shallots, per lb.	0 6- 0 8
Chicory, Belgian, per lb. ...	1 0- 1 2	Spinach, per case	16 0 —
Cucumbers, per doz	36 0-42 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box ...	60 0-90 0
Endive, per doz. ...	5 0- 6 0	Turnips, per bag ...	5 0- 6 0
Garlic, per lb. ...	0 5- 0 7	Watercress, per doz	1 0-1 3
Greens, per bag	3 6- 46		
Herbs, per doz. bun.	4 0- 6 0		
Horseradish, per bun.	3 6- 4 6		

Fruit: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d
Cranberries, per case	40 0-44 0	Nuts, con.— — Brazils (new), per cwt. ..	200 0 —
Grapes:— — Almerias, per barrel (about 3½ doz. lbs.)	70 0-90 0	— Cobnuts, per lb.	1 8- 1 9
— Alicante, per lb.	6 0- 8 0	Walnuts, kiln dried, per cwt. ...	130 0-200 0
— Gros Colmar, per lb.... ...	6 0- 8 0	Pears, Californian (Easter Beurré), cases containing 8 to 10 doz., per case	60 0-68 0
Nuts:— — Almonds, per cwt.	120 0-130 0	— Winter Nelis, per case	90 0-100 0
— Barcelona, per cwt.	130 0-140 0	Pineapples, each...	5 0-12 0

REMARKS.—The market is fairly well supplied with black Grapes, and there are good samples of Almeria Grapes (Spanish) on sale. Californian Pears obtainable consist of the varieties Easter Beurré and Winter Nelis. Other fruits on offer consist of the following:—Oranges (Spanish), Seedless Oranges (Californian), Tangerines, Lemons, Pines (Azores), and Bananas. Teneriffe Tomatos are on offer. Forced vegetables continue a limited supply. *E. H. R., Covent Garden Market, February 19, 1919.*

THE WEATHER.

THE WEATHER IN SCOTLAND.

January was a depressing month, mild, but wet and dull. Rain or snow fell on twenty-one days, with a total of 2.78 inches; the first day of the month being the wettest day, with 0.77 inch. Only 35.4 hours of sunshine were recorded, being an average of 1.1 hour per day, and a percentage of 15. The brightest day was the 18th with 6.7 hours. There were fifteen sunless days. The mean barometric pressure was 29.67 inches, with a highest of 30.60 inches on the 24th, and a lowest of 28.77 inches on the 6th. For the month the mean temperature was 35.6°, the mean range 9°, and the absolute range 23°. A highest maximum of 44° was recorded for the 9th and 24th, and a lowest minimum of 21° for the 19th, while the lowest maximum was 35° on the 19th, and the highest minimum 38° on the 10th. The means for the maximum and minimum were 40° and 31° respectively. On sixteen nights the temperature fell below the freezing point. For the month the relative humidity of the air was 89 per cent. On the grass a mean minimum temperature of 28° was recorded, the lowest reading being 16° on the 19th. There were twenty-one nights of ground frost. At 1 foot deep the soil temperature remained constant at 34°. The prevailing winds were southerly and westerly. A rainbow was seen on the 28th and a display of aurora on the 31st. *James Malloch, Director of Studies, Training College Gardens, Kirkton of Mains, near Dundee.*

GARDENING APPOINTMENTS.

Mr. H. Grimsey, who, prior to enlisting, was Foreman at Castlecomer House, Co. Kilkenny, as Gardener at same place, in succession to Mr. HENRY HENDERSON.

Mr. F. Reid, late of Normansfield Gardens, Hampton Wick, Middlesex, and for nearly two years temporary Head Gardener and Overseer to Lady FITZWYGRAM, Leigh Park, Havant, Hants, as Gardener to Sir FREDERICK FITZWYGRAM, Bart., of the same address.

Mr. Roger F. Jones, for 3 years Gardener at Herriard Park, Basingstoke, previously Foreman at Hursley and Rendlesham, as Gardener to Capt. HOGGAITH, Mia Hall, Dyserth, North Wales. (Thanks for 2s. for R.G.O.F. box.—EDS.)

Mr. J. E. Roberts has resumed his duties as Gardener to E. C. DE PEYER, Esq., Newent Court, Newent, Gloucestershire, after serving 3 years in His Majesty's Forces.

Mr. W. Sorrell, for nearly 3 years with His Majesty's Forces, and previously for 5 years Gardener to F. L. PEARSON, Esq., "Swanston," Whitchurch, near Reading, as Gardener to Sir JOHN BARWICK, "Thames Bank," Whitchurch, near Reading.

Mr. W. Adams, as Gardener to SIDNEY KITCAT, Esq., Warling Dean, Esher, Surrey.

Mr. J. W. Forsyth, after 2½ years' military service, previously Gardener to W. M. MACLEOD, Esq., late Markyate Cell, near Dunstable, as Gardener to T. M. CLUTTERBUCK, Esq., Putteridge Park, Luton.

Mr. E. R. Beames, for the past 3 years on active service, and previously Gardener to CLIFFORD SAXTON, Esq., Whatley House, Froom, and for 6 years with Lord BRAYE, Stanford Hall, Rugby, as Gardener to H. G. BUSH, Esq., The Grove, Alveston, near Bristol. (Thanks for 1s. for R.G.O.F. box.—EDS.)

Mr. K. W. Kent, for the past 15 months at Terlings, Harlow, Essex, and previously for 21 years at Thorley place, Bishops Stortford, Hertfordshire, as Gardener-Bailiff to M. CABALIE, Esq., Walton Grove, Walton-on-Thames, Surrey.

Mr. James A. Paice, having been released from the Royal Air Force, has resumed his duties as Gardener to the Rev. EDGAR STOGDON, Aldenham Vicarage Gardens, Watford, Hertfordshire.

Mr. E. E. Algate, for many years General Foreman at Mount Edgcumbe, Plymouth, as Gardener to the Right Honble. the Earl of MOUNT EDGCUMBE, Cotehele House, St. Dominick, Cornwall.

Mr. C. Harris, for the past 17½ years Gardener and Land Steward to the Earl of CLARENDON, The Grove, Watford, as Gardener to the Duke of PORTLAND, Welbeck, Worksop, Nottinghamshire. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. F. Workman, previously Gardener to F. LOYD, Esq., Chadleworth House, Newbury, as Gardener to G. JARMAN, Esq., Bradney House, near Bridgwater.

Mr. Hy. Smith, recently discharged from His Majesty's Service, and previously Gardener to Capt. KENNARD, R.N., Becley Hall, Redditch, as Gardener to Sir JAMES HEATH, Bart., Oxendon Hall, Market Harborough, Northamptonshire. (Thanks for donation to R.G.O.F. box.—EDS.)

Mr. E. A. Pocock, late Gardener of Chetwode Manor, Buckingham, as Gardener to Hon. Mrs. HEYWOOD LONSDALE, Pounden, Marsh Gibbon, Bicester. (Thanks for 2s. for R.G.O.F. box.—EDS.)

Mr. C. Ruse, who has served 2½ years with His Majesty's Forces, has resumed his duties as Gardener to Mrs. MERTON, Folly Farm Gardens, Sulhamstead, near Reading.

Mr. J. Jordan, as Gardener to W. J. H. WHITTALL, Esq., High Prestwick, Wormley, Godalming, Surrey.

SCHEDULE RECEIVED.

Grand Yorkshire Flower Show and Gala, to be held in Bootham Park, York, on June 18, 19, 20, 1919. Secretary, Mr. H. W. Pulleyn, 8, Coppergate, York.

CATALOGUES RECEIVED.

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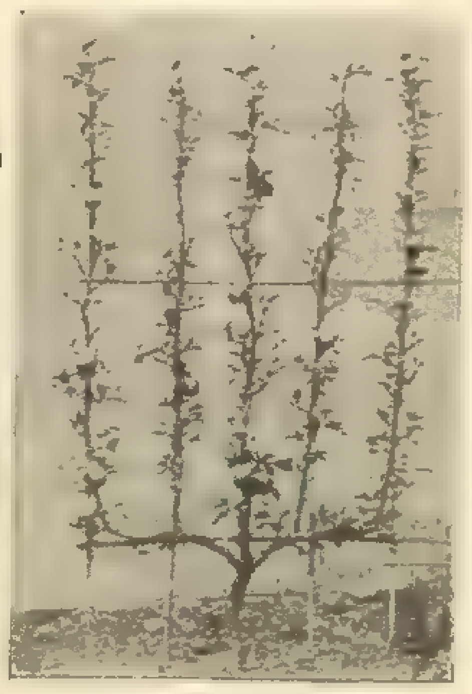

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1919

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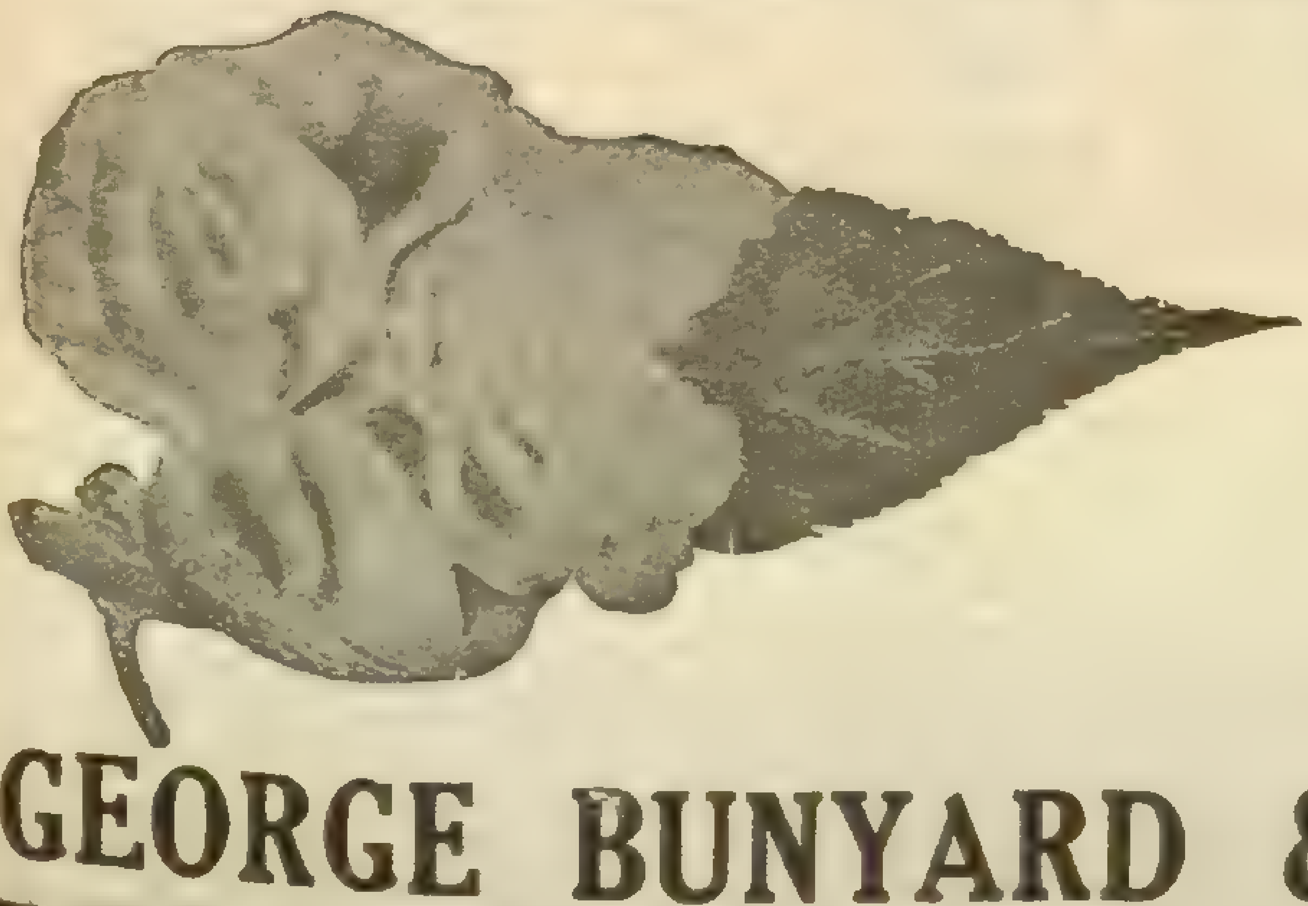

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½ gallon ... ... 5/- 2 gallons... ... 12/-

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Continued from page iii.

WANTED, good WORKING GARDENER; understands Fruit, Vegetables, Flowers, and Cold Houses; assistance given, cottage and good wages; also BOY for Garden. Letters only. — MISS KNIGHT, Bilting House, near Ashford, Kent.

WANTED, GARDENER, with all-round experience; conservatory; some poultry; highest references; good wages to reliable man.—Write full particulars and wages required to E. HOLDER, Beckhythe, Rose Walk, Purley, Surrey.

GARDENER wanted (woman or man); one who could also look after a pony preferred. State age and wages. — MRS. THWAITES, Alveston, Stratford-on-Avon.

GARDENER - HANDYMAN (SINGLE-HANDED) required; Roman Catholic; thoroughly trustworthy; Kent. Write full particulars.—B. D. C., Box 13, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER-HANDYMAN wanted; entire charge Vegetable, Flower Garden; electric plant; must be trustworthy and competent; good cottage; excellent wages to man fond of work. — MISS DOUGALL, Cumnor, Oxford.

WANTED, GARDENER-HANDYMAN for rectory, near London; 20s. and cottage.—RECTOR, Acton, W. 3.

WANTED, an experienced, reliable MAN for Fruit and Plant Houses; good wages, with Bothy; duty alternate weeks.—Apply, J. LEICESTER, Boconnoc Gardens, Lostwithiel, Cornwall.

WANTED, capable single MAN for Fruit and Plant Houses; also General Gardening; five kept; wages 35s. to 40s.—Apply, giving full particulars, copies of testimonials, SEDEN, The Rookery, St. Mary Cray, Kent.

WANTED, a thoroughly experienced married MAN, for Fruit and Plant Houses; good cottage and Garden.—Apply, stating age, experience, and wages expected, to W. CHAMBERLAIN, Holwood Park Gardens, Hayes, Kent.

WANTED, experienced single MAN for Pleasure Grounds; must thoroughly understand Lawns.—Wages and references to JONES, Shirenewton Hall, Chepstow, Mon.

WANTED, a MAN, for Inside; experienced in Fruit, Plants, and Decorating.—State wages required, with Bothy, &c., to H. KEMP, Priory Gardens, Reigate.

WANTED, two good MEN, for Inside and Out, for Bothy.—Apply, GARDENER, Apley Castle, Wellington, Salop.

WANTED, SECOND GARDENER; good knowledge of Fruit and Plant Houses. Also young JOURNEYMAN or IMPROVER, for Outside. Both take duty, comfortable Bothy and attendance; overtime paid; 1 p.m. Saturdays.—Apply, stating wages and experience, to J. RICHARDS, Brockhampton Park Gardens, Andoversford, Glos.

WANTED, single MAN as SECOND, for Inside and Out, with good knowledge of Herbaceous Borders, &c. State wages and full particulars, PHILLIPS, Leighton Hall Gardens, near Iron Bridge, Shropshire.

WANTED, good SECOND GARDENER, single; to live in Bothy.—Apply, with references, and wages asked, WOOSNAM, Cefnllysgwynne, Builth-Wells, Breconshire.

WANTED, at once, SECOND GARDENER, where four or five are kept; experienced Inside and Out; single man.—Apply, stating full particulars and wages, to LADY MURIEL WORTHINGTON, Maple Hayes, Lichfield.

WANTED, SECOND GARDENER; experienced in Vines, Peaches, Melons, Pot Plants, &c. State particulars and wages required.—S. HAYES, The Gardens, Plymyard, Eastham, Cheshire.

WANTED, two UNDER GARDENERS, one experienced in Fruit and Plant Houses, the other for Kitchen Garden. State wages expected, with Bothy and vegetables; 1 o'clock Saturday.—J. LOVATT, The Gardens, Wingerworth Hall, Chesterfield, Derbyshire.

WANTED, sharp MAN as SECOND; Inside and Out; 35s. Also UNDER, chiefly Outside, 30s. With excellent Bothy and attendance. State full particulars, H. WRIGHT, Gallowhill, Morpeth, Northumberland.

WANTED. GARDENER (SECOND) or good JOURNEYMAN; single.—Apply, particulars, wages, with Bothy, to F. W. OVERILL, Revesby Abbey Gardens, Boston, Lincs.

WANTED, UNDER GARDENER, for Lawns and Pleasure Grounds; wife good laundress preferred; good wages and cottage.—Apply, F. SMITHERS Knowlton Court, near Canterbury.

FOREMAN, thoroughly experienced, for Fruit and Plant Houses, specially Orchids and Carnations. Also experienced JOURNEYMAN, Inside. Wages 40s., 30s.; duty 5s.; overtime paid; good Bothy, vegetables, milk, attendance; 1 o'clock Saturdays.—Full particulars of experience, ages, copy testimonials, to HEAD GARDENER, Kingswaldenbury, Hitchin.

WANTED, experienced, reliable MAN, as INSIDE FOREMAN; Fruit, Plants, and House Decoration, Bothy, &c.—Apply, giving full particulars and requirements, to HEAD GARDENER, Buckhurst Park, Withyham, Tunbridge Wells.

WANTED, at once, an experienced MAN as INSIDE FOREMAN; wages 35s. per week, Bothy and vegetables.—Apply, J. MANN, Kirklington Hall Gardens, Southwell, Notts.

WANTED, FOREMAN, for Fruit and Plant Houses. Also JOURNEYMAN. State experience, wages required, with Bothy and vegetables.—L. T. PETTY, Arlington Manor Gardens, Newbury.

WANTED, good JOURNEYMAN, for Fruit and Plant Houses. Also a MAN, experienced in Roses, Carnations, Herbaceous Plants, &c., as LEADING HAND on Pleasure Grounds.—Apply, with full particulars and wages expected, with Bothy, to A. C. HORTON, Shrubland Park Gardens, Ipswich.

WANTED, good JOURNEYMAN, for the Houses. State age, experience, wages expected, with Bothy, vegetables, and attendance; duty extra; 1 o'clock Saturdays, to J. HOAD, Colworth Gardens, Sharnbrook, Beds.

WANTED, JOURNEYMAN for Fruit and Plant Houses; wages 28s.; Bothy and vegetables; Sunday duty and overtime paid; 1 o'clock Saturdays. State age and experience.—W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, JOURNEYMAN for Fruit and Plant Houses; no Bothy.—Apply, stating experience, wages required, &c., HEAD GARDENER, Eartham Gardens, Chichester.

WANTED, JOURNEYMAN for Pleasure Grounds, also Kitchen Garden; wages 35s. to 40s., including bonus Bothy. — State experience to W. ANDERSON, Close House Gardens, Wylam-on-Tyne.

JOURNEYMEN. —Two required as FIRST and SECOND, for Fruit and Plant Houses; wages 28s. and 24s. respectively, with Bothy, milk, and vegetables.—Apply, with testimonials, to THE AGENT, Estate Office, Lavington Park, Petworth, Sussex.

WANTED, two good JOURNEYMEN, for Inside and Out; duty every third week; 1 o'clock Saturdays; rooms provided. State experience and wages required.—H. RALPH, Bay House Gardens, near Gosport, Hampshire.

WANTED, two JOURNEYMEN; one for Houses and one for Rose and Flower Gardens; 32s. and 30s. respectively; Bothy, vegetables, and attendance; Saturdays 1 o'clock; Sunday duty paid extra.—Apply, G. LOW, Lees Court Gardens, Faversham, Kent.

WANTED, experienced YOUNG MAN for care of Glasshouses, Vines, Peaches, Carnations, &c.; Bothy and good wages given; situation near Farnham, Surrey.—Write particulars to MISS RUSSELL, 59, Eaton Square, London, S.W. 1.

WANTED, experienced YOUNG MAN, single, for Kitchen Garden and Pleasure Grounds. State wages required; Bothy.—F. EXCELL, Branch Hill Lodge Gardens, Ha... tead, N.W. 3.

WANTED, WOMAN GARDENER, to work under Head Gardener; must have sound knowledge of Gardening.—Apply, MR. CALESS, Everdon, Daventry.

WANTED, COWMAN, in about 3 weeks' time, to take charge of two cows and rabbits and assist in Kitchen Garden; single preferred; wages 32s.—M. ABRAHAM, Grove Lodge, Muswell Hill, Middlesex.

WANTED, for Polesden Lacey, Surrey, two WOMEN, preferably mother and daughter or two sisters or friends, who can cook and attend to Gardeners' and estate men's cottages; cottage, with garden, vegetables, and fuel provided, and good wage. Highest testimonials essential.—Apply by letter, giving full particulars, to SECRETARY, 16, Charles Street, Berkeley Square, London, W. 1.

TRADE.

WANTED, for Nursery, experienced GARDENER, to take charge of and carry out Seed Trials, raising of Seedlings, and Propagation; a capable Vegetable Grower and with a good idea of Landscape work; comfortable modern lodge, convenient to city. — Apply, with copies of testimonials, stating wages, age, if married, family, to WM. POWER & CO., Nurserymen and Seed Merchants, Waterford.

WANTED, NURSERY MANAGER or GARDENER, with some Nursery experience; good all-round training.—All particulars to MICHIE & CO., The Nurseries, Alnwick.

ROSE GROWER wanted; must be an energetic man; quick and successful budder.—Apply, stating experience, age, and wage required, to A. B., Box 17, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER required by leading firm of Seed Merchants, to take charge of Trial Grounds; one experienced in growing prize Vegetables preferred. —Apply "TRIALS," Box 5, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED for East Midlands, two experienced GROWERS; Tomatos, Cucumbers, Chrysanthemums, Bedding; HANDY MAN for Nursery repairs; also MAN, experienced in pigs, poultry, and Vegetables for market.—Apply, X. Y., Box 23, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER wanted for Jobbing and Nursery work; wages 42s. week.—H. COCKS & SON, The Nurseries, Duckworth Lane, Bradford.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR, for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden. ROSE GROWER (Outdoor): majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WORKING FOREMAN for Branch Nursery.—PAUL & SON (Cheshunt), LTD., require a practical WORKING FOREMAN for their Branch Nursery at Cheshunt; a practical Budder, Grafter, and Knifesman, with a knowledge of Orchard Pruning and Fruit Picking. The Nursery is 31 acres, of which one-third is Farm. Please state when at liberty to commence.—Apply, stating experience and wages required, to PAUL & SON (Cheshunt), LTD., The Old Nurseries, Cheshunt.

FOREMAN (WORKING); Glass; North of England; £160 per annum; must be capable, energetic, good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, FOREMAN, with good general knowledge of Nursery Stock, including Fruit Trees, Forest Trees, Roses, Shrubs, &c.; house, with garden, on premises. State wages required, with references.—JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

WANTED, WORKING FOREMAN; small Fruit Farm; good management of men essential; write, giving experience, wages required, and references. Also required, two strong, industrious LABOURERS.—RIGGALL, Newbury.

WANTED, energetic WORKING FOREMAN (Outside), with good general knowledge of Nursery work, Trees, Shrubs, Roses, &c.—Apply, with copies of discharge, ARTHUR S. RITCHIE & CO., Belfast.

WANTED, WORKING FOREMAN, for Market Nursery; must be up in Fruit, Grapes, Tomatos, Cucumbers, and Bedding Stuff, &c., with good references.—J. W. LAWSON, Harby, Lincoln.

JOURNEYMAN or IMPROVER wanted immediately for Seed Trade; smart counter hand. —Apply, stating experience and wage expected, to D. & W. CROLL, Seedsmen, Dundee.

YOUNG MAN (single), to assist in Market Garden, Tomatos, Cucumbers, Melons, Chrysanthemums, Indoors, Vegetables Outdoors; Camberley district. — Apply, stating wages, KINNEAR, 2, Mossley Hill Drive, Liverpool.

YOUTH, about 18. for Market Nursery; Inside and Out; used to horse.—State wages, experience, to STENNER, Newsham Nurseries, Bempton, Bridlington.

VACANCY occurs in Wholesale Farm and Garden Seed House (West Country), for experienced man to take administrative charge of General Office (16 clerks). Mark letters "Administrative."—Box 4, 41, Wellington Street, Covent Garden, W.C. 2.

SEED TRADE. — Wanted, a CHARGE HAND; one who has a thorough knowledge of all Garden Seeds, Sundries, and Nursery Stock, and accustomed to a brisk counter trade. -Apply, with copies of discharges, to ARTHUR S. RITCHIE & CO., Belfast.

WANTED, WAREHOUSEMAN, for Agricultural Department, Seed Trade, Waterford; preference given to one with experience of Grass Seed cleaning.—Reply, with copies of trade reference, stating when disengaged, and salary to "SEEDSMEN," Box 19, 41, Wellington Street, Covent Garden, W.C. 2.

FLORIST.—Beginners, Improvers, and Assistants wanted (female). — Apply, ROBERT GREEN (1911), LTD., 28, Crawford Street, London, W.

WANTED, expert FLORIST; preference to experience in Seeds, Bulbs, Plant, and Sundries.—Apply, stating experience, references, wages, to J. SLATER, Nurseryman, Ilkley.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

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Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

GARDENER BAILIFF; highly experienced in the cultivation of Fruit, Flowers, and Vegetables; inside and Out; capable of entire management of home farm; 23 years' practical experience; 12 years as Head; thorough knowledge of dairy, poultry, &c.; age 38; married (no family).—Apply to "LONDON," Box 27, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD) or GARDENER-BAILIFF.—H. MARTIN-GIBBS, Esq., Barrow Court, Flax Bourton, Somerset, can with confidence recommend his GARDENER, C. JONES, to anyone requiring a first-class man for large establishment; life experience all branches, previously 11½ years Head Gardener to the late Rt. Hon. Sir W. R. Anson, Bart., Pusey House, Faringdon; age 45; married (family away); life abstainer.—Apply, JONES (as above).

HEAD GARDENER and BAILIFF, age 45, seeks an appointment, where a thorough competent and trustworthy man is required; life experience in good establishments; highest recommendation as to character and ability. — A. J., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER-BAILIFF (HEAD WORKING); large or small staff; practical; life experience in all branches of Gardening, land, and stock; married; age 49; excellent references.—Apply, GARDENER, care Post Office, Woldingham, Surrey.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF seeks re-engagement; thorough practical experience in all branches, Inside and Out, also land and stock; 13 and 4 years' good references; temporary here; age 48; married (no family).—TUCK, Outhorpe Gardens, Branksome Wood Road, Bournemouth.

HEAD GARDENER-BAILIFF.—A keen, energetic, and capable MANAGER desires responsible post; first class all branches; expert Fruit Grower and Exhibitor; just demobilised.—GEO. MORBEY, The Town Hall, Knutsford, Cheshire.

HEAD GARDENER, age 46, seeks re-engagement; 34 years' practical experience; Inside and Out, good establishments; skilled cultivator of Vegetables, Salads, Choice Fruits, Plants, Orchids, Carnations, &c.; keen, competent, and energetic; 18 years Head; highest references; disengaged. BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

MR. G. MULLINS, Eastnor Castle Gardens, Ledbury, wishes to highly recommend HRY. COTTON, who is open to engagement with any nobleman, lady, or gentleman, requiring the services of a thoroughly practical HEAD GARDENER; skilful cultivator of choice Fruits, Vegetables, and Flowers; conversant with the requirements of an establishment in town and country; 26 years' experience gained in first-class establishments; 9 years as Head in last situation; previously General Foreman at Eastnor; age 40; married (one daughter, 10). Apply, GEO. MULLINS (as above).

GARDENER (HEAD of four or more); 20 years' first-class experience in the cultivation of Fruit, Flowers, and Vegetables (Inside and Out) and management of well-kept Garden; excellent references; age 35; married (no family).—RIDGEWELL, "Buckthorpe," Chertsey Road, Addlestone, Surrey.

GARDENER (HEAD), demobilised, seeks situation; 16 years' experience, Inside and Out, in all branches; highly recommended; last place sold while on Active Service; age 33; married (no family).—C. JOHNSON, Stansted Hall Gardens, Stansted, Essex.

HEAD GARDENER; thoroughly recommended; life experience in Fruit, Flowers, Vegetables, Pleasure Grounds, &c.; hard working and energetic.—Apply, ESTATE OFFICE, Honingham, Norwich.

MRS. PALMER highly recommends her late HEAD GARDENER for large establishment, with life experience, very energetic and capable manager; excellent references; demobilised; A1; age 41; married (no family).—WESTRON, Marlston House Gardens, near Newbury.

R. WALLACE & CO., LTD., Kilnfield Gardens, Colchester, can recommend an exceptional HEAD GARDENER; life experience in large establishments, and second to none as a cultivator. Also another HEAD, with exceptional experience in Hardy Ornamental Gardening.

HON. MRS. WYNN highly recommends her HEAD GARDENER, who has been with her 6½ years, to any lady or gentleman requiring the service of a thoroughly capable and practical man; used to the marketing of surplus produce; 28 years' experience in all branches; married (no family).—BURCHILL, Rûg Gardens, Corwen, N. Wales.

GARDENER (HEAD), with first-class qualifications, from nobleman's Garden, seeks re-engagement; energetic worker and skilful grower of Fruits, Vegetables, and Plants; both under Glass and Outside, and the upkeep of a good Garden; highly recommended as a thoroughly efficient and capable man; age 46; Home Counties preferred.—W. F., Box 2, 41, Wellington Street, Covent Garden, W.C. 2.

HEAD GARDENER.—Previous to joining His Majesty's Forces for 14 years' Head Gardener to Col. A. H. Thurburn, Cransley Hall, Kettering; life experience in good establishments; well recommended; age 44 years; married.—CHARLES FORD, Cransley, Kettering.

GARDENER (HEAD) seeks situation; life experience in all branches; demobilised from Army; 3½ years in France; last 18 months in charge of large Depôt Garden at Rouen; married; age 38 years; excellent references gained in large establishments.—Please state wages and full particulars to F. PHILPOTT, Steeple Langford, Salisbury, Wilts.

GARDENER (HEAD), where several are kept; life experience in the cultivation of Fruit, Flowers, Vegetables, Inside and Out, and management of well-kept Gardens; highly recommended; age 37 years; married (no family); demobilised.—PHILLIPS, c/o Crow Gate, Crowborough, Sussex.

SITUATION as HEAD GARDENER; 18 years' experience in first-class establishments; age 32; married; family two.—H. G., Box 23, 41, Wellington Street, Covent Garden, W.C. 2.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; lifetime experience; skilful cultivator of choice Fruits, Vegetables, and Plants; energetic and hard working; married (no family); age 47.—JOSEPH COLLINS, 22, Highfield Road, Chertsey, Surrey.

HEAD GARDENER requires re-engagement; a very qualified, energetic, and reliable man, with excellent references; lifetime experience in large establishments; a skilful grower of all choice Fruits, Vegetables, Flowers, Landscape, and Rockwork.—Apply, J., c/o Taylor & Colbridge, Hallgate, Doncaster.

GARDENER (HEAD) seeks re-engagement; life experience in all branches; age 36; just demobilised; married; one boy (8½ years); excellent references.—G. BATEMAN, 100, Lower Road, Kenley, Surrey.

MRS. FORWOOD highly recommends her HEAD GARDENER; life experience in all branches, 8 years as Head; demobilised; age 35; married (three children).—G. A. BRUTON, Frimhurst Gardens, Frimley Green, Surrey.

GARDENER (HEAD of two or three, or good SINGLE-HANDED); life experience, Inside and Out; married (no family); age 32; demobilised.—H. BEES, 20, Dennett's Grove, New Cross, S.E.

GARDENER (HEAD); life experience; efficient in the requirements of good establishments; first-class experience in all branches of Horticulture; 15 years Head; highest testimonials; age 44; one daughter 10); Army discharged, A1; disengaged.—J. A. PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (HEAD); experienced in all branches; Inside and Out; 7 years in last situation as Head; age 35; married (one child).—E. BALL, The Budds, Blackboys, Sussex.

GARDENER (HEAD).—A thoroughly practical, experienced MAN, Inside and Out, seeks situation as above; life experience in good establishments; married; age 43; two children.—E. SMITH, 53, Napier Road, Tunbridge Wells, Kent.

HEAD GARDENER; life experience in first-class places; successful grower of Fruit, Vegetables, and Flowers; 10 years last place; age 45; married (three children, youngest 6, eldest 15). — GARDENER, 49, St. George's Hill, Everton, Liverpool.

GARDENER (HEAD).—J. L. MARWOOD is open to an engagement in a good establishment; 16 years' first-rate reference; highly successful in all departments; Landscape, Land, and Stock if required; age 45; married (no family).—Address, Busbridge Hall Gardens, Godalming, Surrey.

ORCHID GROWER or HEAD GARDENER where Orchids are one of the leading features; expert in raising and growing Orchids; 15 years' experience in first-class places; highly recommended; 4½ years' Army service; last place sold while on active service; age 33; married, one child.—C. RUSHTON, Walton, Stone, Staffordshire.

GARDENER (HEAD), demobilised, seeks re-engagement; thoroughly practical; trustworthy; life experience, mainly gained in large establishments; first-class Fruit, Flower, and Vegetable grower; Herbaceous Borders, Lawns, Flowering Trees and Shrubs; can be highly recommended as to character and ability; married; age 43.—W. LEITH, School College, Alton, Hants.

HEAD GARDENER, just demobilised, seeks post in good establishment; life's practical experience in all branches, 3 years and 8 months Head to the Lord Bishop of Peterborough previous to joining Colours.—A. MORPHETT, The Common, Cranbrook, Kent.

GARDENER (HEAD), age 42, married.—WILLIAM TURNER, 18, Blomfield Street, Bury St. Edmunds, is open for engagement with any Lady or Gentleman requiring the services of a thoroughly competent first-class man, both Inside and Out; very highly recommended; late Royal Air Force.

GARDENER (HEAD) seeks re-appointment in large establishment; life experience; 4 years Head previous to service; age 37; married (three children); R.C.—CPL. FRIEND, Wormley, Broxbourne, Herts.

MRS. BRISTOW, Borstaldene, Bickley, Kent, will be pleased to recommend her HEAD GARDENER to any Lady or Gentleman requiring a reliable man; life experience in all branches; married; age 47; one daughter (15); demobilised.—Apply, C. H. WOODERSON, The Lodge, Ravenshill, Chislehurst, Kent.

SITUATION required as GARDENER (HEAD), where two or three are kept; life experience all branches, including 5 years R.H.S. Gardens, Wisley; age 31; married (no family).—T. LAWRENCE, Pear Tree House, Freehay, Cheadle, Staffs.

GARDENER (HEAD of one or two); demobilised; age 38; married; 4 years 9 months in last situation; good reference. — BARNACLE, Auburn Road, Blaby, Leicester.

MRS. SCOTT-BROWNE highly recommends her HEAD GARDENER; thoroughly efficient in all branches; 5 years Head of five; demobilised; age 35; married.—WELLS, Outsey, Trull, Taunton.

GARDENER (HEAD), where several are kept; life experience, gained in good establishments; Inside and Out; age 32; married; demobilised.—A. C. RATHBONE, Prospect House, The Rise, Sunningdale, Berks.

GARDENER (HEAD), demobilised, seeks re-engagement; thorough experience in all branches gained in good establishments; highly recommended; age 32; married (no family).—F. COTTERELL, 18, Bognor Road, Chichester, Sussex.

SITUATION wanted as HEAD, also FOREMAN in Gardens, for same place, where five or six men kept; wife would do laundry work.—For particulars, apply POTTLE, The Cottage, Brooklands, Warwick New Road, Leamington Spa.

E. W. LUFF, Groesffordd Threecocks, Breconshire, seeks situation as GARDENER (HEAD); life experience all branches of well-kept establishments; excellent testimonials; 4 years as Head previous to enlistment; age 37; married; one child.

GARDENER (HEAD), or good Single-handed place; life experienced; Inside and Out, land and stock; age 38; good personal references to abilities; total abstainer; disengaged when suited.—Taylor, 38, Maybury Gardens, Willesden Green, N.W.

GARDENER (HEAD, or SINGLE-HANDED with help); 12 years' experience; age 30; married when suited; good references; demobilised; 3½ years in France.—OLDRING, Bramford, Ipswich.

GARDENER (HEAD or good SINGLE-HANDED); demobilised Air Force; life experience, Inside and Out; handy carpentry, painting, glazing; good testimonials; 9 years' present situation; married; age 46; one girl, age 12. State wages, with house, &c.—FARROW, 15, Mount Road, Braintree, Essex.

GARDENER (HEAD or good SECOND); 15 years' experience, Inside and Out; excellent references; age 32; married when suited. — W. FISHER, Thirlestane, St. Peter's Park, St. Alban's.

HEAD GARDENER or married FOREMAN'S place in good establishment; lifetime experience in all the votaries of Gardening; age 36; good references from previous employers; recently demobilised; 4 years in the Army.—Apply, A. SPARROW, 30, Milton Street, Lincoln.

GARDENER (HEAD WORKING), where others are kept; 20 years' practical experience in all branches; excellent references; 7 years Head of four; married (three children, 10, 7, 4); age 43 years.—JOHN SAUNDERS, 21a, Clyston Street, Wandsworth Road, Clapham, S.W. 8.

GARDENER (HEAD WORKING), 16 years thorough experience in all branches in first-class establishment; Inside and Out; seeks engagement where several are kept; age 34; married; 3½ years in France; demobilised.—W. RICHARDSON, 27, Stork Road, Forest Gate, Essex.

GARDENER (HEAD WORKING); demobilised, Active Service, desires re-engagement where several are kept; 25 years' thorough practical experience in all branches, Inside and Out; 12 years as Head; excellent references; age 40; married.—HENRY BURFOOT, 2, Blenheim Cottages, Clayton Road, Hook, Surbiton, Surrey.

GARDENER (HEAD WORKING); 21 years' general experience with Glass, Kitchen Garden, and Lawns; good references.—W. B., Box 3, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING); life experience in all branches; 20 years as Head; married; abstainer; 12½ years good reference.—W. E., Box 9, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING); 18 years' thorough practical experience all branches Horticulture on well-kept establishments; choice Plant, Fruit Culture under Glass, Pleasure Grounds, Fruit and Vegetable Culture, &c.; excellent testimonials to character and ability; now disengaged; age 34; married. Please state wages, &c.—F. KING, 13, Reginald Road, Northwood, Middlesex.

F. S. PHILLIPS, O.B.E., Sunnyside, Holmwood, wishes to highly recommend L. F. BAGG to anyone requiring the services of a thoroughly efficient HEAD WORKING GARDENER, where several kept; life experience; married (without family); age 52; abstainer.—BAGG, 36, Charterhouse Road, Godalming.

WANTED, situation as HEAD WORKING GARDENER, where several are kept; thoroughly efficient in all branches of Horticulture; 18 years' practical experience; married; age 34; one girl (age 6).—WHITE, Great Maytham Gardens, Rolvenden, Kent.

GARDENER (HEAD WORKING); first-class experience, Inside and Out, in large establishments; 13 years previously as Head, 2 years present place; age 48; married (no family).—HEATH, The Lodge, Hillingdon House, Harlow, Essex.

GENTLEMAN can with confidence recommend HEAD WORKING GARDENER; 26 years' experience Glass, Kitchen Gardening, Pleasure Grounds; recently demobilised; age 43; married (no family). State wages.—STEWART, 89, Calton, Gloucester.

GARDENER (HEAD WORKING); life experience with Fruit, Flowers, and Vegetables; Inside and Out; 9 years Head; age 41.—TANNER, Gardeners' Cottage, Honeys, Twyford, Berks.

MR. JAMES KELLY, Claremont Gardens, Esher, Surrey, will be pleased to recommend CORPORAL WM. BARLTROP as HEAD WORKING GARDENER, where four or more are kept; life experience in all branches; married; age 32; quite fit; released immediately on engagement. — CORP. WM. BARLTROP, D.C.M., M.M., 2 Company, 5th Batt. King's Royal Rifles, Holm Place, Queenborough, Kent.

GARDENER (HEAD WORKING); demobilised; age 38; life experience, gained in good establishments; Fruit, Flowers, and Vegetables; married (one child); last place 5 years' Head; well recommended. — GIBSON, 29, Ash Street, Poppleton Road, York.

JOHN DUVEEN, Esq., Chipstead Place, wishes to very highly recommend A. GULVIN as GARDENER (HEAD WORKING) to any lady or gentleman requiring the services of a thoroughly experienced and trustworthy man; life experience in good establishments; 8 years in present situation; married; age 33.—Apply, GULVIN, Chipstead Place Gardens, Sevenoaks.

WANTED, situation as HEAD WORKING GARDENER; age 30; married; good references; discharged from Royal Navy.—WELLS, 16, Barnsdale Road, Paddington.

GARDENER (HEAD WORKING); life experience in the cultivation of Plants, Fruit, and Vegetables; Inside and Out; excellent testimonials; age 30; married when suited; demobilised; vicinity of London preferred.—R. PREECE, 57, Bulmer's Avenue, Garden City, Hereford.

GARDENER (HEAD WORKING), demobilised, seeks re-engagement; 24 years' first-class experience in all branches of Horticultural work; highly recommended by late employer; excellent references from previous employers, also from the Army; age 37; married (no family).—SUTTON, 8, Leffern Road, Shepherd's Bush, London, W.

GARDENER (HEAD WORKING), where one or two more are kept; 12 years' good practical experience; excellent references; age 26; widowed mother one sister; Home Counties preferred.—H. GREEN, Baldon House Gardens, Oxon.

GARDENER (HEAD WORKING), where three or more are kept; skilful cultivator of Hardy Fruits and Vegetables; also Flowers; Inside and Out; highest references; age 37; married (one child, 3½).—A. W., Box 12, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING), where several are kept; Inside and Out; good experience; excellent references; dmobilised soldier; married.—W. H. BARLEY, Church Road, Yardley, Birmingham.

GARDENER (HEAD WORKING); life experience in all branches; land and stock if required; age 38; married (three children, youngest 4); just demobilised; can be highly recommended.—E. BERNARD, 20, Bond Street, Arundel, Sussex.

HEAD WORKING GARDENER. — Gentleman highly recommends his Head Gardener; a very reliable, hard-working man; life experience; 28 years in former situation; good reason for leaving; married; aged 54; one daughter at home.—Please apply by letter to GEORGE JAGO, Longhill, East Liss, Hants.

HEAD WORKING, 3 or 4 under; life experience all branches; Staffs. or Shrops. machinery objected to; 11 and 5½ years' reference; age 46.—M. J., Box 4, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING) seeks engagement; life experience, Inside and Out; good references; married; age 45.—Apply, W. HILL, The Gardens, Totteridge House, Totteridge, Herts.

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GARDENER (HEAD WORKING or SINGLE-HANDED) wants situation about end of March; good experience, Inside and Out; Grapes, Peaches, Melons, &c.; practical knowledge estate work, cows, and poultry; references good; married (two in family). State wages (with cottage), Kent preferred, to S. S., Box 15, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (SINGLE-HANDED or HEAD WORKING); life experience; take charge of engine and electric plant; 39; married; good references. Please state wages.—S. T., Box 8, 41, Wellington Street, Covent Garden, W.C. 2.

GARDENER (HEAD WORKING or SINGLE-HANDED), with help; discharged soldier; life experience; good references; married (one child); age 32. W. JENKINSON, 456, Gloucester Road, Horfield, Bristol.

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TWO WOMEN GARDENERS desire post together; willing workers; some experience. — Apply, MISS GREY, 31, Scarsdale Villas, Kensington, W. 8.

ESTATE ENGINEER seeks permanent post, electric light, pumping and bell installations, oil, gas, and steam engines, hot and cold water services, repairs all kinds; highest references; married (one in family).—M. J., Box 16, 41, Wellington Street, Covent Garden, W.C. 2.

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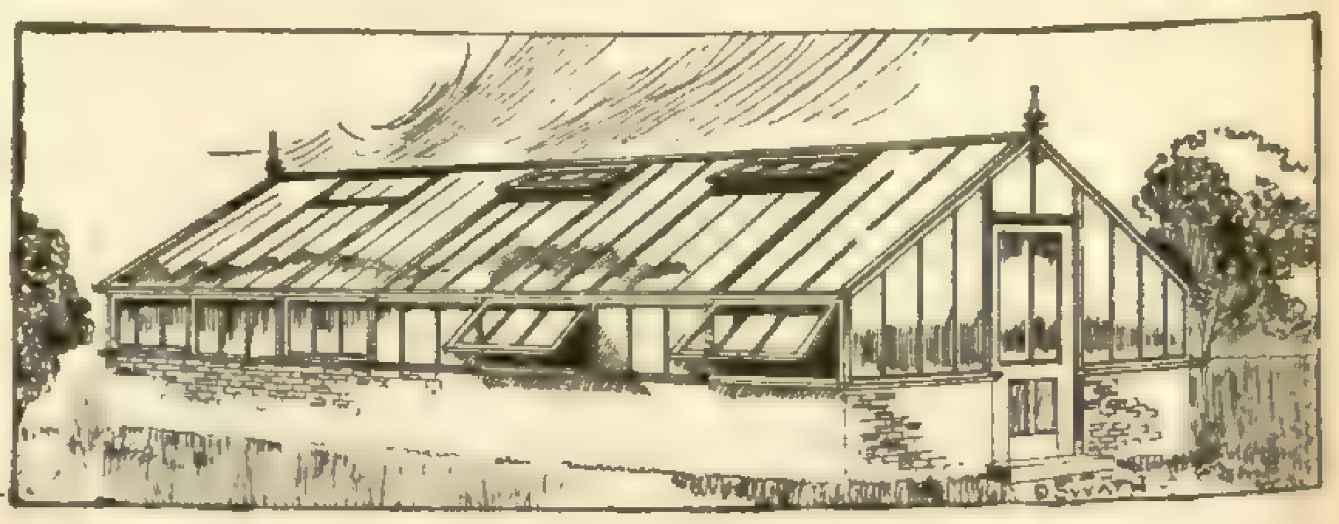

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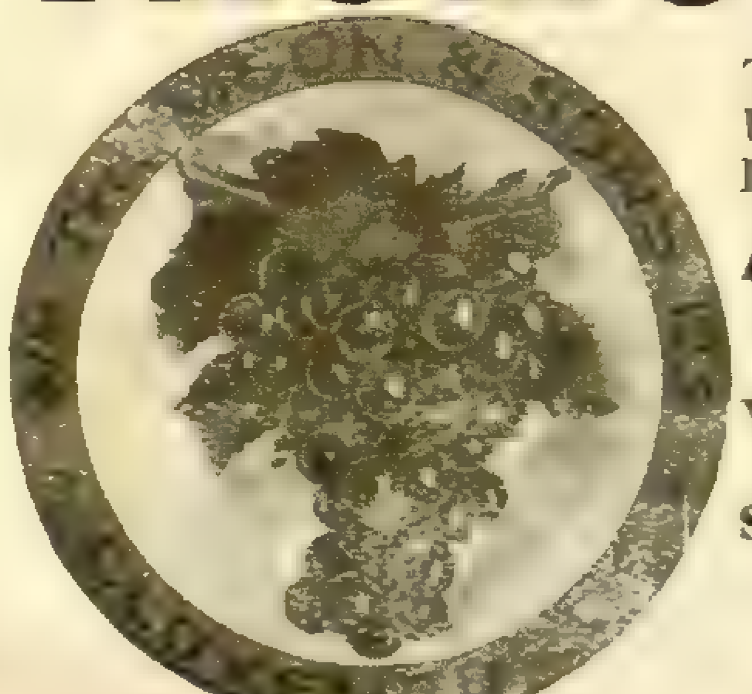

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THE GARDENERS' CHRONICLE

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McDOUGALL'S "FUMERS" and Insecticide "Sheets" for Greenhouse Fumigation. Safe, effectual, economical. Sold by all Seedsmen and Nurserymen.

ROSES. — ALLEN'S GOLD MEDAL NORWICH ROSES.—Our new descriptive price list, with Hints on How to Grow Roses, now ready, post free.—Write to-day. A. J. & C. ALLEN, Rose Growers, Norwich (for over 50 years).

MACKENZIE & MONCUR, Limited, Hothouse Builders and Heating Engineers, London, Edinburgh, and Glasgow. By Special Appointment to H.M. the King. London Office: 8, Camden Road, N.W.

CHRYSANTHEMUM Novelties. — H. J. JONES' "VICTORY" SET. Absolutely the finest lot ever offered. Descriptive list ready shortly on application. You can still obtain best Chrysanthemums, Zonals, Fuchsias, Phloxes, Michaelmas Daisies, &c., at Ryecroft. Catalogue post free for 1d. stamp.—H. J. JONES, Ryecroft Nurseries, Lewisham, S.E.13

LAXTON'S SEEDS, 1919.—New list, containing all the latest novelties, including the new Pea, Laxton's Superb. Gratis on application.—LAXTON BROS., Bedford.

HIGHLY IMPORTANT SALE OF ORCHIDS.

MESSRS. PROTHEROE & MORRIS beg to announce they have been favoured with instructions to dispose of the

WONDERFUL COLLECTION OF ORCHIDS

formed by the late F. Menteith Ogilvie, Esq., of
THE SHRUBBERY, OXFORD.

The Collection comprises about 9,000 Plants in all, and will be submitted to Auction on the premises as above, on

Tuesday, April 1st, and Two following days,

at Eleven o'clock precisely each day. The following are a few of the more valuable Plants, many of which have received First-Class Certificates at the R. H. S. Meetings—

Odontoglossum Alexandrina.
,, ardentissimum Carmen.
,, crispum Solum.
,, ,, The Britisher
,, ,, Lucianii.
,, illustrissimum Shrubbery Variety.
,, Mirabeau var. Mastiff.
,, Harwoodii Shrubbery Variety.
,, percultum King George.
Odontioda Armstrongiæ var. Peerless.
,, Brewi var Cupreum.
,, Bradshawiæ. Perfection.
Odontioda Cooksoniæ Fowler's Variety.
,, Memoria F. M. Ogilvie.
,, Florence.
,, Zenobia.
Also Odontoglossums and Odontiodas and numerous other choice and rare hybrids.
CATTLEYAS.
Trianæ Grand Monarch.
,, The Premier.
,, Rajah.
,, Mooreana.
Mendelii Queen Mary.
Schröderæ Queen Mary.
Tityus Shrubbery Variety.
Brasso Cattleya Cliftoni Magnifica.
,, ,, ,, Fowler's Variety.
,, ,, Digbyana Schröderæ.
Lycaste Skinnerii alba magnifica.
,, ,, Armeniaca.
Miltonioda Harwoodii Shrubbery Variety.
Miltonia Hyeana F. M. Ogilvie.
Odontonia Charlesworthii.
Sophro-Cattleya Thisbe.

Numerous Cattleya and Lœlia Cattleya Seedlings and other cool, intermediate, and hot house varieties.

The catalogue is now in course of preparation, and may be obtained on the premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

SALES BY AUCTION.

WEDNESDAY NEXT.
Rose Trees, Fruit Trees and Bushes, Vegetable Seeds, named Rhododendrons, Herbaceous Plants, Gladiolus, Begonias, Spring-Flowering Bulbs, &c.

MESSRS. PROTHEROE & MORRIS will sell the above at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.,
On Wednesday, March 5th, at 1 o'clock.
Catalogues had. Commissions executed.

FRIDAY NEXT.
Established Orchids, including Cool, Intermediate and Hot-house varieties, also Orchids in Flower and Bud.

MESSRS. PROTHEROE & MORRIS will sell the above at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.,
On Friday, March 7th, at 1 o'clock.
Catalogues had. Commissions executed.

MAY & PHILPOT will SELL by AUCTION at WINCHESTER HOUSE, OLD BROAD STREET, E.C. (Room 16), on Wednesday, March 12th next, the following Property :—
A TRADE BARGAIN.

BRIXTON, S.W.—The very valuable Old-Established Florist's and Nurseryman's Business, No. 20, EFFRA ROAD, together with the Goodwill of over 40 years standing. A commanding Corner Property, together with the Capital Detached Residence, containing 5 good sitting rooms, 6 bedrooms, and Good Domestic Offices. Stabling, Garage, etc. Three heated Greenhouses. Grounds of about 1 Acre. The whole of the fixtures and Stock-in-Trade will be included in the Purchase. Possession on completion. Lease about 5 years at a Ground rent of £21 per annum.
Particulars and Conditions of Sale of the Auctioneers at their Offices, 140 2, Brixton Hill, S.W.2, and 76, Streatham High Road, S.W.16.

BUSINESSES FOR SALE.

SPECIAL REGISTER OF NURSERIES, MARKET GARDENS, FLORISTS' AND SEED BUSINESSES to be Let or Sold. Published by
MESSRS. PROTHEROE & MORRIS every month. Copies may be obtained post free on application.—Estate Offices, 67 and 68, Cheapside, London, E.C.

FOR SALE, good old established JOBBING GARDENER'S BUSINESS; good connection; North London.—Apply, GILBERT Y. HOW, 5, Crouch Hill, N.

NURSERY for sale, S.W. London: 600ft. run Glass, in good condition; offer wanted.—BIGG, 28, Jeffreys Road, Clapham, S.W.

FOR SALE, small Jobbing Gardening Business; nice connection; genuine and cheap.—Apply, WILLIAMS, 240, Cavendish Road, Balham, S.W.12.

PARTNERSHIP.

CALIFORNIA. – To anyone contemplating FRUIT-FARMING or Partnership in a Fruit Farm in California; advice gladly given on this subject by demobilised officer (Old Harrovian); 12 years' residence in California before war; finest climate and greatest opportunities in the world.—Address, F. CRISP, H. G. Prince & Co., Fruitvale, Oakland, California, U.S.A.

NOTICES.

IT has been arranged to hold, in London, a preliminary course of Lectures on Gardening and Allotments, by Mr. F. CHITTENDEN, V.M.H., of the Royal Horticultural Society Gardens, Wisley, on FRIDAYS, FEBRUARY 28th, MARCH 14th and MARCH 28th, from 6 to 7 p.m. These Lectures should be of great interest and assistance to Amateur Gardeners. Full particulars and tickets (price, 1s. 6d.; Front Row, 2s. 6d.) can be obtained from THE SECRETARY, Women's Farm and Garden Union, 50, Upper Baker Street, London, N.W.1.

WALSALL FLORAL FETE.
Tuesday and Wednesday, August 5th and 6th, 1919.
GOOD OPEN CLASSES.
Schedules from Secretary, A. ASHWELL, 349, Bloxwich Road, Walsall.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W.14.

WOLVERHAMPTON
GREAT FLORAL FETE,
JULY 9th and 10th, 1919.
OVER £1,000 IN PRIZES.
Schedules on application to the SECRETARY (post free), G. W. A. MARTIN 46, Queen Street, Wolverhampton.

PLANTS, &c. FOR SALE.

CORDON, Pyramid, and Bush Apples, Pears, Plums, Cherries, 3s. and 5s. each. Half-Standard Apples, Pears, Plums, and Morellos, also Bush Morellos, 3s. 6d and 5s. each. Double and Gridiron Cordon Sweet Cherries, extra large trees, 5s. each. All above in leading varieties.—CLARKE, Nurserymen, Hampton-on-Thams.

J. M. H NABER & CO., Export Nurseries, Gouda, Holland. – Special offer of Genista standards in different varieties; extra strong heads; and all sorts of nursery stock: ask prices.

BAY TREES, magnificent consignment, Pyramids and Standards, for Sale, in all sizes; ready for delivery at latter end of March; sizes and prices on application.—ROBERT GREEN (1911), LTD., 28, Crawford Street, London, W.

CALANTHE, "WILLIAM MURRAY."—For sale, several dozen good Bulbs.—For price, etc., apply A POPE, Gargrave House Gardens, Gargrave, via Leeds.

FOREST TREES.

	Feet.	Per 1,000
Ash, Common, transpd.	3 to 4	50s.
Beech, Common, transpd.	2 to 3	60s.
Beech, Common, transpd.	3 to 4	80s.
Douglas Fir, twice transpd.	3 to 4	200s.
Douglas Fir, thrice transpd.	4 to 5	300s.
Douglas Fir, Glauca, thrice transpd.	3 to 4	200s.
Douglas Fir, Glauca, thrice transpd.	4 to 5	300s.
Larch Fir, twice transpd.	3 to 4	50s.
Laurel Rotundifolia, bushy, transpd.	2 to 2½	180s.
Oak, English, transpd.	2 to 3	60s.
Oak, English, twice transpd.	3 to 4	80s.
Oak, English, twice transpd.	4 to 5	100s.
Privet, Common, bushy, transpd.	3 to 4	50s.
Privet, Oval Leaf bushy, transpd.	3 to 4	80s.
Spruce Fir, thrice transpd.	2½ to 3½	150s.
Sitka Spruce, twice transpd.	2 to 3	120s.
Sitka Spruce, thrice transpd.	4 to 5	250s.
Thorn Quicks, transpd	1½ to 2½	50s

STANDARD TREES (FINE SPECIMENS).

	Feet.	Per doz.
Birch, Silver	12 to 14	24s.
Chestnut, Horse	8 to 10	15s.
Chestnut, Horse	10 to 12	21s.
Chestnut, Horse	12 to 14	30s.
Limes	10 to 12	21s.
Limes	12 to 14	30s.
Limes	14 to 16	42s.
Mountain Ash	10 to 12	24s.
Oak, English	8 to 10	15s.
Oak, English	10 to 12	24s.
Poplar, Balsam	12 to 14	18s.
Poplar, Black	10 to 12	12s.
Poplar, Black	12 to 14	18s.
Sycamore	12 to 14	24s.

CONIFERS.
(Well Finished and Good Roots.)

	Feet.	Per doz.
Abies Douglasii	5 to 6	10s.
Abies Douglasii.	6 to 8	15s.
		Each.
Cedrus Deodara	6 to 8	5s.
Cedrus Deodara	8 to 10	7s. 6d.
		Per doz.
Thuja Lobbii	6 to 7	18s.
Thuja Lobbii	7 to 9	30s.
Thuja Occidentalis	5 to 6	18s.
Yews, English	3 to 4	24s.
Yews, English	4 to 5	36s.
Yews, English	5 to 6	60s.
		Each.
Yews, Irish	6 to 7	7s. 6d.

R. TUCKER & SONS,
The Nurseries, Faringdon, Berks.

FIDLER'S NEW ILLUSTRATED CATALOGUE OF FOOD PRODUCT SEEDS is NOW READY, and a copy will be sent post free to any address on receipt of postcard.
Write at once to
FIDLER & SONS,
Royal Berkshire Seed Stores, READING.

HARDY HEATHERS; 100 good plants in 20 choice varieties for 25s. (over 40 varieties).—SYDNEY SMITH, Tansley "Old" Nurseries, near Matlock.

SEABROOK'S BLACK CURRANT CUTTINGS for sale; best big bud resisters, 10s. 6d. per 100, 80s. 1,000, carriage paid.—BIGGALL Newbury.

PROFITABLE Plants for Food Production, specially grown in best leading varieties, including Onions, Leeks, Cabbage, Broccoli, Sprouts, Cauliflowers, Celery, and Tomatos, for Indoor and Outdoor cultivation.—Price List, with practical instructions and when to plant, on application to KING'S ACRE NURSERIES, LTD., Hereford (late Cranston's).

LILIUM LONGIFLORUM GIGANTIUM. L. Speciosum Rubrum, and Album, fine bulbs, just imported, 12s., 18s., and 24s. doz.; Gladiolus Gandavensis and Lemoinii, our celebrated Hybrids, 4s. doz., 32s. 100; Queen of Whites and Primulas, large yellow (new), 12s. doz.; Begonias from Ware's, named sorts, 12s. doz.—MORLE'S, 150-156, Finchley Road, N.W.

FINE SPECIMEN PLANTS.—Clivias, Rhododendrons, Fragrantissium, Acacias, Cytisus, Deutzias showing flower, Ixora, Anthuriums, Satanias, also various Orchids, &c.—HORTON, 18, St. John's Park, Blackheath, London, S.E.3.

SELECTED SEED POTATOES.

SCOTCH GROWN EARLIES.

	14 lbs.	28 lbs.	56 lbs.	112 lb.
Sir J. Llewelyn	4/6	8/-	15/-	27/6
Duke of York	4/6	8/-	15/-	27/6
Midlothian Early	4/6	8/-	15/-	27/6
Edzell Blue	6/-	11/6	22/-	40/-
Myatt's Ashleaf	6/-	11/6	22/-	40/-
Sharpe's Express	3/6	6/6	12/-	22/-
Epicure	3/-	5/9	11/-	21/-
Eclipse	3/6	6/6	12/-	22/-
SECOND EARLIES AND MAINCROP.				
Kerr's Pink	6/-	11/6	22/-	40/-
Bishop's	6/-	11/6	22/-	40/-
Rule Britannia	6/-	11/6	22/-	40/-
Majestic	6/-	11/6	22/-	40/-
The Ally	3/6	6/6	12/-	22/-
Factor	3/-	5/-	9/-	16/-
Iron Duke	3/-	5/-	9/-	16/-
King George	3/-	5/-	9/-	16/-
Table Talk	3/-	5/-	9/-	16/-
Langworthy	3/-	5/-	9/-	16/-
Duchess of Cornwal	3/-	5/-	9/-	16/-
Dalmeny Beauty	3/-	5/-	9/-	16/-
King Edward VII.	3/-	5/-	9/-	16/-
Evergood	3/-	5/-	9/-	16/-
Lochar	3/-	5/-	9/-	16/-
Up-to-Date	3/-	5/-	9/-	16/-
Golden Wonder	3/-	5/-	9/-	16/-
Arran Chief	3/-	5/-	9/-	16/-
Templar	3/-	5/-	9/-	16/-
British Queen	3/-	5/-	9/-	16/-
Great Scott	3/-	5/-	9/-	16/-
Royal Kidney	3/-	5/-	9/-	16/-
Dalhousie	3/-	5/-	9/-	16/-
Queen Mary	3/-	5/-	9/-	16/-
ENGLISH-GROWN EARLIES.				
May Queen	3/6	6/6	12/6	24/6
Ninetyfold	3/6	6/6	12/6	24/6
Early Puritan	3/-	5/6	10/-	15/-
Sharpe's Express	3/-	5/6	10/-	15/-
Eclipse	3/-	5/6	10/-	15/-
Early Epicure	3/-	5/6	10/-	14/-
SECOND EARLIES AND MAINCROP.				
Ally	3/-	5/6	10/-	15/-
Iron Duke	2/6	4/3	7/-	12/6
King George	2/6	4/3	7/-	12/6
Templar	2/6	4/3	7/-	12/6
Lochar	2/6	4/3	7/-	12/6
Great Scott	2/6	4/3	7/-	12/6
Scottish Farmer	2/6	4/3	7/-	12/6
Up-to-Date	2/6	4/3	7/-	12/6
Evergood	2/6	4/3	7/-	11/-
British Queen	2/6	4/3	7/-	11/-
King Edward VII.	2/6	4/3	7/-	11/-
Arran Chief	2/6	4/3	7/-	11/-
Queen Mary	2/6	4/3	7/-	11/-
Royal Kidney	2/6	4/3	7/-	11/-

	7 lb.	14 lb.
Basic Slag (36 per cent.)	1/3	2/6
Superphosphate (30 per cent.)	1/6	2/6
Special Manure	1/6	2/9

Pig Potatoes 5/- cwt., bags free. Free on rail Vegetable Seeds over 200 of the Leading Varieties of Vegetable Seeds, Peas and Beans Collections at 3/6, 5/6, 10/6 and £1 1/-; Carriage paid Shallots 1/3 per lb.; Onion Sets 2/6 per lb. carriage paid, cash with order. Also Leading Varieties of Sweet Peas and Flower Seeds. Do no delay. Send for Catalogue and be on the right goods. Immediate dispatch of all Orders. Satisfaction guaranteed or money returned.

HORACE TAYLOR & CO., CHATTERIS, CAMBRIDGESHIRE

ENGLISH YEWS.—The Cleanest and healthiest lot in England; every plant a perfect specimen and splendidly rooted. 3ft. to 3½ft., 120s. per 100, 3½ft to 4ft., 150s. per 100; 4ft. to 4½ft., 24s. per doz., 5ft., 30s. per doz.; 6ft., 36s. doz.
HINTON BROS., LTD.,
The Warwick Nurseries, Warwick

HARRISONS' Garden Seed Catalogue, offering the finest strains of Vegetable Seeds, is now ready and can be obtained free. We give a special guarantee to replace any packet supplied direct, which is proved not be in every way genuine and reliable. All seeds are tested three times, and are very moderate in price, though excellent in quality. Established 1764. —HARRISONS, Seed Growers, Leicester.

VEGETABLE and FLOWER SEEDS of the very finest quality are supplied by P. LITTLEWORTH Clyst Vale NURSERIES, Honiton Clyst, near Exeter, Devon. Send for list and order early.

SCOTCH ONION SETS, Ailsa Craig type, 2s. 6d. lb., 14s. 7lb.; Scotch Shallots, 1s. 6d. lb., 9s. 7lb.; Scotch Potato Onions, 2s. lb., 12s. 6d. 7lb., carriage paid. Scotch Peas, Beans, Onions, Leeks, Carrot, Celery, Turnip, Cress, Radish, Lettuce, &c. Catalogue free.—TILLIE, WHYTE & CO., 12, Melbourne Place, George IV. Bridge, Edinburgh.

SCOTCH SEED POTATOS DIRECT FROM SCOTLAND. Per stone: Ally, 3s. 3d.; Edzell Blue, 5s. 6d.; Sharpe's Express, 4s.; Sharpe's Victor, 5s.; Midlothian Early, 4s. 9d.; May Queen, 4s. 9d.; Duke of York, 4s. 9d.; Rule Britannia, 5s.; Majestic, 6s.; Kerr's Pink, 4s. 6d.; British Queen, 2s. 6d.; Arran Chief, 2s. 6d.; King Edward VII., 2s. 6d.; Factor, 2s. 6d.; Dates, 2s. 6d.; Golden Wonder, 2s. 6d.; Great Scot, 3s. 3d.; Templar, 3s.; King George, 3s.; Lochar, 3s.; Tinwall Perfection, 5s.; Burnhouse Beauty, 3s. 6d.; Conquest, 4s. 6d.; Epicure, 3s.; Eclipse, 4s. 3d.; Sir J. Llewylen, 4s. 3d.; Myatt's Kidney, 5s.; Ninetyfold, 5s.; Early Puritan, 4s. 6d.; Pioneer, 3s. 6d. Carriage paid. Bags free. Prices per cwt. or ton on application. List of Vegetable Seeds free.—TILLIE, WHYTE & CO., Seed Growers, 12, Melbourne Place, George IV. Bridge, Edinburgh.

SILVER FIRS: 200,000 Plants for Sale. —Sample on application to E. G. CUBITT, Honing Hall, Worstead, Norwich.

PEARS.—Fruiting horizontally trained specimens; well transplanted, and true to name. —Measurements and prices from WILL TAYLER, Hampton, Middlesex.

RHUBARB. — Champagne, clumps for forcing, 10s. per doz., 80s. 100; planting sets, 3s. dozen, 25s. 100; Dawes' Champion, 35s. 100 sets; on rail, for cash only.—J. HANDSCOMBE, F.R.H.S., Feltham Nurseries, Middlesex.

GENTIANA VERNA, 12 clumps 5s., free, 3 Crested Royal Flowering Ferns, 4s.; 6 Dryas Octopetala, 4s.—O'KELLY, Botanist, Ballyvaughan, Ireland.

GENERAL FOCH, new Dwarf Nasturtium, Seed Packet, 1s. and 1s 6d.; most beautiful variety.—D. DAVIES, Derwydd Cottage, Cemetery Road, Ogmore Vale.

RIBES, Scarlet Flowering, 3 to 4ft., 3s. doz., 20s. 100 strong plants.—SYDNEY SMITH, Tansley "Old" Nurseries, near Matlock.

SEED POTATOS.—Epicures, 10s. cwt.; Sharp's Express, 14s.; Maincrops, 8s. 6d. Send for price-list. W. J. PLAYER, High Ridge Farms, Haddenham, Cambs.

RARE SHRUBS and TREES from China, Japan, Siberia, America, &c.; catalogues on application.—ALDER, River Nursery, Iver Heath, Bucks.

HAZEL, 2 to 3 ft., transplanted, 30s. 1,000, 5s. 100.—SYDNEY SMITH, Tansley "Old" Nurseries, near Matlock.

AUSTRIAN PINES, selected bushy, 3ft., 6s. dozen, 40s. 100. SYDNEY SMITH, Tansley "Old" Nurseries, near Matlock.

ENGLISH OAK, 2 to 3ft., stout, well rooted plants, 5s. 100, 40s. 1,000.—SYDNEY SMITH, Tansley "Old" Nurseries, near Matlock.

PLANTS, &c., WANTED.

WANTED, LARGE PLANTS for Conservatory decoration, such as Cobaea Scandens Variegata, Tree Ferns, Camellias, &c.—Particulars to GEORGE BURY, Arley Nurseries, Mellor, near Blackburn.

WANTED, large Kentia Fosteriana Palms, from 5 to 25ft in height; large, well-coloured Dracaenas and Crotons; for cash or exchange.—ROBERT GREEN (1911), LTD., 28, Crawford Street, W.

WANTED, good BULBS—Calanthe Veitchii, Vestita lutea and rosea.—Quality and price, A. E. BULL, Bonis Hall, Prestbury, Cheshire.

WANTED, two large Double White Camellias in pots or tubs.—Size and price to FRANK LEES, Florist, Reading.

WANTED, Thorn Quicks, Native and Japanese Larch and Sitka Spruce all sizes. Please quote, stating probable quantities, lowest nett cash prices for delivery, in 10,000 lots.—W. POWER & CO., Waterford.

WANTED, PHOTOGRAPHS of good flowering specimens of Hardy Trees and Shrubs; Hardy Perennials; Rock Plants; well fruited Cordon, Bush and Espalier Fruits, must be suitable for reproduction.—Particulars and prices to Box 331, 41, Wellington Street, Covent Garden, W.C.2.

MISCELLANEOUS.

GENUINE OLD YORK STONE PAVING for Rose Walks, Terraces, Lily Ponds, &c.; rectangular or crazy; delivered in large or small quantities.—H. BROOK, Quarry Owner, 40, Valley Road, Streatham, S.W.

SHANKS' LAWN MOWER, 18 in., with box, complete, Patent Chain Cover, excellent condition, £8 8s. Several other Secondhand Machines, various makes.—WM. BIGNELL & SON, North Road, Highgate, N.6.

GALVANISED TANK (second-hand); good condition; 4 ft. × 3 ft. × 2 ft. 8 in., capacity 200 gals., £3 10s. Quantity of 3 in. and 4 in. H. W. Pipes, Screw-down Valves, Bends, etc. State requirements. WM. BIGNELL & SON, North Road Highgate, N.6.

LOAM, Kettering best quality, for Vine and Peach borders, 'Mums, Tomatos, Cucumbers and Melons; nothing better for Carnations; loaded 4 to 12 ton trucks.—JOHN DON, 78, Derby Road, Nottingham.

FOR SALE, new Corrugated Iron Sheets, at following prices:—6ft. 6s., 7ft. 7s., 8ft. 8s. 2d., 9ft. 9s. 3d., 10ft. 10s. 6d.; carriage paid; immediate deliveries; all painted, ready for fixing. Apply, BUILDER, 48, Well Street, Hackney, London.

GLASSHOUSES for sale; also Garden Lights, Glass, Boilers, Pipes, Fittings Standpipe Valves, Hose, &c.; price against specification.—C. A. CHRISTIANSEN, Southall.

"PESTITE" kills wireworms, rookworms, cockchafer grubs, Julus worms, and other soil pests; also "club root" and other fungoid diseases. Price: 28lbs. 5s. 6d., 56lbs. 7s. 6d., 112lbs. 10s. 6d., 1 ton £8, all carriage paid, from G. LANG & SONS, LTD., Hounslow, Middlesex.

BIRCH BROOMS, 7s. dozen; Pea and Bean Sticks, 10s. 100 bundles; Rose, Dahlia and Plant Stakes, 3s. 6d.; Bean Rods, 3s.; Tree Stakes, 6s.; all 100; Poles and Posts for Pergolas, Arches, &c., 7d. each in Ash, Birch, Chestnut, Oak, on Rail.—H. SELL, Elmbrook Road, Cheam.

10FT. KINNELL'S HORIZONTAL TUBULAR BOILER and 700 feet 4in. Hot Water Piping.—CRISP, 39, Laitwood Road, Balham, S.W.

WEEDS! WEEDS! WEEDS!

NOW is the time to kill them. If your paths are cleaned now they will remain clean for the best part of the year. Our WEED KILLER is safe to handle.

CHEAPER THAN HOEING.

Will not harm birds or animals; is a powder; only requires sprinkling on the weeds.
1 cwt. Sacks, 20s., free on rail, London.
CLEVELAND & CO., 12, GREAT QUEEN STREET, KINGSWAY, W.C.
Agents wanted.

FRENCH GARDEN LIGHTS, perfect condition, 3, price £2; 12, price £7 5s.; Cloches, doz. £1, 100 £7 10s.—MISS SUFFERN, Tiptree, Essex.

BIRD'S BATHS, Garden Vases, Sun-dials, Vegetable and Flower Seeds. Catalogue (No. 3) free.—MOORTON, 5, Thornton Avenue, Chiswick, W.4.

BEST ready mixed PAINT, in 7 and 14lb. tins; Varnishes, Enamels, and Brushes. Prices on application.—A. GODSALL, 78, Rolls Road, London, S.E. 1.

TARPAULINS, Garden Barrows, and Wire Netting for sale; S.H. Tarpaulins and new Waterproof Sheets; also new Barrows and Wire Sheep and Rabbit Netting.—For particulars, write JOHNSTON, 12, Broughton Road, Croydon.

MISCELLANEOUS continued on page ix.

SCOTCH SEED POTATOES

All the best varieties grown from selected stocks, including those immune to wart disease

Special Seed Potato List Post Free on Application.

AUSTIN & McASLAN, GLASGOW.

ESTABLISHED OVER 200 YEARS.

SEED POTATOES

Scotch and Yorkshire grown.

ALL THE LEADING VARIETIES.

SEND FOR LIST.

ISAAC POAD & SONS,
Seed Potato Growers, YORK.

BENTLEY'S CONCENTRATED ALKALI

A highly effective and most popular Winter Wash for Fruit and Forest Trees of every kind. In tins sufficient to make 22 gallons of wash.

1 to 5 tins, 3/4 each; 8 tins, 3/2 each; 12 tins, 3/- each; 20 tins, 2/10 each; 40 tins, 2/8 each. Carriage paid.

Sole Manufacturers—

JOSEPH BENTLEY, Ltd.,
Barrow-on-Humber, HULL.

RIVERS'

Fruit Trees, Roses, Vines, Figs, Oranges, AND Orchard House Trees ARE OF First-class Quality.

A Large and Select Stock always on View.

PRICE LIST POST FREE.
Illustrated Catalogue 6d.

THOMAS RIVERS & SON
Sawbridgeworth Herts.
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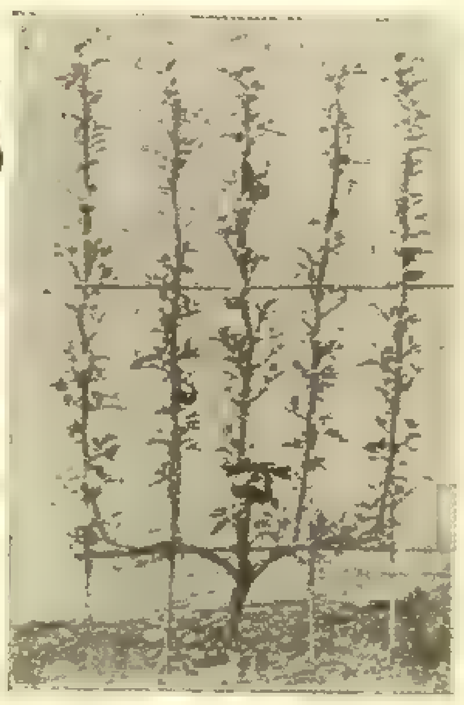

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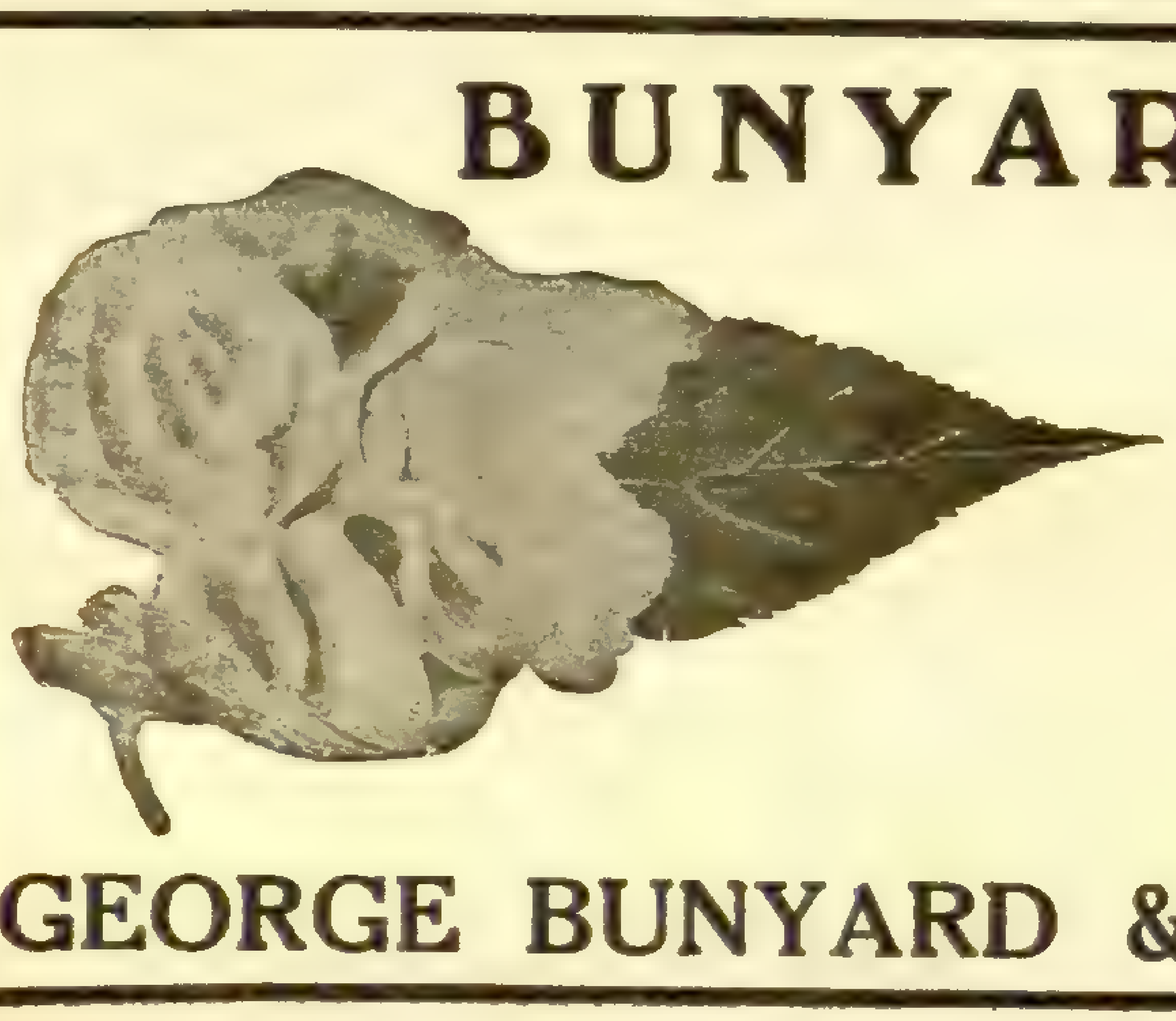

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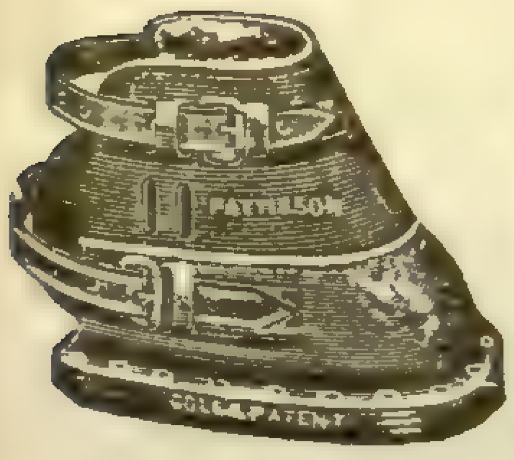

Fig. 2, A Quality.

Fig. 2, A or B Quality.

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THE
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No. 1679.—*SATURDAY. MARCH* 1, 1919.

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CARBOHYDRATE MANURING AND THE RUBBISH HEAP.

ORGANIC manures, which are much in vogue at the present time, have chiefly been advocated from the nitrogen point of view. Some experiments which I commenced in order to elucidate certain points in soil analysis were eventually directed towards the determination of the effect of fermentations of carbohydrate material (starch and sugar) in soil samples upon the amounts of "available" phosphoric acid and potash. It was hoped to make a number of observations upon soils of various geological origin, and a collection of several was made, but the war started and interfered with including in experiments so complete a series as was intended. The present importance of the manure question may make the publication of some results useful, even if only to stimulate work on similar lines on a larger scale than can be attempted single-handed.

In most cases the soils were taken from the top nine inches of old pasture land for the sake of uniformity. Whilst still fresh, they were sifted through a 3 m/m gauze and quantities of about 150 grms. weighed out; about 1.2 grms. of starch (in earlier trials cane sugar), *i.e.*, to make about one per cent. on the air-dry weight, was added simply or with further addition of one per cent. calcium carbonate to duplicate samples. The air-dry weight was determined. The fermentation lots were each given 100 cc. of water, and then left at room temperature for bacterial action to proceed. Eventually water was added to make up to tenfold the air-dry weight and a corresponding amount of citric acid to make the standard one per cent. solution. Also citric extracts were made of the unfermented soil; it seemed undesirable to introduce factors other than those of citric acid extraction or comparative values would be destroyed.

The results which are due to the survival of and activity of the bacteria which were present in the different samples no doubt would differ from those obtained from soil *in situ*, chiefly perhaps from the oversaturation with water in the trials, without which it would be difficult to attain uniformity. The odours developed during the fermentations showed that markedly different bacteria were at work in the various samples:—

Source.	*Formation.*	*Odour developed.*
Farm C.—Long-neglected pasture	Old red sandstone	Very strong butyric.
Farm W.—Manured orchard pasture	Ditto.	Indol-like, eventually stale, sewer-gas-like.
Budleigh.—Recently-ploughed pasture	Bunter Triassic	Slight, butyric.
S. 1—Orchard pasture	Granitic	Sweetish, later faint indol.
S. 2—Garden soil near by S. 1	Ditto.	Sweetish, no indol.
Alpine.—Le Lautaret	Igneous	Mawkish and musty.
Alpine.—M. Cenisio	Limestone	None distinctive or marked.
Brecon Beacons. Hill pasture	Black acid, peaty layer overlying old red sandstone	Mawkish and musty.
Netley.—Old pasture	Flint gravel drifts	Slowly developed slight butyric.

It may be noted that in all cases the liquid eventually became strongly alkaline, any initial acidity having been overcome, as is the case with pathogenic bacteria when carbohydrate material is not too abundant.

In regard to phosphoric determinations in general, it is unfortunate that they are largely unreliable because the prescribed routine includes an actual burning of the organic material (including a large quantity of citric acid), and this causes appreciable, if not often important, losses. In order to avoid such losses, the "incinerations" have been done by means of nitric acid with the help of a slight amount of concentrated sulphuric acid; in very ferruginous soils a certain amount of ferric phosphomolybdate is usually carried down so that reprecipitation is necessary. Further, care must be taken during the citric acid extraction to avoid undue shaking, such being limited to a mere mixing to ensure uniformity; and repeated sedimentation is preferable to filtration. The work of Dr. E. J. Russell and J. A. Prescott (*Jl. Agric. Sci.* VIII, 1916, p. 65) has shown the serious loss of phosphoric acid which ensues after vigorous shaking, especially with inorganic acids; though these authors elaborately ascribe the loss to "absorption," it seems likely that it is merely a case of surface aggregations of colloids as described by W. Ramsden (Separation of solids in the surface layers of solutions, etc., *Proc. Roy. Soc.* vol. 72, 1903, p. 156), who was able to obtain almost complete separation of certain colloid materials by means of simple shaking. It seems not unlikely that in the case of the shaken soil extracts some colloid silico-phosphoric complex was involved.

PERCENTAGES ON AIR-DRY SOIL.

Soil.		*Phosphoric Acid.*	*Potash.*	*Silica.*
Farm C.	Citric Ext. ...	0.0075	0.0169	0.0428
Jan. 1914	Ditto. after ferment	0.0096	0.0879	0.0768
Farm W.	Citric Ext. ...	0.0079	(Not determined)	0.0472
Jan. 1914	Ditto after ferment	0.0243	,,	0.084
	Ditto. ditto. ... (Stood 40 months)	0.0252	,,	0.084
Budleigh	Citric Ext. ...	0.0121	,,	0.098
Oct. 1915	Ditto, after ferment, starch only	0.0338	,,	0.135
	Starch & $CaCO_3$...	0.0366	,,	0.176

It will be seen that the amounts of "available" phosphoric acid and potash—that is, those amounts taken up by standard citric acid extraction—may be very appreciably increased by the soil having undergone a fermentation process with its own bacteria or some of them. But to my mind, of greater importance from the analytical point of view for an understanding of soil chemistry is the increase in soluble silica, for it points to a loosening of the bonds of some silica complex to a more soluble form. Soil chemistry and soil analysis grope in the dark until we have some insight and means of recognition of the composition of silica complexes, on the one hand with alumina, iron, etc., on the other with phosphates, chlorides, etc., not to mention organic components. It is generally admitted that chemical soil analyses leave much to be desired, and indeed are of little value unless the process used is given, and I imagine that this condition will persist until we can estimate the various useful and useless silica complexes and the liability of constituents to form or destroy these complexes when manures of sorts are added. Whilst some tend to decry the chemical side of the soil problem, it surely cannot be a matter of indifference when one soil contains 1% of potash and another but a mere fraction of that amount; what is wanted is some scheme to cause the former soil to yield up its potash rather than adding more, as must be done to the latter; so far, amelioration with lime is our chief standby. And here I may note that the addition of carbonate of lime aided the fermentative liberation of phosphoric acid (*vide* Budleigh above), whilst an addition of 1% quicklime to Farm W. soil only raised the phosphoric acid to 0.0118 (as against 0.0243 with the fermentation) associated with which was a slight depression of the solubilised silica, viz., 0.045 (as against 0.0472 unfermented, and 0.084 fermented); Farm C. soil behaved similarly.

It would be imprudent, if not impossible to give an account of the chemical changes which occur during these fermentations whether in the laboratory or the field. But one may broadly outline some of the factors and probabilities.

(1) The nature of the bacteria flora will direct changes one way or another. The simple test of the odour liberated, which is noted above, forms a rough index. And a wide field for enquiry is open by trials of the mixed flora of dungs of various animals on given soils.

(2) The nature of the fermentable or putrescible material present or added to the soil and also the amounts thereof will be of importance, for instance in favouring or inhibiting certain primary and secondary products, such as organic acids or eventual salts thereof, which may, of themselves, have some direct solvent powers on soil constituents.

(3) The chemical nature of the simple and complex bodies present in the soil. Amongst these it may be that substances present perhaps only in small or minute amounts may play an important part (catalysts) in effecting changes which are not produced, or only in a much slower manner, in their absence.

At any rate, the reducing action in many early stages of fermentations must be of importance, as when the less soluble iron (ferric) becomes reduced to more soluble iron (ferrous) compounds, or sulphates reduced to sulphides, which will have a direct effect upon some other compounds. The recent work on the direct effect of calcium sulphide used as an ameliorating agent, and the older prac-

tice of using green copperas (ferro sulphate) may be mentioned in this connection.

The practice of green manuring or digging in a green crop raised specially for the purpose supplies more readily fermentable material than half-rotten straw or peat-moss litter; or again, than the sawdust of recent stable manures. The report of the results following fallowing of the Hoos field (Rothamsted Ann, Rep., 1913), and the heavy crops obtained thereafter may be placed in the same category.

Next I come to the rubbish heap or "Compost," especially when built up on the plan much adopted in France of placing alternate layers of refuse and soil, or when containing a quantity of uprooted weeds with adherent earth; here conditions are favourable to decomposition of insoluble mineral compounds as in the bottle in the laboratory. Having such considerations in mind, and having been unable to get stable manure except at prohibitive rates for cartage, I cast round for a means of making the compost more valuable. The procedure adopted was to sprinkle the material as it was turned over layer by layer with basic slag in order to enhance the phosphorus content and in the hope of causing this costive agent to yield its virtues in readily available form. At the same time a sprinkling of lime was given, and through the early summer a covering of lawn mowings was added to kill the superficial growth of weeds and also retain heat in the heap. Though no analyses have been done and no control observations were possible—in fact the whole preparation was done in a purely arbitrary way—the procedure seems commendable, and where applied the various vegetables have done well, Cauliflowers perhaps particularly.

It was intended to make some observations on laboratory fermentations of basic slag, with carbohydrate and nitrogenous pabulum for the mixed bacteria of various dungs, but hitherto it has not been possible to carry these out, so that I am not able to indicate the lines on which a complete or nearly complete liberation of the phosphoric contents may be most readily attained. With regard to potash in the weed heap, probably there will be a sufficiency among the varied constituents, but it would be profitable to know analyses of ordinary weeds, such as Groundsel, for it might sometimes be profitable to allow high-potash-collectors to grow a bit before applying the hoe and rake. If desired, bonfire ashes could be added to the compost. The following figures are recalculated on the dry weights from the compendium of analyses given by Roberts (*Fertility of the Land*, Macmillan Co., New York, 1911):—

Percentages on the Dry Weight of the Mater ls

	Phosphoric Acid.	*Potash.*
Alfafa (hay)	0.72	2.11
Apple prunings	0.24	0.24
Beech Leaves (August)	0.41	1.0
Beet (Leaves)	0.82	5.84
Buckwheat (hay)	0.86	3.42
Cabbage...	1.56	3.68
Lettuce	0.43	2.3
Lupine (Yellow)	0.29	2.11
Mustard (White)	1.08	1.82
Oak Leaves (? fallen)	0.24	0.42
Pea ("Hay")	0.82	2.81
Pear (Prunings)	0.25	0.50
Potato (Haulm, July)	0.77	2.45
Rhubarb (Stem and Leaves) ...	0.3	4.32
Spinach	1.0	1.68
Tobacco (Stems and Leaves) ...	0.91	5.08
Tomato (Vine)	0.24	1.47
Well-rotted Ordinary Manure ...	1.43	2.38
Somewhat Rotted Ditto.	1.01	2.52
Fresh Ditto.	0.72	1.80

It will be seen that whereas the phosphoric contents generally fall below that of manure, in some cases the potash is well above. Beet leaves, Tobacco, and Rhubarb may be noted as great potash collectors, and it would be an important and interesting problem for the botanical physiologist to determine why these plants can or like to extract so much more potash from the soil than certain other plants. Analyses of the ornamental species of Tobacco would be also interesting as a possible means of adding to the potash value of the compost by growing them in all odd corners for the purpose

It is sometimes recommended to dig in Mustard, Spinach and Buckwheat as green manures: the potash and phosphoric values of these are good, particularly the potash in Buckwheat.

In testing a soil, especially one which has a rich reserve of phosphorus or potash, it may be worth while to determine the effect of a "fermentation" test, and thence infer that the addition of fermentable material (fallowing or green manuring) will be profitable, as an addition to, or alternative to, the incorporation of actual manure. It may be pointed out that this process is carried out by nature in many cases for the nutrition of the young seedling where the seed is surrounded by a fruit pulp of sugary material (Apple, Plum, Pumpkin, etc.). But, of course, it must be assured that a sufficiency of lime (*i.e.*, carbonate) is present to annul the tendency to harmful sourness. A friend who farms in this neighbourhood reckons that he had one of his finest crops of Mangel Wurzels in a field in which he had ploughed a considerable quantity of straw which he could not otherwise use; this, perhaps, was due to an "availabilising" of some of the residual artificials which had been applied in the past, and of which only a part is extracted by the crops. *H. E. Durham.*

A REVIEW OF THE YELLOW ROSES.

(*Concluded from page* 81).

Duchess of Wellington (1909) is a beautiful flower, and the Rose a good bedding variety in fine weather, the flowers, of the decorative class, being a deep saffron-yellow with an orange outer surface. The petals, however, will not stand rain, and if wet weather occurs while they are opening they become glued together, and the flower is completely spoilt.

1910 was a great year for yellow Roses, and produced no fewer than five which are worth mention.

Arthur R. Goodwin, coppery-orange, is very beautiful in the bud stage, but opens to a flat flower, the centre petals being short. Lady Hillingdon is a bright orange-yellow, and a most satisfactory bedding Tea. The flowers, however, are thin and not full enough for the exhibition box, but it is constantly seen in decorative stands, and is amongst the best of its class. Alice de Rothschild is another yellow Tea Rose of this year, and at its best is a deep citron-yellow, but it not infrequently appears as a less satisfactory colour.

The Rose of the year was undoubtedly Rayon d'Or, which is a wonderfully bright yellow, between gold and canary. A bed of it in the garden, particularly in the early summer, is extremely bright and pleasing, giving us perhaps the purest yellow we have in bedding Roses. It has, however, two very serious faults; the form of the flower is very poor, which makes it of little account for cutting, and the plant is sadly liable to dying back after the winter for no particularly obvious reason.

Souvenir de Gustave Prat is the fifth yellow Rose of this year I shall name, and is a pale sulphur-yellow with deeper centre. The buds are pretty and attractive, but the open flowers have no great interest.

A. Hill Gray (1911) was a great acquisition to our bedding Teas. It has good foliage, and a nicely formed lemon-yellow flower, occasionally large enough for the front row of an exhibition box, but its true place is rather among the decorative than exhibition Roses. Another little orange-yellow Rose of the same year is Herzogin Marie Antoinette. It is a nicely formed little flower, and one that has given me a good deal of pleasure, but the plant is rather a weakly grower, and so cannot be generally recommended. For those, however, who appreciate a small, nicely formed flower of particularly beautiful colouring, I would suggest that it is worth a trial in the way I grow it, namely, by leaving it practically unpruned. Being of bushy habit it will break from the base and never gets leggy. I always keep a few plants near my door for the pretty little button-hole flowers it produces. Melody, of the same year, is beautiful in colour under glass but uncertain in the open.

Cissie Easlea (1912) is a paler Rayon d'Or with very glossy foliage, and Marie Adelaide, of the same year, I look upon as a slightly fuller and better shaped Marie Antoinette, but it is somewhat troubled with black spot, and not quite so free as that little Rose: still it is worth growing. Sunburst, also 1912, is a good grower, and beautiful when it comes yellow, but the majority of the flowers are a dull white and uninteresting.

Mrs. Wemyss Quin (1914) is perhaps the greatest advance in the direction we are seeking that has yet arrived. It is quite a good garden Rose, with glossy foliage and good growth. The flowers are a rich golden-yellow and nicely formed, but never more than medium size, and therefore it is purely a decorative and bedding variety. It deserves to be more widely grown.

Lady Plymouth (1914) is very nearly a fine Tea Rose. It is a full flower, of good form, and large enough for exhibition: the foliage is excellent and the plant has a good constitution. It has, however, two defects which prevent it attaining the first rank. These are that the flowers are easily and seriously injured by rain, and the colour is a pale yellow suffused with buff, which gives it a slightly dull appearance.

Constance (1915) is a Rayon d'Or of slightly improved form, and I trust of rather better constitution. At least, it has not hitherto shown that unfortunate tendency to die back after the winter which I have noted as characterising Rayon d'Or.

Mme. Collette Martigny, of the same year, is a decorative Rose of the orange-yellow type, but has not grown very strongly with me as yet.

The Roses of later years are still on trial, and one cannot yet write of them with any assurance. The following are some that have been exhibited:

Shown in 1915.—Golden Spray, with arching stems about 3 feet long, covered with semi-single flowers.

Golden Emblem, a rather thin flower, of the Rayon d'Or colouring.

Joanna Bridge, a pretty and free-flowering plant, with thin, scarcely double flowers, canary and buff-yellow.

Tipperary, like Sunburst, has the orange-yellow colour in the centre, fading off to white at the edges. The plant is a good, strong grower, and the flowers are well shaped and fuller than Sunburst, but like that Rose, they appear to lose their colour as the season advances.

Shown in 1916.—Chrome is a name which describes the colour of its flowers, which are of fair form and medium size.

Lilian Moore, cadmium yellow, paling towards the edges, and as shown might be considered a fuller Mrs. Aaron Ward.

E. H. T. Broadwood has orange-yellow, nicely pointed flowers.

Christine, the brightest Rose of the year, has prettily-formed flowers of the decorative type, and a rich golden-yellow colour.

Shown in 1917.—Mrs. Redford, with coppery-orange flowers.

Shown in 1918.—Golden Ophelia was very finely shown early in the year as a beautifully formed golden-yellow flower of medium size.

Lamia, a pretty little decorative Rose, of the colouring of Mrs. A. R. Waddell, with brown stems and good foliage.

This concludes my list, from which it will be seen that a considerable amount of work has been done towards improving the yellow Rose, but the ideal, the hardy and dwarf Maréchal Niel, still escapes us.

It is rather curious, and perhaps illustrates the still primitive character of the yellow Rose, that such development as has proved practicable has taken place almost entirely along the lines of the decorative Roses. With the exception of Mme Mélanie Soupert, and very rarely with Souv. de P. Notting and Lady Plymouth, a Rose large and perfect enough for exhibition is not to be found, and Mme. Mélanie Soupert, beautiful as she is, is not pure yellow

Again in colour, though great advance towards the pure golden-yellow has been made, there has been a considerably greater production of the orange colouring. At one time it looked as though this golden yellow was to come through the Teas, but M. Pernet Ducher's introduction of the Persian Yellow has helped and enlarged the area of selection, with the result that there are already in the nursery beds and gardens many bright yellows, some of which, after preliminary trial and selection, may appear in public. We want, however, a fixed colour, which will not

deteriorate in autumn or cold weather, as does that of many an otherwise promising yellow Rose.

Of this decorative type I think I must regard Mrs. Wemyss Quin as the most generally satisfactory garden plant that has yet had any trial. Good foliage, good constitution, good form, good colour, and a free and constant supply of flowers. All these merits it has in greater or less degree. Christine should prove a graceful rival if it is found to possess these qualities when it comes to our shores from Ireland. In spite of the new blood it may quite well be that we shall have to go back to the old Maréchal Niel strain yet to get the full golden Rose. Mr. George Paul's Lemon Pillar was a Maréchal Niel cross, and though its shade of creamy-yellow excludes it from my list, yet it shows that a hardy and well-shaped Rose of the old strain is not beyond the powers of achievement. I can as yet detect no fragrance in the new yellows. *White Rose.*

NOTES FROM WARLEY PLACE.

CROCUS VERNUS.

"A South European and West Asiatic genus, a few species extending into Central Europe, and several long since cultivated for ornament and one for Saffron, collected from the stigmas, have established themselves in a few localities still farther north." Thus Bentham and Hooker, in *British Flora*. Hayward, in the *Botanist's Pocket Book*, gives Crocus vernus as V.R. (very rare) in pastures in Suffolk.

Hooker, in *Students' Flora*, states: "Naturalised in meadows."

Sowerby, in *English Botany*, thus refers to Crocus vernus:—"Completely naturalised in meadows in several places in England. Very abundant in Nottingham meadows, where it has been long known to occur; also at Murdham on the confines of Norfolk and Suffolk, and at Hornsey, Middlesex. In many other places it has been noticed, but only as the outcast of gardens. In Ireland it is plentiful near the Old Castle, Dunganstown, Wicklow."

It will thus be seen that Crocus vernus is only allowed a place in the British flora on sufferance, as it were: many botanists have wished it might be formally admitted, but it is still relegated to the alien camp.

To refer to earlier references to the Crocus we find that according to Turner (1551) and Gerard (1597), five or six species of Crocus were in cultivation in England at the end of the 16th century. Shakespeare often mentions Saffrons in his plays. In his time the name was in general use for all Croci, and even included Colchicum. It is not known if Shakespeare was acquainted with Turner and Gerard, but as they were contemporaries it is more than probable.

The Rev. Wolley Dod remembered the fields around Nottingham Castle purple with the Crocus, and there was no evidence of their having been planted there. He had been at some pains to trace their origin, or to discover a time when they had not existed, but without success.

Although Gibson, in his *Flora of Essex*, 1862, makes no reference to the Crocus at Warley Place, nor indeed does he refer to the genus as occurring at all in Essex, it is well known to have been growing here for many years. I have traced it as far back as 1620 or 1630, but I have not come across any record of its planting.

In the days before modern ideas invaded the countryside recreations of a much simpler nature pleased the villagers, and an event of the year was a visit to Warley Place when Crocus vernus was in flower. Many a farmer would lend his waggon for the day to convey a happy little party of mothers and children to see the purple fields of Crocus. I have noticed that the Lent Lilies have their years of beauty followed by a comparatively dull season, but with the Crocus the wealth of colour never lessens, although unpropitious weather will mar the blossoms and shorten the period of flowering.

Geographical forms of Crocus vernus show great variation in size and colour. I have collected a large series of these forms on the Continent. Even at Warley I have observed minor variations, and occasionally a flower where yellow predominates. Albinos are frequent. In *The Garden* of February 8, 1919, were some excellent views of the Crocus fields at Warley Place, which give a very good idea, but a naturally restricted one, and convey but a very limited impression of the beauteous scene when the long shadows of the Spanish Chestnut trees stretch across the undulating sheen of purple glistening in the spring sunshine. *E. Willmott.*

ORCHID NOTES AND GLEANINGS.

MACODES ROLLISSONII.

FOR many years, fifty or more, an Orchid has been in cultivation under the name of Goodyera Rollissonii. It was said to have been first distributed under this name by Messrs. Rollisson and Son, Tooting, in whose nursery it had appeared as a chance introduction, a kind of stowaway among other imports. The late Mr. Henry Boyle, who was a keen collector and cultivator of Anaectochiluses and allied Orchids, was of opinion that it was a hybrid, probably between Goodyera discolor and Anaectochilus Petola. Twenty years ago a plant of it flowered in Mr. Elwes' collection and Mr. Rolfe then identified it as a species of Macodes, distinct from all others known, and he renamed it Macodes Rollissonii. Such is the history of the plant, a good example of which, grown at Kew, is illustrated in fig. 34. Macodes is a Javanese genus, the two best known species being M. Petola and M. javanica; a third, of recent introduction, being M. Sanderiana. These orchids are remarkable in having fleshy leaves prettily marked with reticulating lines, their flowers being comparatively insignificant. Before the suffragettes destroyed nearly the whole collection of these pretty-leaved Orchids which for many years had been a feature at Kew, they were cultivated there with conspicuous success in pans covered with large bell glasses. A few kinds remain, but they only serve to remind us of the collection as it used to be. It may be observed that all the Orchids of this group appear to be monocarpic, as they invariably die after they flower.

FIG 34.—MACODES ROLLISSONII. [*Photograph by E. J. Wallis.*

CYPRIPEDIUM HERA EURYADES NEW HALL HEY VARIETY.

VARIETIES of this cross between C. Boxallii and C. Leeanum are numerous, and have played a very satisfactory part in the hands of the hybridist. The New Hall Hey Variety is one of the showiest in its normal form, but a very remarkable flower sent by William Bolton, Esq., Wilderspool, Warrington, which has two full-sized, perfectly-developed dorsal sepals diverging from the centre, on each side of the normal position of the sepal, represents it in a new light. The plant has produced similar flowers before. The two dorsal sepals are exactly alike, their bases are sap-green, and the other two-thirds pure white. The greenish base has dark maroon blotches, the white upper part but smaller rose-purple spots. The broad petals are spotted and lined with dark purple on a yellowish ground, the face of the lip being tinged with purple.

It is not uncommon to see extra segments in Orchid flowers, due usually to some abnormal torsion.

FORESTRY.

TREE PLANTING BY THE STATE.

Two of the original pioneers of afforestation in this country were the late Sir John Lubbock and Dr. Lyons. I can well remember discussing the question with Sir John on a Sunday afternoon in his beautiful woods at High Elms, when he decided to again approach Parliament on what he described as the momentous question of providing timber for the future and taking steps to promote the study of forestry in this country. A few days afterwards I mentioned the matter to Edward Henry Lord Derby, who, being an ardent arboriculturist, was much in favour of the proposed scheme, and told me to plant some of the waste land on his estate at Holwood, and on the newly-acquired properties of Leaves Green, and the Vale of Westerham. Shortly afterwards Sir John Lubbock persuaded the House of Commons to appoint a Select Committee to inquire into the best methods of developing British woodlands. This Committee's report, which strongly urged the study of forestry and the commercial aspect of tree-planting, was, however, shelved, and no direct action taken till 1902, when, in order to inquire fully into the matter, a Departmental Committee was formed, but with no better results. Dr. Lyons' scheme fared no better, when a Committee was appointed to consider the possibilities of tree-planting in Ireland. Nine years ago hopes of afforestation were high, when the Royal Commission on Coast Erosion issued its report, but again nothing was done.

Further than the planting of some ground at Knockmullen, in Ireland—which, by the way, was a complete failure and the purchase of a comparatively small area of land in Scotland for experimental purposes, little has been done by the State towards meeting our wants in the matter of an extensive and well-thought-out scheme of tree-planting.

Private individuals and public bodies have, so far as possible, assisted by the planting of estate lands and catchment areas, but this is about the sum total of our contribution to one of the most pressing and important of our national problems. It has been left to the war to bring home to the Government the urgent need of afforestation and the necessity for large and assured timber resources within its own boundaries.

With a life-long experience of British forestry, I have become more and more convinced that, in order to carry out the work and to place it on a systematic and sound economic footing, State aid and the afforestating of large areas of land are first necessities. There are few landowners or capitalists who would care to embark on a large scheme of afforestation from which they cannot expect to reap a return during their lifetime. While, for capital invested, a safe and sure return is guaranteed by many mining and other industrial companies that are financially safe, attention will be directed to these rather than to a project that is experimental, and from which there can be no return for thirty or forty years. The resources and continuity of a nation will always make the State the best custodian of forest property; indeed, only the State can readily acquire the necessary land on the most favourable terms and in sufficient area for the purpose of extensive afforestation. Private individuals, or, indeed, public bodies, labour under many disadvantages in that respect, not the least, as before stated, being the length of time required before the money expended in planting can be even partially repaid, while regularity of action and large wooded areas are first necessities to successful timber culture. The question of national reafforestation has on several occasions been exhaustively dealt with by the writer and others during the past thirty years. As early as 1883 I drew attention to the matter in *Woods and Forests*, and at later periods in most of the leading journals and papers of the day, including a special article to the *Field* and *The Gardeners' Chronicle*, while in my evidence given before the Select Committee on Forestry, and in a paper contributed by special request to the Board of Agriculture, I went fully into the question of afforesting, and pointed out the need for and saving to the country that would be effected by a well-organised scheme of tree-planting. In this connection I suggested that 1,000,000 acres should be planted over a period of twenty-five years, at the rate of 40,000 acres per year, which would be an outlay of £300,000 annually—a small sum when compared with the £25,000,000 expended for many years by this country on supplies obtained from abroad.

The Forestry Sub-Committee of Reconstruction has now reported that 1,180,000 acres are to be planted in the first forty years, which cannot be considered as an extravagant scheme, and is practically what I suggested twenty years ago and at several later dates since.

Mr. Lloyd George recently stated: "You also have forest lands which are unsuitable for higher cultivation. You have no idea how we were handicapped because we had to bring timber from Norway, Sweden, and Canada, when you had plenty of land in this country that in the old days used to grow fine timber." And the Sub-Committee rightly remarks: "Dependence on imported timber has proved a serious handicap on the conduct of the war." It also estimates that approximately 100,000 acres will require to be afforested with hardwoods in order to render the Kingdom safe during future wars. Owing to the long rotation necessary for hardwooded, over coniferous, trees, the planting of such must necessarily be carried out by the State, 150 to 200 years being nothing in the lifetime of an Oak or Elm. Restocking denuded areas, which are estimated at fully 1,000,000 acres, will mainly fall on the proprietors of these lands, and, owing to the enormous quantities of timber that have been removed from many estates, there will naturally be a tendency on the part of the owners not only to strictly conserve what is left, but restock the denuded areas as quickly as possible. It therefore stands to reason that private enterprise will be mainly expended on planting up cut-over woodlands and can do little in the afforestating of large areas of waste land, work which must be left entirely in the hands of the State.

Public bodies have in the past done excellent work in the planting of catchment areas of water-works and mine-heaps, but this is infinitesimal when compared with what is required.

At the commencement of the war we had, roughly speaking, 3,000,000 acres of woodlands, much of which required thinning, in addition to which the quantity of field and hedgerow timber proved a big and valuable asset. But, apart from this, we have been receiving consignments of mining timber from France, and had, when the war commenced, a fairly good stock in hand of foreign woods. It has been carefully computed that a million acres of woodland have been denuded for war purposes, while minor thinnings from small woods all over the country, and that from field and hedgerow, have been valuable additions in meeting the wants of the War Office during the past four years.

The greater proportion of heavy Elm, Ash, and a goodly supply of Oak, has been from field and hedgerow, while the whole of the coniferous timber, including Larch, Spruce and Scotch Pine, has been obtained from woods and plantations.

Beech and Sweet Chestnut have been supplied from such well-known centres as the Chiltern Hills, and from large private properties like Welbeck and Woburn. It was prophesied by some wiseacres at the beginning of the war that our available supplies of timber would be exhausted in two years. Such, however, has not been the case, and at our present rate of consumption it is calculated by those who have studied the question that there is still sufficient left to last for another two years. The afforesting, therefore, of a million acres of waste land and the replanting of the denuded areas will leave us with fully 4,000,000 acres of woodlands. No time should, however, be lost in setting to work, remembering that no scheme of afforesting, however extensive or well-ordered, can bring the necessary relief for at least forty years after it is commenced. *A. D. Webster.*

FIG. 35.—ARTEMISIA JUDAICA AT BELVOIR CASTLE.

(*See page 95.*)

THE FOOD OF WORMS.

(*Concluded from page* 37).

All the evidence goes to show that earthworms live largely on vegetable matter, mixed with earth and small stones, but that they are not averse from animal food, and may even be guilty of cannibalism. Those who assert that the bulk or the whole of their diet is composed of amoebae of the soil mostly do so on the strength of assumption. But assumption is not proof. How, then, did the amoeba theory arise? On what grounds is it based? It might arise from the fact that recent research proves the existence of large numbers of amoebae in the soil. Since worms live in the soil, what more natural than that they should live on these things? Recent investigations have further shown that worms are infested with a wonderful variety of parasites, and since the subject has hitherto been but indifferently investigated, casual observation might lead one to conclude that the parasites were really the food on which the worms had been feasting.

Now this topic of parasites is a very extensive as well as a most important one for many reasons, but it must be reserved for later treatment. It is enough to suggest this possible connection and set it aside as inadequate. To demonstrate that earthworms feed on amoebae would involve a series of carefully conducted experiments, and it is perhaps not too much to assert that they would end in failure. But there again assumption comes in. How can such an assumption be justified?

Think of the microscopic character of the creatures on which the worms, according to the amoeba theory, have to subsist. None but students working with powerful microscopes ever see them. The popular idea of amoebae is based on the largely magnified representations of them found in text books and popular natural histories. They are in reality invisible to the naked eye.

But it might be replied, "When we speak of amoebae we use the term vaguely to include all kinds of organisms found in the soil. Such terms as 'worm' and 'insect' are often employed in such a popular sense; and if worms have the whole of the minute life of the soil for their larder, may they not reasonably be supposed to have a very good time of it?"

This opens up a very big question, because of the issues it involves. If worms feed on the minute animalculae found in the soil—amoebae, protozoa, bacilli, bacteria, or what you will—do they digest them? Can they feed on them, and yet pass them alive into their "casts"? Evidently not, for that would be an abuse of terms. When living matter has been used for food, only dead matter passes out at the vent. Hence we find ourself facing topics of the highest importance. If worms digested germs they would be our most valuable scavengers. But what do we find? Let us turn to the researches of Pasteur for an answer.

This famous French savant was studying splenic fever. After the dead cattle had been buried, did the germs of the splenic fever return to the surface of the soil? If so, by what means? The eager student is ever on the alert for clues, and one day the answer to the enigma suddenly presented itself. Passing through a field which had recently been cropped, Pasteur observed a patch of ground where the soil differed in colour from that which adjoined it. On inquiry he learned from the proprietor that sheep which had died of anthrax had been buried there the preceding year. Drawing nearer, Pasteur observed a number of little twists of earth or worm-casts. Might not these afford the explanation? Was it possible that the worms, returning from their subterranean journeys in search of food, brought back the germs? Could these harmless creatures by any means feed on the dead carcases; or, if not, did they swallow the soil which might become impregnated by contact with the dead, and so act as the media of transmission? Would such germs, if taken into the worm's body, be assimilated and destroyed; would they resist the action of the pharynx and gizzard and digestive juices (containing pectic, diastatic, and tryptic ferments), and come out alive; and finally, if voided again, would the disease germs be active? If active, would their action be lessened, remain normal, or show signs of intensification? Here were all-important problems to solve. He at once put the matter to the test. His assistants collected worms from the affected area, and, to quote the words of the original, "anthrax spores were found in the earth cylinders which filled their intestinal tube" or stomach.

Pasteur was ever thorough in his work. He therefore went further, and by examining earth from the pits where cows which had perished from splenic fever had been buried he found that it contained the spores of the disease. The rich humus of these mounds produces fresh and juicy grass upon which the cattle fed greedily. But when showers come the worm-casts disappear, the germs contained in them are liberated, and thus get mixed with the pasture. For which reason, as Pasteur urged, animals should never be buried in places where cattle feed.

The subject may be approached in the next place by the exactly opposite avenue. We have seen the results of examining worms which have fed in soil rich in germs; now let us take the leaf-mould on which they usually subsist and sterilise it. If the nutriment which sustains them is of animal origin, sterilisation will remove it, and the worms cease to flourish. I had occasion recently to put this matter to the test. The point was to discover the action, for good or ill, of worms on living plants. That there might be no question of other living organisms doing the work, the soil was first sterilised and the worms afterwards introduced. Yet, though the leaf-mould and earthy matter were destitute of living germs, the worms continued to flourish.

For a long time there has been a dominant theory that worms of various kinds may be regarded as the enemies of living plants. It has been affirmed that they will attack the roots or other parts of Asters, Primulas, and other flowers, Clover and grasses, and even more woody growths. That is hardly what one would expect from creatures which find their chief sustenance in tiny, jelly-like animalculae. Granted the argument is not supported in the sense in which it has usually been advanced, it is nevertheless true that worms (as Darwin observes) can find nutriment in living plant tissues, and are frequently found doing the work of camp-followers among various kinds of plants which have begun to weaken from various causes.

One more fact may be adduced in conclusion. Earthworms have many relatives. There are the larger forms found in tropical and other lands. These are known to feed on soil and decaying humus or vegetable matter. Many native species abound in strong manure where amoebae are not found in sufficient numbers to be of use for food. Small white worms (Enchytraeids) and water-worms (Tubificids, etc) abound in every suitable locality in these islands. I have studied very many thousands in a living condition under the microscope, have watched them taking their food, have examined their parasites, analysed their faeces and the contents of their stomachs, and yet have never once succeeded in finding amoebae there.

The answer seems to be clear. Worms do not subsist on animal organisms found in the soil, but on the nutriment to be derived from vegetable matter, preferably decaying leaves, humus, and manure. *Hilderic Friend.*

VIOLET CYCLOPS.

The very pretty new variety of Viola odorata figured in *The Gardeners' Chronicle* for November 16, 1918, under the name of Mrs. David Lloyd George recalls strongly—especially by the presence in the centre of the flower of four little supplementary petals, forming a sort of "eye," of a lighter colour—a similar variety obtained in France about 15 years ago, and placed in commerce by Messrs. Vilmorin in 1916 under the name of Viola odorata cyclops. This variety, which is described in the 5th edition of *Fleurs de Pleine Terre*, by Vilmorin, has never been very well known, and is hardly now to be found except in a few collections, and in the nurseries of certain horticultural specialists. *A.M.*

ARTEMISIA JUDAICA.

Because of its graceful habit and the silvery whiteness of its foliage, Artemisia judaica is a very suitable subject for use as a "dot" plant in the flower gardens during summer. If seeds are sown early in March in a warm house, good plants may be obtained for planting out of doors in May. These may be lifted in the autumn if large specimens are desired the following season, and they should be grown in a temperature of 40° to 45° during the winter. The illustration in fig 35 represents a plant that survived a mild winter, unprotected, at Belvoir Castle, and became a large specimen the following season. It occupied a dry border facing south, and was much admired *W. H. Divers, V.M.H., Westdean, Hook, nr. Surbiton.*

THE ALPINE GARDEN.

WINTER-FLOWERING ALPINES.

So far as I know, there are only two rockery plants which flower exclusively in winter, and which, in such a winter as we had 12 months ago, will keep up a brilliant display from October to March. Cyclamens and Ceratostigma Griffithii linger on till Christmas; Erica carnea, Iris unguicularis, and sometimes Adonis amurensis, are in flower before New Year's Day; but nothing in these late and early growths covers the whole six months. The first of the two plants which manage the business is Lithospermum rosmarinifolium. It is astonishing that this glorious Alpine should be so little grown. The flowers are rather larger than those of L. prostratum, and of quite as fine a blue. People are probably deterred from tackling it by finding it described as tender. Tender it certainly is. A bad frost will always kill it. But I have known plants, on the rockery here, survive three winters in succession. It is wisest to reckon that the plant will be lost in the New Year, and to lay plans accordingly. The following procedure works well:—Take cuttings in July. They strike very readily, and in August may be potted into 3-inch pots. Keep these little plants under glass through the winter. They will bloom at once and be very delightful. In April, turn them out of the pots, and put half the stock in a sunny position on the rockery. They will grow rapidly, and from September onwards will steadily increase in beauty, while everything about them is dying down. Keep the other half of the stock as a reserve, but do not pot at once into larger pots. The result, here, at any rate, is that the plants soon become pot-bound. Plant them out in a frame, or a sunny bed. In early autumn lift and pot them. Under glass they will be glorious all through the winter, and will provide an ample stock of cuttings for July. Kew might do worse than give its winter visitors an object-lesson in what can be done with this very easily managed plant.

The second "all-winter" plant, which flourishes on my rockery, is Euphorbia biglandulosa. It is handsome at all times, with its 18-inch stems and glaucous green leaves. Like the Lithospermum, it begins to flower in early autumn, and continues in bloom till spring. Hard frost harms it to the extent of laying the flowering stalks on the ground, and so spoiling the plant's beauty. But the stock is thoroughly hardy, and the new shoots come up vigorously in spring. I will not say that it is as showy as E. epithymoides, but it is not much inferior in beauty.

I wonder whether some kind person can put me right about Colchicum montanum. Here it is about the earliest of the spring flowers, and has generally faded away before the Eranthis begins. But many years ago I used to have it in the form of a small white flower. Now bulbs under its name produce a larger flower, with a faint touch of the odious Colchicum red. To anyone who doesn't mind this red—not at all faint—or who will tolerate it for its striking effect, I recommend Colchicum hydrophilum. It is a good, hardy perennial, flowering in January, and producing showy, though small, flowers, of a truly atrocious magenta. *A. K. Bulley, Neston, Cheshire.*

TANAKAEA RADICANS.

TANAKAEA is a monotypic genus belonging to the natural order Saxifragaceae, and closely allied to Rodgersia and Astilbe. T. radicans (see fig. 36) is an evergreen, tufted plant, growing about 6 inches high, with leathery, oval leaves on long, slender petioles. The inconspicuous greenish-white flowers are produced in panicles like those of an Astilbe, but on a smaller scale. The plant spreads by means of runners, which produce young plants like the Strawberry. It is essentially a woodland subject, requiring a shady position in rich soil with plenty of decayed leaves. In the rock garden a shady corner in a sheltered bay may be found in which it will flourish. Although not an attractive plant from a garden point of view, its evergreen character makes it quite worthy a place where interesting, apart from showy, plants are cultivated. When exhibited at one of the meetings of the Royal Horticultural Society in 1903, the species obtained the award of a Botanical Certificate. It was introduced into this country from Japan by Mr. W. H. Stansfield, of Southport, in the year 1899, and is figured in *Bot. Mag.*, t. 7,943, *W.I.*

FIG. 36.—TANAKAEA RADICANS: FLOWERS GREENISH-WHITE.

A VETERAN GARDENER.

THE following note appeared in the *Hobart Mercury*, December 2, 1918:—

"Mr. William Smith, who was born in Devonshire on March 14, 1812, died last week at the Old Colonists' Homes, North Fitzroy (Vic.). Although nearly 107 years of age, the old man had only been in the homes about two months, having prior to that period supported himself as a gardener. He was wonderfully active and alert for his age. He came to Australia in the ship 'Rattlesnake' in 1883, and was a member of a party sent out by the British Government to make botanical and geological inquiries and surveys. He was well known as a gardener in the Western district, having worked at Tahara, Mt. Talbot, and other stations."

Assuming the newspaper account to be correct, Mr. Smith would almost certainly have been at the Royal Botanic Gardens, Kew, or recommended by Kew, but I do not remember ever hearing of him there. He would be the doyen of the Botanical profession, and, while clergymen are supposed to hold pride of place for longevity, I doubt if there is one still in harness at 106. *Arthur Garnett, Cambridge, Tasmania.*

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Marrows.—Early Marrows are greatly appreciated, and seeds sown singly in 60-sized pots now will furnish plants for early cropping. Germinate the seeds in a house or pit having a temperature of 60°. Transfer the seedlings to larger pots or boxes as they need increased root room, planting them eventually in a compost consisting of equal parts loam and manure from a spent mushroom-bed, with a little leaf-mould and mortar rubble added, on a mild hotbed. Some of the plants may be placed in large pots and trained to a trellis in vacant places in a house having an intermediate temperature. Pen-y-byd, Epicure, and Table Dainty are three excellent varieties for early cropping. It is an advantage to pollenate the flowers when they are opened fully, to ensure the fruits setting.

Brussel Sprouts.—The Brussel Sprout requires a long season of growth to produce large and early sprouts, and the present is a suitable time to make the first sowing. Sow in boxes filled with sandy soil, just cover the seed, and place the boxes in gentle warmth. When the seedlings are large enough to handle, prick them off into other boxes at three inches apart. When well established, harden them gradually, ready for planting out of doors in April. Sutton's Dwarf Gem is a splendid early variety.

Potatos.—To maintain a regular supply of tubers for use, well-sprouted sets of an early variety should be planted in pits, or on a hotbed furnishing steady warmth. Plant the "seed" tubers in rows at 18 inches apart and 4 inches in depth. Keep the light closed until the top growth appears, and be prepared for frosts by having covering material at hand.

Broad Beans.—Good breadths of Broad Beans should be sown from this date onwards, for plants raised from seed sown now produce the heaviest crops. The ground for Broad Beans should have been previously well prepared by manuring and trenching. Sow the seeds in rows made 30 inches apart, placing them alternately in the drills at a distance of 7 inches. When the plants are 8 inches high, earth them up. Hoe the soil on frequent occasions. A single row of Spinach or Turnip may, with advantage, be sown between each row of Beans as a catch-crop.

Cauliflowers.—The present is the most opportune time to sow the finer varieties of Cauliflowers. The plants should grow steadily without a check for a long period. Sow the seeds in boxes filled with sandy soil made firm, and germinate the seeds in very little warmth. When two true leaves are well developed, transfer the plants to boxes, putting them 3 inches apart. Some of the seedlings may be pricked out in cold frames, at the same distance. Keep the frame closed for a few days, until the roots are established. Water and syringe the seedlings with extra care, and admit air on all favourable occasions. Early Giant, Autumn Giant, and Autumn Mammoth will furnish a succession of heads, until the later sown varieties turn in.

Herbs.—The perennial kinds of Herbs should be dug up and divided, placing healthy portions in well-cultivated ground containing grit.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Raspberries.—The planting of Raspberries should be completed at the first opportunity. This small fruit has deep-growing roots, and forms numerous fibrous roots near the surface. The ground for planting should be trenched two spits deep and enriched with plenty of farmyard manure, leaf-mould, vegetable refuse and, where they can be had, ½-inch bones. Most kinds of soil suit the Raspberry, but heavy ground should be well drained and lightened with burnt garden refuse. Select strong, vigorous canes for planting, and cut away all damaged parts. In planting, place fine, rich soil about the roots and break up the lumpy portions of earth, as rough soils do not hold moisture freely in summer. Do not plant the roots deeply. Most varieties need some kind of support, and the best method is to train the canes on a trellis-work, which, for strong-growing varieties, should be placed 6 feet apart and the plants 2 to 3 feet asunder. Less vigorous varieties may be grown in rows 5 feet apart. The rows should run north to south. Raspberries planted now should be cut back to within 1 foot of the ground level, and weak ones to 6 inches, in February. It is much better to shorten the plants in this way, as canes which are allowed to crop the first year rarely make good shoots for fruiting the following season. Directly after planting place a mulch of short manure over the roots.

Autumn-Fruiting Raspberries.—This type of Raspberry requires a different treatment to that afforded the summer-fruiting kind, as the fruits develop chiefly on the tops of the young growths. All the old canes should be severed close to the ground in February; the stools will then make strong growths in the spring, and these should be thinned to about 15 inches apart, and not topped, as they do not need support.

Enemies of the Raspberry.—Raspberries are subject to the attacks of various insects, chiefly mites and weevils. Mites appear in spring, the lower buds being attacked first. All buds attacked should be picked off and burnt. In the case of bad attacks it is best to cut the canes down to the ground in autumn. Weevils are rather difficult to deal with; the best plan is to pick off all infested buds. Another plan is to shake the canes after dusk over a tray smeared with some sticky substance.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt. Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Vanda, Aerides, and allied Genera.—Many well-known species of Vanda, Aërides, Angraecum, and Saccolabium are now showing signs of renewed activity, after having been at rest since last autumn. The plants should, as soon as the roots are active, be afforded fresh rooting-material. Healthy plants furnished with leaves

down to the surface of the compost should have all the old material removed carefully, washing the soil from amongst their roots without detaching them from the pots. After cutting away all decayed roots, arrange the sound ones amongst the fresh rooting-material, covering as many as possible of the aërial-roots at the same time. See that the drainage is perfect. The compost should consist of equal parts of A1 fibre and clean Sphagnum-moss, with a liberal quantity of broken crocks and charcoal. Surface the pot with fresh Sphagnum-moss trimmed neatly. Plants that have become unsightly through the loss of their lower leaves should be carefully taken out of their pots, and have sufficient of the lower portion of the stem removed, so that when the plant is repotted the lower leaves will be brought down to the level of the rim of the pot. The loss of the lower leaves is perhaps the most troublesome detail in the cultivation of these orchids. Growing a plant is only one part of the business; to conserve the foliage over any considerable length of time is another, and often the most difficult. The cultivator should provide an atmosphere sufficiently warm to ensure free growth, and allow sufficient sunlight and air to consolidate the growth at the later stages. When this is done, the plants will be in a condition to endure such slight checks as are bound to occur during winter even under the best of treatment. A position in the warmest house is usually recommended for these Orchids, but the majority of them will often grow equally as well in the intermediate division. The larger species should be grown on the stage, while the smaller kinds may be hung from the roof-rafters. These epiphytes require to be kept fairly moist at the roots all the year round, but as evaporation of moisture is slow in winter, much less water is required at that period than during the longer days when the plants are growing actively.

Vanda coerulea.—This species is, perhaps, the most popular member of the genus, the pleasing blue blossoms giving it a distinct and fascinating character. Like many others of the genus it is a free-blooming, healthy-growing plant under proper treatment, but, unfortunately, it is often seen in conditions wherein it cannot possibly succeed: for example, it will not be satisfactory for long in a shady, moist house kept warm and stuffy. I find the plants thrive better in a temperature one would term cool intermediate; solar heat they enjoy, but what they like most is a cool night temperature to recoup their energies after the heat of the day is over. Thus treated, the growth is firmer than that produced under hot, close conditions, and the leaves are not so liable to spot; for the same reason, the flowers have more substance and are of better colour. The pretty species, V. Kimballiana, V. Watsonii, Aërides japonicum and A. Vandarum, should be be afforded similar treatment.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to C. H. Berners, Esq., Wolverstone Park Gardens, Ipswich.

The Orchard House.—The advantages of an orchard house for the production of first-class dessert fruits, where there is a difficulty in meeting the demand from out-door sources, is generally recognised. Although the conditions are conducive to an earlier ripening of the fruits, the aim is really to protect fruits from injury during inclement weather without any serious attempt at forcing. The house should now be made ready to receive pot trees which have been plunged in ashes in the open. The necessary work of pruning, cleansing, and re-potting carried out during the autumn obviates further work beyond the necessary one of clearing the ashes from the soil and pots. As the trees are removed to the orchard house, see that they are quite firm in their pots, and, if worms are present in the soil, use lime water to clear them out. If the trees are planted in the house, and it is intended to plant fresh specimens, the work should be done forthwith. Trees carefully lifted from the reserve ground will hardly feel a check, and should produce a satisfactory crop of fruit the following summer, under proper management. If not already done, the trees should be pruned and sprayed, the structure thoroughly cleansed, and the borders put in order. If the house is unheated, air should be admitted freely whenever possible, with the object of retarding growth: in any case, forcing should be gradual at the commencement, because if unduly hastened both flowers and growth will be weak and unsatisfactory. It will be beneficial if the trees are lightly syringed occasionally on fine days.

Figs.—Pot fig trees that have been subjected to a steady bottom-heat of 75° to 80°, will, in most cases, have fully developed their foliage, and the embryo fruits should be swelling freely. As the days lengthen and there is increased sunlight, more moisture should be afforded by frequently damping the house. Remove all superfluous and ill-shaped fruits from healthy trees, and see that the roots are never allowed to become excessively dry, otherwise there will be a danger of the fruits dropping prematurely. Pinch the shoots at the fourth or fifth leaf to guard against overcrowding. The disbudding, stopping, and training of the earliest established trees will now claim attention. Do not retain more growths than can be fully exposed to the sun and light, and train these into position at an early stage. Stopping should be done gradually, otherwise the second crop will follow too closely after the first and check full development of the early fruits. Strong growths may be stopped at the eighth leaf, and medium shoots at the fifth or sixth joint. Weak growths when not required to fill blank spaces should be removed, as it is from strong, close-jointed wood the finest fruits are obtained. Liberal supplies of liquid and artificial manures may be given to pot trees and those in shallow borders, but guard against encouraging gross growth, which is not conducive to fruit production. Successional trees should be kept dormant for another month.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Fuchsia.—Fuchsias and other similar plants, useful for decorating the conservatory during summer, and which have been at rest during the winter, should be started in a warm house. After they have made a little growth shake most of the soil from the roots, and pot them in small pots, after repotting them into larger pots as necessary. Fresh loam, mixed with decayed manure and sand, make an excellent compost. Fuchsia cuttings, rooted last autumn, may now be potted again and they will soon be ready for their flowering pots. Cuttings rooted now will make serviceable flowering plants by the autumn.

Bouvardia.—Where Bouvardias were rested and pruned after flowering it is desirable to cleanse the plants with an insecticide at this stage and place them in a warm house near the roof glass. When they have started into growth, shake the old soil from the roots, and repot them in a mixture of fresh fibrous loam, leaf-mould and sand. Syringe them daily, and to encourage good growth keep them near the roof glass. Young stock can be raised from root cuttings placed in a shallow pan of light soil, and plunged in bottom heat.

Canna.—Divide the old stools that have been at rest during winter, pot the separated portions in 6 or 7-inch pots, in rich loam, mixed with decayed manure. They do best if plunged in a bed giving a mild bottom heat, until growth is well developed, then remove them to the flowering house or conservatory.

Hydrangea. — According to requirements Hydrangeas should either be repotted, or top dressed with good loam and a little plant fertiliser. Place them near the glass roof in a temperature of 50° to 55°. When good growth results water frequently with liquid manure.

Ferns.—The present is a good time to repot ferns. Adiantums for decorative purposes are best grown in 6 or 7-inch pots. The pots should be thoroughly cleaned and well drained. To increase the stock, divide the old plants, pot them and place them in a moist warm atmosphere and shade from bright sunshine. It is not necessary to repot all ferns every year, as a top dressing of fresh loam and fertiliser, will suffice in many cases, but when in full growth such plants should be watered occasionally with a weak solution of sulphate of ammonia.

Asparagus Sprengeri.—Seeds of this useful decorative plant should be sown in pans plunged in bottom heat, and when fit to handle the seedlings should be placed in small pots, and afterwards several plants may be put in a large basket filled with good loam, leaf-mould, and rough material to keep the soil open; will make good in the autumn. Asparagus plumosus and Smilax are two most useful plants. Seeds germinate readily in pans in bottom heat. Pot the seedlings into 4-inch pots, and place them near the glass roof. When established in these pots they are most serviceable for planting against the back wall of a vinery or Peach house in a narrow prepared border in good loam and sand.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Climbing Roses.—Roses trained on poles and those clothing arches, fences and pergolas should receive attention before the young growth is far advanced. Where the plants were properly thinned last autumn very little further attention will be required beyond shortening some of the flowering shoots, cutting out unripened wood, pricking up the soil over and about the roots and affording a good dressing of suitable manure. Climbing Roses which have not yet received attention should have the older growths thinned out, and last year's growths trained into position without overcrowding. Aim at keeping the poles and fences covered with strong, healthy growths which will yield good clusters of bold flowers. See that all the fastenings are made good and do not cut the bark. There is still time to plant Roses.

Delphinium.—There is still time to increase the stock of Delphiniums by division. The outside growths, with roots and soil attached, are the most suitable portions to plant in soil well enriched with manure. Allow ample room for development. Seeds may be sown in pans of light soil placed in gentle warmth. Seedlings so raised will make useful plants much earlier than those raised out of doors in April.

Herbaceous Phloxes.—For the production of large heads of bloom, young healthy plants of Phloxes are needed. The outer portions of a clump should be lifted and planted in rich soil and supplied in summer with liquid manure at intervals. If stock is scarce quite small pieces may be rooted under glass

Lawns.—In many cases lawns have been much neglected during the past four years and they should now be put in order. In favourable weather sweep and roll the grass; then rake out all the rubbish and dress the lawn with a good fertiliser. If a good dressing of fine soil, free from small stones, can be given after the application of a fertiliser, it will soon be washed down to the roots and greatly assist the grass to grow. Roll freely and mow with a scythe before using a lawn mower.

Verbena and Salvia.—A good stock of Verbenas and Salvias may be raised from seeds sown at the present time. Sow the seed thinly in well-drained pans filled moderately firmly with sandy soil. A sheet of glass placed over the pans will help to keep the soil in a sufficiently moist state for several days, but the glass should be removed gradually after the seedlings appear. Verbena venosa makes a capital plant for massing, and may be raised from seeds or from cuttings which spring from the base of last year's plants, is started in gentle warmth, and similar treatment may be given Salvia patens.

General Work.—During weather unfavourable for outside operations, lawn mowers should be thoroughly cleaned and oiled, and any requiring repairs should be sent to the proper quarters to be put in order. Flower stakes, pegs, and labels usually required during summer time should be cleaned, pointed, and tied up in bundles in their different sizes.

EDITORIAL NOTICE.

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Editors and Publisher.—*Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

APPOINTMENTS FOR MARCH.

SATURDAY, MARCH 1—
Bolton Hort. and Chrys. Soc. meet.
THURSDAY, MARCH 6—
Manchester and N. of England Orchid Soc. meet.
MONDAY, MARCH 10—
United Hort. Ben. and Prov. Soc. Ann. meet. at Roy. Hort. Soc. Hall. Bath Gard. Soc. meet.
TUESDAY, MARCH 11—
Roy. Hort. Soc. Coms. meet: Open class for early flowering bulbs in pots. Lecture by Mr. James Whitton at 3 p.m. on "The Glasgow Public Parks."
WEDNESDAY, MARCH 12—
Wargrave Gard. Soc. meet.
TUESDAY, MARCH 18—
Eastbourne Hort. Soc. meet. and lecture.
THURSDAY, MARCH 20—
Manchester and N. of England Orchid Soc. meet.
SATURDAY, MARCH 22—
Brighton Hort. Soc. meet.
TUESDAY, MARCH 25—
Roy. Hort. Soc. Coms. meet.: Lecture by Mr. Edward White at 3 p.m. on "The Study of Economic Botany and the Professional Openings it Offers."
WEDNESDAY, MARCH 26—
Wargrave Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 40.8°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, February* 26, 10 a.m.: Bar. 29.5; temp. 43°.

Wart Disease of Potatos. All who have followed the spread — slow but implacable — of Wart Disease in this country are aware that this disease is becoming a serious menace to Potato growing.

It is true that, thanks to the work done by the Board of Agriculture, varieties resistant to this disease have been discovered, and that, contrary to the opinion often expressed by growers, some of the resistant forms are excellent croppers.

Records already published, and those of the Ormskirk trials about to be published, provide ample evidence of this fact. Furthermore, thanks to the enterprise of the raiser of new varieties, there is reason to hope that in the near future a larger number of resistant earlies will be available than is at present the case. So far, therefore, as Potato growing in this country is concerned, it is not unreasonable to expect that, should the disease continue to spread—as it certainly will—growers will have at their disposal a number of resistant varieties sufficient to enable them to select sorts as prolific and as suitable to conditions of soil and climate as are susceptible varieties. But this—satisfactory though it be up to a certain point—by no means disposes of the danger which is to be apprehended from this malignant disease. The nature of this danger may be judged from the following facts: No remedy for Wart Disease is known. The spores of the parasite which causes Wart Disease of Potatos are disseminated in the soil from tubers attacked by the disease. Hence they may be carried by any chance or routine practice which leads to the distribution of particles of soil. For example, they may be, and are, carried on the boots and implements of farm or allotment workers. A case is on record which illustrates this fact strikingly. An outbreak of Wart Disease occurred on a farm. One of the workers on the farm had an allotment and on that allotment Wart Disease had already occurred. It is not to be doubted but that the spores were carried by the allotment holder to the farm. The spores may be carried on ware Potatos and hence, if the latter are used for seed, soil infection may occur; or even if the peelings find their way through the pig-stye to the soil the disease may be spread.

Seedlings—as for example those of the Cabbage tribe—raised on infected soil have been proved to be a means of spreading the disease; for the spores are carried in the ball of earth attached to the roots of the seedlings and are sown when the seedlings are planted. Similarly, sacks used for the carriage of Potatos grown on infected land, if used again, may communicate the disease to seed Potatos destined to be grown on uninfected soil and hence cause infection of that soil. It cannot be too plainly understood that a resistant Potato may *carry* the spores of the disease just as readily as a susceptible Potato, and there is no doubt but that the recent spread of the disease is in part due to a lack of appreciation of that fact.

Furthermore, the spores of the Wart Disease are capable of remaining dormant for many years in the soil so that there is no hope of eradicating the disease by adopting a rotation. Nor, as it seems to us, is the palliative—recently advocated by Mr. Salmon—of sowing germ-infected land with grass, likely to prove of any value. "Il faut tout montrer pour tout guérir." Even buried under grass, the spores would rise to the surface—in the casts of worms and serve as means of infection, as was proved to be the case in the classical investigation of Anthrax by Louis Pasteur, referred to by the Rev. Hilderic Friend on p. 95.

The foregoing facts show that the menace of Wart Disease is a very real one. So far as Potato growing in this country is concerned, the menace may be circumvented by planting immune varities, but—and here we come to the most serious part of the case—this method of circumventing the disease will still leave immune seed grown in infected areas its powers of carrying infection. Now it is beginning to be widely known that Scotch and Irish seed is the best in the world, and there should be great possibilities of a large increase in the export trade of seed. It is therefore vital to the industry that means be found to ensure that all seed and ware grown in infected areas shall be consumed in this country, and that only ware and seed grown in uninfected ground shall be exported. Such a suggestion would possibly be rejected by growers generally, who, for reasons with which we can sympathise, wish to throw off the uncomfortable yoke of State control; but anyone who will review dispassionately the facts of the situation will reach the conclusion that Potato growers and merchants must take this subject up without delay, consider it carefully and either acquiesce in a control of Potato distribution, or devise some other means of safeguarding their ultimate interests.

In the meantime it will be evident that the most alert and constant inspection must be maintained. The widest possible publicity must be given both to the symptoms and dangers of Wart Disease. Research must be undertaken with the object of discovering means of soil sterilisation, so that at all events local and circumscribed outbreaks may be checked. The source of origin of seed must be watched and every means taken to prevent the planting of seed from suspect places.

Hampton Court Gardens. The furore raised by a proposal to make certain alterations in the gardens at Hampton Court reveals how strong is the affection among the people for that popular place of public resort. The control and management of the gardens, like that of the Royal Parks of London, are vested in the Office of Works, Major Hussey officiating as bailiff. Incidentally we may mention that Kew Gardens were under the same control till 1903, when they were transferred to the Board of Agriculture.

Hampton Court owes its popularity as much to its historical associations as to its many attractions. From the time of Henry VIII, when the magnificent Cardinal Wolsey built the palace and surrounded it with gardens and park, Hampton Court, as a residence of kings, and as a place of "many beautiful gardens," planned and maintained at great cost by the most eminent gardeners, has been world famous. Charles II, who loved planting and building, did much towards fashioning both park and gardens as they are to-day. He sought the advice of the famous Le Nôtre, evidences of whose taste are seen in the avenues, vistas, and the use of water. William and Mary did much towards perfecting the original plans, assisted by Rose, London and Wise, three of the most eminent gardeners of that period.

George III was the last English Sovereign to reside at Hampton Court, and Queen Victoria made both palace and gardens over to the public, by whom they have continued to this day to be greatly appreciated, as much for their rich displays of spring and summer flowers as for their more permanent features.

When "Capability" Brown, whose work in the latter half of the 18th century, as a renovator of old gardens and a designer of new, did a great deal for the creation of what is now known as the English style in landscape gardening, was desired by George II to improve Hampton Court Gardens, he declined, "out of respect to himself and his profession."

There are no doubt, many who take an interest in gardening who would not hesitate to make changes at Hampton Court. The summer bedding, immensely popular though it is, has its detractors, who would abolish it altogether. Whether it is good taste or the reverse to have rich displays of flowers in beds more or less formal, depends on what the canons of good taste are. In music, painting and architecture, we please ourselves, or ought to, but when the public are concerned we must please them, or they have a right to complain. We might with as much reason change the tune of the National Anthem to one of real Wagnerian strain, as change the flower gardening at Hampton Court. Let us, therefore, continue to have our great feasts of Flora's wealth there, leaving the quieter, "dignified" efforts to the parks adjoining.

Owing to the war, the flower beds at Hampton Court were turfed over, and the

houses and frames in which the summer bedding plants were nursed, were devoted to Tomatos. There is no longer any need for economies of this kind. No doubt when the flower beds are remade it will be possible to improve on the old plan, but there should be provision for a great display as in pre-war times. The proposal to widen the borders for herbaceous perennials by taking in a strip of the broad walk is commendable we think; at any rate, the grass verge in front of the borders should be wider; six feet would not be too much.

The Dutch Garden certainly does require attention. It has ceased to be "Dutch," owing to the ragged and generally worthless character of the mixture of shrubs and small trees which occupy the beds. In our opinion this garden should be restored to what it was intended to be. This could be done at little expense, by replacing the nondescript shrubs with suitable evergreens, such as Berberis, Rhododendron, Erica, Olearia, Pieris, Rosmarinus, Cotoneaster, Daphne, Euonymus, Skimmia, Ruscus and others. Each bed should contain only one kind of shrub, kept fairly uniform in height. Lilies, Paeonies and Daffodils could be dotted planted among the shrubs. The grass paths should be widened. It will be seen that these suggestions are for restoration and not alteration, to which the public have a right to object.

With regard to the removal of certain trees in what is called the "Wilderness," we are very decidedly of opinion that improvement is called for there. The noble Lion Gates are demeaned by a wretched tea garden just outside them, and immediately inside there are only rubbishy trees, unworthy of an ordinary spinney. It would not require the skill of "Capability" Brown to make improvements here, and our advice to the authorities is that the surroundings of this really noble gateway should be made worthy of Hampton Court.

We wonder what Mr. T. H. Mawson, who has had such great experience in the planning and restoring of gardens, would advise, not only with respect to this "Wilderness," but also to the several other alterations contemplated? The Office of Works would allay public fears by consulting him.

Coloured Plate.—When tropical climbers were as interesting to gardeners as New Zealand Veronicas and Chinese Primulas are now, Dipladenias were among the élite. Difficult to manage though they were, ambitious gardeners grew Dipladenias and exhibited them as balloon-trained specimens among their collections of six, or twelve, or twenty-four stove plants in flower. There are very few gardens in which D. Brearleyana, D. amabilis and D. hybrida, all, be it noted, hybrids of artificial origin, are known, much less grown to-day. One species which was greatly favoured was D. Harrisii, "most appropriately named in honour of Lord Harris, the late able Governor of Trinidad," as Sir William Hooker stated when describing the plant in the *Botanical Magazine* in 1855 (t. 4825), Messrs. Veitch having introduced it from Trinidad and flowered it for the first time in Europe in September, 1854. Unfortunately, this plant is not a Dipladenia, nor is it a native of Trinidad! Bentham had described it fourteen years earlier under the name of Odontadenia speciosa, from material collected in British Guiana by Schomburgk. The good behaviour of the plant is thus accounted for; gardeners were at a loss to understand its wonderful growth, which extended along rafters, clung round pillars and flowered with all the profusion of a Bignonia, whilst other Dipladenias required a great deal of attention. There is hope for the Odontadenia now, seeing it is removed from bad company. Under its correct name it should find equal favour with the Allamandas, with which it has much in common. Our plate was prepared by Mr. Waltham from a plant at Kew, where it grows rampantly and flowers profusely in summer in a tropical house, its long shoots hanging from pillars and wires, and its handsome rich green leaves, some of them a foot or more long, providing a good foil to the flowers, which are large, handsome, fragrant, full, glossy yellow, the tube tinged externally with red, and streaked and blotched inside with the orange colour. The largest flowers are about four inches across. If Messrs. Veitch had raised a hybrid between a Dipladenia and an Allamanda and called it Dipladenia Harrisii, the name would have stood, and we should all have been satisfied that the plant was a happy combination of the best qualities of these two genera. Possibly Nature did effect such a cross in British Guiana.

Rainfall in the United Kingdom in 1918.—Under the Defence of the Realm Act it was an offence to publish observations or records of the weather in the United Kingdom in 1918, consequently many interesting data regarding rainfall and sunshine were, perforce, excluded from the pages of *The Gardeners' Chronicle*. Now that prohibition in this connection has been removed we give the following interesting weather records sent by readers. The total rainfall in Stracan House Gardens, Kildare, was 33.50 inches; there were 199 wet days, and the greatest fall in 24 hours—of .81 inch—occurred on September 15. At Eglinton Castle Gardens, Ayrshire, there were 190 wet days, and a total rainfall of 45.45 inches, the greatest fall in one day being 1.42 inch, on January 19. The record at Greenhill Gardens, Warminster, was 140 wet days, a total fall of 37.52 inches, and the greatest fall, 1.48, on September 29; on January 5, 1.24 inch of rain was recorded, 1.18 inch on July 11, and the wettest month was September, with a rainfall of 7.25 inches. Mr. JAMES B. ALLAN, Tirley Castle Gardens, Tarporley, writes: "Few gardeners regretted the passing of the year 1918. It was a fruitless, sunless, cold, wet year. The hottest days were on May 21 and August 21, when the thermometer registered 83 deg. in the shade, and the coldest day was January 8, when there were 17 deg. of frost. After the latter date the thermometer rarely fell to freezing-point. The heaviest rainfall occurred on May 22 and July 12, when .91 inch fell on each day. On May 22 a severe thunderstorm came from the east and south-west at 3.30 p.m., and continued with great severity till 4 a.m.; much damage was done to stock and property in the neighbourhood. March was the driest month, with only nine rainy days, and a fall of .98 inch. September was the wettest month, with 5.35 inches of rain. There were 209 rainy days, and the total rainfall for the year was 31.39 inches."

Gift of a Park as a War Memorial.—At a recent meeting of the inhabitants of Markinch, Fifeshire, to consider the question of a war memorial it was announced by Provost Dixon, who presided, that it was his intention to present a public park to the burgh.

FIG. 37.—HAMPTON COURT, MIDDLESEX, SHOWING THE LONG HERBACEOUS BORDER AND DECORATIVE BEDS. [*Photograph by E. J. Wallis.*

Civilian Gardeners' War Work.—Although no one has had time during the war to attempt to obtain statistics of the amount of food produce raised by gardeners in private establishments, it is evident that the sum total has been very great. Valuable work has been done in small, as well as in large establishments, and we give the following record as an example. During the two years 1916-18 there were supplied from the garden of MR. FERGUSON, at The Hollies, Weybridge, Walton, and given to hospitals, the following quantities of vegetables and fruit:—Cabbage, Cauliflower and Kale, over 5,600 heads; Spinach and Lettuce and Greens, over 6,000 lbs.; Turnips, Carrots, Beetroot, Parsnips, Artichokes, over 4,000 lbs.; Marrows and Cucumbers, 590 lbs.; Peas, 5½ bushels; and Beans, over 1,500 lbs.; together with about 2 tons of fruit. The gardener, Mr. F. SMITH, who was responsible for this work, estimates the gross market value of this produce at over £260. In addition to this work, Mr. SMITH undertook the supervision of 2 acres of allotments, supplied over 55,000 plants to allotment holders, ran a wasp competition which resulted in the destruction of 960 queen wasps, and a Cabbage butterfly competition, which accounted for 6,751 butterflies. When it is remembered that this is but one of many thousands of examples which might be given, it will be agreed that the gardeners of Great Britain have deserved well of their country.

Profits on Bee Candy for a Gardening Charity. — The Board of Agriculture and Fisheries have received from Messrs. JAMES PASCALL, LIMITED, a cheque for £175 1s. 6d., representing the profits made by them on the sale of bee candy for the period from July 14, 1917, to June 30, 1918, in accordance with their promise to devote the whole of their profits made from this source to any charity the Board might name. The Board have sent the cheque to the Gardeners' Royal Benevolent Institution, who have undertaken to devote it to the relief of a necessitous gardener or gardeners, giving preference to those gardeners who have had connection with bee-keeping. Messrs. PASCALL have also sent the Board a copy of the trading accounts prepared by their auditors in connection with this transaction. These accounts show that the cost of the sugar represents about 80 per cent. of the price of the candy (sevenpence per pound), the cost of making the candy 10 per cent (one penny per pound), and the net profit 2 per cent. (about three-fifths of a farthing per pound). The remaining 8 per cent. represents cost of packing, postage, printing, etc.

Potato Statistics.—The March issue of the *Journal of the Board of Agriculture* will contain an illustrated supplement dealing with the cultivation, composition and diseases of the Potato, including a full report on the experiments in connection with Wart Disease, and the results of the spraying campaign conducted during the summer of 1918. Copies, price 6d., post free, may be obtained from the Secretary, Board of Agriculture and Fisheries, 3, St. James's Square, London, S.W.1.

Publications Received.—***The Strawberry in North America: History, Origin, Botany and Breeding.*** By S. W. Fletcher. Professor of Horticulture at the Pennsylvania State College, New York: The Macmillan Co. Price 8/- net. ***Educational Gardening.*** By Robert Hogg. Instructor of Gardening to the Derbyshire Education Committee. London. A. Brown and Sons. Ltd. Price 3/6 net. ***The Science and Practice of Manuring.*** By W. Dykes. Revised and enlarged edition. London: The Lockwood Press. Price 2/- net. ***How to Form a Company.*** By Herbert W. Jordan: Twelfth edition. London: Jordan and Sons, Ltd. Price 1/4. ***The Book of the Allotment.*** By C. F. Lawrence. Horticultural Superintendent. Northamptonshire Education Committee. London: Evans Brothers, Ltd. ***Memorandum on the Industrial Situation After the War.*** By the Garton Foundation. Revised and enlarged edition. London: Harrison and Sons. Price 2/- net. ***Seed Farming in Britain.*** By A. J. Macself. Burnley: Hortus Printing Company, Ltd. Price 2/6 net.

THE SELECTION AND PROPAGATION OF PARADISE STOCKS.

(*Concluded from p.* 83.)

RAISING STOCKS FROM CUTTINGS.

In the present circumstances it may be worth adding a few details as to other possible methods of increasing the country's available supply of stocks. Until the current year we have only tried these methods in limited experiments, but it is quite clear that the freer-rooting types, such as Broad-leaved, Improved Doucin, and Nonsuch, root nearly 100 per cent. from cuttings. On the contrary, very little success has attended these experiments in the case of such types as the Doucin. We have usually taken stem cuttings of the current year's growth, but well ripened. The cuttings are made as soon after leaf fall as practical, they are each some 7 or 8 inches long, with only about two or three buds above ground level. Cuttings inserted last winter by this method will be admirable for grafting in the coming March. They have a well-developed root system, and my only criticism is that they are not ideally straight for working. I should have been more advised to plant them slightly deeper in order to get the new growth well above the ground level, or else a little shallower to allow room to put the scion on the old wood below the new shoot. So far I have not yet found much appreciable advantage in retaining a heel of old wood upon such cuttings, though possibly one might have slightly better success by so doing in the case of the Doucin. We have not tried "green wood" cuttings taken in late summer as yet, but we are under the impression that in cases such as the Doucin, which is slow to form a "callus," this might be a more certain method.

We have also tried root cuttings of the various types, and again find that the same types come quite readily, and produce a workable stock for grafting in the March of the following year. It is a method worth resorting to in these times of dearth. We have used small root cuttings about 4 inches long and about the thickness of an average lead pencil. Very early in the year we have dibbled these in, in a prepared bed, just below ground level, and when the shoots appear we have grubbed out all but the strongest. In all cases the Doucin gave us most trouble and often disappointment.

At the present time there is one type of Paradise stock, Type 3, possibly the Dutch Doucin, which might gain an unjustifiable popularity; it roots exceedingly easily by all methods, and individual stocks are very ready to "spawn." In fact, I know of folk who pulled off the "spawn" from around the collar of this type and planted them as stocks. This stock certainly does not thrive for long in our climate, though it is unfortunately a frequent visitor from abroad. It is probably to be classed among the more dwarfing types, and it is certainly one of the most unhealthy.

FIG. 38.—THE SUNK GARDEN AT HAMPTON COURT.
(*See p.* 98.)

After six years' handling and observation of the various types, it is possible for us at East Malling to say something of the individual characteristics of each member of the series from the tree-raiser's point of view. It may therefore be worth pending a few notes upon the quality of the various stocks, the order of their bud breaking, the quickness of their "callusing," and then root characters.

Type I.—Broad-leaved English Paradise.—Roots very readily from layers and cuttings, vigorous and healthy, produces stock of good quality for working, little feathered, medium season, quick to callus.

Unobtainable from abroad.

Type II.—Doucin (commonly English Paradise).—Roots only fairly readily from layers, mostly towards base, poorly from cuttings, vigorous and very healthy, produces stocks somewhat coarser than Type I., often feathered, medium season and early in leaf fall, somewhat slow to callus.

The most commonly used stock, both here and abroad, for bush Apples.

Type III.—Possibly Dutch Doucin. Our "Hollyleaf" variety, roots very readily from layers and cuttings, soon deteriorates in vigour. Often mildewed and scabbed, produces many small stocks. Medium season, quick to callus.

A very frequent rogue, especially from abroad. We are not circulating this type.

Type IV.—Probably Malus pumila. Roots fairly readily from layers, mostly at base, moderate vigour, distinctly dwarf, healthy generally, produces stock on small side for working, rarely feathered, early in season, slow to callus.

A common stock from Holland and Germany.

Type V.—Improved Doucin. (Amélioré).—Roots very readily from layers and cuttings, moderate vigour, undoubtedly dwarfing, healthy, Produces even stock of nice quality, little feathered, medium season, moderately quick to callus.

Largely used abroad for dwarfing stocks.

Type VI.—Nonsuch Paradise.—Roots very readily from layers and cuttings, very vigorous and healthy, produces stock often somewhat coarse and feathered, late in retaining leaf, quick to callus.

Unobtainable from abroad at present; most commonly used in England after Type II.

Type VII.—Unidentified, though distinct and worthy of note. Roots only fairly readily from layers and cuttings, most at base, vigorous and healthy, produces stock of nice quality and little feathered, medium season, and quick to callus.

Somewhat akin to Doucin in rooting habit, but more desirable for working purposes.

Seems to be only an English Stock.

Type VIII.—French Paradise.—Roots somewhat shyly from layers, moderate vigour, soon deteriorating, undoubtedly dwarfing, often mildewed, scabbed and cankered. Produces small stock, little feathered. Very early season, somewhat slow to callus.

Not much used in this country purposely, though a frequent rogue amongst stocks. We are not circulating this type.

Type IX.—Jaune de Metz Paradise ("Yellow" Paradise).—Roots moderately readily from layers and cuttings, moderate vigour, healthy, apparently dwarfing, produces stock of fair quality, sometimes feathered, season medium to late, quick to callus.

Used as dwarfing stock in France and Germany. More healthy here than Type VIII.

Type X.—A stock received from Germany somewhat after the Doucin type. More vigorous but apparently not so hard wooded or healthy: we have not distributed this type.

Type XI.—Free-rooting stock, selected by us from what was apparently a collection of "Crabs"; we have not circulated this type.

Type XII.—A stock with a similar history to above but showing distinct qualities, and is capable of being raised from layers. A good quality stock, and healthy.

Type XIII.—Another stock received from Germany, shows remarkable vigour of growth, is very ready rooting, and develops strong root system. It might prove promising as a stock for standard purposes if hard wooded enough.

Type XIV.—Another stock from Germany, somewhat of the Doucin type; we have not circulated this type so far.

Type XV.—A stock with a similar history to the above and not yet circulated.

Type XVI.—Another German stock, in leaf character closely resembling the Doucin, but more ready rooting and much more vigorous. It shows distinct promise for standard purposes, though possibly not quite so strong growing as type XIII. So far it has not been raised in large enough quantities for a wide distribution.

These articles are the results of the accumulated experiences of my assistants, Messrs. J. Amos and A. W. Witt. *R. G. Hatton, Wye College Fruit Experiment Station, East Malling, Kent.*

[Mr. Hatton is Director of the Wye Fruit Experiment Station, East Malling, a branch of the South Eastern Agricultural College. The Principal of the Wye College is Mr. M. J. R. Dunstan.—Eds.]

HOME CORRESPONDENCE.

Oaks at Aldenham.—We have recently had occasion to overhaul the Aldenham collection of Oaks, and have had the satisfaction of finding that it is more complete than was anticipated. We are unable to grow such as prove tender, like Quercus suber, which does well in the West of England, nor Q. semecarpifolia from the Himalayas, nor Q. crassipes and Q. glabrescens of Mexico, but apart from these we have, counting species, hybrids, and varieties, well over 100 of the hardy members of the genus, including such rarities as Q. Fabri, Q. aliena, Q. ambigua, Q. Schneckii and Q. incana. May we avail ourselves of the hospitality of your columns to ask whether any of your readers have a young plant of any of the following Oaks, which are not represented in our collection, to spare? We should be most happy to purchase or, if preferred, would gladly send other Oaks, or specimens of other choice plant, of which we have great variety, to reciprocate for such kindness. The species we desire are: Quercus alnifolia, Q. audleyensis, Q. cinerea, Q. chrysolepis, Q. coccifera, Q. glauca, Q. heterophylla, Q. infectoria, Q. Leana, Q. lyrata, Q mongolica (true, not lanuginosa syn. mongolica), Q. Morehus, Q. obtusata. Also the varieties we similarly wish to obtain are:—Q. castaneaefolia algeriensis, Q. cerris austriaca, Q. cuspidatea variegata, Q. Ilex ballota, Q. I. crispa, Q. I. Fordii, Q. I. Genabii, Q. I. latifolia, Q. lanuginosa dissecta, Q. lucombeana cana major, Q. l. crispa, Q. l. diversifolia, Q. l. fulhamensis, Q. l. pseudosuber, Q. palustris pendula, Q. pedunculata Haas, Q sessiliflora falkenbergensis, and Q. s. muscoviensis. *Edwin Beckett, Aldenham House Gardens, Elstree, Herts.*

Rosa Moyesii (p. 77).—I have not had the same experience as "*J. B. F.*" with regard to worthless varieties of this Rose. My employer bought six plants from Messrs. James Veitch and Sons at the International Show, Chelsea, 1912. All six specimens have turned out to be true R. Moyesii. The plants here are 13 feet high, and every year since they became established they have produced a mass of bloom. I have not tried to propagate Rosa Moyesii from cuttings, but in the year 1913 I saved a few hips, and when quite ripe I sowed the seeds in a pan covered with a sheet of glass and paper and stood the pan in a cold frame. During 1914 four seedlings came up, and after they were carefully removed the pan was returned to the frame and left for a few months longer, but no more seedlings developed. It would be interesting to know if "*J. B. F.*" propagated half-ripened shoots, or waited until the autumn, when the wood is hard. *G. Barrell, Chalfont Park Gardens, Buckinghamshire.*

Killerton Gardens.—The late Sir C. T. Dyke Acland, whose death was announced on p. 90, took a keen delight in gardening, at Killerton, near Exeter. His chief interest was in trees, of which there are many choice specimens at Killerton, not only in the pleasure grounds proper, but many choice Conifers and other subjects in the park and various parts of the estate. Sir Thomas also was keenly interested in the choice collection of hardy fruit, for which the garden was famous, and he was fond of showing his visitors the well-stocked fruit room, in which apples were kept all the year round. The Pear collection included practically all the varieties cultivated in this country. A Pear tree in the kitchen garden was said to be the first plant of Pear Doyenne du Comice that was introduced to this country. When Sir Thomas succeeded to the estate some twenty years ago, the pleasure grounds were in places very much over-grown with laurel and large forest trees, the latter on ground enclosed from the park. For many years the work of clearing these away from choice specimens, and making room for the planting of other choice and rare subjects, was vigorously carried out; but one point on which he was most emphatic, was that nothing must be cut out until it had been considered from all possible view points. Would that all re-makers of gardens were equally careful. Lady Acland was also keenly interested in Killerton, and showed exquisite taste in all the new work that was undertaken, which included a new Rose garden and rockery. The pleasure grounds are especially well situated for the cultivation of choice subjects, lying, as they do, on a steep, well-drained slope, varying in aspect from S.E. to S.W. One of the most striking features of the place, as viewed from some distance, is the number of flame-shaped Cupressus which are grouped on the sloping ground, among them being fine specimens of C. torulosa, C. sempervirens, C. funebris, C. Goveniana, C. macrocarpa and C. lawsoniana. Other notable Conifers, to mention a few, include a fine example of Fitzroya patagonica, also the largest plant of Thuyopsis dolabrata in this country, interesting because it was raised from a cutting taken from the original plant introduced from Japan. Other striking features of the place are the masses of Pinus insignis, Cedrus Deodara and Quercus Ilex. Of the latter there is a planting of some 40 acres on a spur of the hill facing Porlock Bay, on the West Somerset estate of Holnicote, where the same keen interest was displayed by the owner in the upkeep of the garden, and the planting and care of choice trees and shrubs. *J. C.*

Garrya elliptica.—I am surprised to learn from Mr. E. Beckett's note (page 74) that male plants of Garrya suffer from frost at Fota. A native of California and Oregon, I do not know what is its range, either in latitude or altitude, within these States, which embrace regions of very different climatic conditions. Possibly the plants at Fota were brought from a warmer part than those which thrive here and elsewhere. The oldest specimen we have is over fifty years old, growing in the open, without the protection of a wall. It came through the great frost of 1895, when the mercury stood below zero F, without injury. We had a severe spell of frost in the second week of February of this year. I looked at this Garrya recently: the foliage was perfectly fresh and green, and the catkins still decorative, though they have lost some of the freshness they had at Christmastide. Here, of course, on the west coast, our climate in winter is milder than it is further inland; but I know of a very large and fine specimen of G. elliptica growing in the open, far from any wall, in a nursery garden at Fochabers, in Morayshire, where the winters are sometimes very severe. We tried the hybrid G. Thuretii here and found it as hardy as the other, but so inferior to it as an ornamental shrub that I discarded the plants to make room for better things. I have heard it said that the famous architects, the brothers Adam, designed the slender garlands, so characteristic of their ornamentation, from the catkins of Garrya elliptica. The resemblance is certainly very striking: but, whereas Robert Adam died in 1792, and his brother in 1794, and G. elliptica was first introduced to this country by Douglas in 1828, it is accidental. *Herbert Maxwell, Monteith.*

SOCIETIES.

ROYAL HORTICULTURE.

FEBRUARY 25.—The meeting at the London Scottish Drill Hall, Westminster, on this date, was a quite good and interesting one, and the exhibition was fairly extensive and attractive.

The Floral Committee granted three Awards of Merit and eight Medals. The Narcissus Committee gave a Cultural Commendation; the Fruit and Vegetable Committee made a provisional Award; the Orchid Committee granted one First-class Certificate, four Awards of Merit, and five Medals—evidence of the extensive and excellent display of Orchids on this occasion.

In the afternoon Capt. A. Hill gave a lecture on "The Care of Our Soldiers' Graves."

Floral Committee.

Present: Messrs. H. B. May (in the chair), E. A. Bowles, S. Morris, John Green, H. R. Darlington, W. J. Bean, G. Reuthe, W. B. Cranfield, R. C. Notcutt, R. W. Wallace, John Heal, J. W. Moorman, J. W. Blakey, H. Cowley, J. F. McLeod, J. W. Barr, Clarence Elliott, Arthur Turner, C. R. Fielder, W. Howe, C. Dixon, John Dickson, E. H. Jenkins, and Chas. E. Pearson.

AWARDS OF MERIT.

Freesia Rose Beauty.—This variety has flowers of medium size, and of a rich, deep, magenta rose colour, with a white base to the lower segment and a whitish, rose-lined throat. The colouring is effective under artificial light. Shown and raised by the Rev. JOSEPH JACOB, Whitchurch.

Freesia Merry Widow.—A very large-flowered form, free-flowering, with white tube and ground, the segments having rosy-lilac shading that is accentuated at the margins. The lower segment has a soft yellow base, and each of the three lower segments have three central rose-purple lines. Shown and raised by Rev. JOSEPH JACOB.

Primula malacoides Princess Patricia.—A handsome plant, free-flowering, graceful, and effective. The individual blooms are from ¾ to 1 in. across, and the colour is deep and bright rose with a suggestion of mauve, and with a deep orange eye. In all respects it is sturdy and free, as in other forms of Primula malacoides shown by Messrs. J. CARTER AND Co.

GROUPS.

In the group of rare Conifers shown by Mr. G. REUTHE, we notice the graceful Dacrydium cupressinum, Arctrotaxis doniana, A. selaginoides, Fitzroya patagonica, Cupressus cashmeriana, Pinus Hartwegii, Abies recurvata, Podocarpus nubigena, P. chinensis Sciadopitys verticillata, and Torreya californica — a most interesting collection. (Silver Banksian Medal.) Mr. J. R. RUSSELL's collection of stove foliage plants was greatly admired. Of special interest were the Nepenthes, Dracaena Victoria, D. Godseffiana, Nidularum princeps, the beautiful Leea amabilis, and Smilax argyrea. (Silver Flora Medal.)

The finest bit of colour in the hall was provided by a batch of Salmon King Cyclamens, very finely-flowered, in a group of Cyclamens and Carnations, staged by Messrs. STUART LOW AND Co. (Silver Flora Medal.) Some bright Daffodils and Tulips, together with Primroses, Irises and Snowdrops, shown by Mr. G. W. MILLER, gave a promise of spring. (Silver Banksian Medal.) Interesting Saxifragas, from Mr. G. G. WHITELEGGE, included S. Burseriana Gloria and the red S. Frederici-Augusta. (Bronze Banksian Medal.)

Messrs. PIPER's rock and water garden lacked something in finish, but the pans of Cyclamen Coum and C. Atkinsii, embedded in grass, were charming, because of the beauty and colour of the numerous flowers. Hamamelis and Bamboos were included in the display (Silver Banksian Medal). Messrs. J. CHEAL AND SONS had a very pleasing little exhibit of Primula denticulata, and P. d. alba, backed by a few shrubs (Bronze Banksian Medal).

A delightful little contribubtion from Messrs. HERBERT CHAPMAN was generally admired. Here were seedling Daffodils, pots of the new and early Narcissus Scoutmaster, vases of Freesias in various colours, Iris reticulata and several seedlings therefrom (Bronze Flora Medal). Hardy and greenhouse plants, Primula obconica and Cyclamens made up a large group staged by Messrs. H. B. May and Sons (Silver Flora Medal).

Narcissus and Tulip Committee.

Present: Messrs. E. A. Bowles (in the chair), Geo. Monro, jnr., H. V. Warrender, W. B. Cranfield, Peter R. Barr, W. Poupart, G. W. Leak, G. Reuthe, F. H. Chapman, C. H. Curtis (hon. sec.), and the Rev. J. Jacob.

Messrs. HERBERT CHAPMAN, LTD., staged an attractive giant Leedsii Daffodil named Scoutmaster. This is a good forcing variety and suggests its King Alfred × Minnie Hume parentage, but as shown it is not very free flowering. Two bowls of Narcsisus J. T. Bennett Poe, shown by the same firm gained a Cultural Commendation—they were charmingly decorative.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (in the chair), Jos. Cheal, Owen Thomas, W. Bates, Ed. Beckett, N. F. Barnes, W. H. Divers, J. G. Weston, A. Bullock, W. Wilks, G. F. Tinley, A. R. Allan, W. Poupart, F. Jordan, A. W. Metcalfe, P. D. Tuckett.

Mr. C. G. A. Nix exhibited several interesting variations of the well-known Potato Edgecote Purple; and Messrs. Laxton, Bros., showed Laxton's Superb Apple, a handsome, finely-flavoured late-keeping variety which the Committee thought highly of. The trees are to be inspected, and if habit and fruitfulness are in keeping with the quality of the fruit an award may be anticipated.

Orchid Committee.

Present: Sir Harry J. Veitch (in the chair), and Messrs. Jas. O'Brien (hon. secretary), Arthur Dye, R. A. Rolfe, William Bolton, C. J. Lucas, R. Brooman-White, Frederick J. Hanbury, W. J. Kaye, Walter Cobb, J. Charlesworth, J. E. Shill, A. McBean, W. H. Hatcher, S. W. Flory, Pantia Ralli, Chas. H. Curtis, E. R. Ashton, Stuart Low, and Gurney Wilson.

Awards.

FIRST-CLASS CERTIFICATE.

Brasso-Cattleya Princess Patricia (C. Enid × B. C. Cliftonii magnifica), from Messrs. CHARLESWORTH AND Co., Hayward's Heath. A truly noble hybrid, and a great advance on the famous B.-C. Cliftonii Magnifica, whose main features it preserves intensified to a large degree. The broad sepals and petals are light rose; the finely expanded crimped and slightly fringed labellum is Tyrian purple in front, with chrome yellow disc. The tubes and side lobes are rose-coloured.

AWARD OF MERIT.

Laelio-Cattleya Zena (L.-C. St. Gothard × C. Luegeae), from Messrs. CHARLESWORTH AND Co. A very pretty hybrid, preserving the large Cattleya form, and having specially broad sepals and petals, which are rose-colour with a slight gold flush. Lip crimped at the edges, rich purple, with gold lines from the base.

Cymbidium International (eburneo-Lowianum × Woodhamsianum), from Messrs. ARMSTRONG AND BROWN, Orchidhurst, Tunbridge Wells. A delicately-coloured hybrid, with flowers of large size, Primrose-yellow, with slight rose lines on the petals and dense chestnut-red spotting on the lip.

Laelio-Cattleya Rex (L.-C. Haroldiana × C. Tityus Rex), from Messrs. FLORY AND BLACK, Orchid Nurseries, Slough. A very showy and distinct hybrid, of large size and perfect shape. The broad sepals and crimped petals are bright rosy-mauve; the well-rounded lip is ruby-purple, with golden lines extending from the base to the yellow disc.

Cymbidium albanense McBean's variety (erythrostylum × insigne), from Messrs. J. AND A. McBEAN, Cooksbridge. As shown, this is one of the best-formed and most attractive of hybrid Cymbidiums. The spike of seventeen white flowers, slightly flushed with lilac, arranged themselves in a terminal bouquet-like form. Lip white, with numerous dotted lines of purple.

CULTURAL COMMENDATION.

To Mr. J. COLLIER, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey, for a strong specimen of Cymbidium Lowio-grandiflorum with twenty-nine large flowers. It is part of the original for which Sir Geo. Holford was awarded a First-class Certificate.

GROUPS.

Messrs. ARMSTRONG AND BROWN, Orchidhurst, Tunbridge Wells, were awarded a Silver-Gilt Flora Medal for an extensive group in which many beautiful Cymbidiums, Odontoglossums and Odontiodas were effectively arranged. Among the best Cymbidiums were C. Alexanderi roseum, a large form with rose flowers and light purple lines on the petals; C. Beryl var. Rajah with greenish-yellow flowers having an intensely reddish-purple band on the lip, and C. Goldflake (rosefieldiense × glebelandense var. J. Davis) with a spike of medium size bronzy-gold flowers. Among novelties were Odontoglossum Doris Orchidhurst variety (Ossulstonu × crispum) with handsomely-marked flowers; O. Euterpe (amabile × Doris) O. Nora leopardinium with large densely blotched flowers; and Odontioda Alcantara Orchidhurst variety with perfectly formed rosy-lilac flowers having blush white tips.

Messrs. CHARLESWORTH AND Co. were awarded a Silver-gilt Flora Medal for an excellent group, principally of showy hybrids, the best new forms noted being Odontoglossum Orosius (Solon × Maillardianum), O. Orestes (Dora × percultum), O. Marcus (Jasper × Harryanum), all with good distinctive features; and Odontioda Lydia (Odm. Jasper × C. Noezliana), Oda. Alcides (Lambeauiana × Royal Gem), Oda. Garnet (Oda. Keighleyense × Odm. eximium), Oda. Mena (Oda. Lambeaniana × Odm. eximium) and Oda. Valda (Odm. Louise × Oda. Coronation).

MESSRS. STUART LOW AND Co., Jarvisbrook, Sussex, were awarded a Silver Flora Medal for a large and attractive group, specially interesting in that it embodied good examples of several of the best Phalaenopsis and other imported species now rarely seen. The hybrids were fine forms of Cattleyas, Laelio-Cattleyas and Odontoglossums. Among the Cattleyas were several white forms and the pretty white-petalled C. Percivaliana Little Gem. The remarkable Laelia anceps Roeblingiana was also shown. Messrs. J. and A. McBEAN, Cooksbridge, had a group of finely-grown Cymbidiums and Odontoglossums, one fine form of Odontoglossum Thompsonianium having purple flowers equal in size to O. crispum.

Messrs. HASSALL AND Co., Southgate, were awarded a Silver Banksian Medal for a group of Cymbidiums, finely-flowered. A very handsome Cypripedium (Beckmanni × Aeson giganteum) with very large and perfectly shaped flowers, was also included. Messrs. FLORY AND BLACK, Slough, showed Odontioda Lambeauiana var. Nellie, a distinct and showy flower, and a very brightly coloured hybrid between L.-C. Charlesworthii and Sophronitis grandiflora.

SIR JEREMIAH COLMAN, Bart., showed Odontoglossum Gatton Princess (Queen of Gatton × eximium), a finely--blotched hybrid; and Dendrobium Pink Pearl. Dr. MIGUEL LACROZE, Bryndir., Roehampton (Orchid grower, Miss Robertson), showed Laelio-Cattleya Beatrice var. Roehampton, a very fine form, with richly coloured lip. Sir MERVYN E. M. BULLER, Broomhill, Spratton, Northampton (gr. Mr. Kench) sent Cattleya Clotho splendens and C. Trianae alba Broomhill variety, a large form with clear white flowers.

EDINBURGH ALLOTMENT HOLDERS.

FEBRUARY 19.—The annual meeting of the Edinburgh Allotment Holders' Association was held in the Causewayside Institute, Edinburgh. The chair was occupied by Mr. J. Campbell. In the course of his remarks the chairman said there were about 60 people on the waiting list for allotments, and the secretary was negotiating for an additional piece of land. It was also announced that the Association would hold its annual show in the Livingstone Hall on August 31, and that a sum of £23 would be offered in prize money. The financial position was satisfactory, there being a balance of £75 in hand.

CROPS AND STOCK ON THE HOME FARM.

ARTIFICIAL MANURES.

WITH the increase of motor transport and the reduction of horses on the farm, the consequent loss of animal manure increases the difficulty of managing the land, especially in private gardens, small holdings and allotments.

In no phase of land culture is the shortage of manure more felt than in the last. The cost, too, of manure cannot be put at less than 12s. per ton by the time it is on the land, as compared with the pre-war price of 6s. Small wonder, then, if some holdings fall below their usual cropping capacity. On farms—large or small—the shortage of manure is felt, but in a lesser degree. The main cause of shortage on farms has been the Army requirements for both hay and straw; but conditions are returning to the normal again.

Artificial manures, in spite of the high prices charged, are being more employed on farms and in gardens than previously. Market gardeners and allotment holders are discovering the value of stimulative food for their crops, especially sulphate of ammonia. In no case is this more emphasised than for early Cabbages and Onions, which sometimes seems to be at a standstill owing to various causes; but sulphate of ammonia sprinkled over the plot, in two applications, with an interval of one month, at the rate of 1 cwt. per acre, will effect a marvellous change. On farms, it is the same with the Oat and Mangold crops. Among farmers there is a prejudice against the use of these quick-acting manures, as they consider the crops are forced to such an extent that all the "goodness" is taken out of the land, and in time nothing will grow.

Basic slag has lately become the chief "base" manure for all crops and soils; but many persons think that because basic slag contains a high percentage of lime it is costly, and more or less useless, on chalk soils. Basic slag is often applied to crops, especially grass, at the wrong time—*i.e.*, in March or April, instead of in November or December. I have had marvellous results on poor chalk land under grass, by the judicious use of basic slag only. The increase of grass and clover of various sorts for sheep feed has been wonderful.

By the aid, also, of farmyard manure and basic slag I had one year a good cut of hay from one portion of the Downs where but four inches of soil overlies a chalk bed.

I have no hesitation in advising the use of basic slag on chalky soil for the growth of grass. On similar soil, but of double the depth, I cannot say the results justified the application for cereals, as I saw no increase in the crop, nor did I with Turnips in other fields. In the case of Oats on which 4 cwt. of basic slag was used some months before sowing (with the Oats, Italian Rye Grass and Trefoil were sown for hay, in the year succeeding the Oats), the result was a great success; a grand crop was obtained. Basic slag for Wheat, on a light loam with a clay or a gravel subsoil, is generally a success if sown with the Wheat. Last August I saw an eleven-sack crop per acre of Victor Wheat, grown after a summer fallow by the aid of basic slag at the rate of 6 cwt. per acre. One course of the machine the length of the field was not treated with basic slag, and here the crop was so poor that, had the whole field been the same, it would not have been worth the trouble of cutting.

As a lasting manure for fruit trees or vegetable crops, basic slag applied at the rate of 4 cwt. to 6 cwt. per acre gives good results, and forms a base for the application of sulphate of ammonia or nitrate of soda. On light, sandy soils, which are naturally devoid of lime, basic slag is more valuable than superphosphate, as not being so liable to be washed deep into the soil. When finger and toe disease is prevalent in Swedes, basic slag would be more efficacious as a preventive than any other manure—especially superphosphate, which is liable to render the soil acid. *E. Molyneux, Swanmore Farm, Bishop's Waltham.*

Obituary.

William Goldring.—As our pages are being passed for press we learn with deep regret of the death, early on Wednesday, February 26, of Mr. William Goldring, one of the leading professional landscape gardeners of the day. Death occurred at his home, at Kew, after a prolonged indisposition from asthma and bronchial trouble. Mr. Goldring was born at West Dean, near Chichester, in May, 1854. In 1875 he went to the Royal Gardens, Kew, where his keen interest in hardy plants soon brought promotion, and in a short time he was placed in charge of the Herbaceous department. After four years at Kew he was appointed assistant editor of *The Garden*, and, later, became editor of *Woods and Forests*. It was during his connection with these papers that he commenced to practise landscape gardening; and so well did he succeed that in 1886 he left journalism to devote the whole of his time and energies to the art in which he eventually became a great exponent of world-wide reputation.

The transformation of a market garden area into the Exhibition grounds at Earl's Court was about the first important work he undertook, and this brought him into such prominence that a year or two later he was engaged to lay out parks and gardens in India, for the Gaekwar and the Government of Baroda. This extensive work compelled him to spend the winter months in India for several successive years. Having a wide and intimate knowledge of trees, shrubs and herbaceous plants, and their development, as well as possessing imagination and the artistic perception, Mr. Goldring was able to create garden pictures of great beauty and interest. His work will long survive him. From an appreciation published in the *Kew Guild Journal*, at a time when he was president of the Kew Guild, we gather that Mr. Goldring "helped to beautify the surroundings of such stately homes as Welbeck, Hatfield, Beaudesert, Cobham Hall, Stratton, Hackwood, Knowsley, and Beaufort Castle. In France his chief work has been for Baron Rothschild, at Laversine, the Château Vermont, and at La Touquet. He has laid out or re-modelled public parks at Sheffield, Eastbourne, Weymouth, Dorchester, Norwich, Reading and Dublin. At Dublin he was retained by Government in 1903, to advise upon the re-planting of Phœnix Park, after the great gale. In 1904, at the St. Louis Exhibition, he prepared a design for a garden in the style of the late Stuart Period, surrounding the British Pavilion. For this he was awarded a Gold Medal.

A widow and two daughters mourn the loss of one who was at his best in the home. Many outside the home circle will join in sympathy with those so sadly bereaved, and, with their own regrets for the loss of one who was a most charming companion, a clever gardener, and a kindly, genial man.

James Adams.—Horticulture in Sussex has sustained a severe loss by the death of Mr. James Adams, who died at the Victoria Hospital, Lewes, Sussex, on Wednesday, February 19, in his sixty-third year. The late Mr. Adams had been associated with horticulture all his life. He was a most successful exhibitor of Carnations and ferns at various shows, including those of the Royal Horticultural Society and at Brighton. He was an old member of the Lewes and District Horticultural Society, and the valuable advice he was able to give at its meetings was always greatly appreciated. During the past ten years Mr. Adams had successfully managed Leighside Nurseries, Lewes.

T. Pride.—We record with regret the death, on February 16, of Mr. Tom Pride, a prominent South of Scotland amateur gardener, and for a number of years secretary of the Canonbie Horticultural Society. Mr. Pride, who was for the past twenty years headmaster of Canonbie Public School, was keenly interested in gardening and did much to serve the interests of horticulture in his own and other districts.

Thomas Sibbald.—The death occurred at Bishop Auckland, on February 21, of Mr. Thomas Sibbald, proprietor of a local nursery and seed firm. After holding responsible positions in London for 20 years, mainly with the firm of Messrs. James Veitch and Son, Mr. Sibbald returned in 1894 to Bishop Auckland to assist his father, and, on the death of the latter in 1899, succeeded to the business, which was established as far back as 1804.

NOTES FROM IRELAND.

BY command of His Majesty the King, the Royal Horticultural Society of Ireland, now in its ninetieth year, will henceforth take the title of Royal Horticultural and Arboricultural Society of Ireland. The extension of title is due to the keen interest taken in the Society by the President, the Marquis of Headfort, on whose initiative a Committee of Arboriculture was instituted as a sub-committee of the Council.

Representatives of the Irish Committee of Arboriculture, and of the Irish Forestry Society, have been invited to meet the newly constituted Interim Forestry Authority in Ireland on the 13th inst.

By kind permission of Viscount Iveagh, K.P., the spring show of the Royal Horticultural and Arboricultural Society of Ireland will be held in the glass covered-in yard of his lordship's Dublin residence, St. Stephen's Green, on April 10. Schedules may be had from the Secretary, 5, Molesworth Street, Dublin.

The Irish Gardeners' Association, which has its headquarters in Dublin, has good reason for self-congratulation at the result of its efforts in appealing to the Lord Mayor of Dublin for increased remuneration of the gardeners generally, and members of the society in particular, engaged in public horticultural and arboricultural work in and about the city. The corporation foreman gardener, Mr. Keegan, who is a member of the Irish Gardeners' Association, has had his salary raised to £4 10s. per week, whilst the standard wages of working gardeners are fixed at not less than £3 3s. per week.

Silver-leaf badly attacked several fine, vigorous peach trees under glass in the gardens of St. Helen's, Booterstown, Co. Dublin, a few years ago. Mr. J. Allely, the head gardener, was advised to try the formula of a local chemist who had been interested in the matter. The recipe is 1 oz. carbonate of copper dissolved in 1 pint of liquid ammonia, the solution being sprayed on the trees at the rate of one small wineglassful to one gallon of water. The specific effected a complete cure. *K., Dublin.*

TRADE NOTES.

IT is announced that under the new import regulations the United States will allow importation, under permit from Great Britain as one of the countries which maintain plant inspection, of Lily bulbs, Lily of the Valley, Narcissus, Hyacinths, Tulips, and Crocuses: stocks, cuttings, scions, and buds, or fruits for propagation; Rose stocks for propagation, including Manetti, multiflora, Brier Rose, and Rosa rugosa; nuts, including palm seeds for propagation; and seeds of fruit, forest, ornamental, and shade trees, seeds of deciduous and evergreen ornamental shrubs, and seeds of hardy perennial plants.

It is stated that the general purpose of the statute and new regulations is to prevent the introduction of certain injurious insects, various diseases, and other evils which afflict plant life, rather than to restrict normal commercial operations.

MESSRS. W. W. JOHNSON, LTD., BOSTON, South Lincolnshire, have, during the past month, despatched several thousand pounds' worth of seeds to Vladivostock, via Kobe. In pre-war days most of the seeds required in Russia were supplied by Germany. This large order is but the nucleus of a much larger consignment that will, before many months have passed, be despatched to far-away Siberia.

MARKETS.

COVENT GARDEN, February 26.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of thé samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus ...	12 0–15 0	Ericas, con.—	
— Sprengeri ...	10 0–12 0	— melanthra 48's perdoz. ...	30 0–36 0
Aspidistra green	30 0–60 0	Marguerites white	18 0–24 0
Cyclamen ...	30 0–36 0	Palms, Kentias ...	18 0–24 0
Ericas— ...	....	—— 60's ...	15 0–18 0
— hyemalis ...	24 0–30 0	—Cocos	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum, 48's, per doz.	10 0–12 0	Nephrolepis, in variety, 48's	12 0–18 0
—elegans ...	9 0–10 0	—32's	24 0–36 0
Asplenium, 48's, per doz.	10 0–15 0	Pteris, in variety, 48's	9 0–12 0
— 32's	21 0–24 0	—large 60's ...	4 0–5 0
— nidus, 48's ...	10 0–12 0	—small 60's ...	3 0–3 6
Cyrtomium, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6

REMARKS.—The sharp frosts have stopped the supply of pot plants for the present.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d		s. d. s. d.
Arums—		Lilium longiflorum long	35 0–36 0
— (Richardias), per doz. bl'ms.	18 0–21 0	Lily-of-the-Valley, per bun. ...	8 0–10 0
Azalea, white, per doz. bunches	10 0–12 0	Orchids, perdoz:—	
Camellias, 12's-18's per box ...	6 0– 8 0	—Cattleyas ...	24 0–30 0
Carnations, perdoz. blooms, best American var.	8 0–10 0	—Cypripediums,	6 0– 8 0
Daffodils, single, per doz bun.		Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
— Emperor ...	18 0–24 0	— white, per doz. bunches ...	10 0–12 0
— Golden Spur ...	18 0–21 0	Roses, per dozen blooms—	
— Henry Irving .	10 0–12 0	— Richmonds ...	18 0–24 0
— Victoria ...	18 0–21 0	Snowdrops, per doz. bun. ...	3 0– 4 0
— Princess ...	12 0–15 0	Tulips, per doz. blooms—	
Narcissus ornatus, per doz. blooms	18 0–21 0	— mauve ...	5 0– 6 0
Freesia, white, per doz. bunches	6 0– 8 0	— white	8 0– 9 0
Heather, white, per doz. bun.	6 0–10 0	— yellow, per doz. blooms	5 0– 6 0
Lilac, white, per bunch, 6's ...	3 6– 4 0	Violets, single, per doz., bun. ...	6 0–10 0

REMARKS.—The conditions this morning are similar to those given last week. All white flowers are very scarce and prices are much higher, especially for white blooms. A return of milder weather no doubt will alter the situation during the next few days. Consignments from France which suffered so much through the severe weather last week arrive in a much better condition. White Narcissus appear to be finishing but is gradually being replaced by small quantities of white Stocks; prices should be more normal before the end of this week. The supplies from the Channel Islands have also been checked by the sharp weather; only two small consignments reached the market last week. There was practically a famine in foliage throughout last week, especially in Asparagus plumosus, A. Sprengeri and Maidenhair Fern, as much as 3s. 6d. per bunch being asked for the Fern.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Jerusalem per bus. ...	3 0– 3 6	Leeks, per doz. bun.	8 0–12 0
— Globe, per doz.	3 0– 5 0	Lettuce, Cabbage and Cos per doz.	3 6– 4 0
Asparagus, Devonshire, per bun.	12 0–18 0	Mint, per doz. bun.	6 0– 8 0
— Paris Green, per bundle ...	13 0–15 0	Mushrooms perlb.	5 6– 6 6
— — Sprue per bundle ...	2 2 —	Mustard and Cress, per doz. punnets	1 0– 1 3
Beans, French, per lb.	10 0–12 0	Parsley, per ½ bus.	10 0–12 0
Beetroot, per bus	5 0– 6 0	Parsnips, per bag	5 0– 6 0
Brussels Sprouts per ½ bag ..	8 0–10 0	Potatos, new per lb.	2 0– 2 3
Cabbage per tally	10 0–20 0	Radishes, per doz. bunches ...	2 6– 3 0
Carrots per bag...	11 0–12 0	Rhubarb, forced per doz. ...	3 0– 4 0
Cauliflowers, perdoz	6 0– 9 0	Savoys, per bag ...	7 6–12 6
Celeriac, per doz.	9 0–10 0	Seakale, in boxes (6-8 lbs.) per lb.	0 11– 1 0
Celery per doz	36 0–50 0	Shallots, perlb. ...	0 6– 0 8
Chicory, Belgian, per lb. ...	1 0– 1 2	Spinach	16 0–17 0
Cucumbers, per doz	21 0–24 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box ...	60 0–90 0
Endive, per doz.	5 0– 6 0		
Garlic per lb. ...	0 5– 0 7		
Greens, per bag	8 0–10 0		
Herbs, per doz bun.	4 0– 6 0	Turnips, per bag	5 0– 6 0
Horseradish, perbun	3 6– 4 6	Watercress, per doz	1 0– 1 3

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Cranberries, per case	40 0–44 0	Nuts, con.—	
Grapes:—		— Brazils (new). percwt.	200 0–220 0
— Almerias, per barrel (about 3½ doz. lbs.)	70 0–80 0	—Cobnuts per lb.	1 7– 1 8
—Alicante per lb.	7 0– 9 0	Walnuts, kiln dried, per cwt.	130 0–200 0
— Gros Colmar, per lb. ...	8 0–10 0	Pears, Californian (Easter Beurre). cases containing 8 to 10 doz. per case	60 0–68 0
— Belgian per lb.	5 0– 7 0		
Nuts—			
— Almonds, per cwt.	110 0–112 0	—Winter Nelis, per case	85 0–95 0
— Barcelona, per cwt. ...	110 0 —	Pineapples, each	5 0–10 0

REMARKS.—English black Grapes continue in fair supply for the season of year. A consignment of about 160 packages of black and Muscat Grapes from Belgium reached the market this week, and it is anticipated that there will be further arrivals but the quantity will be limited. Pears (Californian) arrived in larger quantities packed in cases and half cases. A consignment of Teneriffe Tomatos is due this week. All supplies of forced vegetables are very limited with the exception of Seakale which is more plentiful. Outdoor vegetables are not so plentiful owing to the recent hard weather. E. H. R.

ANSWERS TO CORRESPONDENTS.

FAILURE WITH LILIUM CANDIDUM: *F. W.* From your description of the behaviour of the plants, it is quite possible that the flowers were affected with the fungus Botrytis, which forms a greyish-black mould on the petals. The leaves also are affected, and the fungus is first noticed in the form of buff or rust-coloured spots or blotches on the buds and foliage. We do not think the failure is due to wrong cultivation, as this Lily succeeds in full sunshine as well as in semi-shaded situations. Care should be taken to see that the soil is well drained and fairly rich. If you will forward specimens in the flowering season we shall be pleased to examine them, as we shall then be in a better position to state the true cause of failure.

GARDEN TRUCKS: *H. T. (B.E.F.).* The garden trucks you describe can, we believe, be obtained from Messrs. W. Wood and Son, Ltd., North British Wharf, Wood Green, London, N. 22.

GRAFTING WAX: *J. W.* Mastic Lhomme-Lefort could possibly be obtained from M. Tissot, 7, Rue de Louvre, Paris, or M. Truffaut, 90. bis. Avenue de Paris, Versailles. There are other French "cold" grafting waxes, *e.g.*, Mastic Français and M. Normand. English-made waxes (cold) may be obtained from horticultural sundriesmen.

GRUBS IN FERN ROOTS: *P. J. P.* The insects attacking the roots of your Adiantum Ferns are weevils. Both the adult insects and the larvæ which you send are very destructive pests and difficult to exterminate. The adult weevils feed at night and hide by day so that they are difficult to detect. They may be caught at night by bringing a lighted lamp into the plant house and catching them as they drop from the plants. If white paper is spread beneath the pots the insects will be detected the more easily. The larvæ may be trapped by placing pieces of such vegetables as Potatos and Carrots in their haunts. They may also be destroyed by carbon-bisulphide. Make holes in the soil with a piece of stout wire and pour about a tea-spoonful of the chemical in two or three of the holes in each pot.

LANDSCAPE GARDENING: *V. R.* The "ordinary gardener" has much to learn before he can feel even fairly equipped to practise as a landscape gardener. The subjects in which he must be proficient include land surveying, drawing and mensuration. If he is a young man probably his best course would be to obtain a few seasons' work under a first-rate landscape foreman. He would then obtain the necessary practical experience in groundwork, which includes the making of new gardens and also the alterations of existing pleasure grounds. Surveying and levelling are of great importance, and proficiency in these may generally be obtained by arrangement with a local surveyor, who would probably also be willing to give tuition in measuring quantities and estimating the value of work done. Drawing, both free hand and geometric, including scale drawing, are also essential and for these instruction can be obtained at science and art classes in most towns. The ability to make a fair analysis of soils, so as to ascertain their suitability or otherwise for the trees, shrubs and plants which he wishes to employ in the planting scheme, is also necessary. We are not acquainted with any school of landscape gardening, so the would-be practitioner must rely to a great extent on private study, and practise assiduously in plan drawing, in which absolute accuracy is essential. Besides an intimate knowledge of his craft he must possess a broad general knowledge and be able to express himself clearly and fluently. The best text books on landscape gardening are those by Repton, Kemp, and T. H. Mawson; *Formal Gardens*, by Reginald Blomfield, would also be useful.

NAMES OF PLANTS: *J. C. S.* 1, Gaultheria Shallon; 2, Olearia dentata; 3, Pieris floribunda; 4, Pernettya mucronata.

SALT FOR ASPARAGUS: *Bourne End.* Salt is a stimulant for Asparagus, applied at the rate of from 4 to 6 lbs. per square rod. Salt is especially useful to Asparagus growing in light soils and should be applied in April. Much harm would be done by a too liberal use of salt; an overdose, especially in the case of heavy soils, would act most injuriously on the plants, and not a few failures with Asparagus may be traced to its indiscriminate use.

WASTE CARBIDE OF CALCIUM: *W. P.* Spent carbide of calcium from the generator of an acetylene plant may be used on the soil with good effect, although it is not so valuable as slaked lime. It should be placed in a vacant corner and allowed to become nearly dry, when it may be dug into vacant land. No planting should be done until at least two months after the application of the material. A correspondent in *Gard. Chron.*, October 5, 1916, recommended its application at the rate of one barrowful to every 12 square feet of ground. He states that he found it effective in destroying soil insect pests, including wireworm.

SEEDS FOR BRITISH COLUMBIA: *J. W. T.* Write to the Agent-General for British Columbia, 1, Regent Street, London, S.W.1.

SCUTELLUM IN MAIZE AND WHEAT: *G. H. H. W.* *Questions:* (1) A generally accepted opinion that the scutellum in the Maize and Wheat is the true cotyledon? (2) Is the ferment secreted in the scutellum or in the adjacent tissue of the endosperm? (3) What is the function of the epidermal layer of the scutellum? (4) Do the cells of the scutellum multiply after germination? *Replies:* (1) It is a widely held view that the scutellum represents the single cotyledon in the grain of grasses, but this view is not accepted by all botanists. (2) The ferment is secreted by the scutellum. (3) The function of the epidermal layer appears to be the secretion of ferments and the absorption of the material so made soluble. (4) In all probability the cells of the scutellum do not multiply after germination.

SPRING OPERATIONS IN THE ROCK GARDEN: *N. K. W.* If the weather is open in March, worn-out groups of plants may be lifted and replanted, at the same time renewing or enriching the soil. Groups of plants which have grown too thick and crowded for the place they occupy may be lifted and fresh portions, sufficient to furnish the space and allow room for development, planted. April is the best time for putting out young plants which have been wintered in frames. The weather then is usually more showery, and the plants commence to grow freely at once. In addition, there is always much trimming and tidying to be done in the rock garden, cutting the dead portions of plants away, and top-dressing plants that have grown out, with gritty soil. Weeds also begin to assert themselves, and should be kept under. Heaths are usually trimmed over after flowering, but should not be cut back hard. Hydrangea paniculata is usually cut hard back, leaving only two or three buds to form the new flowering branches. If the Spiræa you refer to is Spiræa japonica, all last year's growths that flowered should be cut back to buds showing at the base.

Communications Received.—S. M. O.—Miss A.—D. G.—E. T. C.—L. C., New Zealand—W. A. C.—J. B.—F. G. P.—Borax, Ltd.—H. W., Holland—T. C.—R. E. N.—C. C.—C. T.—H. W.—J. C.

Supplement to the "Gardeners' Chronicle."

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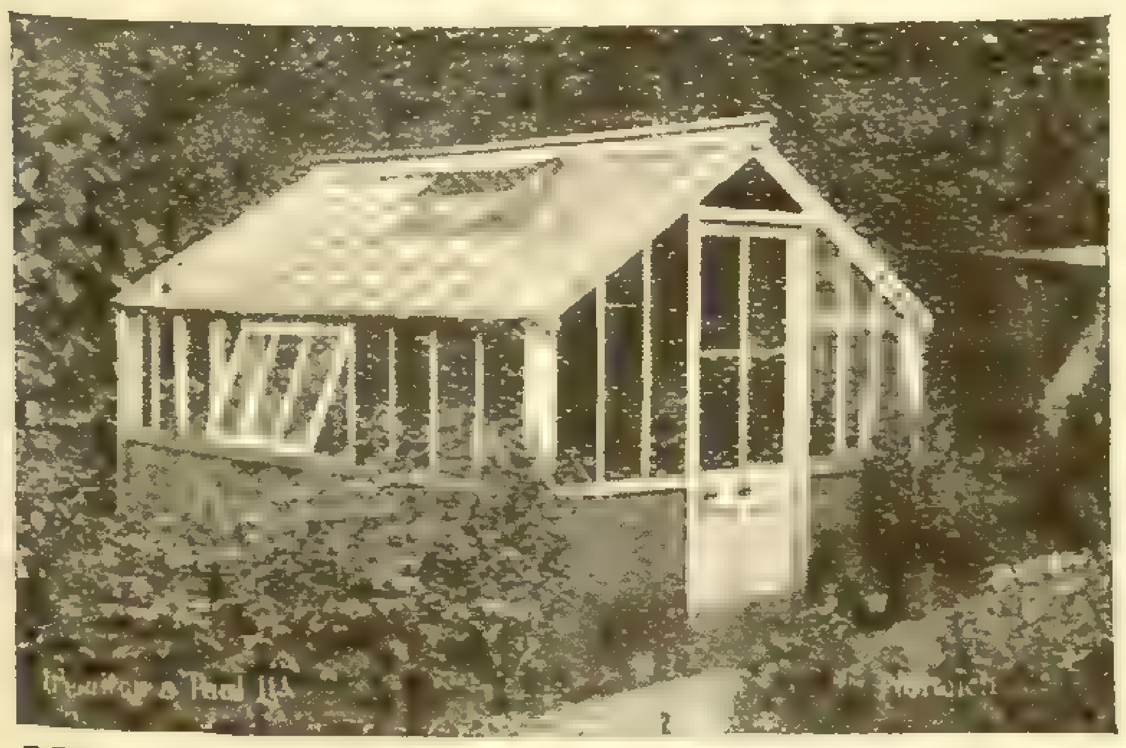

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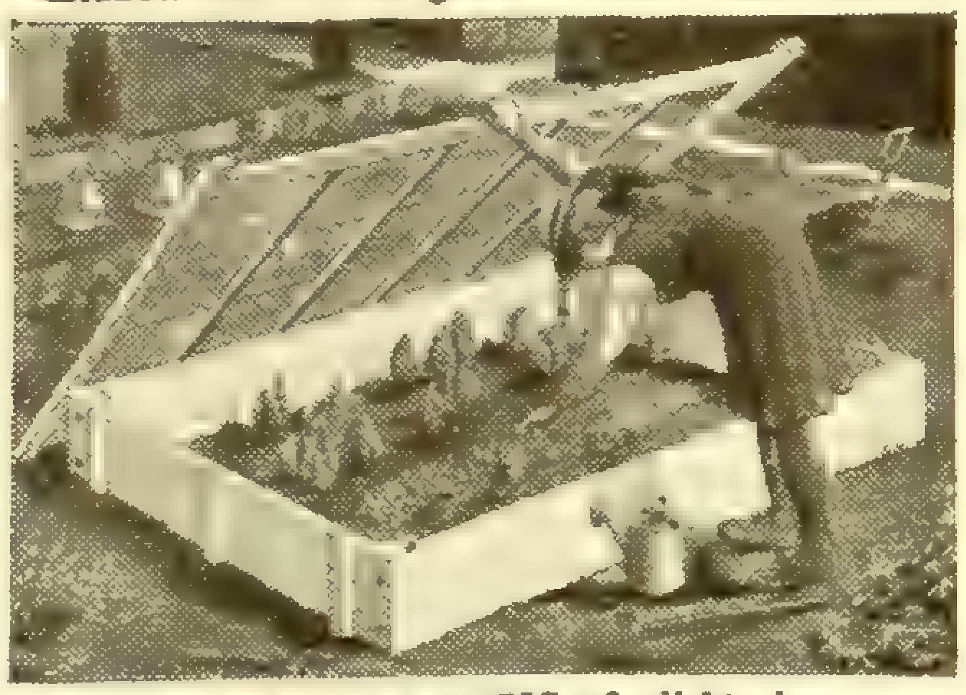

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Sharpe's Express (W.K.) - - - -	1/6	3/-	11/-	21/-	£10 0
Eclipse (W.K.) - -	1/3	2/6	9/6	18/-	£8 0
Second Early Varieties.					
British Queen (W.K.) - - - -	10d.	1/6	5/6	10/9	£5 0
Maincrop & Late Varieties					
King Edward VII. (C.K.) - - - -	10d.	1/6	5/6	10/9	£5 5
Arran Chief (W.R.)	10d.	1/6	5/6	10/9	£5 5
Up-to-date - - -	10d.	1/6	5/6	10/9	£5 5
Dalhousie - - -	10d.	1/6	5/6	10/9	£5 5

"½ cwt and 1 cwt sacks charged at 9d. each, allowed for in full if returned carriage paid in sound condition. Orders put free on rail in consignments of 56lbs. and upwards.

Wm. WOOD & SON'S

LE FRUITIER MANURE.
The perfection of Plant Food. **30/-** per cwt., **16/-** per ½-cwt.

"UNXLLD" FRUIT BORDER COMPOUND.
For renovating old and making new Vine Borders.

LOAM—RICH, YELLOW, FIBROUS,
Fat and Marley. Carriage-Paid quotations in trucks to any stations.

CAUSTIC ALKALI WINTER WASH.
Cleanses Fruit Trees from Insect and Fungoid Pests. 5 Tins, **12/-**; 10 Tins, **22/-** (carriage paid).

BONES and BONE MEAL.

POTATO MANURE "SUCCESS"
Supplied to the most successful exhibitors and to many Allotment Holder Associations.

GRUBICIDE and VELTHA.
The famous Soil Fumigant and Soil Sterilizer.

ANTI-FLY DUSTING POWDER.
An absolute preventive of Onion, Carrot, and Celery Fly.

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Made up on the premises and fixed by our own fitters in any part of the country.

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GARDEN HOSE, SPRAYING MACHINES, TOOLS.

Particulars of all the above may be had, post free, in Illustrated Price List from:—

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ROYAL HORTICULTURISTS,
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SPECIAL OFFER

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Half-Inch Mesh Garden Netting.

The best Spring protection for Wall Fruit.

SQUARE MESH NETS which cover in full their measured length and width. Bound all round with stout cord. In the following sizes:—

25 yards by 2 yards, at **18/9** each.
25 „ by 4 „ at **37/6** „
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Any other size supplied from stock at 4½d. per square yard.

Half-Inch Diamond Mesh Netting.

17 yards by 5 yards, at **17/6** each.
35 „ by 5 „ at **35/-** „
60 „ by 5 „ at **60/-** „

Note.—When ordering Diamond Mesh Nets, ⅓ extra both in length and width should be allowed.

All Nets sent Carr. Paid on receipt of order.

Samples and quotations for all kinds of Garden and Tennis Nettings Free on application.

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Torleven Works,
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On Land to be Cleared for Farm Crops.

5,000 Rhododendrons, named kinds		1½ to 2 ft.
„ „ „		2 to 3 ft.
15,000 Rhododendron Ponticum (for Covert Planting)		9 to 12 ins.
„ „ „		1½ to 2 ft.
„ „ „		2 to 3 ft.
„ „ „		3 to 4 ft.
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„	Caucasica ..	1½ to 2 ft.
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„	„	3 to 4 ft.
„	„	4 to 5 ft.
500 Cotoneaster Microphylla	..	1 to 1½ ft.
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Particulars and Prices on application to—

KING'S ACRE NURSERIES LTD.,
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CARTERS TESTED SEEDS

CHOICE VEGETABLES AND BEAUTIFUL FLOWERS.

Carters TESTED Seeds
REGISTERED TRADE MARK

ALL SEEDS 6d. PER PACKET.

PRICE LIST ON RECEIPT OF 2d. POSTAGE.

SEEDS FOR ALLOTMENTS.
Special Varieties in large coloured pockets.
4d. per packet.
Agents everywhere.

JAMES CARTER & CO., *Seedsmen to H.M. the King,* **RAYNES PARK, LONDON, S.W.19.**
GROWERS OF GARDEN AND FARM SEEDS,
Branches: 237, High Holborn, W.C.1, and 53a, Queen Victoria Street, E.C.4.

WILLIS BROS.
GARDEN FERTILIZER

Complete reliable manure for digging in for Vegetable Crops, or as top dressing for Fruit Trees and Flower Beds.
NO STABLE MANURE REQUIRED.

A customer writes us:—"I used 10 cwt. of your Garden Fertilizer on large kitchen garden without any other manure, and never had better crops."

Commandant of Military Camp writes:—"Please send two tons Garden Manure at earliest. Most successful with us last year for Potatoes, etc."

12/6 per cwt., 7/- half-cwt., 4/- 28 lbs., 2/6 14 lbs.
£11 10s. per ton, carriage paid.

WILLIS BROS., Horticultural Manure Manufacturers,
HARPENDEN, HERTS

ORCHIDS,

Clean, well-grown and cheap; also
Many Rare and Choice Varieties.
STOVE AND GREENHOUSE PLANTS OF ALL KINDS.
Kindly send for Catalogue
JAMES CYPHER & SONS,
Exotic Nurseries, CHELTENHAM.

ORCHIDS.

ARMSTRONG and BROWN,
Orchidhurst Tunbridge Wells.

Telegraphic address: "Orchid," Tunbridge Wells.
Telphone: 1001. Nearest Station: Southboro', S.E. & C.R.

Inspection of our **model Block of Houses** devoted entirely to **Orchids** invited.

Thousands of **Choice Hybrids, Albino Orchids,** and **Rare Species** to select from.

Advice given about the Erection and Management of **Orchid Houses,** and questions relating to **Orchids** promptly replied to.

Tunbridge Wells Station, 1½ mile.

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Ivory White Seakale

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Price on Application.

S. SPOONER & SONS,
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LITTLE'S WEED DESTROYER

(Liquid).

Double Strength. Gallon Drum makes 60 Gallons.

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CORRY'S

CONCENTRATED

WINTER DRESSING

FOR

FRUIT and Other TREES.

(NON-POISONOUS)

For the Destruction of all Insect Pests that shelter in the Bark during the Winter Months.

This Preparation is highly valued by practical Growers throughout the Kingdom.

DIRECTIONS FOR USE ACCOMPANY EACH PACKAGE.

Sold by the Trade generally,

Prices :

Pints, 1/6 ; Quarts, 2/9 ; ½ Gallon, 5/3 ; 1 Gallon, 9/- ; 3 Gallons, 26/- ; 5 Gallons, 43/- ; 10 Gallons, 71/-,

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Orange Pippin Apple-trees

We can offer a few dozen large Fruiting Bushes, on Paradise Stock, about 8 feet high. Prices on application.

S. SPOONER & Sons, THE NURSERIES, HOUNSLOW.

Continued from page iii.

CATALOGUES—FOREIGN.

PETER HENDERSON & CO., 35 and 37, Cortlandt Street, New York, U.S.A.—Seeds (Wholesale).

BUSINESS CARD.

BRITISH CORRESPONDENCE SCHOOL OF HORTICULTURE, PENNINGTONS, 254, Oxford Road, Manchester.—Complete courses for R.H.S. Senior, Junior, Teachers' and National Diploma of Horticultural Examinations. Fees moderate.—Write, SECRETARY.

SITUATIONS VACANT.

*Twenty words (or three lines including headline) **3s.**, and **6d.** for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office, **6d.***

PRIVATE.

R. CROCKFORD thanks all applicants for Lanrech Manor vacancy, which is now filled.

MONMOUTHSHIRE EDUCATION COMMITTEE.

WANTED, two qualified and competent INSTRUCTORS in School Gardening and Horticulture for the above county. One of the vacancies to be filled by a qualified WOMAN. State salary required and experience. Copies of two testimonials to accompany application.

THOMAS G. JAMES,
Director of Elementary Education
County Hall, Newport.

CITY OF ST. ALBANS.
SUPERINTENDENT OF PARK, OPEN SPACES, AND ALLOTMENTS.

THE TOWN COUNCIL of St. Albans invite applications from candidates for the post of SUPERINTENDENT of the Clarence Park, Recreation Ground, etc., and Superintendent of Allotments; wages £2 5s. per week with house free.

Applications (in applicants' own handwriting), stating age and experience, and accompanied by not more than three recent testimonials, to be sent to the undersigned on or before the 14th March.

E. P. DEBENHAM,
Town Clerk.
Town Clerk's Office, St. Albans.
February, 1919.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

WANDSWORTH UNION.

WORKING GARDENER wanted; thoroughly experienced Man; wages £2 and war bonus 19s per week.—Apply, giving particulars as to capabilities, age, etc., to the STEWARD, St. James' Infirmary, Ouseley Road, Balham, S.W.12.

WANTED, at once, for Harrow Weald. HEAD GARDENER, where 2 and boy are kept. Must have first class references for General Garden Work and Vegetable production; Single Man required, no cottage; wages 45s.—Apply by letter to MRS. AINSLIE, Barkstone Gardens Hotel, Earl's Court.

WANTED, HEAD WORKING GARDENER of 2, with extra help; good all-round experience; good references necessary.—Write, stating age, wages and experience to Lloyd, North Hall, Basingstoke

GARDENERS (WORKING HEAD and two UNDER) wanted for Fruit, Vegetables and Pleasure Grounds of first-class Country Hotel in Notts; state age, wage, and experience.—A. M., Box 13, 41 Wellington Street, Covent Garden, W.C.2.

CAN any lady or gentleman recommend an experienced HEAD WORKING GARDENER; two Under kept; must understand Vines, Peaches, Carnations, and Orchids; good wages and cottage. State age, experience, and wages required.—Apply, MRS. SELBY LOWNDES, Shenley Park, Bletchley.

WANTED, GARDENER (SINGLE); splendid home, live in; all found; good pay; must understand Flowers and Vegetables.—67, Wigmore Street, W.

WANTED, GARDENER (SINGLE-HANDED); no Glass; with son to assist; must be willing to attend Dogs and Pigs; combined wages, 52s. 6d. per week, with cottage; send references.—J. S. KELLY, Claremont, Esher.

WANTED, SINGLE MAN; good knowledge of Rock Garden, Water Garden, and Roses; able to take duty every other week; bothy and vegetables.—Apply, giving full particulars and wages required, to G. SMEETH, Elmers Court Gardens, Lymington, Hants.

WANTED, SINGLE - HANDED GARDENER, for Garden, 1½ acres.—Apply, stating wages and previous experience, to KILROY, Omard, Harrow Weald, Middlesex.

WANTED immediately, GARDENER; single; no Glass.—Apply, MRS. WILLIS, Fourfield Close, Headley, Epsom, Surrey.

WANTED, SINGLE - HANDED GARDENER; cannot get into the occupation of house yet.—State experience, wages required, and send references to J. POWERS, Fairhill, Warwick Road, Coventry.

WANTED, first-class SINGLE - HANDED GARDENER; help given; for Bucks; married; no family.—State age, experience, wages required, with cottage, W. E. Box 23, 41, Wellington Street, Covent Garden, W.C. 2.

WANTED, experienced GARDENER; wages 35s. and new cottage.—Apply, with references, to GILBERT BECK, Tillworth House, Hawkchurch, Axminster.

GARDENER wanted, to take lead in Kitchen and Hardy Fruit. Progressive wages.—Apply to M. LOASBY, Manor Gardens, Ashby-de-la-Zouch.

GARDENER wanted; married man; thoroughly experienced in Herbaceous and Hardy Plants, Lawns, &c.; wages 32s. to 35s.; cottage and garden found.—Apply, with references and experience, to HEAD GARDENER, Wittington, Marlow.

WANTED, experienced WORKING GARDENER BAILIFF; good at Kitchen Gardening; wages £2 per week and four-roomed cottage.—Apply by letter to Norton Hall, near Worcester.

WANTED, GARDENER; knowledge of Poultry; live in, good comfortable room; two small Greenhouses, usual Indoor duties required; small house, two in family, general kept; 28s. per week, all found.—SMITH, Briarwood, Slough Lane, Kingsbury, Middlesex.

WANTED for Breconshire, good GARDENER and his WIFE; with knowledge of milking and laundry work respectively; wages for a suitable man not exceeding 30s. per week, in addition cottage, garden, &c.; laundry work paid separately; reliable references as to character and efficiency essential; preference to ex-soldier.—Capt. DICKINSON, 6, Inverness Place, Bayswater, London, W.

WANTED, SECOND GARDENER; good knowledge of Fruit and Plant Houses. Also young JOURNEYMAN or IMPROVER, for Outside. Both take duty, comfortable Bothy and attendance; overtime paid; 1 p.m. Saturdays.—Apply, stating wages and experience, to J. RICHARDS, Brockhampton Park Gardens, Andoversford, Glos.

SECOND GARDENER wanted at once; experienced inside and out. Write full particulars, wages asked, etc.—H. D. KIMBER, Hitcham Place, Taplow

SITUATION as SECOND GARDENER (Inside).—For particulars apply JANCEY, The Cottage, Brooklands, Warwick New Road, Leamington Spa.

SECOND GARDENER required; entire charge of two or three cows, including milking and butter making; about an hour's housework daily—knives, boots, coals and outside windows; no glass; heavy land; no milk, vegetables or other perquisites; wages 50s. weekly in addition to five-roomed cottage (2 bedrooms) and garden; permanent employment for reliable steady man, pay continued during absence from work for certified sickness or other good reasons; candidates must be married or about to marry. Write fully age, height, experience with cattle and poultry, and references to the last ten years, to GROVE FARM, Greenford Road, South Harrow, Middlesex. Testimonials and photographs carefully returned.

GOOD UNDER-GARDENER required for Flower and Kitchen Garden; must have experience; unmarried; bothy, coals, vegetables.—HON. MRS. F. COLBORNE, Nonsuch Park, Cheam, Surrey.

WANTED, for place near Derby, two UNDER GARDENERS, one single; Inside and Out; bothy provided; one married, Kitchen Garden and Pleasure Grounds, lodge provided; alternate duty; state wages, &c.—MUNDAY, Crowhurst Park, Battle, Sussex.

WANTED, experienced MAN as SECOND GARDENER; married; for lawns and kitchen garden; some knowledge of vines, peaches, &c.—State age, experience, and wages required, with cottage, to A. BATLEY, Ireton Wood House Gardens, Idridgehay, Derby.

WANTED, two UNDER-GARDENERS, Inside and Out, chiefly Kitchen Garden and Peasure ground; Bothy, milk and vegetables provided.—Apply, full particulars, experience, age, wages expected, T. GIBBS, The Gardens, Thorpe Satchville Hall, Melton Mowbray, Leicestershire.

WANTED, SECOND GARDENER, Inside and Out; also KITCHEN GARDENER to take duty; state wages, with bothy, &c.—Apply AVERY, Gaddesden Place Gardens, Hemel Hempstead, Herts.

WANTED, UNDER - GARDENER, with knowledge of Pleasure Ground work; wages 30s. per week, bothy.—LOWE, Grendon Hall Gardens, Aylesbury.

WANTED, smart MAN as Outdoor Foreman, well up in Kitchen Garden, Hardy Fruit, and Pleasure Grounds; wages 33s. per week, bothy, &c.; 3s. for duty.—Apply J. S. KELLY, Claremont Gardens, Esher.

WANTED, FOREMAN, for Fruit and Plant Houses. Also JOURNEYMAN. State experience, wages required, with bothy and vegetables.—L. T. PETTY, Arlington Manor Gardens, Newbury.

WANTED, FOREMAN (Inside); also IMPROVER, for Orchid Houses; state experience, wages required, with bothy, &c.; 4 in bothy.—E. BRISTOW, Leyswood Gardens, Groombridge, Tunbridge Wells.

WANTED, YOUNG MAN as Leading Hand on Pleasure Grounds and Herbaceous Borders; wages 30s. and bothy accommodation.—T. F. STANNETT, Houndswood Gardens, Radlett, Herts.

WANTED, JOURNEYMEN, Inside and Outside, for large establishments in England; good wages.—STEWART & CO., 13, South St. Andrew Street, Edinburgh.

WANTED, experienced JOURNEYMAN for the Plant House, used to decorating. Good bothy, vegetables and attendance. Saturdays 1 o'clock.—Apply, stating experience and wages required, P. C. WRIGHT, The Gardens, Ashton Wold, Oundle, Northants.

WANTED, two JOURNEYMEN for Pleasure Gardens; wages 25s.; excellent bothy, &c.; 1 o'clock Saturday.—Apply, W. R. HILLIER, Danesfield Gardens, Marlow, Bucks.

WANTED, two experienced JOURNEYMEN for the Fruit Houses; good bothy, vegetables and attendance; apply stating experience and wages required; Saturdays, 1 o'clock.—P. C. WRIGHT, The Gardens, Ashton Wold, Oundle, Northants.

WANTED, Inside JOURNEYMAN for Nobleman's establishment in Yorkshire; 28s., with bothy and the usual perquisites.—STEWART & CO., 13, South St Andrew Street, Edinburgh.

JOURNEYMEN required for Fruit, Inside and Out; bothy, vegetables, attendance duty and overtime paid; one o'clock Saturdays.—State wages required and particulars to W. R. WRIGHT, The Gardens, Ashby Saint Ledgers, Rugby.

JOURNEYMAN (Outside); wages 28s., bothy, &c.; duty 3s.—References to J. S. KELLY, Claremont Gardens, Esher.

WANTED, experienced JOURNEYMAN; Inside; wages 33s., bothy and attendance; extra pay for duty.—Apply GEO. GURNEY, Bodnant Gardens, Taly-Cafn, N. Wales.

JOURNEYMEN wanted, one for Inside (Vines, Peaches, Plants, &c.); one for Outside, able to take duty; bothy and usual perquisites.—State wages and experience to C. L. CAWKELL, The Gardens, Angerton, Morpeth, Northumberland.

WANTED, good Carnation GROWER; also JOURNEYMAN and IMPROVER; for Fruit and Plant Houses; and a smart BOY for Gardens; good wages and Bothy.—Apply, HEAD GARDENER, Nostell Priory, Wakefield.

LADY as COMPANION-GARDENER, to live with family; no glass; boy kept; salary about £50.—DR. RUSSELL, Laboratory House, Harpenden.

WANTED, several MEN (single), for Pleasure Grounds and General Garden Work; large garden, good cottage.—State experience and wages required to, E. SIMS, Holly Lodge Gardens, Highgate, N.6.

WANTED, two experienced MEN for Kitchen Garden, one to take lead; good wages; with or without bothy.—Apply, with references, to GARDENER, Upper Gatton Park Gardens, Redhill, Surrey.

WANTED, an experienced MAN for Inside, for Fruit, Plants, and Decorating; able to take charge; wages 35s. Bothy, vegetables and attendance.—H. KEMP, Priory Gardens, Reigate.

WANTED, YOUNG MAN, 23-24, chiefly for Stove and Greenhouse Plants; good experience. Also strong, active LAD, 16-17, as Improver; bothy, vegetables, etc.—W. PHILLIPS, Gardens, Deny Ormond, Llangybi, Cardiganshire.

AN OPPORTUNITY occurs for a capable GROWER to acquire an interest in a considerable freehold market-growing Nursery; Grapes (main crop), Tomatos, Chrysanths. and Bulbs; owner, wishing to retire in a year or two, would be prepared to make easy terms for gradual acquirement of the whole; South of England.—M. H., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, GARDEN LABOURER, with wife to do Laundry Work and care of Chickens; good cottage and garden, wages 30s; laundry work and chickens paid extra.—Apply HEAD GARDENER, Ellisfield Manor, Basingstoke, Hants.

WANTED, reliable MAN, married, thoroughly experienced in general Garden work, Herbaceous and Hardy Plants and Lawns; cottage found.—Write to HEAD GARDENER, Butlers Court, Beaconsfield, giving age, &c., experience and wages.

HANDYMAN wanted for Painting, &c., for private place.—Wages and particulars to LOWE, Grendon Hall Gardens, Aylesbury.

WANTED, a good MAN for Kitchen Garden and Pleasure Ground, able to use scythe; good wages, Saturdays 1 o'clock, overtime paid; good cottage close to work.—Apply, G. COOPER, Margam Park Gardens, Port Talbot, Glamorganshire.

WANTED, two good MEN, for Inside and Out, for Bothy.—Apply, GARDENER, Apley Castle, Wellington, Salop.

WANTED, two or three MEN for JOBBING GARDENING; also one used to Mowing and Marking Tennis Courts.—Apply, D. CLINTON, Aberdeen Park, Highbury, N.5.

WANTED, expert FLORIST; preference to experience in Seeds, Bulbs, Plant, and Sundries.—Apply, stating experience, references, wages, to J. SLATER, Nurseryman, Ilkley.

MARRIED COUPLE wanted as COOK and GARDENER. Live in, all found; house parlourmaid kept. Good wages for suitable couple.—Write, MRS. FOWLER, Hurstmonceux, Sussex.

WANTED, MARRIED COUPLE; man GARDENER, Woman good Plain Cook; good wages.—Write full particulars, F. A., Box 26, 41, Wellington Street, Covent Garden, W.C.2.

AT WORMLEY, Herts. Cucumbers and Tomatoes.—State wages required, experience, age, earliest date disengaged.—A. B., Box 11, 41, Wellington Street, Covent Garden, London, W.C.2.

GARDENER (SECOND, SINGLE), chiefly for the Fruit and Plant Houses.—Apply, stating experience, wages required, to W. TRATT, Holywell Park Gardens, Wrotham, Kent.

WANTED, SINGLE - HANDED GARDENER, unmarried or married (no family); wife Cook or do Housework; live in.—Wrte references and wages, MAJOR E. FEILDEN, The Mirrie,, Denham, Bucks.

TRADE.

HORTICULTURAL ASSISTANT MANAGER required by Wm. Duncan Tucker & Sons, Ltd., of Tottenham, for their offices at 3, Mount Street, Grosvenor Square, W.1.; a qualified Estimator and Salesman, of good education and address.—Apply, by letter, in the first instance, stating experience and salary required, to WM. DUNCAN TUCKER & SONS, LTD., Horticultural Builders, Tottenham, London, N.15.

WANTED, Propagator and Grower of all kinds of Soft-wooded Plants, Ferns, Cut Flowers, &c., in large quantities; also well up in Tomatos and Cucumbers. State age, wages, and where to apply for references.—W. RATTRAY, Ash Vale Nurseries, near Aldershot.

WANTED, SINGLE YOUNG MAN for Tomatos, Cucumbers, and General Nursery work. Hours 54, wages 35s.—Particulars to F. R., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

WORKING FOREMAN for small market nursery, at Wormley, Herts; Cucumbers and Tomatos; state wages required, experience, age, earliest date disengaged.—A. B., Box 11, 41 Wellington Street, Covent Garden, W.C.2.

WANTED, a MAN for Herbaceous Plants.—Apply, stating wages and reference, W. H. CHARMAN, Heath End Nursery, Farnham.

WANTED, for Nursery, experienced GARDENER, to take charge of and carry out Seed Trials, raising of Seedlings, and Propagation; a capable Vegetable Grower and with a good idea of Landscape work; comfortable modern lodge, convenient to city. Apply, with copies of testimonials, stating wages, age, if married, family, to WM POWER & CO., Nurserymen and Seed Merchants, Waterford.

GARDENER required by leading firm of Seed Merchants, to take charge of Trial Grounds; one experienced in growning prize Vegetables preferred. —Apply "TRIALS," Box 5, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, WORKING FOREMAN for Carnations, etc.; must be trustworthy man.—State wages, experience, etc., to J. E. LOWE, Hatton.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden; ROSE GROWER (Outdoor), majority single men, as houses are limited. Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

FOREMAN (WORKING): Glass: North of England; £160 per annum; must be capable, energetic ,good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, end of March, LAWN TENNIS GROUNDSMAN for a Crouch End club.—Apply, by letter, to R. E. F. J., 16, Coolhurst Road, Crouch End, N.

WANTED, ASSISTANT (male or female) for Seed and Florist Shop; state experience and wages expected.—W. TROUGHTON, Florist, Preston.

WANTED, two YOUNG MEN as Improvers. State wages and age, bothy, milk and vegetables.—Apply J. E. DAVIES, The Gardens, Talygran, Pontyclun, Llantrisant, Glam.

FLORIST.—Young Lady wanted as IMPROVER; good home.—Apply, S. A., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

SITUATIONS WANTED.

Twenty six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

COLONEL WILLOUGHBY, Holly Grove, Windsor Park, highly recommends his temporary HEAD GARDENER, who was 18 years with his late employer; thoroughly experienced in all branches; married, one boy at home.

MRS. ATHERLEY Croft Castle, Kingsland, Herefordshire, wishes highly to recommend her GARDENER, JAMES SIMPSON, as Head; life experience, efficient in requirements of good establishments; first class experience in all branches of Horticulture; highest testimonials; age 37; married, one child.—Write, SIMPSON.

GARDENER (HEAD), where several are kept; thoroughly competent in growing choice Flowers, Fruit, and Vegetables, under Glass and Outside; excellent testimonials; married (one child).—CRICK, Marchwood, Southampton.

GARDENER (HEAD).—S. R. DAY is open for engagement, with any Lady or Gentleman, as above, or with management of small estate, farm, etc.; life experience of all branches of gardening Outside and Under Glass, in leading establishments; previously Head of large staff; highest recommendations, personal if desired; just demobilised; age 45; married;.—Full particulars, Church Street, Stow-on-the-Wold, Gloucester.

LORD ASHCOMBE, Denbies, Dorking, recommends GEORGE ALLEN as HEAD GARDENER (working). Foreman at Denbies 2 years previous to enlistment.

GARDENER (HEAD), with first-class qualifications, from nobleman's Garden, seeks re-engagement; energetic worker and skilful grower of Fruits, Vegetables, and Plants; both under Glass and Outside, and the upkeep of a good Garden; highly recommended as a thoroughly efficient and capable man; age 46; Home Counties preferred.—W. F., Box 2, 41 Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD), just demobilised, seeks re-engagement where six or more are kept; life experience in all branches; 15 years as Head in present place; leaving through place being sold; age 44; married (two children, youngest 11); excellent references.—LAILEY, Kenward, Yalding, Kent

MRS. PILKINGTON YOUNG, Stand Hall, Whitefield, Manchester, highly recommends her late Head Gardener; just demobilised; 2½ years in France and Belgium; life experience in large establishments, public and private gardens, nurseries, including Worsley Hall, Manchester, Kimpton Hoo, Wentworth Woodhouse, Royal Gardens, Kew, Veitches, and others, a practical cultivator of choice Exotics, Flowering and Foliage, Orchids, Ferns, Greenhouse and Conservatory decoration, choice Fruits, Inside and Out, Vegetables, pleasure grounds, &c.; married (one daughter, age 16).—PHILIP J. BOLT, 7, Park Terrace, Park Lane, Whitefield, Manchester.

GARDENER (HEAD) seeks re-engagement; life experience in all branches; age 36; just demobilised; married (one boy, 5 years); good references.—F. LEONARD, West End, Ely, Cambs.

HEAD GARDENER, age 41, just demobilised from R.A.F., seeks re-engagement, 26 years' practical experience in all branches; 10 years as Gardener-Bailiff; can be highly recommended; married.—W. A. LETTS, Manor House Cottage, Woodmansterne, Epsom, Surrey.

GARDENER (HEAD); practical experience Fruits, Plants, Kitchen Garden and Pleasure Grounds, gained in good establishments. Previously Head; married (2 children); age 37; demobilisation imminent.—F. LARKBEG, Mess 18, R.A.F., Isle of Grain, Kent.

GARDENER (HEAD), demobilised, seeks re-engagement; thoroughly practical; trustworthy; life experience, mainly gained in large establishments; first-class Fruit, Flower, and Vegetable grower; Herbaceous Borders, Lawns, Flowering Trees and Shrubs; can be highly recommended as to character and ability; married; age 43.—W. LEITH, School College, Alton, Hants.

HEAD GARDENER and BAILIFF, age 45, seeks an appointment, where a thorough competent and trustworthy man is required; life experience in good establishments; highest recommendation as to character and ability.—A. J., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING), life experience in all branches; excellent references; married (no children); age 32; Army discharge; state wages, &c.—UPTON, Southplain, Plummer's Plain, Horsham.

GARDENER (HEAD). — Major Sir Francis Price, Bart., highly recommends J. Thompson, for over 11 years HEAD GARDENER at Hensol Castle to the late Lady Price-Fothergill; leaving through death of employer; thoroughly experienced all branches, including Forestry; age 48; married; at liberty when suited.—J. THOMPSON, Hensol Castle Gardens, Pontyclun, Glam.

HEAD GARDENER-BAILIFF. — A keen, energetic, and capable Manager desires responsible post; first-class all branches; expert Fruit Grower and Exhibitor. Full particulars, GEO. MORBEY, The Town Hall, Knutsford, Cheshire.

GARDENER (HEAD) where several are kept; life experience in the cultivation of Fruit, Flowers, Vegetables, Inside and Out, and management of well-kept Gardens; highly recommended; age 37 years; married (no family); demobilised.—PHILLIPS, c/o Crow Gate, Crowborough, Sussex.

MRS. BRISTOW, Borstaldene, Bickley, Kent, wishes to highly recommend her HEAD GARDENER to any Lady or Gentleman requiring a reliable man, life experience in all branches; demobilised; age 47; married (one daughter, 15).—Apply C. H. WOODERSON, The Lodge, Ravenshill, Chislehurst, Kent.

HEAD GARDENER, age 46, seeks re-engagement, 34 years' practical experience, Inside and Out, good establishments; skilled cultivator of Vegetables, Salads, choice Fruits, Plants, Orchids, Carnations, &c.; keen, competent and energetic; 18 years Head; disengaged; married; highest references.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD) or GARDENER-BAILIFF. J. L. MARWOOD is open to an engagement in good establishment; highly successful in all branches, including Land and Stock, Carnations and Malmaisons; 16 years' highest testimonials as character, ability for management; age 48; married (no family).—Address, Busbridge Hall Gardens, Godalming, Surrey.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; lifetime experience, skilful cultivator of choice Fruits, Vegetables, and Plants; excellent references; married (no family); age 47.—JOSEPH COLLINS, 22, Highfield Road, Chertsey, Surrey.

GARDENER (HEAD), demobilised), four years Sergt. R.E.; age 30; married.—W. Melville Wills, Esq., highly recommends Advertiser to any lady or gentleman requiring skilful and enthusiastic all-round Cultivator; 4 years Foreman in these gardens; previously Eastnor Castle, Harewood House, &c.—BOOTH, Bracken Hill, Leigh Woods, Bristol.

HEAD GARDENER, just demobilised, seeks situation in good establishment; life practical experience in all branches; 6 years Head Gardener to Lt.-Col. Sir F. Hall, M.P., previous to joining colours; highly recommended. — ALBERT LUCKHURST, 174, Sunnyhill Road, Streatham.

AS MANAGER or HEAD GARDENER, for LANDSCAPE; perfect DRAUGHTSMAN; 18 years' experience in the best Continental establishment; discharged from H.M. Forces; desires engagement; excellent references; London preferred; interview any time.—Apply LANDSCAPE, Box 7, 41, Wellington Street, Covent Garden, W.C.2.

LADY VAUX of Harrowden, wishes to recommend WM. WARREN, late Head Gardener, as a first class Man; life experience in all branches; used to large establishments; excellent testimonials; thoroughly energetic (disengaged); just demobilised, Royal Air Force; age 37; married (one child, aged 8 years).—Model Farm, Shirburn, near Watlington, Oxon.

GARDENER (HEAD), age 42, married, desires post where several are kept; thoroughly qualified and practical man in all branches; very highly recommended; late Royal Air Force.—W. TURNER, 18, Blomfield Street, Bury St. Edmunds.

THE Hon. H. B. Money-Coutts highly recommends W. ABRAHAMS as HEAD GARDENER, where several are kept; has been with him 7½ years; 30 years' experience, gained in large establishments; excellent testimonials from previous employers; married; age 44 years; leaving owing to estate being sold.—WM. ABRAHAMS, Stoodleigh Court Gardens, Tiverton, Devon.

GARDENER (HEAD) or GARDENER-BAILIFF. — H. MARTIN GIBBS, Esq., Barrow Court, Flax Bourton, Somerset, can with confidence recommend his GARDENER, C. JONES, to anyone requiring a first-class man for large establishment; life experience all branches; previously 11½ years Head Gardener to the late Rt. Hon. Sir W. R. Anson, Bart., Pusey House, Faringdon; age 45; married (family grown); life abstainer.—Apply, JONES (as above).

ADVERTISER seeks engagement as GARDENER (HEAD) or STEWARD and GARDENER, in good establishment; experienced in the management and development of large Gardens, Home Farm, and Estate work; can be highly recommended as to character and ability; married; age 46. — Particulars to STEWARD, c/o Mr. T. Lewis, 45, Uxbridge Road, Hanwell, London, W.7.

GARDENER (HEAD) where two or three are kept; lifetime experience, Inside and Out; age 44; married; thoroughly recommended by present employer, also by GEO. MULLINS, Eastnor Castle Gardens, near Ledbury.

GARDENER-BAILIFF (WORKING), first-class all round experience, Fruit, Flowers and Vegetables, and usual estate work; grow for market if required; highest references (3 years from present situation); married (no family). W. WILSON, East Dene Gardens, Bonchurch, Ventnor, I. of W.

MRS. FORWOOD highly recommends her HEAD GARDENER; life experience in all branches; eight years as Head; demobilised; age 35; married (three children).—G. A. BRUTON, Frimhurst Gardens, Frimley Green, Surrey.

HEAD GARDENER, demobilised, seeks situation, 26 years' practical experience in all branches; 16 years as Head, first class references; married (no family), total abstainer, age 42.—WORMAN, 12, Lochaber Road, Lee, London, S.E.

GARDENER (HEAD).—Mrs. Palmer, Marlston House, near Newbury, highly recommends her Head Gardener as most energetic and capable manager for large establishment; life experience in all branches; excellent references, demobilised M.; age 41; married (no family); abstainer.—F. WESTON, address as above.

GARDENER (HEAD of two); life's practical experience, Inside and Out; age 45; married (no family); good references; please state wages.—PACKHAM, 1, Birling Road, Tunbridge Wells.

THE Earl of Yarborough and the Head Gardener, Brocklesby Park, Lincolnshire, highly recommend ERIC GODDEN as Head Gardener, or General Foreman in first class establishment; thoroughly qualified in all branches; life experience; smart and of good address; recently demobilised; age 29; single.—Apply F. C. STAINSBY, Gardens, Brocklesby Park, Lincolnshire.

SITUATION as HEAD GARDENER; life experience in all branches, just demobilised, 9 years as Head in last situation, excellent testimonials, age 39; married; family of 2; excellent knowledge of Fruit and Vegetables.—J. WALSTER, 15, Mountain Ash Road, Dorchester, Dorset.

HEAD GARDENER requires re-engagement (where gardens are run on commercial lines preferred); accustomed to producing Fruit, Vegetables, and Flowers (inside and out) on a large scale; good references; married; family one.—A. SMITH, Warwick Hall Lodge, Bromsgrove, Worcs.

GARDENER (HEAD WORKING), age 41, married (no family), seeks re-engagement where several are kept; life experience in all branches, last situation eight years; Head of seven.—G. HATCHER, 76, Grenvile Road, Braintree, Essex

HEAD GARDENER; thoroughly recommended; life experience in Fruit, Flowers, Vegetables, Pleasure Grounds, &c.; hard working and energetic.—Apply, ESTATE OFFICE, Honingham, Norwich.

GARDENER (HEAD) seeks re-engagement; life experience in all branches; age 36; just demobilised; married (one boy, 8½ years); excellent references.—G. BATEMAN, 100, Lower Road, Kenley, Surrey.

SITUATION as HEAD GARDENER; 18 years' experience in first-class establishments; age 32; married (family two).—H. G., Box 23, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD) or good SINGLE-HANDED with help; just demobilised; life experience, Inside and Out; six years last situation as Head; age 34; married (two children, school age). E. W. CARTER, 19, Windsor Road, Hailsham, Sussex.

GARDENER (HEAD), demobilised, seeks situation; life experience, Inside and Out, in all branches; highly recommended; last place sold while on active service; age 23; married (one child).—SCRIVEN, 7, Queen's Terrace, Romany Road, Winchester

HEAD GARDENER (Demobilised Soldier).—Experienced HEAD GARDENER, with excellent credentials for ability in Food and Flower Gardening, desires re-engagement; please state wages and particulars. WILLIAM F. BOWLES, Harringer, Bury St. Edmunds.

ORCHID GROWER or HEAD GARDENER where Orchids are one of the leading features; expert in raising and growing Orchids; 15 years' experience in first-class places; highly recommended; 4½ years' Army service; last place sold while on active service; age 33; married (one child).—C. RUSHTON, Walton, Stone, Staffordshire.

HON. MRS. WYNN highly recommends her HEAD GARDENER, who has been with her 6½ years, to any lady or gentleman requiring the service of a thoroughly capable and practical man; used to the marketing of surplus produce; 28 years' experience in all branches; married (no family).—BURCHILL, Rug Gardens, Corwen, N. Wales

E. W. LUFF, Groesfford Threecocks, Breconshire, seeks situation as GARDENER (HEAD); life experience all branches of well-kept establishments, excellent testimonials; 4 years as Head previous to enlistment; age 37; married (one child).

THE Honble. Mrs. Stuart Wortley can with confidence recommend W. Goddard as HEAD GARDENER, with good practical knowledge, Inside and Out; was in her service for three years; age 42.—GODDARD, 22, Baltic Road, Tonbridge.

MR. CHARLES BEWES highly recommends his Head Working Gardener, of four or more; thoroughly practical all branches; over two years present situation; leaving through former Head Gardener demobilised; successful grower and exhibitor; age 48.—BREWER, The Gardens, Gnaton Hall, Yealmpton, Plymouth.

GARDENER (HEAD WORKING), life experience, seeks situation with Lady or Gentleman who requires a practical and thoroughly competent man in all branches; previous to Army Service (overseas) six years Head Gardener at Pyt House, Tisbury, Wilts; highest references; age 39, married (no family).—H. MARTIN, Lodge Farm, Colne Engaine, Essex.

GARDENER, HEAD WORKING or SINGLE-HANDED; life experience all branches, also Poultry; excellent references; 16 years as Head Working; just demobilised; age 46; married (four children), eldest boy, 15½, with year's experience, could be employed.—H, 15, Buckingham Road, Leyton, E.10.

GARDENER (HEAD WORKING) seeks situation; life experience, inside and out; 6 years last situation, 8 previous; good references; demobilised; age 40; married, no family.—F. SILLENCE, 1, Cameron Road, Purewell, Christchurch, Hants.

GARDENER (HEAD WORKING); where two or more kept; life experience in all branches previous to 1915; Army two years; Head; excellent references; demobilised; age 34; married (one child, 5).—TAYLOR, 167, Victoria Street, S.W.1.

GARDENER (HEAD WORKING); life experience in all branches, gained in good establishments; can be well recommended by late employer; married, when suited, age 34; Army discharge.—H. STEVENS, 4, Castle Street, Guildford, Surrey.

GARDENER as HEAD WORKING, where two or three are kept; life experience in all branches; experienced Kentish Fruit and Rose grower; married (no family); age 32.—Address, GODDEN, Heathwood, Cranbrook, Kent.

GARDENER (HEAD WORKING); age 42; life experience, Inside and Out; ten years previous to joining Forces; married (two children 15 and 8); disengaged when suited.—A. BURCHELL, Redcot, South Godstone, Surrey.

GARDENER (HEAD WORKING); life experience in all branches; for many years Foreman at Charlecote Park, Warwick; married (no family).—R. RODGER, 33, Market Square, Leighton Buzzard.

GARDENER (HEAD WORKING).—Mrs. Traherne, Coedarhydyglyn, near Cardiff, can with confidence recommend T. WILKINS, where a thoroughly competent and trustworthy Man is required; life experience all branches gained in good establishments; age 33; married (no family).—Address as above.

GARDENER (HEAD WORKING) wishes situation; thoroughly experienced in all branches; age 31.—H. DEVERELL, Angerton Gardens, Morpeth, Northumberland

GARDENER (HEAD WORKING) seeks situation; life experience all branches; age 38; married (one girl, age 10); excellent references; demobilised.—N. MATTHEWS, 106, Shirland Road, Paddington, London, W.9.

GARDENER (HEAD WORKING), where one or two more are kept; 12 years' good practical experience; excellent references; widowed mother, one sister; Home Counties preferred.—H. GREEN, Buldon House Gardens, near Oxford.

GARDENER (HEAD WORKING) seeks situation, or Foreman in good establishment, either Inside or Outside; first class all-round life experience; good references; age 36; two children; wife capable laundress.—MEAD, Hither Deacons Lodge, Elstree, Herts.

GARDENER (HEAD WORKING), where several are kept; 13 years' experience in first-class establishments; excellent references; Army discharge; age 32; married (one child). Please state wages. WOODARD, 37, Camplin Street, New Cross, S.E.

GARDENER - BAILIFF (HEAD WORKING); practical; life experience in all branches of Gardening, Land and Stock; excellent references; married; no family.—Apply, C. HOLDEN, Ravensbourne, Keston, Kent.

GARDENER (HEAD WORKING), just demobilised; where 2 or 3 are kept; age 43; 25 years' experience; 14½ last situation; well recommended; well up in all branches.—F. FROST, Yonder Cottage, Teigngrace, Newton Abbot, Devon.

GARDENER (HEAD of two) requires situation; 15 years' experience, Inside and Out, also with cows and poultry; single; aged 33; good references.—RAYNER, Roestock, Colney Heath, St. Albans.

GARDENER (HEAD WORKING), demobilised, seeks re-engagement; 24 years' first-class experience in all branches of Horticulture work; highly recommended by late employer; excellent references from previous employers, also from the Army. Age 37; married; no family.—SUTTON, 8, Leffern Road, Shepherd's Bush, London, W.

THE Countess of Cranbrook can highly recommend Head Working GARDENER, aged 36, married, 21 years' good experience in all branches, free now.—Apply, B. BARROW, Great Glemham, Saxmundham.

GARDENER (HEAD WORKING); good establishment; thorough practical experience all branches Horticulture on well kept establishments; choice Plant and Fruit culture under Glass; Pleasure Grounds, Fruit and Vegetable culture, &c.; excellent testimonials to character and ability; now disengaged; age 34; married; please state wages, &c.—F. KING, 13, Reginald Road, Northwood, Middlesex.

MR. F. W. MILES, Horticultural Superintendent, Y.M.C.A. Training Centres for Discharged Soldiers, will be pleased to highly recommend a MAN who possesses a sound knowledge of his work, and is of irreproachable personal character, as Head Working Gardener, where four or five are kept; married when suited.—Apply F. W. MILES, Y.M.C.A., Barnarcliston Hall, Haverhill, Suffolk.

GARDENER (HEAD WORKING); 21 years' general experience with Glass, Kitchen Gardens, and Lawns; good references.—W. B., Box 22, 41, Wellington Street, Covent Gorden, W.C.

GARDENER - BAILIFF (HEAD WORKING); large or small staff; practical; life experience in all branches of Gardening, land, and stock; married; age 49; excellent references.—Apply, GARDENER, care Post Office, Woldingham, Surrey.

GARDENER (HEAD) where several are kept; 15 years' experience in first-class establishments; excellent references; recently demobilised.—H. F. FOX, 32, Pembroke Road, Shirehampton, Bristol.

C. PARTRIDGE, Appleton, Abingdon, Berks, who is just demobilised, wishes to hear of situation as GARDENER (Head Working); life experience, Inside and Out; excellent references, including one from the R.A.F., where he has held post as Head growing Vegetables, &c., for the troops; also ten years in previous situation as Head; age 43; married, and one boy, age 8.

GARDENER (HEAD WORKING), where several are kept; age 46; married (no family); life experience in all branches; 19½ years as Head; excellent testimonials; North or Midlands; please state wages.—OWEN, Broughton Hall Gardens, Skipton.

SITUATION wanted, GARDENER (HEAD WORKING); life experience; all-round man; Inside and Out.—GARDENER, Court Cottages, Ingatestone, Essex.

GARDENER (HEAD WORKING), demobilised, active service, desires re-engagement where several are kept; 25 years' thorough practical experience in all branches; Inside and Out; 12 years as Head; excellent references; age 40; married.—HENRY BURFOOT, 2, Blenheim Cottages, Clayton Road, Hook, Surbiton, Surrey.

GARDENER (HEAD WORKING) where several are kept; life experience gained in good establishments; Inside and Out; age 32; married; demobilised. A C. RATHBONE, Prospect House, The Rill, Sunningdale, Berks.

GARDENER (HEAD WORKING), energetic, with excellent references; life experience in all branches in good establishments; a successful grower of Fruit, Vegetables and Flowers; age 44 (no family).—Please state wage, E. G., 17, Magazine Place, Leatherhead, Surrey.

GARDENER (HEAD WORKING) where others are kept; 20 years' practical experience in all branches; excellent references; 7 years' Head; married (three children, 10, 7, 4); age 43 years.—JOHN SAUNDERS, 21a, Clyston Street, Wandsworth Road, Clapham, S.W.8.

MISS K. WILSON, Rigmaden Park, Kirkby-Lonsdale, recommends J. CRUMP to any lady or gentleman requiring a good all-round man as HEAD GARDENER (Working), where three or more are kept; life experience; ex-Army man, active service; demobilised; age 29; married (one child, 3); disengaged.—CRUMP, Clutton, Handley, Chester.

GARDENER (HEAD WORKING); life experience Inside and Out; age 30; married (one child); disengaged; Wife useful; please state wages.—DRAGE, c/o J. Drage, Southoe, Buckden, Hunts.

GENTLEMAN highly recommends first-class HEAD WORKING GARDENER; good grower choice produce; reliable, systematic, trustworthy man; can undertake to manage the whole supply of a gentleman's place in its various departments; has done same for gentleman for the last 10½ years; leaving through death of employer; age 46.—Please state wages and particulars to "K.," Box 19, 41, Wellington Street, Covent Garden, London, W.C.2.

GARDENER (HEAD WORKING), where several are kept; life experience; first-class Certificate, British Gardeners' Association Exam.; last two years temp. Head Gardener, North Evington Military Hospital, Leicester; previously 2½ years at Dane Hills, Leicester; married; age 39 and one child.—PAY, 4, Roslyn Street, St. Peter's Road, Leicester.

GARDENER (HEAD WORKING); life experience with Fruit, Flowers and Vegetables; Inside and Out; nine years Head; age 41.—TANNER, Gardener's Cottage, Honeys Twyford, Berks.

GARDENER (HEAD WORKING); life experience with Fruit, Flowers and Vegetables; Inside and Out; 15½ years Head; age 42; married.—SNELL, Bulkwood Cottages, Notley Road, Braintree, Essex.

GARDENER (HEAD WORKING) seeks re-engagement; thorough practical experience in all branches, Inside and Out; Land and Stock if required; 13 and 4 years' good references; age 48; married (no family); temporary here.—H. TUCK, Owthorpe Gardens, Branksome Wood Road, Bournemouth.

GARDENER (HEAD WORKING) requires situation; free when suited; exceptional character; aged 50 years.—POWELL, Hillside Cottage, Groombridge, Kent.

WANTED, situation as HEAD WORKING GARDENER; age 30; married; good references; discharged from Royal Navy.—WELLS, 16, Barnsdale Road, Paddington.

GARDENER (HEAD WORKING); life experience in all branches; Land and Stock if required; age 38; married (three children, youngest 4); just demobilised; can be highly recommended.—E. BERNARD, 20, Bond Street, Arundel, Sussex.

HEAD WORKING GARDENER. — Gentleman highly recommends his HEAD GARDENER; a very reliable, hard-working man; life experience; 29 years in former situation; good reason for leaving; married; aged 54; one daughter at home.—Please apply by letter to GEORGE JAGO, Longhill, East Liss, Hants.

JOHN DUVEEN, Esq., Chipstead Place, wishes to very highly recommend A. GULVIN as GARDENER (HEAD WORKING) to any lady or gentleman requiring the services of a thoroughly experienced and trustworthy man; life experience in good establishments; 8 years in present situation; married; age 33.—Apply, GULVIN, Chipstead Place Gardens, Sevenoaks.

EXPERIMENTAL AGRICULTURE or Horticulture; or application of new methods. Post required by Cambridge B.A. Honours Science.—KEELING, Hazard Kiln, Totnes.

HEAD WORKING GARDENER where several are kept; life experience in large establishments; well recommended; early Fruit and Vegetable production; Flower culture in quantity, including Orchids and Carnations, and a thorough knowledge of Landscape work; keen and energetic; age 46.—W. SMITH, Bookham Grove Gardens, Bookham, Surrey.

GARDENER (HEAD WORKING or good SINGLE HANDED); life experience in all branches; Silver Shield and Certificate gained in Horticulture; skilful cultivator of choice Fruits, Flowers, Vegetables, in large quantities; six years head of seven; age 37; married (one girl).—B. RUSTED, 6, Clapham Villas, Melbourn Road, Royston, Herts.

GARDENER, Head of two or three, or good Single Handed; recently demobilised; age 38; good references; Wiltshire or near preferred.—ROCKETT, Easton Grey, Malmesbury, Wilts.

GARDENER (HEAD WORKING); life experience; efficient in the requirements of good establishments; skilled Grower of choice Fruits, Vegetables, Plants, Carnations, Roses, Orchids, and well-kept pleasure grounds; highest refs; demobilised A1; age 44; married; daughter 10 years.—PESKETT, Stansted Park, Rowlands Castle, Hants.

MANAGER, or MANAGING FOREMAN; life experience, market and retail, general culture under Glass; also Fruit, Vegetables, Salads, &c.; married; age 46; abstainer; good references; state wages and particulars.—FOSTER, 56, South Street, Ponders End, Middlesex.

MANAGER (WORKING), keen and energetic, for branch Nursery; Roses and Fruit Trees preferred; 15 years' experience; age 30; married; highest references.—B. POTTER, 44, Coronation Terrace, Norfolk Street, Boston, Lincs.

ESTATE CARPENTER-HANDYMAN seeks situation on Gentleman's Estate; discharged R.A.F.; married (one child); good experience; age 35.—BARRIER, 16, Archer Road, South Norwood.

ORCHID GROWER, just demobilised, seeks situation; 17 years' experience with good establishments. Highest references.—Apply, PETHERICK, 53, Kimberley Road, Nunhead, S.E.15.

EX-SOLDIER, just demobilised, seeks situation as Second or Single-handed Gardener; age 28 years; married (one child, 14 months); good references.—Apply, J. PAINE, 78, Hagden Lane, Watford, Herts.

GARDENER (37), married (girl 10); life experience all branches; electric plant if required; also Nephew (18); good experience and good references; last place given up while on Active Service.—GILBERT, Elms Cottage, Holmwood, Dorking, Surrey.

GARDENER (SINGLE-HANDED); life experience, inside and out; married, 2 children, 6, 8; age 39; 5 years last situation, good references.—SHADBOLT, 7, Pyrmont Road, Strand-on-Green, Chiswick, W.4

GARDENER (SINGLE-HANDED), or with help; life experience, Inside and Out; age 32; married (one child); good references.—STACEY, 30, South Street, Stanstead Abbotts, Ware.

GARDENER (SINGLE-HANDED) or with help; life experience Inside and Out; well recommended; age 35; married (two children).—Leet Hill, Kirby Cane, Bungay, Suffolk

GARDENER seeks situation; Single-handed or otherwise; life experience in all branches of Horticulture, Fruit, Flowers and Vegetables; Inside and Out; excellent references; age 34; married (no children).—COVINGTON, 2, Beckett Street, Faversham, Kent.

GARDENER (SINGLE-HANDED or with help) requires situation; thoroughly experienced; Inside and Out; married; well recommended.—P. MILLS, Reyntots Croft, England's Lane, Loughton, Essex.

GARDENER seeks situation; single-handed preferred; just demobilised; age 36; married (no family); well recommended; disengaged.—W. J. COVINGTON, Broom Hall Farm, Waltham Abbey, Essex.

GARDENER requires situation; Single-handed or otherwise; Bedfordshire preferred; 12 years last situation; good references; age 44.—F. DICKENS, 26, Husbouno Crawley, Aspley Guise, Beds.

GARDENER seeks situation; Single-handed or good Second; life experience in all branches; excellent references; just demobilised; age 30; married (no family).—J. M., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (UNDER) seeks situation where three or more are kept; good references and experience; discharged from Army; age 28; married (no family); South of England only. State wages, with cottage, to W. G. STEVENS, 11, Ribston Road, Attercliffe, Sheffield, Yorks.

GARDENER, SINGLE-HANDED or good SECOND; age 32; life experience, Inside and Out, in first class establishments, including Cassiobury Park; excellent references; married when suited.—W. FISHER, Thirlestane, Althorpe Road, St. Albans, Herts.

GARDENER, thoroughly experienced in all branches, Inside and Out, seeks situation; 16 years' experience; age 54; married (no family); demobilised.—HARRIS, Sunny Banks, Bishop's Lydeard, near Taunton.

KITCHEN GARDENER or SINGLE-HANDED, hard of hearing, seeks situation; 14 years' experience; good references; 13 months last place; well up in all duties; also Horse, Motor Mowing; Single; please state wages.—H. BURN, 161, Murchison Road, Leyton, E.10

UNDER-GARDENER (39), single, seeks situation, Outside, near London; four years' experience; well recommended; particulars and wages with bothy, &c., preferred.—P. J. RULE, St. Leonards, Crescent Road, New Barnet.

GARDENER (UNDER) or single - handed; married; age 41; wife useful if wanted; good references.—W. LAMPER, Keffolds Cottage, Haslemere, Surrey.

CAPTAIN CROFT wishes to recommend his WORKING GARDENER; good Single-handed, or with help; life experience in all branches; good references; age 32; married (one child).—C. STACEY, 30, South Street, Stanstead Abbotts, Ware.

SITUATION required; good experience in kitchen Garden and pleasure ground; married; age 30; demobilised would take Single-handed Garden if required.—JEFFERY, 7, Brocklebank Road, Earlsfield.

DEMOBILISED SOLDIER seeks situation in Garden; 14 years' good experience; Inside and Out; married (two children).—A. BOWLER, 11, Poole Road, Woking, Surrey.

GARDENER requires work in Pleasure and Kitchen Garden; married; 27; no family; discharged; good references. State wages, with cottage.—W. BAKER, 2, Burlington Parade, Chislehurst, Kent.

GARDENER (SECOND or good SINGLE-HANDED); life experience, Inside and Out; excellent references; married (no children); age 30; demobilised.—G. CHANDLER, 58, Queen's Road, Alton, Hants.

GARDENER (SECOND) seeks situation, Inside and Out; just demobilised; 8 years' experience; good references; age 27; married (one child).—F. OLIVER, Lewknor, nr. Wallingford, Berks.

GARDENER (Second) seeks situation; Inside and Out: can be recommended: married (no family); disengaged.—H. T., Box 24, 41, Wellington Street, Covent Garden, W.C.2

GARDENER (Second) seeks situation; 14 years' experience, Inside and Out; married; no family; good references.—GRAYSTON, New Cottages, Sapiston, nr. Bury St. Edmunds.

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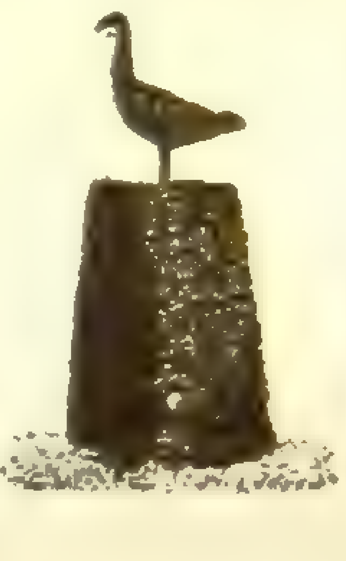

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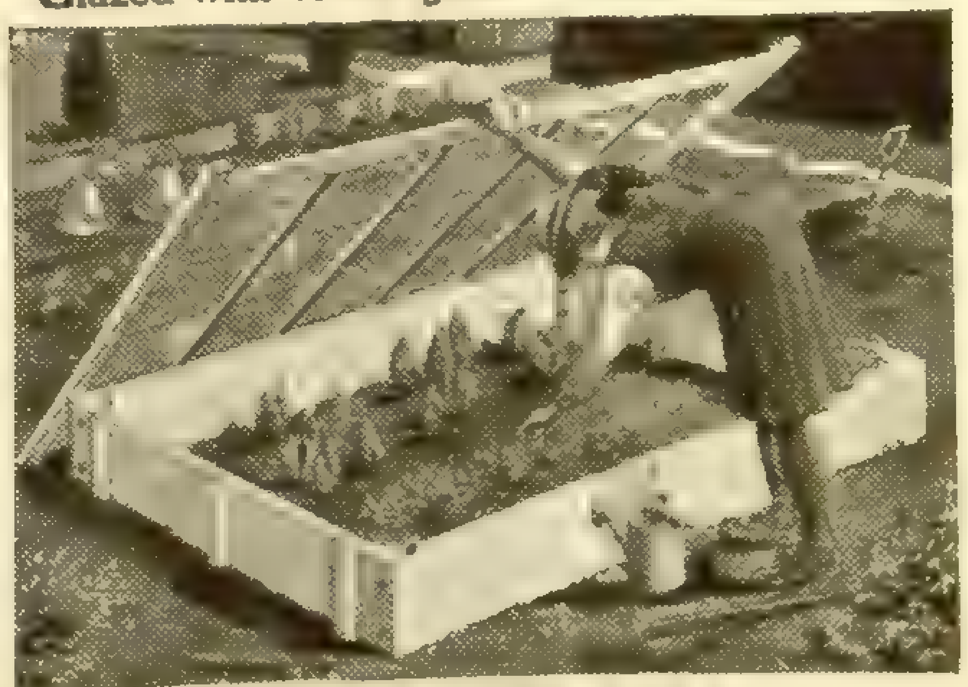

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THE
Gardeners' Chronicle
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ON THE WALLED GARDEN.

WRITTEN between June, 1392 and September, 1394, for the help and comfort of a young wife, *Le Ménagier de Paris** is an interesting account in manuscript which gives a picture of the domestic life of a Parisian home during the period which four and a half centuries of dusty oblivion have failed to dim† and contains quaint references to horticulture as practised more than 500 years ago.

The identity of the author of this manuscript and his history are unknown. But his book makes plain that he was no longer a youth when Charles V came to the throne in 1364; that he was a burgher of Paris; and that he ordinarily dwelt there, though in the habit of making journeys to distant parts of the kingdom and to Flanders. The same source points to his association with the administration of the city, to his practical acquaintance with judicial terms, and with the etiquette imposed by legal tradition.

The author himself describes the circumstances which gave rise to his book. Verging on old age, he had married a girl of fifteen, of better birth than himself, orphaned and from a different province. Shortly after their marriage, she begged him not to take her to task publicly for her "*décontenances et simplesse*," but to reserve his correction until they were alone together. To this he agreed joyfully but, reflecting that it would be more in accordance with their love for each other did he anticipate such reproof by instruction, he set himself to devise a general treatise on the duties and circumstances of a wife. It was natural that his counsels should be almost paternal in character. Aware, moreover, that she must outlive him, he dwells on the difference in their ages and tells her with a certain tender delicacy that he writes for "*son mari qui sera*." He divides his treatise into three sections. The first consists of religious and moral precepts, which, having regard for the youth of his wife, he illustrates from the histories of Griselda and of Melibee and Prudence, and from other romances of the day. In the second section he instructs her in the care and upkeep of her house and servants and of her garden, and in the thirds treats of games and other indoor amusements, and of the science of hawking. The prologue reveals the writer's solicitude for his wife's happiness. "Know," he says "that I am not displeased but glad that you care for your Roses and Violets, that you should trim hats and dance and sing amidst our friends and equals. Nevertheless, I do not desire to see you at the feasts of Lords and Ladies since such would be unsuitable for people of our estate." The following is a translation of his notes "On the Walled Garden"‡:—

Sow, plant or graft in damp weather, in the evening or early morning, before the heat of the day, and when the moon is waning; and water the stalk and the earth but never the leaf.

Likewise, never water in the heat of the sun, but in the evening or early morning; neither cut Cabbages, Parsley nor other green stuffs which shoot, because the heat of the sun will scorch the cut and burn it and thus the plant will not break again at the place where it has been cut.

Note that rainy weather makes good planting but bad sowing, because the grain clings to the rake.

All Saints' Day brings Broad Bean planting, but so that these may not be frozen, plant towards Christmas, in January and February and in the beginning of March so that should some be frozen others may not be. When the plants show above ground, harrow them and break the first shoot; and so soon as they have six leaves scatter earth upon them. The earliest are always the best and should be eaten the same day as they are shelled, otherwise they become black and bitter.

To keep Marjorum and Violets through the winter cold, put them not suddenly from heat to cold, nor from damp to cold, because, if kept for a long time in a damp cellar in winter and suddenly planted in dry ground they will die. *Et sic de contrariis similibus.*

In winter strip off the dead branches of the Sage bush. Plant Sage, Lavender, Costmary, Mint, and Clary in January, February and until June; and Parsnip freely. Sow Sorrel until March and later, during the waning moon.

Note that December and January cold kills White Beet, that of it which is above ground, but in February, directly the frost ceases, the roots throw out new and tender shoots; and a fortnight later comes Spinach.

February.—Savory and Marjorum taste alike and are sown when the moon wanes and are but a week in the soil. Savory lasts only until Saint John's Day. Plant trees and vines and sow white and headed Cabbages during the waning moon. Note that bearded Runners bear in the year if they be planted bearded.

February brings Spinach; its leaves are long and indented as are Oak leaves and it grows in tufts like White Beet and should be blanched and then well cooked. Beet comes afterwards; and Strawberries and Raspberries plant well.

March.—Graft during the waning moon. Plant House Leek from March until Saint John's Day. Violets and Gilliflowers§ sow in March or plant on Saint Remy's Day.‖ Whether sown or planted, when the frost comes replant in pots during the waning moon and place under cover in a cellar or shelter from the cold. In the day time put the plants in the open air or sunshine and water at an hour when the water is soft and fair, making sure that the earth is dry before putting the pots under cover again at evensong. Plant Beans and break the first stalk with the harrow as aforesaid. Note that Parsley sown on the eve of Lady Day is above ground in nine days' time.

Plant Fennel and Marjorum in March or April when the moon wanes. Note that Marjorum requires a richer earth than do Violets, and if it has too much shade becomes yellow. When the plant has taken good hold, uproot in tufts and replant in pots, giving plenty of room. Note that branches cut, set in the earth and watered take root and grow. Note also that soil manured with cow and sheep dung is better than that manured with horse dung.

Common Violets and Armenian Violets do not require to be covered up or mulched; and note that Armenian Violets will not flower for two seasons in the same soil, but when gardeners have had them a year in the soil they sell them, and replanted elsewhere they flower.

Sow Sorrel and Basil in January and in February during the waning moon and until March. If last year's Sorrel be replanted, plant it with the earth which is round its roots. There is art in picking; gather always the big leaves, letting grow the little leaves which are above; and if the whole must be picked, cut the stalk down to the level of the soil and new shoots will come.

Sow Parsley, weed it and grub up all little stones; and that sown in August is the best, not growing too tall and keeping good the whole year.

Lettuces should be sown and note that they are not long in the ground and come up close together. On this account, thin out and so give them room to grow. Note that the French Lettuce seed is black whereas the Lettuce seed of Avignon¶ introduced by Monsieur de la Rivière,** is whiter; and these Lettuces are better and more tender than the French plants. Note that the seed is gathered from one bud after another as each bud throws its husk. Note also that Lettuces do not seed themselves and thus may be pulled up root and all when required for eating.

* Le Ménagier de Paris. Publié par Jerome Pichon pour la Société des Bibliophiles Francais, à Paris, 1846, T.2, P. 43, et seq.

† By a coincidence the three copies of the existing manuscript of *Le Ménagier de Paris*, came to light the same year (1843). Two, one a fifteenth century transcription of the other, were discovered in Paris, and the third in the Royal Library at Brussels. M. Pichon collated these manuscripts in his edition of the treatise.

‡ Courtillage in the original i.e., the production of a courtil or garden attached to a house. Stym. lat. curtis—low latin curtile.

§ Probably Gilliflower—Clove or Carnation.

‖ October 1st.

¶ Laitue romaine (Cos Lettuce), so called because Avignon was at that time the seat of the Papacy.

** Bureau de la Rivière, son of Jean de la Rivière and of Isabean d'Angeraut, married Marguerite, Dame d'Auneau, Minister and Councillor of State to Charles V and Charles VI. Bureau de la Rivière shared the fate of Jean le Mercier, Jean de Montagu and others of the "Marmousets," who were summarily disgraced in 1392, directly the madness of the King had placed the chief power in the hands of his uncles, Philippe le Hardi, duc de Bourgogne and Jean, duc de Berri. Arrested at Auneau, de la Rivière was committed to trial, but escaped with his life through the King's intervention. He died in 1409.

Pumpkins.—The pips are the seeds, and should be soaked for two days before sowing, and should not be watered, but let grow until they show above ground, when the roots and the soil around them should be moistened, but not the leaves. In April, water the seedlings gently, and plant them 4 to 6 inches deep in the ground and half a foot apart. Water the roots continuously by means of a pot with a hole, hung upon a stake, and either a straw through the hole or a piece of new cloth within the pot.

Sow Beet in March: and when ready to be eaten cut near the root, so that it may break afresh; and treat Borage and Orach in the same manner.

White Cabbage and Large-Headed Cabbage are similar. Sow during the waning moon in March: and, when the plants have five leaves, take up carefully and set half a foot one from the other, putting them in the soil up to the eye and watering the root. These are eaten in June and July. Sow ordinary Cabbage in March, and re-plant in May. Roman Cabbage is akin to ordinary Cabbage, since the seeds of both grow on the same stem: the ordinary Cabbage seed in the middle and at the top of the stalk, the Roman Cabbage seed at the bottom. The second crop of the Cabbage comes in Lent. It lasts until March; but has then a stronger savour, and on that account is best parboiled. Stalks should be pulled up from the ground at this time. Plant Cabbages in July, when it rains.

If ants abound in a garden throw Oak sawdust on their nest, and when next it rains they will either move away or die, since sawdust holds moisture.

Sow White Beet in April and May, during the whole month, for eating in June and July. Gather the Summer Beet, but leave the roots in the ground: after the winter they will break anew when scatter earth upon them, and turn over the earth near by, planting out the new shoots and gathering the old. From April until Saint Mary Magdalen's Day* is good sowing for White Beet: and Lenten Beet may be sown in July until that day, but no later, and is so called. Spinach may be treated likewise. Beet shoots, when taken out of the ground, should be re-planted in rows.†

In April and May plant out white and ordinary Cabbage sown in February and March. May brings new Beans, Turnips and Radishes. Sow Parsley on Saint John's Eve and also on the eve of Assumption Day.‡ In early August and on the Feast of the Assumption sow Hyssop, and, when the moon wanes, Cabbages for Easter eating; Parsley also, since it does not grow to an ear. Note that Beet breaks afresh five or six times like Parsley and may be cut above the core until mid-September. Thenceforth it may not be cut lest the root wither, but the outer leaves may be stripped by hand. At this time gather all Beet seeds; this is not in fear that the cold will injure them, but so that the stalks may break afresh when the seeds be gathered. Parsley must no longer be cut, but stripped.

After the Feast of the Nativity of the Blessed Virgin § plant Peonies, Lords and Ladies, Lily bulbs, Rose trees and Gooseberry bushes.

In October plant Peas and Beans 4 inches deep and 4 inches distant one from another. Use only the largest Beans, which are always fresher than those of smaller size, and plant in small quantities as each moon wanes so that frost may not destroy the whole planting.

Sow or plant pierced Peas in fine and dry weather, since if moisture penetrate the Pea will rot and so come to nothing.

Replant Cabbages until All Saints' Day: and though the leaves be eaten by caterpillars until there remain nothing but the skeleton, strip off the lower leaves and the stalk will break again if replanted to the depth of the upper eye. Let stalks wholly stripped of leaves remain in the soil and they will break of themselves. To replant in dry weather needs moistened earth. Rainy weather brings moisture enough.

If there come caterpillars in great number upon a Cabbage, when it rains scatter ashes upon them and they will die. But look also on the underside of the leaves, and if there be white mites clinging in quantities, cut off those leaves and throw them far away, for these are young caterpillars.

Sow Leeks in due season to replant in October and November.

To grow Grapes without pips, take a vine plant with roots when the February moon waxes and spit the vine stalk in two equal parts to the root, removing the core of each half. Lop the vine, bind the halves together closely with black thread, stopping up at the top with earth, and replant, manuring well.

To graft or ingraft a Cherry or Plum tree on a vine, prune the vine stalk, and in March split it four inches from the top. Remove the core, put in its place the kernel of a Cherry stone and bind up with black thread as aforesaid.

To graft or ingraft a vine on a Cherry tree, prune a vine which has been long planted close by a Cherry tree, and in March, near Lady Day, and first making a hole neither too large nor too small through the trunk of the Cherry tree, put the vine stalk through the hole and at least a foot beyond, and stop up the hole on both sides with clay and moss, wrapping the whole around with cloths against the rain. Peel the bark of the vine stalk to the green where it touches or is within the Cherry tree, thus shall the sap of the vine mix more easily with that of the Cherry. Leave both together in this wise for two years, afterwards cutting the vine stalk below where it enters the Cherry tree.

Ten or twelve different trees may be grafted upon the trunk or stem of an Oak. Thus, saw a little way into the Oak, and first cutting the graft in such a manner that the bark remains untouched on the one side of the cut, place it between the bark of the Oak and the wood, the bark to the bark and the wood to the wood, and cover the whole with clay and moss and with cloths so that neither rain nor snow nor frost may strike it.

To keep Roses through the winter, cut unopened buds with long stalks and put them, without water, in a little empty barrel, such as is commonly used to hold conserve. Fasten up the barrel tightly so that nothing may enter it, tie two heavy stones to it, one at either end, and set it in a running stream.

Gardeners say that Rosemary will not grow from seed in French soil, but that small branches stripped from the bush and planted strike easily. To send these branches a long distance, wrap them in oiled cloth, stitched, and rub over on the outside with honey, afterwards powdering with wheat flower.

Monseigneur de Berri* has been heard to say that Auvergne Cherries are bigger than French for the reason that in Auvergne the Cherry trees are layered.

Thus, so far as history is concerned, the story of the lives of these interesting persons begins and ends with a picture of the wife dancing and singing through the garden of her youth, weaving chaplets of Violets and Roses, while her husband sits writing of his knowledge of the world to guard his love from mishap, great or small. *F. M. Graves.*

FIG. 39.—GALANTHUS IMPERATI.
(See page 107.)

* July 22nd. † "Par ordre" in the original. ‡ August 15th. § September 8th.

* Jean de France, duc de Berri, third son of Jean II (1350-1364) and of Bonne d'Armagnac. He fought at Poitiers, and was one of the hostages delivered to the English by the treaty of Bretigny in 1360.

GALANTHUS IMPERATI.

THE identity of the various species of Snowdrop is often difficult to determine, but there is no doubt that what is known to gardeners as Galanthus Imperati is a very desirable plant. I believe it was this species which used to grow so well at the foot of the famous wall in Canon Ellacombe's garden at Bitton, and no one who saw it thriving there would be content not to possess it. I have not had an opportunity of looking up the original description, but the name Imperati suggests an Italian origin, and it may well be that this Snowdrop is merely the Italian representative of our well-known G. nivalis. That it is a plant of southern origin may perhaps also be inferred from the treatment under which it seems to thrive, for it certainly seems to like a more sheltered spot, and can stand more roasting in summer than the common Snowdrop. G. Imperati resembles G. nivalis in having a pale green, horse-shoe mark on each of the inner segments, and its flowers are nearly twice the size of those of the latter species. If there is any difference, apart from size, between the two species, it is that the foliage of G. Imperati is relatively shorter and less developed when the flowers open in January. *W. R. Dykes, Charterhouse, Godalming.*

THE ROSARY.

BLACK SPOT AND ROSE JULIET.

THE article on "A New Discovery Concerning Black Spot Disease," by *Wild Rose*, in your issue of January 4 of this year, is of distinct interest to me, as I have had this vexatious fungus disease under general observation for some time past. Even after the perusal of this article I am doubtful whether we have yet wholly fathomed its subtleties. Like the observer, Mr. Alcock, quoted by *Wild Rose*, I also noticed a winter ago pustules on the current year's shoots of Roses affected in the previous autumn by black spot. Thinking these would be fructifications of this fungus, I confirmed my opinion by microscopic examination.

In my limited experience of modern Roses the variety Juliet is by far the most addicted to black spot, the Lyon Rose perhaps coming next: but the disease does not make much headway with this variety until well into August, whereas Juliet begins to spot early in July, with the result that the disease may interfere with the perfecting of its first blooms. For three years I have had a plant of this variety under observation. With the exception of Juliet and to some extent the Lyon Rose, black spot has not caused me much trouble: but I have found the disease in late autumn developing on Rose bushes adjacent to Juliet, *e.g.*, a plant of Hugh Dickson growing quite close became somewhat badly spotted in 1917. The bush of Juliet was moved and isolated. Last autumn the Roses that had been her associates, including the above-mentioned Hugh Dickson, kept free from black spot, showing that Juliet was the source of infection.

During the late spring and early summer of 1917, this bush of Juliet was repeatedly sprayed with a standard solution of potassium sulphide and soft soap; black spot, however, began to appear as usual on the leaves in early July. For a time I removed the leaflets as soon as they showed the least sign of infection, thinking this might check or stop the spread of the disease: but it pursued its accustomed upward course with no apparent diminution, the shoots becoming defoliated in early autumn.

When the plant was isolated, all shoots made the previous summer were cut away to the old wood, thus removing the pustules which apparently carry the disease over the winter. Further, this drastically pruned plant was well drenched with potassium sulphide solution. It produced last summer three rather spindly, long shoots. The leaves of these became as badly affected with black spot as ever. The disease followed its usual course, attacking the leaves successfully from the base upwards, and leaving the stems bare of foliage and rotted with pustules by the early autumn. Flower buds terminated two of these shoots, but these never managed to develop into passable blooms. It is far from my intention to imply that I have made an exhaustive attempt to prevent or control this disease, but the above experiments would seem to show what a difficult fungus pest it is to cope with, especially in respect to the variety Juliet. Others who have tried this variety have the same complaint against it, and threaten to banish it from their gardens. Personally, I should be sorry to see this Rose disappear. It is a variety that has been much abused, aesthetically speaking, but it has some well marked merits as a bloom, *e.g.*, unusual colouring, good size, fragrance, and a stiff stalk well clad with foliage right up to the flower. A single good bloom of Juliet furnishes a vase without the addition of extra foliage. Further, this variety, if the disease will allow, is a strong grower; and, a point not always recognised, its foliage is Briar scented. It is also a cool season Rose, withstanding wet, an additional merit in its favour. Turning to its defects, apart from its proneness to black spot, one might mention the frequency with which the flower comes double-centred and the failure at times to show a sufficiency of gold in its petals—a defect that may be due to over much sunshine and atmospheric dryness. As compared with H.T. Roses generally, it lacks freedom of blooming, but its merits outweigh its defects. Is there no easy and satisfactory method of coping with black spot on Juliet? If not, I fear this Rose is doomed soon to become only a memory. *J. P., Carlisle.*

BERBERIS AGGREGATA.

One of the best of the new species of Barberries introduced from China, more especially in regard to the beauty of its fruits, is Berberis aggregata.* This species was originally collected by Potanin in the province of Kansu, but was first introduced to cultivation by Mr. E. H. Wilson. He collected it in Western Szechuan in 1908 and again in 1910, and plants raised from seeds sent home by him are becoming widely distributed in gardens. It is a deciduous shrub of bushy, rather erect, but not ungraceful habit; its shoots armed with slender three-pronged spines ½ to ¾ inch long.

FIG. 40. FRUITING BRANCH OF BERBERIS AGGREGATA.

The leaves are dullish green, oval to obovate in outline, ½ to 1¼ inch long, sometimes entire, but usually armed with a few small teeth. The flowers are yellow, and borne in short racemes, followed by dense clusters of salmon-red globose fruits very densely packed on the twigs. They are ripe in October, and give the shrub a very handsome appearance at that season. The plant is hardy, grows well in soil of even moderate richness, and its fruits set fertile seeds which provide a ready means of obtaining an abundant supply of young plants. The Barberry sent out by Messrs. J. Veitch and Sons as B. Geraldii, and also known as B. Prattii, is now regarded by Dr. Schneider as a variety of B. aggregata. *B.*

* Berberis aggregata, Schneider in Bull. Herb. Boissier, sér. 2, vol. viii, p. 203.

POTATO FACTS AND FALLACIES.

Potatos seem to be booming again! What surprises one is that so many varieties reputedly not immune to Wart Disease, should still be offered for the current year's planting when there are more than enough super-excellent varieties to choose from which are immune. Surely no gardener would be so foolish as to introduce any but immune sorts into his garden, however tempted farmers may be to do the contrary.

The discussion as to the relative values of uncut and cut seed is just a renewal of what has happened over and over again in the past, as a search through the early volumes of *The Gardeners' Chronicle* will amply prove, some preferring the one and some the other method.

I consider there is not much difference. What appears to be a weak eye in a large tuber may be so in appearance only and not in fact, so much depending on the rooting medium in which the primary roots grow. This can be demonstrated by starting the seed tubers slowly in boxes, using a compost of equal parts of loam and leaf-mould with a sprinkling of superphosphate of lime added, and keeping the cut portion with different classes of eyes apart. It will be seen to resolve itself into a question of time for the weak to become as robust as the strong. I had a very striking instance of this fact two years ago, when from one source I had Eclipse in small seed and from another quite large Potatos which were cut rather close, and no difference whatever was observable in the crop. The same year I had 1 cwt. of another variety, the seed of which was so small that I hesitated to plant that variety at all and did not take the trouble to sprout the tubers previous to planting. These were slow in growing at the commencement, and the shoots appeared above ground in the most erratic manner. Finally, they proved successful and certainly I have never seen a stronger haulm than they produced, with a good crop and grown without any manure. Is it really essential, or even important, to lime newly-cut Potatos? The custom is very old, but I have never been convinced of its utility. Probably soils may influence the keeping qualities and *vice versa* of cut seed. Yet, if it be considered that a started growth is in a position to strike root immediately into the soil subsequent to the planting of the tuber, it will be apparent that the chance of the parent rotting before the roots had got a grip of the soil is not great, if likely.

There is another fallacy about the growth of the Potato that is so common that I noticed it was repeated by an "expert" in a paper last year; growers were warned to beware when working the soil in summer lest in doing so the roots of the Potatos should be damaged, the effect of which it was remarked would be a shortage of the crop owing to young tubers being destroyed. Now it is clear that the Potato being stoloniferous and the stolons proceeding from the stems, though they may or may not also produce a few roots, that the cutting of the extreme points of the true roots can, judging from analogy, do no harm, but rather be advantageous. Late earthing, however, would be harmful, and in no one respect can it be beneficial.

The practice of confining the growth of the Potato, for table use, to one or at most two stems, is good, because it is the only way by which tubers of the best quality can be produced, at the same time allowing each plant an abundance of space. It is remarkable that of all garden vegetables we find the Potato most frequently overcrowded and always with bad effects. Then there is the somewhat cognate question as to the best time to plant. As to early varieties there is no question of doubt. But some are of opinion that late varieties should not be planted till late in the spring, assuming, as they do, that early planting weakens the growth. My experience does not lead me to recognise that this is true. Late planting and late maturity go together, occasionally too late for maturity at all and I could not wish for growth to be stronger than that from late varieties planted as soon as the soil is fit to receive them in spring. And this is confirmed by observation. Last year the farmers in East Lothian who planted early, lifted the crop in good time and in good quality. The late planter, on the other hand, waited till almost winter before lifting and then was glad to get rid of his crop at the earliest moment to save himself from loss through abnormal shrinkage and bad keeping. *R. P. B.*

THE ALPINE GARDEN.

CODONOPSIS.

The genus Codonopsis includes some 20 or more species distributed over Northern Asia, the Himalayas and China. They are members of the Campanula family, and nearly all are characterised by having a most unpleasant odour when bruised. C. ovata, illustrated in Fig. 41, known also in gardens as Glosocomia clematidea, is a native of the Himalaya, being found in Kashmir at an elevation of from 10,000 ft. to 13,000 ft. It is said to grow wild in stony soil in grassy places with a northern exposure, so that it apparently prefers a shady situation. It is a hardy perennial forming quite a tuberous or woody rootstock, from which are produced tufts of mostly unbranched stems clothed with glaucous green leaves. The pendant, bell-shaped flowers are of a slaty blue colour, veined and speckled with white and yellow, and are borne on the ends of shoots one foot to two feet tall. The beauty of the flower is inside the drooping bell, and this fact should be borne in mind when selecting a position in which to plant. The most suitable situation is on a raised portion of the rock garden, in deep, well-drained sandy loam.

[Photograph by W. Irving.

Fig. 41.—Codonopsis ovata: flowers blue.

Other members of the genus in cultivation include the beautiful, blue, Burmese C. convolvulacea with open, Clematis-like flowers, illustrated in Fig. 42. The deep lavender-blue flowers are about 3 inches across. The plant is a perennial, and only one stem is produced annually from the woody rootstock C. rotundifolia from the Western Himalaya has blue flowers veined with yellow on trailing stems. C. Meleagris is a recent introduction from China, sent home by Mr. Forrest when collecting for Messrs. Bees, Ltd. The plant is of nearly erect habit, with broad leaves, and stems about 9 inches high, each terminating with a drooping bell-shaped flower. The blooms are of a pale porcelain-blue colour, with reticulations of chocolate purple and a green base. As in C. ovata, the beauty of the flower is inside the bell. *W. I.*

THE MARKET FRUIT GARDEN.

February did not do much to help forward work in the open, already greatly in arrears. The first half of the month gave us the most severe weather experienced during the winter. There was snow on the ground at the opening, and frosts were recorded on the first fourteen days; the thermometer needle fell lowest on the night of the 7th, when 13 deg. of frost were registered. This cold spell was welcome as a check to vegetation, which was in a forward state, but it put a stop to work on the land and prevented winter spraying from being started, owing to the barrels required for the work being full of ice. As soon as the thaw set in there was a return to rainy conditions, the total rainfall for the month being 2.70 in. on 11 days, which is over the average. Thus it was not until the end of the month that ploughing, digging and planting could be resumed and spraying begun. It is to be hoped that the finer weather of the closing week of February will continue, for it has been a very trying winter. The absence of sunshine has been most depressing, whilst for weeks we have practically marked time with regard to work. It has frequently been a case of finding make-shift jobs to keep the men employed, whilst no progress could be made with work that badly needed doing.

Power Spraying.

For winter spraying the new power sprayer, described in recent notes, was brought out for the first time. It worked smoothly from the start, and I am much pleased with the experience. Spraying used to be hateful to all concerned, but the work is robbed of half its terrors now that an oil engine does the pumping and there are no heavy knapsacks to carry about over rough ground. The saving of time and labour is, however, of greater importance. I find that three men, two to spray and one to look after the engine and keep the tank supplied with solution, get through just about double the work that five used to manage with pneumatic, knapsack sprayers, whilst the work is more thoroughly done. The machine could easily supply four nozzles, which would effect a still greater saving of time; but at present it is arranged for only two, owing to scarcity of labour and the high price of hoses and other fittings. Knapsack sprayers do excellent work where the trees are not too big and the area is small, but they are too slow for economical

use on a large scale. So much time is wasted in carrying back and refilling the empty knapsacks, whereas a power plant delivers the spray continuously, the only halts being for shifting the main pipe and drawing the engine along the headland at long intervals. With wages at their present level it is necessary for growers to make use of labour-saving appliances.

INCREASE OF ENEMIES.

The possession of an efficient spraying outfit is a great satisfaction to me, because I feel that success in fruit-growing depends more and more upon one's power to deal with pests and diseases. Certainly, these enemies have increased in number and virulence in recent years. Old gardeners testify that the culture of fruit used not to be half such a struggle as it is to-day. The reason is probably to be found in the extension of the industry and closer methods of planting. Where thousands of trees of one species are growing close together, as they are in market plantations, pests and diseases have every opportunity to spread. We have an example of this in the Raspberry growing district of Blairgowrie, in Scotland. Mr. J. Hodge, writing in the *Scottish Journal of Agriculture*, says that the great crops which rejoiced the hearts of the growers, and made the industry in its early days a kind of goldmine, are only a memory now. The depredations of insect pests have become so serious as to threaten the very existence of the plantations, and the yield of fruit has been gradually decreasing since 1909 until it has reached a level that would hardly be profitable if markets were normal.

FILLING GAPS.

One job completed during February was the planting of odd trees all over the farm to fill gaps caused by the grubbing out of trees that had failed for one reason or another, notably Plums affected with Silver Leaf. Every year many trees have to be purchased for this purpose. It is not work than can be done with much satisfaction, because the new trees seldom grow really well. This is not to be wondered at, since they have to be planted in exactly the same spot as the old trees, and so in soil drained of the plant foods required; and they are generally overshadowed by their larger neighbours. It is a different matter when several rows are grubbed up, because the trees are worn out or unsatisfactory. Then the ground can be well manured, deeply ploughed, and a crop of Potatos grown, so that it gets a year's rest from fruit production and a thorough cultivation. After this young trees can be planted with good prospect of success, and there is nothing to deprive them of light and air. When filling gaps the holes should be dug wide and plenty of manure introduced. I spread the manure after the roots have been just covered with soil, and then complete the filling in.

PARADISE STOCKS.

It is to be hoped that the investigations carried out at the experimental station of the South Eastern Agricultural College (see pp. 71, 82, 100) will go far to clear up the present confusion amongst dwarfing stocks used in propagating Apple trees. Market growers have generally been advised to plant bush trees on English Broad-leaved Paradise, but it must have been obvious to many of them that they did not receive what they ordered. The lack of uniformity often seen in the growth of trees of one variety, all supposed to be on the same stock, is ample evidence of this. A mere glance at the roots of young trees received from the nursery is sometimes sufficient. I have recently planted trees from five different nurseries. All are supposed to be on English Paradise, but it is quite evident, from the variation in root system, that the different nurserymen have not used the same dwarfing stocks. This is no longer surprising when we learn from these experiments that the foreign nurseries, from which most of the stocks used in this country are obtained, do not produce a single stock of two of the most desirable types of Paradise, *i.e.* the Broad-leaved and the Monarch, whilst the stocks they send us (mostly Doucin) pass under various names. Most of the trees planted on this farm have been propagated on the place; but I could never feel sure that the stocks brought in were true to name. Results certainly indicate the contrary in many cases. There are trees of the same variety on supposed English Paradise, Doucin and Crab growing in the same blocks, sometimes in the same row, and no difference in size or habit traceable to the stock can be detected in many instances. *Market Grower.*

NOTES FROM AMERICA.

STEVIA SERRATA.

I HAVE often wondered why Stevia serrata via. has never become popular in England as a winter cut flower. In America it is grown in immense quantities, and proves invaluable in the cut flower markets in winter. It may be had in flower as early as November 15, and by giving the plants cool treatment they may be kept in fine condition until the end of February. The plant closely resembles a small Eupatorium in flower and foliage, and forms densely cymose heads of white flowers in wonderful profusion. Their light and graceful appearance render them specially valuable in all kinds of floral work, and no florist here who does a retail business can afford to be without them. The flowers will stand shipment to long distances and keep fresh in water for a number of days. The cultural requirements of the plant are very simple. Here cuttings are taken from cut back plants in February or March, they root within ten to fourteen days in an ordinary propagating bench and are then potted singly. The bulk of growers plant their Stevias about the end of May in ground which is only moderately rich, as the plant is a rampant grower. The shoots are pinched as required until August 1, when the plants are lifted carefully and potted. Shading is necessary for a few days after potting until the roots become re-established. Before frost arrives the plants are placed in a cold frame or greenhouse. Very cool treatment produces the best sprays of flowers, but the temperature should not fall below 32° at any time.

In England I think culture in pots through the summer and plunging the plants in coal ashes would be the best treatment. Some growers prefer this plan even here. An abundant water supply and applications of liquid manure are necessary, as are top dressings of Clays' Fertiliser, which, by the way, has a large sale amongst practical gardeners in this country. Some years ago I forwarded

FIG. 42.—CODONOPSIS CONVOLVULACEA: FLOWERS LAVENDER BLUE.
(*See page* 108.)

seeds of this plant to Messrs. James Veitch and Sons, and specimens were shown at one of the R.H.S. shows at Vincent Square. I am sure any enterprising market grower would find the culture of this plant profitable. There are both dwarf and tall forms of Stevia. While most of the growers here favour the dwarf type, the tall produces much longer and more handsome sprays. A variegated variety is used for bedding. When pinched frequently this plant makes a useful subject for carpeting.

CHRISTMAS TRADE IN PLANTS.

The most popular Christmas flowering plant this year in America has been the Cyclamen; prices of these and all other plants were dearer than ever before known here. Many plants sold wholesale at 30s. to 50s. each. Some of these were in small tubs; all were raised from seeds sown in August, 1917. Begonias came second in favour with largest sales of Glory of Cincinnati; the older Gloire de Lorraine sold in more limited numbers, but Melior, a little paler and poorer in colour than Cincinnati, with somewhat cup-shaped flowers, sold remarkably well, and promises to outclass all others here in the near future. Mrs. Peterson, with bronze foliage and deeper-coloured flowers, also sold well: this variety was raised by Mr. J. A. Peterson, of Cincinnati, Ohio, the raiser of Glory of Cincinnati. Gloire de Chatelaine does not realise such high prices as the others. One or two growers who had been able to propagate Optima, Mrs. Heal, and other English winter-flowering hybrids, were able to obtain fancy prices for them. Azaleas were less in evidence this year than usual, owing to the stoppage of Belgian importations, but Poinsettias made up in pans had a big sale. Erica melanthera, grown in 6-inch pots up to large tub sizes, sold well, also Euphorbia jacquinæflora. Numerous pots and pans of well-flowered Freesia Purity were in evidence, also Paper White Narcissus, but owing to the late arrival of Dutch bulbs there were no Tulips or Daffodils this year. Otaheite Oranges sold in great numbers, also Ardisia crenulata, the three and four-year-old plants being speedily cleared out. Amongst cheaper berried plants Solanum capsicastrum and Chinese Peppers had a large sale, while of the more common flowering plants, Primula chinensis in bright colours, P. malacoides and P. obconica were much in evidence. Many retail stores refuse, however, to handle the last-named, owing to its poisonous properties. Crotons, coloured Dracænas, Pandanus, Palms, Ferns, and made-up dishes, hampers and baskets of coloured-leaved plants and berries also sold well. Altogether it was a wonderful Christmas; everything was sold, and prices were the highest ever made. In cut flowers extreme high prices also prevailed, as while the demand was great, the supply was much below former years, owing to growers being allowed but 50 per cent. of their former year's quota of fuel. Since the termination of the war growers can purchase all the coal they need. Clear skies and abnormally high temperatures, with an almost entire absence of frost and snow, greatly favoured the cultivation of plants, including those for cut blooms, all over the American continent last season.

TO PREVENT ROOKS EATING CORN (MAIZE) SEED.

Some time ago in Mr. Molyneux's always interesting Home Farm Notes I noted some remarks on the need of protecting seeds from the attacks of birds. Here, where crows and English pheasants are often very troublesome, we find it necessary to "doctor" all our peas, corn and oats. Our method is to put, say, a bushel of seed at a time in a square box or barrel, drop a little coal tar here and there over the seeds, stir them vigorously for half a minute with a stick until some of the tar has reached all the seeds, then scatter a few handfuls of unslaked lime over the seeds and again stir vigorously. The lime will absorb all moisture from the tar, and the seeds can be sown by hand or through a seeder. Crows or pheasants leave these treated seeds severely alone, and the small amount of tar used in no way affects their germinating qualities. *W. N. Craig. Faulkner Farm, Brookline, Mass., U.S.A.*

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Chysis.—Such species of Chysis as C. aurea, C. bractescens, C. laevis, C. Limminghii, and the hybrids C. Chelsonii, C. langleyensis, and C. Sedenii, are well worth cultivating for the beauty of their flowers. Since the pseudo-bulbs matured last autumn, these Orchids will have been resting, but now they will require careful attention. Upon the first indication of growth, accompanied by the development of the flower-spikes, keep the plants rather moister than hitherto, and, if possible, provide a little more warmth. If any of the plants require repotting, the best time to do the work is as soon as new growth is evident. Adequate drainage should be provided. The compost in which they thrive best consists of peat or A1-fibre, fibrous loam, and Sphagnum moss in equal parts. Care must, however, be taken to remove the earthy matter from the loam and to use the fibrous portion only. Chysis delight in an abundance of light and free ventilation, and during their season of active growth enjoy strong sun-heat and plenty of moisture at the roots and in the atmosphere. The warmer end of the Cattleya house usually suits them admirably. The plants are best grown hanging from the roof-rafters, and Teak-wood baskets are the best receptacles for them.

Mexican Laelias.—At the present time the various Mexican Laelias are not held in high esteem by the majority of Orchid growers, yet in the whole family of Orchids there are few others that have more beautiful flowers. L. anceps, L. autumnalis and L. Gouldiana are worthy of a place in any collection, for although the delicate flowers are readily injured by fog and dull atmospheric conditions, yet where the plants can be grown and flowered satisfactorily they are grand for mid-winter display. These Laelias are the easiest of Orchids to manage, if placed in the cooler end of the Cattleya house, or in a house having a temperature intermediate between the Cattleya and the cool house. In either position they will do well, provided they receive a liberal supply of air whenever the outside conditions permit of ventilating, and very little shading is required at any time. The longer the plants are rested after flowering, the better will be the chance of obtaining satisfactory flowering growths the following season. To accomplish this end, afford the plants only sufficient moisture to keep the pseudo-bulbs plump, and the roots, which are active during this stage, in a healthy condition. These plants are sometimes grown in pots on the stage, but I prefer suspending them from the roof-rafters, in baskets, unless the position given them is exceptionally light. Even so, the plants have more air moving about then when suspended than when standing more or less closely together on the stage.

Trichopilia. — The beautiful and fragrant species T. suavis is fast sending up its flower spikes, which develop from the base of the lower side of the pseudo-bulbs, often in contact with the rooting material. The soil about the roots should be kept just moist, but not saturated, and care is necessary in giving water that it does not reach the advancing flower stems, or they will be very liable to rot; the same remark is true of T. coccinea and T. crispa, although they are not quite so impatient of moisture as the first-named. The varieties of T. tortilis are later in flowering, and should be kept all but dry at the root for some time to come.

Repotting.—The present is a suitable time for a general examination of Mexican Laelias, giving them new compost where necessary, and putting them in order for the growing season. The last made pseudo-bulbs should be about to produce a cluster of new roots if the plants are in suitable quarters. Specimens that commence rooting and growing in mid-winter are usually those that have been kept too warm and close. The members of this group of Lealias do not take kindly to root disturbance, therefore never repot or re-basket them unless the state of the compost necessitates it. The receptacles should be large rather than small in regard to the size of the plants, as this admits of their being left for at least two years without further root disturbance. These Orchids do not need a great mass of rooting material, but free drainage is essential. The draininge material should occupy about two-thirds of the depth of the pot or pan. The compost may consist of Osmunda, or A1 fibre, three parts, Polypodium fibre one part, and Sphagnum moss one part, the material being well mixed together. Press the compost moderately firmly about the roots, and finish with a surface layer of pure Osmunda or A1 fibre.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to C. H. BERNERS, Esq., Wolverstone Park Gardens, Ipswich.

Figs.—Fig trees with young fruits swelling should be grown in a night temperature of 60° to 65°, with 10° higher by day. Syringe the plants thoroughly when the weather is favourable, and maintain a larger amount of atmospheric moisture. Whether the trees are grown in pots or borders, an abundance of water should be given the roots as growth advances. The Fig is a gross feeder, and quickly exhausts the nutriment contained in a restricted rooting area, therefore all trees, whether growing in pots or in small borders, should be freely supplied with food. Trees grown in pots may be further assisted, when carrying heavy crops of fruit, by top-dressings of fibrous loam and well-rotted dung. To enable this top-dressing to be laid on the surface, strips of zinc long enough to encircle the soil and about 4 inches deep should be placed just within the rim of the pot, the added compost being firmly rammed. Great care must be exercised in watering until the roots have grown into the fresh soil. Attend to the disbudding and stopping of the shoots, to prevent overcrowding of the growths: extra vigorous shoots should be pinched at an early stage or the young fruits will be liable to drop. All suckers should be removed immediately they develop.

Planting Vines.—Where it is intended to plant vines, and the borders have already been prepared for the roots, the sooner the work is done the better. If the vines are intended for early forcing, it is a great advantage to allow them a long season of growth. The distance between the rods is usually governed by the rafters of the house, as it is between these that the rods are trained. In a first-early vinery a distance of 4 feet between the rods will suffice; for vines in successional and late houses allow a distance of 4 feet 6 inches to 5 feet; the last-named distance is best for vines in a late house. When the vines are turned out of the pots, soak the ball in water and carefully remove all the soil from the roots. This done, spread the roots out evenly in all directions in a previously prepared hole, 5 to 6 inches in depth, and of suitable width to accommodate the roots without crowding them. Cover the latter with soil and make it firm. If the border is reasonably moist, water will not be required for some time to come. After planting, many cultivators shorten the rod to two or three eyes near the base, leaving ultimately the strongest shoot that develops. Another method is to shorten the rod to 4 or 5 feet and then rub off the buds by degrees as they burst into growth, until the most suitable growth near the base is reached. This shoot should be allowed to grow unchecked to a length of 5 feet and then stopped, allowing the subsequent leading growth to extend the full length of the roof before stopping it. Free growth should be encouraged by maintaining a moist atmosphere, and a temperature of 50° by night, and 55° to 60° during the day. Admit air whenever the weather permits.

Tomatos.—Fruiting plants should be assisted to mature the later fruits by gathering at an early date those that ripen, and giving the roots light top-dressings of fresh compost, and weak

applications of liquid manure or a suitable artificial fertiliser at each alternate watering. Do not keep the soil excessively moist. Maintain a night temperature of about 60°, with a suitable rise by day with sun heat. Ventilate the house freely on all favourable occasions. Successional plants should be planted out or placed in their fruiting pots as soon as they have set their first trusses. For compost, use rich loam, to which fine mortar rubble and wood ash have been added liberally, also a good sprinkling of bone-flour. When potted, place the plants in a light house near the roof-glass. Pollinate the blooms every day, and remove lateral growth regularly. If white fly proves troublesome, vaporise the house at necessary intervals. Young plants of later batches should not be allowed to become root-bound, but shifted into larger pots or boxes when necessary. Seed may be sown if fresh plants are required.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Maincrop Onions.—Whenever the ground reserved for this important crop is in a suitably friable condition, prepare the seed bed and sow the seed forthwith. The ground will need only a little attention provided it has been trenched as advised in a previous calendar. Simply break the surface down with a fork, level it and make it firm. Rake away all coarse stones, square the bed, and then draw drills 14 inches apart, and an inch in depth. After covering the seeds, rake the surface parallel with the drills. A wooden rake is preferable to an iron implement, as it leaves the surface somewhat rougher, which is an advantage on heavy soils which harden and cake readily, preventing a free growth of the seedlings. In sowing maincrop Onions, do not overlook the merits of the variety James's Long Keeping.

Tomatos for Outdoor Cropping.—The failure of Tomatos out of doors is more often due to late sowing than to any other cause. The seed should be sown at this date, preferably in boxes, about 4 inches in depth, filled with compost consisting of equal parts of loam, sand, and finely sifted leaf-mould. Fill the boxes with the soil pressed firmly to within an inch of the top. Level the surface with a wooden block, and sow the seeds at 1½ inch apart. In this way strong, sturdy plants will be obtained for potting, first into 60-sized pots, and later into those of 48 size. The smaller fruiting varieties, including Bide's Recruit, Model and Sunrise, are to be preferred to the larger sorts.

Maincrop Celery.—During the coming week the main sowing of Celery is usually made. Sow in boxes filled with soil of a light, sandy nature, make the compost firm, fine and very level on the surface. Sow the seeds thinly, and just cover them with finely-sifted soil. Water the latter and place the boxes in gentle warmth. Cover the box with paper until the seeds germinate, then gradually admit light and air. Aldenham Pink, Aldenham White, Sulham Prize, and Standard Bearer for late use are all grand varieties. Seedlings of Celery from an earlier sowing require pricking off. Use sandy loam as a compost, and continue to grow the plants in gentle warmth, attending carefully to such details as watering and airing, as a check from any cause is harmful.

Beetroot.—Where a mild hotbed is at command, a sowing of Globe Beet may be made. Draw drills at 9 inches apart, and one inch in depth. Keep the lights closed until germination takes place, then admit air during the early noon. Radishes and early Lettuce may be sown broadcast, thinly, on the bed, as catch-crops.

The Frame-yard.—All plants in the frame-yard need constant attention, including careful watering and full exposure to sunlight during the brighter part of the day. These remarks apply to autumn-sown Cauliflowers and Globe Artichokes, which require to be well hardened preparatory to being planted in their final quarters.

PLANTS UNDER GLASS.

By James Whitock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Palms.—The present is a suitable time to attend to the requirements of Palms. Large specimens in a healthy condition may be retained in the same pots or tubs for several years, provided the drainage is perfect and the roots are given a top dressing of good loam mixed with a plant fertiliser. Water the roots with liquid manure on frequent occasions throughout the summer. Plants to be re-potted should be placed in well-drained pots, using heavy loam, leaf-mould and sand, enriched with plant fertiliser, as compost. Keep the plants free from scale insects by syringing them weekly with an insecticide, and the following morning with clean water. Cocos Weddelliana, Kentias and Phœnix Roebelinii are suitable for growing as small decorative plants.

Salvia splendens.—This scarlet-flowered Sage is useful for autumn decoration. If old plants are placed in a warm house, and syringed they will produce shoots suitable for cuttings, which may be inserted close to the edges of pots and plunged in bottom heat. When rooted, pot the plants singly in small pots, and transfer them later to pots large enough for them to flower in. The soil should consist of a mixture of good loam, leaf-mould, and concentrated fertiliser. Syringe the foliage frequently with diluted clear soot water, to keep down red spider. Other plants, grown for autumn flowering—including Hibiscus and Abutilon—may be pruned and top-dressed, or re-potted in a mixture of loam, leaf-mould, and artificial manure.

Rhododendron indicum (Indian Azaleas).—As the early-forced varieties of Azaleas finish flowering, remove all remnants of the flowers. It is not necessary to re-pot the plants every year, it being desirable to retain them in as small pots as possible. In affording top-dressings, remove the surface soil with a sharp-pointed stick, and substitute fibrous peat and a little fertiliser. In re-potting, use clean, well-drained pots; the soil should consist of three-fourths peat and one-fourth loam, and silver-sand added. Prick over the surface of the ball, and in potting ram the soil firm with a stick. Place the plants in a warm house, where they will make new growth, and syringe them daily—sometimes with an insecticide—to destroy thrips and other insects. Continue this treatment until the flower buds are set, when the plants should be removed to cooler quarters. It is important they should not become excessively dry at the roots.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park Gardens, Barnet, Hertfordshire.

Sweet Peas.—In favourable weather, and when the land is in a suitable condition, make a liberal sowing of Sweet Peas, in well-prepared trenches containing plenty of decayed manure, sweet loam, and other suitable materials, to encourage the development of large flowers. Select a good situation, do not sow the seed too thickly, and adopt measures to prevent injury by mice, slugs and sparrows. The birds are very destructive to the young plants. Plants raised from seed sown in autumn need supports at an early stage, and a little protection should be afforded them in cold weather and when keen winds blow.

Spring Bedding Plants.—Now that the snow has disappeared many plants will be on the move. Examine the beds carefully and make good any deficiencies that have arisen. Lift the roots of Wallflowers, Forget-me-nots, Alyssums, and similar flowers, with good balls of soil adhering; plant them firmly; and if the soil is wet and sticky place a little fresh fine, dry soil around the roots, before pressing the latter in position.

Tidying the Beds.—Take advantage of fine weather, as soon as the soil is moderately dry and workable, to clean and freshen the surface soil amongst all growing plants, with a view to making the beds neat and tidy.

Plants in Frames.—Pentstemons and Calceolarias that were rooted under glass last autumn may be lifted, and transplanted where glass protection may still be afforded them until they have made more growth. Set the plants three or four inches apart, in rather firm sandy soil and leaf-mould, water to settle the soil, ventilate the frames more or less according to the state of the weather, and slightly shade for a few hours during bright sunshine.

Pansies and Violas.—Should the action of frost have displaced any of the Viola or Pansy plants, press the soil firmly about their roots, and make good any failures. As soon as the soil is in good condition plant freely from the stock beds clumps intended for summer flowering, in order that they may become well established early.

Gravel Footpaths.—To keep gravel footpaths firm and solid, very slightly sprinkle the surface with fresh material and press it in firmly with the roller when the path is moist. A very light sprinkling of gravel annually, if rolled in when wet, will serve to keep the surface quite firm and hard during the summer.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Pruning.—The science and art of pruning fruit trees consists chiefly in understanding the nature and modes of bearing of the different varieties of trees, their habits, the manner in which they produce their shoots and branches, and also, in removing parts of a tree, whether roots, stem, or branches, with the object of checking growth in one direction and causing the sap to be directed into another, where the shoots are well placed. No hard-and-fast rules can be laid down as to method of procedure, as this is governed by circumstances which can only be decided on the spot, and from personal observation. The results of pruning vary very much, according to the time and manner in which the work is carried out. Large numbers of trees are spoilt by a too free use of the knife, whilst on the contrary many are ruined by neglect to prune.

Summer Pruning.—Pruning may be classed under three headings—viz., summer, winter, and root pruning. All have for their object the production of fruitful wood, and the diversion of the sap from too vigorous to weak shoots. Summer pruning is the most important, but is often neglected through want of time. Where a proper system of summer pruning is adopted, time is saved in winter, and the work done at a much more pleasant season. The leaves being on the trees the operator has a better opportunity of estimating the amount of wood that should be cut out. If strong, vigorous shoots are not removed until the winter, the sap is not equally distributed over the tree at the time when growth is most active, and in consequence as strong or even stronger shoots develop the following spring from where the cut is made. Most trees complete their maximum amount of growth by the middle of July, and this is generally the best time to summer prune; but it is better to be a trifle late rather than too early, for if the work is done too soon there would be a danger of the dormant buds pushing into growth. When summer pruning is deferred too late in the season, the buds do not mature so well, owing to shade from the crowded growth.

Winter Pruning.—In winter, all weak wood should be cut back to two or three buds, and all dead and unripened wood cut away. Pruning is best done early, as it gives the trees a better chance of developing wood and fruit buds, whereas late pruning has a tendency to produce stagnation in bad seasons and cause canker and gumming. Fully-grown trees merely need restricting to a suitable size, and spurs that are getting overcrowded should be cut out. Young trees intended to be trained in a particular form should have all leading growths kept at about one level, otherwise the stronger growths will appropriate the sap from the weaker ones. Trees making extra strong growths should be root pruned, as no amount of top pruning will check them.

Winter Spraying.—The spraying of fruit trees with caustic specifics should be completed by the second week in March.

EDITORIAL NOTICE.

Special Notice to Correspondents. *The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

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APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, MARCH 10—
United Hort. Ben. and Prov. Soc. Ann. meet. at Roy. Hort. Soc. Hall. Bath Gard. Soc. meet.

TUESDAY, MARCH 11—
Roy. Hort. Soc. Coms. meet: Open class for early flowering bulbs in pots. Lecture by Mr. James Whitton at 3 p.m. on "The Glasgow Public Parks."

WEDNESDAY, MARCH 12—
Wargrave Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 41.2°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, March 5, 10 a.m.: Bar. 29.7; temp. 50°. Weather—Rainy.

The National Village Centres for Disabled Men. The Village Centres Council, which has offices at 5, Little College Street, Westminster, is actively engaged in establishing in rural districts colonies for training disabled ex-service men during the period whilst they still require medical treatment, but after they have reached a stage of recovery when the men are capable of taking up work with a view to returning to the normal civil and normal country pursuits. The Ministry of Pensions lends support to schemes of which it approves, and have promised grants in aid of men whilst undergoing treatment in training; but the Council, in order to carry out its programme, needs further financial assistance.

The first village centre is being established near Andover, in Hampshire, where the Enham Estate, of over 1,000 acres, has been purchased (see Figs. 113, 114). It is proposed to train about 1,000 men there. Building operations are now in active progress at Enham Place, where it is hoped that the first fifty men will be in residence in the course of a month.

The trustees of the Red Cross are providing funds for the building of the hospital, which is expected to cost £10,000, and a number of hospitals which are being closed are giving furniture and equipment. H.M. The King has subscribed 100 guineas to the fund, and the trustees of the King's Fund will make grants to men who, having undergone treatment and training at Enham, are competent to take up small holdings, or have become qualified to set up in industries for which they have been trained at the Centres. Mr. Cheal, of Crawley, is chairman of the Agricultural and Horticultural Committee of Management of the Enham Centre, and the members of the committee include Mr. James Hudson, V.M.H.; Mr. W. H. Divers, V.M.H.; and Mr. G. P. Berry, of the Board of Agriculture. The committee have inspected the estate, and have reported that they regard the site as suitable for the purpose to which it is to be put.

Agricultural and horticultural training will be provided, and will include not only practical work, but also courses of lectures and demonstrations. In addition, instruction under the direction of Mr. Crisp, who has been appointed Horticultural Superintendent, will be given in carpentry, smith and wheelwright work, poultry and bee-keeping and other village industries. It is much to be desired that the Ministry of Pensions should publish facts indicating the success which has already been achieved in training men in various trades; for the public would be greatly encouraged to co-operate in this admirable work could they but have evidence—which we know is forthcoming—to show that partly disabled men, with no previous technical training, are making good in a surprisingly successful manner in some of the crafts in which they have been trained. It is too often assumed, for example, that a man is, say, a labourer because he is fit only for unskilled work, yet instances have come to our notice of such men, who, after training in a technical school, have been able to go into workhops and do skilled work so well that in the course of a few months they could earn the current rate of wages. We suggest, therefore, to the Ministry of Pensions that it should put dispassionately the evidence which it is accumulating, of the teachableness of the partially disabled, at the disposal of the public, who, we are sure, will take the keenest and most sympathetic interest in the progress of this beneficent work.

With respect to the centre at Enham, Mr. Cheal would be glad to give every information to those who would like to know more of the scheme of horticultural training which is to be carried out at this centre.

The forms which assistance can take are various—a donor can assume financial responsibility for the initial cost of one, or more—or many acres. Those who wish to perform a good deed and to keep alive the memory of a fallen relative, or to show thanks for one who has been restored to them may endow and name a hospital bed, or provide a cottage, many of which will be required when the scheme is in full development.

R.H.S. Teachers' Examination.—The Board of Examiners of the Royal Horticultural Society have recommended, and the President and Council have adopted the recommendation, that candidates taking the society's honours examination of the R.H.S. Teachers' Examination in School and Cottage Gardening can substitute a "Pass with Distinction," or a "Pass with Credit" in the Gardening Examination of the Board of Education for Teachers in Training, for the R.H.S. Preliminary Examination of the Teachers' Examination in School and Cottage Gardening. That is to say, a candidate with a Pass with Distinction, or with Credit, can take the Honours Examination without having passed the R.H.S. Preliminary Examination. The Teachers' Honours Practical Examination will be held during the week commencing June 23.

National Rose Society's Exhibitions in 1919.—The National Rose Society will held its Spring Exhibition at the London Scottish Drill Hall, Westminster, on Tuesday, April 29; the Summer Show takes place at the Botanic Gardens, Regent's Park, N.W., on Wednesday, July 2; the Provincial Show will be held at Norwich on Thursday, July 10; and the Autumn Meeting at the London Scottish Drill Hall on Tuesday, September 9.

York Gala.—The schedule of the York Gala, which will be held on June 18, 19, and 20, makes special provision for groups of plants, and liberal prizes are offered to both amateurs and traders in this section. In these classes exhibitors are not permitted to use staging of any kind, as it is intended that the exhibits may be viewed from all aspects. The schedule also includes classes for Orchids, stove and greenhouse plants, hardy herbaceous plants, alpines and aquatics. Several classes are allotted to Roses, and there are also numerous classes for hardy flowers, and a section for floral decorations. Vegetables will be represented as usual, but the fruit classes have been omitted on this occasion, as the committee realises that owing to the shortage of fuel and labour the cultivation of indoor fruits of an exhibition standard has not been possible in the majority of establishments. York Gala is one of the first of the large provincial exhibitions to resume activities, and we wish the show a great success.

Michael Foster Research Studentship at Cambridge University.—An offer has been made by Dr. J. B. Hurry, Westfield, Reading, to increase the value of the Michael Foster Research Studentship from 100 guineas to £200.

Diploma Examination in Horticulture.—It has been decided by the Royal Horticultural Society's Board of Examiners that the Practical Diploma Examinations shall be held during the week commencing September 22, 1919, and not in June as in past years. The Written Diploma Examination will take place on September 6.

Land Settlement for ex-Service Men and Farm Tenants. The President of the Board of Agriculture makes a special appeal to landowners to offer to the Board, or to the County Councils, any areas of land suitable for settlement, of which vacant possession can be given at an early date. A considerable quantity of land is in the market, but most of it is in the occupation of sitting tenants who are not under notice to quit, and consequently vacant possession cannot be obtained before Lady Day or Michaelmas, 1920. In meeting the large demand for land from ex-service men it would, therefore, be of great assistance if landowners would notify the Board or the County Council of any farms which will come in hand during the present year, and give them an opportunity of considering them before accepting a new farm tenant. It would also be of great assistance if landowners would, by arrangement with their farm tenants, offer to the County Councils immediate possession of land, convenient of access, on which cottages could be built, each with at least an acre of land.

Lea Valley Nurserymen's Association.—The Lea Valley Association's fourth annual dinner, arranged for Friday, February 7, at the Abercorn Rooms, Liverpool Street Hotel, was postponed owing to the railway strike. The date now fixed is Friday, March 7, and the dinner is to be held at the same time and place as previously arranged.

Notes from Belgium.—M. Theodore Pauwels sends us the following letter from Meirelbeke, Ghent:—Belgian horticulturists have experienced very hard times during the war, and it will take years and a great amount of energy to bring Ghent horticulture to the degree of splendour it had reached in 1914. Most horticulturists have suffered from lack of fuel; others have seen their establishments and plants destroyed by bombs and by explosions from the destruction of railways and bridges, and also by artillery fire. My Orchid nursery was entirely destroyed by the artillery during the last battle that took place before Ghent on November 8, 9, and 10, 1918. No fewer than 60 howitzers were directed upon my house and Orchid houses, and of the 3,000 square metres devoted to Orchid culture only three houses were saved. Thousands of Cattleya, Odontoglossum, Cymbidium and Cypripedium hybrids, most of them ready to flower for the first time, and the result of twenty-five years' work, were destroyed in a few minutes. I had the great honour to receive yesterday

(February 21) a visit from His Majesty King Albert, who wished to see the immense damage caused by the Hun army to Belgian industries.

Tehidy Mansion Destroyed by Fire.—The stately and beautiful mansion of Tehidy, Cornwall, was burnt to the ground during the early hours of the 26th ult. Tehidy is stated to have been the home of the Basset family for 800 years, and was probably, from an interior standpoint, the most beautiful mansion in Cornwall. Italian artists were engaged to carry out a scheme of beautifying the place; the ceilings and walls were ornamented with delicate designs and beautiful pictures. Apart from the sentimental aspect, the loss of the building is a calamity for Cornwall. During the summer of 1918 the house, with some hundreds of acres of park lands and woods, was acquired by the Cornwall County Council as a war memorial, to be adapted as a sanatorium for the treatment of tubercular diseases, at a cost of about £20,000. This amount was raised by public subscription, and the work of adaptation was so near completion that five patients and a staff were in residence only three or four days before the fire occurred. Happily no lives were lost, but little else was saved beyond the conservatory. Tehidy was handsomely situated, well wooded, and within a few minutes' walk of the sea on the North coast. Several generations of the former owners had spent large sums in beautifying the gardens and pleasure grounds, which were amongst the finest in the county.

Two Interesting Lycopods.—Only a few members of the Lycopod family, notably in the Selaginella group, are sometimes utilised in the gardens of this country, but to the student of plant history the Lycopod family is one of supreme interest, as it represents a once great and glorious line of ancient plants. The Lycopods played a leading part in the coal-measure forests, and of the coal with which the gardener may be heating his exotics to-day possibly 30 to 40 per cent. of the substance of which it consists was contributed by extinct Lycopod trees. The Lycopod group is now dwindling, and contains little but small and unimpressive herbs, but the genera which are still living are extremely widespread, and it appears that just one or two descendants of these ancient stocks are to be found native in most countries of the world. When the British Association met in 1914 in Australia, just before the war, Professor Bower, in his presidential address, said that "the most peculiar living Lycopods are certainly Isoëtes and Phylloglossum." When he was speaking in Sydney neither of these two genera had yet been discovered in the South Australian flora, so that it is interesting now to find (in *The Transactions of the Royal Society of South Australia*, Vol. XLII, 1918) a note on the discovery of both these genera in the South Australian flora, the particularly curious point being that the two genera are growing side by side in a specialised flora of native plants. The species are Isoëtes Drummondii and Phylloglossum Drummondii, another curious coincidence. Professor Osborn, of Adelaide University, describes the curious root development of both these plants, and gives a diagram showing the root position in the soil in relation to the other members of the community with which they live. This community consists of highly specialised seasonal swamp plants on alluvial sands.

Fertilisers.—The supply of fertilisers generally for the current season is much greater than it was last year, but considerable difficulties still exist in regard to transport, and prompt delivery cannot therefore be assured. The prices prescribed by the Fertiliser Prices Order for sulphate of ammonia, superphosphate and basic slag will remain unchanged up to June 1 next. Arrangements have been made for the importation of a considerable quantity of phosphate rock. The demand for basic slag at the present time is greatly in excess of the production, but the total output for the whole season is likely to be about one-fifth more than it was in 1917-18. Sulphate of ammonia is available in greater quantities than last year. It is understood that a number of makers have bone-meal and bone-flour for sale at lower prices than those ruling a few months ago, and immediate delivery of these materials can probably be obtained.

The Late Professor Cogniaux.—The late Alfred Celestin Cogniaux, whose death occurred so long ago as April 15, 1916, was for many years a visitor to this country, though he was scarcely known outside of Kew and the Natural History Museum on account of his inability to converse in English and his devotion to work. In consequence of the war no adequate memoir of him has been published in this country, and the following account of his work will be read with interest. Alfred Cogniaux, as he was generally known, was born on April 7, 1841, at Robechies, in Hainault, Belgium. The earlier years of his active career were mainly devoted to teaching, but later he became a prolific contributor to descriptive botany, including garden botany. He specialised in a few families beginning with the Cucurbitaceae and continuing with the Melastomaceae, but the latter part of his life was devoted mainly to the Orchidaceae, more especially the Orchids of Brazil and neighbouring countries. His first contribution of importance to systematic botany is an account of the Cucurbitaceae of Brazil, which appeared in Martin's *Flora Braziliensis* (1878), and this was followed by a monograph of the whole family in De Candolle's Monographs. To the same great work (*Fl. Bras.*) Cogniaux contributed the Melastomaceae, which find their greatest concentration in Brazil, the numbers being 978 species (of which 800 are peculiar), belonging to 58 genera (of which 19 are endemic). This was followed by a monograph of the whole family in 1891, which included descriptions and history of 2,702 species, whereof 757 were described as new. It may be of sufficient interest to give more detailed particulars of his contributions to the literature of Orchids. In the first place came the Orchids of Brazil, which appeared in parts between 1893 and 1906. Including 319 species from adjoining countries, the total number of species described is 1,795, belonging to 109 genera, and illustrated by 372 folio plates. The genera, containing more than 25 species, are thirteen, as follows: Pleurothallis, 214 species, of which 198 species are endemic; Epidendrum, 129 species, of which 89 are endemic; Oncidium, 107 species, of which 86 are endemic; Habenaria, 91 species, of which 65 are endemic; Maxillaria, 62 species, of which 50 are endemic; Octomeria, 50 species of which 47 are endemic; Spiranthus, 46 species, of which 30 are endemic; Catasetum, 44 species, of which 34 are endemic; Stelis, 44 species, of which 41 are endemic; Bulbophyllum, 36 species, of which 35 are endemic; Stenorrhyncus, 36 species, of which 26 are endemic; Cattleya, 33 species, of which 28 are endemic; Pogonia, 29 species, of which 27 are endemic. About 140 genera of Orchids are represented in the Brazilian flora, including the following peculiar types: Acacallis, Centroglossa, Chaenanthe, Chytroglossa, Cirrhaea, Dipteranthus, Gomeza, Grobya, Izabelia, Leptotes, Paradisanthus, Phymatidium, Platyrhiza, Pogoniopsis, Quekettia, Sanderella, Saundersia, Sophronitis, Warmingia. Cogniaux also contributed a very elaborate monograph of West Indian Orchids to Urban's *Symbolae Antillanae*. This comprised upwards of 500 species belonging to 96 genera. But the work by which Cogniaux was best known to horticulturists is the *Dictionnaire Iconographique des Orchidées*, which he published in conjunction with the Belgian botanical artist, A. Goossens; a duodecimo, issued in 64 parts (1897-1907). This excellent work, devoted to cultivated Orchids, comprises 832 excellent plates in chromo-lithography. As a supplement to this work, a descriptive publication, entitled *Chronique Orchidéenne*, appeared in corresponding numbers during the same period. He also described a large number of new species in J. Linden's *Journal des Orchidées*. This ended his activity in Orchids, when he again took up the Cucurbitaceae and Melastomaceae, as we learn from a very sympathetic memoir of the deceased botanist by Dr. R. Schlechter, which appeared in *Orchis*, 1916, with an excellent portrait. Cogniaux was engaged on the final proofs of the first volume of a new monograph of Cucurbitaceae when he was suddenly seized with paralysis and died in his chair. Thus mercifully ended the career of a most lovable man and distinguished taxonomist.

Fig. 43.—The first village centre for disabled men: Enham Farm seen from the park.
(See page 112.)

Publications Received.—***A Garden Flora: Trees and Flowers Grown in the Gardens at Nymans.*** By L. Messel. 1890-1915. With illustrations by Alfred Parsons. Foreword by William Robinson. Notes by Muriel Messel. London: George Newnes, Ltd. Price 10/6 net. ***Firewoods: Their Production and Values.*** By A. D. Webster. London: T. Fisher Unwin, Ltd. Price 12/6 net. ***Jottings of an Allotment Gardener.*** By F. T. Ellis. Times Printing Co., Ltd., High Street Mexborough. Price 1/6 net. ***Practical Gardening.*** By Hugh Findlay. London: D. Appleton and Company. Price 7/6 net. ***Rudiments of Handicraft.*** By W. A. S. Benson, M.A. London: John Murray. Price 1/- net.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Garrya elliptica.—The mention of Garrya elliptica on p. 101 recalls to my memory an interesting little discovery made by the late Dr. Hogg. He brought to the Scientific Committee of the Royal Horticultural Society, when I was secretary, a cutting of Garrya grafted on Aucuba japonica. He said he had tried a number of stocks for experiment, and this was the only one which succeeded. He was not aware of the fact that Bentham and Hooker in *The Genera Plantarum* place Garrya as the genus immediately following Aucuba, showing their close affinity. This may be a useful hint to cultivators who raise the former. *George Henslow, Bournemouth.*

Insects and Fungi on Grass Land.—When grass land is first broken up for the cultivation of vegetables, or anything else, one expects to be troubled with many insects, particularly wireworms. On a three-acre piece of land coming under my observation last year I did not see a single wireworm nor heard of one being found. The insects native to the place were the Summer Chafer (Rhizotrogus solstitialis), Cock Chafer (Melolontha vulgaris), Leather Jackets (Tipula), and the Surface Caterpillars (Agrotis exclamationis and A. segetum). The two last were the most destructive to Cabbages, Parsley and Potatos. Some other insects were present, but they disappeared with the destruction of their food or shelter, and were not injurious to the vegetables. All the undermentioned were imported, or colonised the new feeding ground. The Cabbage Fly (Anthomyia Brassicæ) was imported on seedling Cabbages. Congeners of this were A. betæ, on Beet: A. ceparum, on Onions: and A. radiæum, on Radishes. Other garden insects were the Celery Fly (Acidia heraclei) on Parsnips, and there was a very bad attack last year owing to the dry weather; the Carrot Fly (Psila rosæ) and the Cabbage Gall Weevil (Ceutorhynchus sulcicollis). The Vapourer Moth (Orgyia antiqua) is a garden pest, but seemed to confine its attentions to Plane trees. The Black Aphis (A. rumicis) on Broad Beans: and the mealy Cabbage Aphis (A. Brassicæ) were more or less destructive. One of the flat-body moths (Depressaria pastinacella) ruined Parsnip leaves more quickly than the Celery Fly, but happily was not numerous. Of all the above, most damage was done by the Surface Caterpillars. Of the fungi, Sclerotinia bulborum did a little damage to Onions; and Cystopus candidus, which usually destroys Shepherd's Purse, was prevalent on Cabbage seedlings, but the latter grew out of it. *J. F.*

Fig. 44.—Woodhouse Farm, on the Enham Estate (see p. 112).

Frost and Thaw.—A great many questions are raised by *A. N.* (p. 88), some of which are not easy to answer. Some of them, however, come within the scope of my experience. It is common knowledge amongst gardeners that if snow or frozen lumps of soil are buried in the operations of trenching and digging they take longer to thaw than if left on the surface, and keep the lower strata of the soil cold and wet for a long period. If it were possible to drain the soil in question, the water would sink to a much lower level, thus leaving air passages through which the warmer air would follow and raise the temperature of the land. This may be seen even in farming operations, where the corn ripens earlier than it did previously as a result of the draining of the land. The summer mulch prevents the escape of moisture from the soil by evaporation. This may take the form of manure, half-decayed leaves, road sweepings, and more or less decayed vegetable matter generally. A surface of 1 to 2 inches of dry dust makes a very good mulch. I had good evidence of this last year on shallow sandy soil overlying gravel. The drought continued from late April to the second week of July. Frequently-hoed Potatos retained a healthy, dark green appearance until after they were earthed up. The whole of the soil then quickly dried out to the bottom, and the ridges did not become permeated with moisture till near the end of September. I cannot agree with the statement that the winter mulch would keep the soil drier. It soon gets saturated, and the excess runs through. No good rosarian would mulch his Roses in winter. Soluble plant food in the soil gets reached by the rains, but if the subsoil is waterlogged the nitrates and salts are lost by diffusion where the roots of plants cannot follow. *J.*

Women in Horticulture (see p. 77).—In reference to the remarks of *Dubious*, I agree that women cannot altogether take the place of men in the general routine of large gardens. A woman can never become a labouring gardener; but, given a really adequate training, I see no reason why she should not do well in most branches. I attribute the failure of so many educated women gardeners in war-time to the following reasons:—(1) They have been over eager to obtain a war job; (2) they have often had only a few months'—or at the outside, a year's—training, and that may have been at one of the horticultural colleges where the training leaves much to be desired.

The male gardener has usually devoted his whole life to the garden; and how is it possible for a woman, educated or not, to be a success and assimilate the knowledge and experience in such a short period? I believe that there is a chance for the educated woman, if she is prepared to devote not a few months but a few years to the study of horticulture, instead of rushing headlong and in ignorance into some post. *Hopeful.*

Birds and Fruit-buds (see p. 237, Vol. LXIV.).—Like Mr. Hudson, I have no desire to get rid of sparrows, but do all I can to encourage them in the garden, as I consider them the best friends of the fruit grower, and that in consequence it is a great mistake to destroy young sparrows or the eggs of these birds. Caterpillars and other insect pests are most troublesome on fruit trees in the spring. The sparrow feeds its young almost entirely on these pests, if it can get them. Every season I have watched the birds searching the trees and carrying the grubs to their young. I have not found the sparrow to touch any kind of fruit or fruit-buds, except in a garden near London, where they picked out the buds of Gooseberries and Currants in the spring. We sprayed the bushes with thin lime-wash, which completely stopped the birds from damaging the buds. The buds of Plums they never touched. When I came here, some 20 years ago, the men informed me that sparrows picked the buds from the bush fruits, Plums, Almonds, and some Pears. I asked them when they saw a sparrow picking buds or bloom to let me know. On one occasion they told me that sparrows were picking out Plum buds. I looked and saw that they had been disturbed, and had flown up from a patch of Chickweed, and were wiping their beaks on the twigs, a thing anyone can see them do when they fly up from the ground. I kept watch for the real culprits, and whenever I saw a bird actually picking out the buds I brought it down with a small rifle or collector's gun, and in every case found it to be a bullfinch. During the past four years we have not been troubled with bullfinches, and have not had a bud or bloom destroyed. I do not know if the severe winter killed the bullfinches or whether soldiers frightened them away, as we usually have a lot of these birds here, and they are very shy. Before that I was forced to spray every Gooseberry and Currant bush as soon as it was pruned, and as many Plum trees as possible. When the last were in bloom I put pieces of bright tin on the outside branches so that the tins could swing round, and also in front of the wall trees. Half a dozen bullfinches will do enormous damage in a garden. It is rather strange, but during the past three or four years sparrows have not attacked Crocuses, Polyanthuses, and young Peas. Tomtits, wrens, and tree climbers are useful birds for searching the stems and branches for mussel scale and the eggs of various insects. The robin, thrush, blackbird (when there is no fruit about), and hedge sparrow are all useful garden birds. Blackbirds and starlings are greedy birds for fruits of all kinds. I am not writing the above to contradict Mr. Chaffer's statement about the sparrow, but to ask gardeners and fruit growers to put prejudice on one side and honestly look for the sparrow's merits, as well as its faults. I may add that where the bullfinch is troublesome to bush fruit I find spraying with freshly slaked lime in the winter a good preventive. Old slaked lime will not adhere to the trees or bushes. *Wm. Stanbury, Mount Felix Gardens, Walton-on-Thames.*

——On p. 33 Mr. Chaffer wished to know how to deal effectually with sparrows. Evidently he is not aware of the wire sparrow-trap—roughly 18 inches square—which he could get (in pre-war days) at any of the big London general stores. As a bird lover I am not in favour of such measures having to be taken; but where sparrows are pests, and where there are too many of them, the wire trap method is the simplest and most humane.

method of reducing them. Place the trap on the ground where the birds frequent, having first put a little food on the site the trap occupies. The birds will go down to the food through a hole in the top, and cannot—or very rarely—get out. When several birds are trapped, immerse the trap in a tank of water. If it is wished to release any other bird, there is a door for so doing. *C. Turner.*

Gardeners' "Victory" Memorial (see p. 88).—There are many gardens throughout the country which have, we all regret to know, lost some members of the staff during the war. Some may have only lost one, others, alas! many, and the larger the staff oftentimes the greater the number of these heroes. A suggestion was made to me the other day which I thought such an admirable one that I should be very pleased if you would grant me the hospitality of your columns to place it on record, as it may prove of considerable interest to many of your readers. In most gardens of any considerable size there is generally vacant wall space, and it was suggested an inspiriting memorial would be provided if the names of fallen heroes who had worked in the particular garden could be inscribed thereon. A brass tablet, engraved marble slab, or even a simple, painted board would serve to keep their names and rank ever fresh before us. I should much like to learn the views of others as to whether this plan could not be carried out in gardens all over the country. *Edwin Beckett, Aldenham House Gardens.*

Now that the thoughts of horticulturists are turning again to peaceful occupations after the past years of anxiety and sorrow, various schemes are being suggested to perpetuate the memory of our fallen heroes. It is to be hoped that some scheme commensurate with the sacrifice and endurance of horticulturists in the great war may be established. In this connection one's thoughts naturally turn to the two charitable gardening institutions—the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund—at present both handicapped in their good work for want of funds. But, looking ahead, may we not hope that at no distant date the Government will extend the provisions of the Old Age Pension Act? If this comes about, presently there will be less need for benevolent institutions. On the contrary there is always a demand for suitable housing for old people displaced from their employment by age. If a National Horticultural Memorial could be established in the form of a garden city or settlement, where such old people could be accommodated at a nominal rent, a great boon would be conferred on them, without the taint of charity, and a memorial worthy of our heroes and horticulture would have been made. Obviously this means money, but with the aid of the millions of all classes who love gardens throughout the country, I am convinced it could be made a practical scheme. Will some landholder start by giving 100 acres? *N. F. B*

Union of Gardeners in the Bristol District.—Gardeners in and around Bristol have unanimously decided to form a branch of the National Union of General Workers. There are many gardeners in Bristol and the district who share their employer's confidence, and they are looked upon not as servants in the strict sense, but as friends, and nothing is too small or too great for them to undertake if it makes for their respected employers' interest, and it is our earnest desire that this happy state should continue. A gardener's calling forty years ago was considered a profession second to none among the working classes of this country; but to-day it holds out no attraction to lads and young men. I appeal to all employers (who have themselves joined some form of union or other to protect themselves in business) to look on this step as a dire necessity in the twentieth century, and ask them to urge their gardeners to become members. During four and a half years of war, gardeners fought hard battles and won them. The younger men grasped the implements of war, the older men took up the garden tools, which many had laid aside, and also imparted that superior knowledge they possess to their fellow-countrymen, to enable them to cultivate the land and make it produce its maximum amount of food; their efforts did much more towards winning the war for our country than the ordinary individual may care to admit. The meetings of the Union will be held on the first Tuesday in every month at Kingsley Hall, Old Market Street, and all gardeners are invited to be present. *Thos. P. Elkes.*

The Recent Severe Weather.—The following degrees of frost were recorded in these gardens from February 7 to February 13 inclusive: 24, 34, 25, 19, 15, 26, 17. I do not remember having registered 34° before, but there may have been that amount in 1895, of which year I have not a reliable record. *C. J. Ampthill Park Gardens, Bedfordshire.*

Fig. 45.—Double-flowered form of Primula malacoides.

Primula malacoides.—This Primula is a plant of general utility, as it is available for many different purposes. It made its first public appearance on November 24, 1908, when shown by Messrs. Bees, and an Award of Merit was given it by the Floral Committee of the Royal Horticultural Society on that date. Considering that, compared with P. sinensis and P. obconica, it is a comparatively new species, it bids fair in time to give rise to as many distinct forms as either of the others. The variety President, to which an Award of Merit was granted on January 28, as described in *The Gardeners' Chronicle* (p. 57), is a decided variation, while the older King Albert, which gained a similar honour a couple of years ago, is remarkable for its richly-coloured blossoms. Besides these the true species, with its pale lilac flowers, varies considerably in tint when raised from seed. By selection a pure white strain has been obtained. Flowers more or less of a double character have made their appearance (see fig. 45), the variety President above referred to being one of them. When one remembers the comparatively poor flowers of Primula obconica, as sent home by Maries, and known at first as P. poculiformis, the hopes held out for the development of P. malacoides are surely not too sanguine. P. obconica was given a First-class Certificate on March 28, 1882. In those days, however, the higher honours were more easily obtained. *W. T.*

Iris unguicularis (see p. 51).—A not inconsiderable experience enables me to fully endorse the conclusions arrived at by Mr. Dykes, that April is by far the best period of the year to break up and replant this Iris. With its flowering then practically at an end, evidences of new growth are soon apparent, and synchronising therewith is renewed root activity. Hence a primary advantage of April planting—and early April more particularly—is that new annual top growth and fresh root activity continue without check, to the benefit of the plant, in the position it is destined to occupy. For no other season of planting can so much be claimed. I say this without hesitation, having planted the species in May and June and with the experience of the behaviour of plants received from Holland, and elsewhere, so late in the season as October or November. Often enough these imported plants are useful object lessons. Recently divided as they usually are, and top growth curtailed to the

extent probably of one half its length, the plant suffers not a little, should severe weather ensue, if it is simply laid in by the heels in the soil without other protection. This being so, I have often resorted to planting in boxes, and the warmer soil conditions of weathered ashes, or ashes and coconut fibre mixed, placing the batch in frames if necessary. The bulk being required for orders it was in the execution of these and the residue therefrom that interesting hints were obtained. Generally it was found that in the warmer rooting mediums early root activity was promoted without loss of plants. Late imported Odonis, Helleborus (Christmas Roses) and others which suffer much during winter in the soil, may be preserved in the same way. As to soil, where it consists of a light loam, I have usually restricted the depth of the prepared bed to 18 inches or thereabouts, adding old mortar rubble or a little lime. In gardens where the soil is retentive and heavy I advocate a raised bed and specially prepared ground. This not infrequently necessitates discarding some of the original soil and substituting a few inches of ashes or brick rubble to insure a more complete drainage and prevent, so far as possible, the roots descending into the stronger soil below. While in no wise fastidious this Iris thoroughly appreciates a calcareous soil, and a mixture containing lime in some form is desirable. Other items of cultural importance include very firm planting arranging the rhizomes quite near the surface, and should dry conditions prevail at the time, a few soakings of water during the season of active growth. *E. H. Jenkins.*

THE APIARY.

By Chloris.

Hives.—The shortage of sugar has made many people anxious to keep bees, for honey can be utilised for nearly every purpose for which sugar is used, and is much more valuable as a food. Beginners need advice about the choice of a hive, and how to make one. The old-fashioned skep, though picturesque, is not adapted to the modern methods of bee-keeping, nor so profitable as frame hives. There are two kinds of wooden hives which claim the attention of all modern apiarists—one, the single-walled hive; the second, the "W.B.C." hive, which is named after the initials of a famous bee-keeper, William Broughton Carr. The great disadvantage of the single-walled hive is that there is a great tendency for water to penetrate it, and thus render the bees liable to dysentery. For this reason I strongly recommend the "W.B.C." hive to all bee-keepers; and, having settled on a type of hive, to keep to that selected, and have one set of measurements, so that all parts will be easily interchangeable.

Hive-making. Good, straight-grained, well-seasoned wood is essential to the making of a hive, and it should be about ½ inch to ⅝ inch thick. Wood, no matter how good, is very liable to rot, and to deteriorate through fungous attacks. Further, the interior is liable to become damp through condensation, which in itself promotes decay. Beginners, being desirous of checking decay, at once use some of the common rot-preventers; but these are generally highly injurious to bees, and therefore should not be utilised. To overcome the ill-effects of damp, some bee-keepers make a practice of scorching the interior walls with a blow-lamp; and this also makes the hives more sanitary.

All parts of a hive should be movable, so that it may be placed higher or lower, according to needs. In Fig. 46, **a** is a floor of 1 to 1¼ inch boards, fixed by joists to legs which extend beyond the joists 6 to 8 inches; **e** is the alighting-board, and slopes to the interior of the hive to the centre; **f** is the entrance, which must allow for a clear space of $\frac{3}{16}$ of an inch, at least, and not more than ¼ of an inch, and extends about 1 foot in length, for it must have a flat part of 2 to 3 inches at each end for the hive to rest on and to close the ends; **b** is the body-box, or brood-chamber, and is 9 inches deep. To cover the joint all round, plinths (**g**) are nailed on to the upper part, and these are usually ⅜ inch thick—bevelled on the top edge to throw off the rain—and 1½ to 1¾ inch deep. The porch (**h**) extends from end to end of the front, with both ends closed to throw the rain free of the entrance (**f**); **i** is a rabbeted slip of wood, to carry two strips of wood to open or contract the entrance; for in winter the entrance must be closed, to allow one bee only to pass at one time. As the weather becomes warmer, and the bees busier, the entrances should be opened gradually until at last they are the full width apart; **c c** are lifts, and are used to make room for the bees to store surplus honey. These are usually about 6 inches deep. The roof (**d**) slopes towards the back, to allow the water to run off, and extends 3 or 4 inches beyond the front and the back. To render the roof waterproof, it is essential to cover it with thin zinc or painted and well-stretched calico. The inner parts of the hive are lidless and bottomless boxes, and, as ten frames are usually placed in the brood-chamber, they need to be 16½ inches long, which leaves ample space for two ⅜ inch division boards being placed one at each end—to contract the interior space, if needed. The projecting portions (**j j**) are metal strips, to carry the ends of the frames, so that the bees cannot easily fix the frames by propolising.

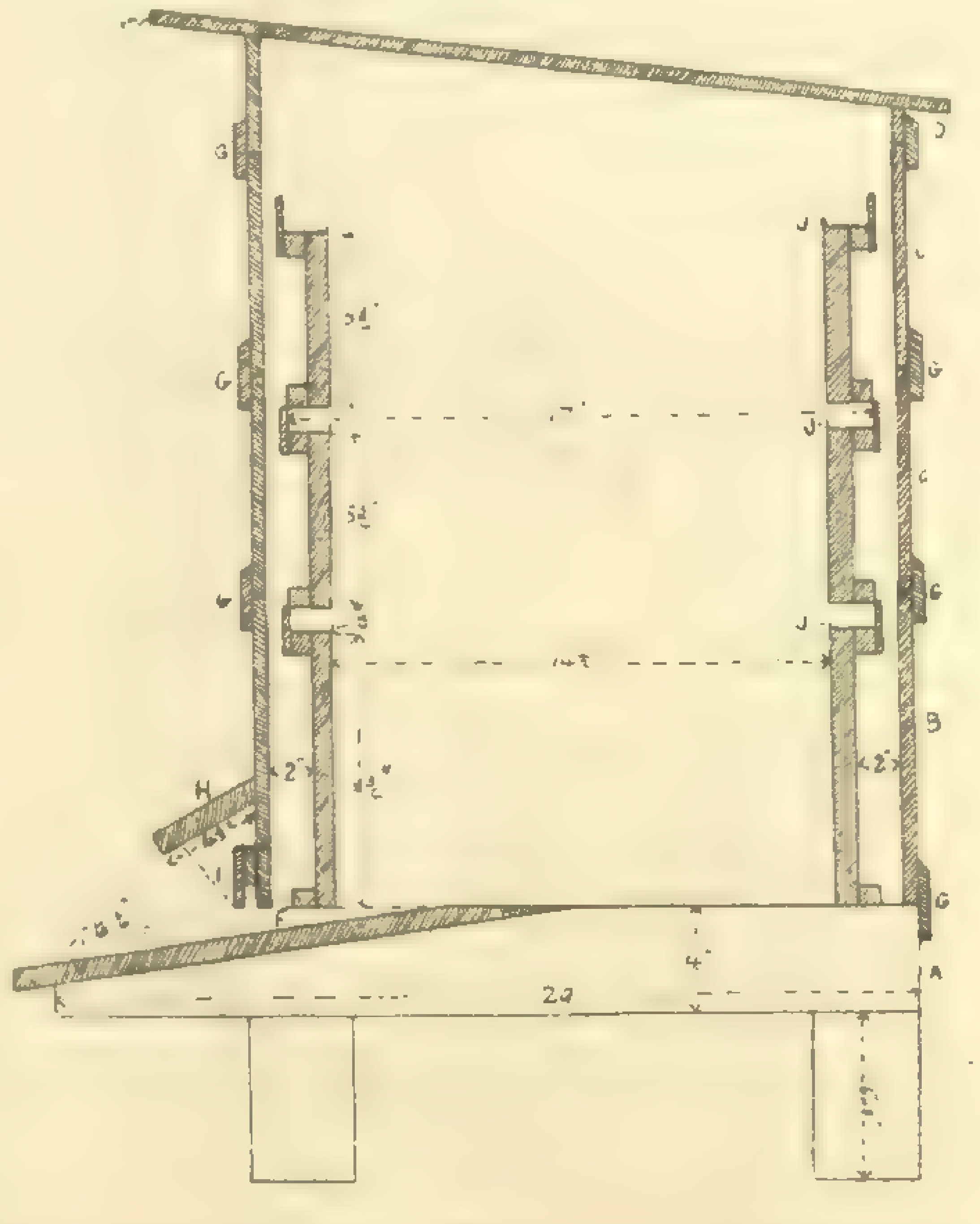

FIG. 46.—SECTION OF A "W.B.C." HIVE (see text).

SOCIETIES.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

FEBRUARY 6.—*Committee present:* The Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, D. A. Cowan, J. Cypher, J. Howes, A. Keeling, D. McLeod, E. Rogers, J. Benstead, and H. Arthur (secretary).

GROUPS.

A large Silver Gilt Medal was awarded to S. Gratrix, Esq., Whalley Range (gr. Mr. J. Howes), for a group of Cypripediums. Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. E. Rogers), were awarded a Silver Gilt Medal for a group of Cypripediums and Odontoglossums. T. Worsley, Esq., Haslingden (gr. Mr. T. Wood), was awarded a Silver Medal for a group of Cypripediums.

The Hon. Robert James, Richmond (gr. Mr. Benstead); R. Ashworth, Esq., Newchurch (gr. Mr. Hough); Mr. W. Shackleton, and Mr. D. McLeod were also exhibitors.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a group of Cypripediums and Dendrobiums.

AWARDS.

First-Class Certificates.

Lycaste Skinnerii vars. Rainbow and *The Gem*, from Mrs. Bruce and Miss Wrigley.

Cypripedium Queen of the Belgians var. majesticum, from S. Gratrix, Esq.

Awards of Merit.

Odontioda Hippolyta (Charlesworthii × ardentissimum), *Cypripedium Lord Wolmer var. Emperor*, *Odontoglossum crispum Louis Sander*, *Brasso-Cattleya Mary Gratrix*, and *Dendrobium Fairy Queen* (Rolfeæ × Wiganiæ), from S. Gratrix, Esq.

Odontoglossum Chas. Frenchum (amabile × Rolfeæ), from the Hon. Robert James.

Cypripedium Olympus var. Don Juan (Alcibiades × Leeanum Clinkaberryanum), from T. Worsley, Esq.

Award of Appreciation (1st Class).

Odontioda Earl Kitchener (Bradshawiæ × Rolfeæ), from S. Gratrix, Esq.

FEBRUARY 10.—*Committee present:* Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, D. A. Cowan, J. C. Cowan, J. Cypher, J. Evans, J. Howes, A. Keeling, J. Lupton, D. McLeod, W. Shackleton, and H. Arthur (secretary).

Groups.

S. Gratrix, Esq., Whalley Range (gr. Mr. Howes), was awarded a Silver Gilt Medal for a group of Cypripediums in variety. P. Smith, Esq., Ashton-on-Mersey (gr. Mr. E. W. Thompson), staged Odontoglossum crispum Fowmum Silver Medal. Dr. Craven Moore, Victoria Park Manchester (gr. Mr. T. Arran); Col Sir J. Rutherford, Bart., M.P., Blackburn (gr Mr. J. Lupton); Mr. D. McLeod, Chorlton; and Mr. W. Shackleton, Bradford, all staged a few Orchids.

AWARDS.

First-Class Certificates.

Odontoglossum crispum Fowmum (Fowlerianum × Mundayanum), *Laelio-Cattleya Eunice alba Haddon House var.* (L. anceps alba × Catt. chocoensis), from P. Smith, Esq.

Cattleya Trianæ Samuel Gratrix, from S. Gratrix, Esq.

Odontoglossum eximium Alpha, a heavily blotched variety, from Dr. Craven Moore.

Awards of Merit.

Dendrobium Mrs. T. B. Haywood; *D. Melpomeme magnifica*; *Odontoglossum Rossimium* (Rossi rubescens × eximium), and *Harvingtonii excellens*; *Cypripedium Conference var. Imperator*, from S. Gratrix, Esq.

Odontoglossum Luptonii (Edwardii × ardentissimum) from Col. Sir John Rutherford, Bart., M.P.

Cultural Certificate.

To Mr. J. Howes, for Dendrobium Mrs. T. B. Haywood, D. Melpomene magnificum, and Cattleya Trianæ Samuel Gratrix.

CROPS AND STOCK ON THE HOME FARM.

The Replanting of Woods.

The huge quantities of timber cut on many estates will provide ample opportunity for planting, which should be taken in hand at once. The question that will be uppermost in the mind of those with little experience will be what is the best kind of tree to plant for a quick return and for future generations. Where Larch succeeds, as it usually does, in a deep loam or in sandy soils, this is no doubt one of the best trees to plant; either large or small, the timber is always in demand, and especially for estate work. In heavy loams overlying a stiff subsoil of clay, even though chalk abounds lower down, Larch canker will affect the trees when they are fifteen years old; that is my experience. If the trees pass that stage free from disease they usually remain healthy, and although they do not make extra rapid growth afterwards, the wood is of good quality. If the stiff subsoil of such land which is naturally detrimental to the growth of the Larch, could be broken up by trenching or steam cultivation to admit of a free passage of water from heavy rains, I am of the opinion that the trees would not have canker. This I have proved on a small way by trenching the soil forty years ago for clumps of trees including Larch. Not one

Larch in such clumps was affected, although close by in similar soil hundreds of trees were attacked.

I have great confidence in Corsica Pine for giving a quick return and growing freely in all kinds of soil. The growth is free, clean and, for inside work, the timber is excellent from trees twenty-five or thirty years planted. Another point in favour of Corsican Pine is that rabbits do not eat the trees to the same extent that they do other kinds of Fir. Spruce to supply timber for home use is valuable, the trees growing fairly fast in any soil.

Scots Fir is also desirable, and where it flourishes should be widely planted, as the timber is very useful.

Austrian Pine is quite second rate as a timber tree; it has a nasty "kink" at the base for quite a yard up the stem which quite spoils the timber. Growth, too, is slow. As a wind screen for any site or purpose this Pine is unrivalled.

A short time ago a writer recommended Douglas Fir for chalk; my experience is that it will not exist in chalk, let alone flourish.

Thuja Lobbii was named as a desirable tree to plant. Thirty years ago I planted in one block 2,000 trees in stiff soil. From the commencement they grew faster than the alternate Larch planted among them, and the Larch is now 40 feet high with butts quite 15 inches in diameter, very straight stems. I have but faint hope of their value as timber trees under eighty years growth; the wood is too soft to be of value, and age is required to develop the heart of the tree, as the outer portion contains so much sap.

Some writers on forestry advise a mixture of hardwood and Firs; I think such advice is wrong, one tree interfering too much with the growth of another. My plan is to plant in "blocks" of one sort, whereby the trees are drawn up straight with a minimum of knots. Hedgerow trees should convince anyone that timber trees do not require space for the growth of side branches. The same principle of block planting applies to hardwood trees, such as Ash, Beech, Chestnut, and Oak. No doubt where Ash succeeds it is the most profitable wood to plant but it rquires a deep loam soil to ensure a quick return. One of the greatest mistakes made in planting forest trees is that of planting specimens, especially if they have not been regularly transplanted. In the case of Conifers, including Larch, the trees should not be more than 18 inches high. With trees of this size or less there are fewer failures than when larger specimens are planted. *E. Molyneux, Swanmore Farm, Bishop's Waltham.*

Obituary.

F. Ducane Godman.—The late Mr. Frederick Ducane Godman, D.C.L., F.R.S., whose death occurred on Wednesday, the 19th ult., was a keen horticulturist, and at his country house near Horsham he had one of the most beautiful gardens in Sussex, where he had fine collections of Rhododendrons, alpine plants, and Orchids. Mr. Godman, who was in his eighty-fourth year, was the third son of Joseph Godman, of Park Hatch, Godalming. Although his early education at Eton and Cambridge gave him no special scientific advantages, he was born with a love for natural history. He had travelled widely, and was a great sportsman in the best sense of the word. As a zoologist, Mr. Godman was best known as the joint author and publisher of a most important series of natural history books. As an undergraduate at Cambridge he became intimate with the late Osbert Salvin, F.R.S., and the two men worked together in producing a great work on the natural history of Central America, which was begun in 1879 and completed only in 1915, some years after Salvin's death. Mr. Godman was also the author of a work on the natural history of the Azores, published in 1870. He was an indefatigable collector of birds and butterflies, and a most generous supporter of the British Museum of Natural History, to which the whole of his collections, amounting to many hundreds of thousands of specimens, were presented several years ago.

James Legg.—Mr. Jas. Legg, who died on February 27, in his 68th year, at Walton Hall Gardens, Warwick, was known as one of the most able gardeners in the Midlands. His ready wit and jovial disposition obtained for him a large circle of friends, who will greatly miss his genial presence. Mr. Legg had charge of the gardens at Walton Hall for forty years, and leaves a wife, one son, and a daughter. The son, who followed his father's calling, is now gardener at Warter Priory, Yorkshire.

TRADE NOTES.

LABOUR PROBLEMS.

The difficulties which have arisen owing to the position in which both employers and employed have been placed by changes of conditions due to the War could scarcely be expected to leave the Horticultural Trade untouched, and they undoubtedly call for sympathetic consideration on both sides. Fortunately, the hot-headedness and ignorance of the immutable laws of economics, which are endangering the future of certain other trades, are not likely to affect the calmness and soundness of judgment which experience has shown may be expected from those whose avocations on the land bring them into daily touch with the laws of nature, whether their position be that of employer or employed. One of the best features of horticulture has always been the feeling of mutual

Fig. 47.—The late Mr. James Legg.

understanding and respect which has existed in the trade, and it is pleasant to note the sympathy with which nurserymen, at all events, are looking into the problems with which their workpeople are faced, especially in view of the increased cost of living.

The problem mainly resolves itself into the question of wages and hours of labour, and the best solution is not one which can be arrived at off-hand. From the employers' point of view, it has to be recognised that the enjoyment of a garden is in the nature of a luxury which in these days many of the public are prepared to forego rather than give up other luxuries such as expensive motor cars or travelling abroad. If, therefore, the nurserymen increase the price of horticultural produce beyond a certain point customers will merely cut down the outlay which they have hitherto expended on their gardens, with the result that the nurserymen will have to put up with loss of business: this of course carries with it the inevitable reduction in his capacity to offer employment. The usual laws of demand and supply necessarily therefore fix a limit beyond which it is impossible for a nurseryman to charge his customers, even if his cost of production should rise so high as to leave no profit as an incentive to him to remain in the business.

On the contrary it is equally obvious that gardeners cannot at present do a fair day's work and maintain their families at the wages which were customary before the year 1914. If a manual worker is to do good work he must at least have the incentive of feeling that in return for his labour he is able to keep his head above water financially. It is clear, therefore that there must be an increase in wages, so long as the increased cost of living remains as a factor to be faced, and it is fair to admit that the majority of employers already acknowledge this necessity.

The question of the form in which any increase in wages should be made is itself by no means an easy one to decide, as it is clear that owing to the peculiar condition of the Horticultural Trade manual workers cannot put in so many hours of labour during the dark winter months as they are able to do during the summer. There are at least two methods of arranging the increase in wages, viz: (1) To spread the annual increase equally over the whole year by paying a larger weekly wage, irrespective of the number of hours worked either in winter or summer, or (2) to allocate the increase according to the number of hours of work put in, which would mean more wages earned in the summer than in the winter.

The difficulty which arises in connection with the latter method is that during the winter the manual worker is still faced with the problem of having to expend a minimum weekly sum in order to maintain his family, and the fact that he is precluded by darkness from working as long in winter as he can do in summer is, of course, a matter which cannot be expected to interest either his butcher or his baker! It has to be recognised therefore that, even during that season of the year when shorter hours of labour obtain, there must be a minimum weekly wage below which the employee cannot live. On the other hand if the employer spreads over the entire year the increase in wages (for which he can only look to be compensated for the additional work put in during the longer days of the summer months) there is always the danger that the less thoughtful among the workers may expect to "have the matter both ways," that is to say, forgetting the extra benefits which they received during the winter months in anticipation of their summer labour, they might still expect to receive full payment for the extra hours of work put in during the summer, with the result that the employer would to some extent be paying twice over.

On the whole, the best method would appear to be that of adopting a fixed minimum wage throughout the year, based on the cost of living as it may vary from time to time, together with some additional remuneration to be paid in respect of the longer hours to be worked during the summer months. This, however, still leaves open the question of what is to be regarded as a standard day's work. It is obvious that those who work on the land are not subjected to the same unhealthy conditions or to the strain of close concentration on minute mechanical implements which represent the normal life of the worker in town factories. A comparison, therefore, of the hours of labour put in by the horticulturist with those of the factory worker would be unpracticable and misleading. On the whole it would seem that a fair standard of the minimum number of hours work to be put in by the manual worker in horticulture would be 48 hours weekly, together with an average of an additional six hours per week during the summer months. This extra six hours might perhaps be paid for at a somewhat higher rate, such as, for instance, time and a quarter.

The proposal which has been made in certain quarters that there should be a fixed minimum wage for manual workers engaged in "intensive" cultivation and a lower fixed minimum wage for those engaged in "extensive" cultivation is not so easy of application as might appear at first sight. If land devoted to the former method were set apart, with a special gang of workers, quite distinct from land devoted to the latter purpose, no difficulty would arise, but in practice it is obvious that the two methods of cultivation are in many instances hopelessly intermixed. The manual worker in horticulture may, for instance, be employed for an hour or two on work which might be described as "intensive cultivation," and immediately afterwards he may be employed for two or three hours on work which could

only be described as "extensive cultivation." For these reasons, it would seem impossible to draw a dividing line between the two, and it must of course be borne in mind that the proposal only applies to a *minimum* wage. In practice, the man who has the skill and knowledge necessary for intensive cultivation already receives a higher wage than a man employed on extensive cultivation. It is obvious that the latter cannot be expected to be paid as highly as the former, and the skilled operator would have just cause for complaint if he were dragged down to the level of the unskilled worker. The more practical course would appear to be to fix a minimum rate of remuneration for the unskilled worker, while leaving the skilled worker to arrange with his employer for the extra wage which his additional knowledge and earning capacity would enable the employer to pay. *D.M.*

The new "Ministry of Ways and Communications Bill" is likely to meet with considerable criticism from the Commercial Members of the House of Commons. If the Bill goes through in its present form, the Minister will have the powers of a Dictator in connection with all matters of transport, his jurisdiction extending over railways, ports, canals and roads, in addition to electric power supply. It has often been remarked that trade is the life-blood of a country, and it is no exaggeration to say that our railways, roads and canals are the arteries through which this life-blood flows. It is possible to cause congestion in these arteries, not only by providing an inefficient service, but also by charging rates for the carriage of merchandise in excess of what a Trade is able to bear.

In these circumstances, traders will view with grave apprehension the provisions in the Bill to the effect that the Minister in charge of this Government department is to have power to order the railway companies to charge any rates that he may think fit for the carriage of goods. Hitherto the power to raise rates has at least been limited to the maximum amounts permitted by the Railway Charges Orders, and any unreasonable raising of rates could be challenged before the Railway and Canal Commissioners. The new Bill provides, however, that any rates which are increased by order of the Minister of Ways and Communications shall be deemed reasonable, even though they may be beyond the maxima fixed by the existing Railway Charges Orders. Unless the Bill is drastically amended, therefore, it would seem that in future the rates for transport of goods will be practically unlimited according to the discretion of the Minister, who in his turn will doubtless be advised on matters of detail by his subordinate officials.

The Minister now nominated for the post will doubtless endeavour to hold the balance fairly between the railway companies and the public, but his task will be a difficult one, as, by reason of his training and past experience, it seems inevitable that he should be saturated with the railway point of view, and it is not unnatural to anticipate that many of his subordinate officials will have had similar training. It is to be hoped that the Chamber of Horticulture may give early attention to the position of the Horticultural and allied trades under the new conditions; the Chamber certainly seems to have made its appearance at the moment when united action by the Trade, both for defence and constructive reform, has become more urgent than ever. *M.*

The Offices of the Chamber of Horticulture will be removed as from Monday, March 10, to 11, Adam Street, Strand, W.C. This address is only temporary, pending the selection by the Organising Committee of a building in which the Chamber may be permanently located, and in regard to which building the Organising Committee is now in negotiation. It is hoped however, that until permanent arrangements are effected, the Organising Committee may be able to render to each and every Member of the Chamber such assistance and benefits as were comprehended in the privileges of membership originally offered.

Mr. John Coombes, late organiser of spraying under the Food Production Department in the counties of Gloucester, Hereford and Worcester, has been appointed representative of the Mond Nickel Company, Ltd., in the Western counties, in connection with the firm's activities in spraying.

The Spalding and District Bulb Growers' and Market Gardeners' Association have passed a resolution asking the Government to retain the embargo upon the importation of bulbs until a year after peace is signed.

LAW NOTES.

Failure of a Market Gardener.

At the offices of the Official Receiver for the Edmonton District, Bedford Row, W.C., on Tuesday, the 25th ult., the first meeting of creditors was held under the failure *re* Alfred John Burton (Senr.), of Bush Hill Park Farm, Bury Street, Lower Edmonton, farmer and market gardener.

The statement of affairs filed by the debtor showed gross liabilities amounting to £4,000 17s. 5d., of which £1,831 7s. 5d. was due to unsecured creditors: to fully secured creditors. £2,142 2s.; the value of the securities being also returned at £2,142 2s. The total liabilities expected to rank against the estate for dividend were returned at £1,848 15s. 5d. The assets were valued at £20, from which £10 had to be deducted for the claims of preferential creditors payable in full: leaving net assets at £10, and disclosing a deficiency of £1,838 15s. 5d. The unsecured liabilities include £805 due to moneylender, £500 for private loans, £287 10s. 6d. for judgment and costs in a law action, £39 1s. 11d. for other law costs, the balance being for goods supplied or work done. The fully secured creditors are the freeholder of the farmhouse, the bill of sale holder, and the bank—which holds a charge on a life policy for £500. There are practically no assets. Mr. Frederick Seymour Salaman was appointed trustee.

ANSWERS TO CORRESPONDENTS.

Caterpillars Eggs on Plum Tree: *Ajax.* Probably the caterpillars which cause the leaves to curl are those of the Winter Moth or allied species, though we cannot say for certain without seeing them. Spraying with arsenate of lead would kill them by poisoning the leaves on which they feed. Spray as soon as you see any of the pests. If you grease-band the tree in October, and smear a band of grease along the wall level with that on the tree, you would catch many of the wingless female moths and largely prevent egg laying and caterpillar infestation another year.

Head Gardener's Notice. —*D. J.*: Your employer is not entitled to alter the terms of your engagement without giving you one month's previous notice, or a month's wages instead of notice. This applies both to the alteration in your position and to the stoppage of pay for Sunday duty. Consult the solicitor who does most work in your local county court.

Names of Fruits: *M. E. L.* Newton Wonder Apple: the spots on the fruits are caused by a fungus known as "Bitter Pit" and a damp fruit room would favour the development of the disease. —*T. L. I.* The pale green Apple is Lemon Pippin; the striped one was decayed.

Names of Plants.—*C. C.*: Eranthis hyemalis *A. H. K.*: Daphne odora variegata and Prunus japonica roseoflore pleno.—*B.*: Chlorophytum elatum. *T. W. W.* Billbergia nutans. *D. S.* 1. Pandanus Veitchii: 2. Codiaeum Reidii: 3. C. varigatum: 4. Eupatorium Weinmannianum: 5. Codiaeum illustris.

Old Chrysanthemum Stools: *C. C.* The plants which were grown under glass in autumn may be used for planting in the open this year provided they are not exhausted. If kept in a cold frame, they should have begun to grow by this time, consequently it would be an easy matter to divide the stools and plant the separate portions early in April.

Peach Trees: *M. P.* It is not necessary to remove the Peach trees from the wires on which they have been trained, but for the sake of cleanliness, and to make sure that no ties are cutting the stems, it is a good plan to remove all the branches and retrain them after the wires and all parts of the Peach house have been thoroughly cleansed.

Pear Tree Cankered: *J. P.* The Pear tree growths submitted show evidence of a rather severe attack of canker (Nectria ditissima), a fungous disease which is all too common in Apple and Pear trees. Specimens which are badly diseased should be grubbed out and burned. In the case of a less virulent attack the cankered branches should be cut away, and in some instances it may be possible to save a branch by cutting away the diseased portion, smoothing the cut surface with a sharp knife or spoke-shave, and immediately dressing it with tar.

Seed Potatos with Rough Skins: *H. G.* There is no evidence of fungous disease or of damage by insect pests in the sample of seed Potatos sent. The roughening of the skins is due to some irritant matter in the soil in which the Potatos were grown, and as it is of a very superficial character they are quite suitable for seed purposes.

Seeding Cinerarias and Primulas: *E. G.* To secure a good crop of seeds of Cinerarias and of Primula malacoides the plants should be kept in a light and airy greenhouse. They should have sufficient moisture at the roots, but must not be over watered, and the atmosphere of the house should be kept quite dry.

Small Cyclamen: *C. C.* The small plants should be kept in a warm greenhouse near the roof glass for several weeks longer. They may then be transferred to a pit or frame where they may be kept close for a week or so and then receive fresh air according to the weather conditions prevailing. The plants should be potted as necessary and syringed over-head twice daily in suitable weather.

Treatment of Arum Lilies: *W. L. A.* From the description you give of your Richardias (Arum Lilies) we suspect that they have either been injured by frost or aphis. A minimum temperature of 50° is suitable, with sufficient air to prevent the plants making weakly growth. Examine the roots and, if these are active, give them weak doses of liquid manure. It is too late to repot the plants this season. A good practice is to plant them out in May; the only attention required in summer is to give them plenty of water. Lift the plants in September with plenty of soil, and pot them in a mixture of four parts loam, and one of leaf-mould and short dung. The next few weeks is a good time to pot Asparagus Ferns.

Violets: *J. M. S.* If the runners are pegged to the soil early in April they will root and be ready for planting out in May, 12 to 15 inches apart, in a border previously prepared for them. To propagate Violets from cuttings select stout shoots, 3 or 4 inches in length, from short-jointed runners during the autumn, and dibble the cuttings in light sandy soil in a frame facing south, as near the glass as possible. As soon as the cuttings are rooted give them cool treatment to prevent damping. They should be planted in the open in April, selecting stiff, stocky plants for the purpose, giving them the usual summer treatment afterwards. Much depends on propagating from healthy stock, but as a general rule, the healthiest plants are raised from cuttings and runners, rather than from division of the old plants. The greatest success is obtained when these plants are treated as hardily as possible: they will not thrive for long in stiff, heavy soils.

Communications Received.—A. J.—A. S.—R. D. J.—R. A. R.—H. M. V.—A. A. D., Uganda—W. T.—Mrs. H. A. T. B.—M. W.—W. J. B.—R. W. T.—C. F. C.—L. C., Nagnio—F. G.—H. W.—H. W., Holland—J. B., York—W. N. W.—P. S. H.—C. F. W.

1919
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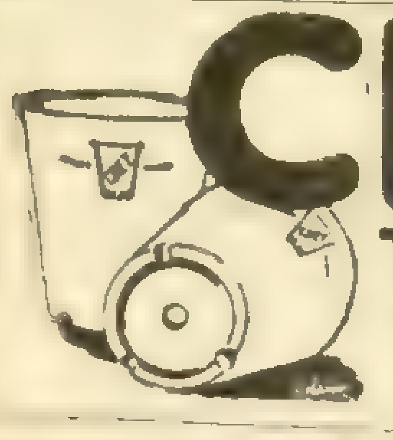

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MARKETS.

COVENT GARDEN, March 5.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Ericas, con.—	
— Sprengeri ...	10 0–12 0	— melanthra 48's per doz. ...	30 0–36 0
Aspidistra green	30 0–60 0	Marguerites white	18 0–24 0
Cyclamens ...	30 0–36 0	Palms, Kentias ...	18 0–24 0
Ericas— ...		—— 60's ...	15 0–18 0
— hyemalis ...	24 0–30 0	—Cocos	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum— Cuneatum, 48's, per doz. ...	10 0–12 0	Nephrolepis, in variety, 48's	12 0–18 0
—elegans ...	9 0–10 0	—32's	24 0–36 0
Asplenium, 48's, per doz.	10 0–15 0	Pteris, in variety, 48's	9 0–12 0
— 32's	21 0–24 0	—large 60's ...	4 0–5 0
— nidus, 48's ...	10 0–12 0	—small 60's ...	3 0–3 6
Cyrtomium, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arums—		Lily-of-the-Valley, per bun. ...	9 0–10 0
— (Richardias), per doz. bl'ms.	18 0–21 0	Narcissus ornatus, per doz. blooms	18 0–21 0
Azalea, white, per doz. bunches	12 0-15 0	Orchids, per doz :—	
Camellias, 12's-18's per box ...	7 0 8 0	—Cattleyas ...	24 0–30 0
Carnations, per doz. blooms, best American var.	8 0 10 0	-Cypripediums,	6 0– 8 0
Daffodils single, per doz bun.		Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
— Emperor ...	18 0–24 0	— white, per doz. bunches ...	10 0–12 0
— Golden Spur ...	18 0–21 0	Roses, per dozen blooms—	
— Henry Irving .	10 0–12 0	— Richmond, var.	18 0–24 0
— Victoria ...	18 0–21 0	Snowdrops, per doz. bun. ...	3 0– 4 0
— Princess ...	12 0–15 0	Tulips, per doz. blooms—	
Freesia, white, per doz. bunches	6 0 8 0	— mauve ...	6 0– 8 0
Heather, white, per doz. bun.	6 0-10 0	— white	9 0–10 0
Lilac, white, per bunch, 6's ...	4 0– 6 0	- yellow, per doz. blooms	5 0– 6 0
Lilium longiflorum long	35 0–36 0	Violets, single, per doz. bun. ...	8 0–10 0

Remarks.—The supplies of cut blooms are not sufficient for the demand, even at the present high prices. White flowers are still in great request and Salesmen find it impossible to supply their customers' full requirements. A good supply of flowers from Guernsey and Scilly arrived to-day, consisting chiefly of **Narcissus Grand Primo** (white), **Narcissus Sol d'Or**, double and single **Daffodils**, small quantities of **Freesia**, **Richardias** (Arum Lilies), **Violets** and **Allium** (Star of Bethlehems). All white flowers are selling freely, but the supplies are very irregular. French flowers are arriving in a very unsatisfactory condition. Paper White Narcissus is almost over for the season, and there are very few Stocks or Star of Bethlehem, which is the usual substitute for Stocks White Lilac is arriving from Holland in excellent condition,. also small consignments of White and Coloured Tulips. Amongst the Home Grown flowers Darwin Tulips in various shades are very prominent just now, and are realising good prices. Daffodils are also arriving in excellent condition: the finest varieties are Emperor, Victoria, Sir Watkin, J. M. Berkley, Princeps and Golden Spur. Good spikes of Ornatus are arriving in limited quantities only. Red Roses are gradually increasing in quantity, including a few excellent blooms of Ophelia, Sunburst, and a few choice white blooms offered by Mr. Beckwith at prices ranging from 18s. to 24s. per dozen blooms.

Fruit: Average Wholesale Prices.

	s. d. s. d		s. d. s. d.
Cranberries, per case	40 0–44 0	Nuts, con.—	
Grapes : —		—Cobnuts per lb.	1 7– 1 8
— Almerias, per barrel (about 3½ doz. lbs.)	70 0–100 0	Walnuts, kiln dried, per cwt.	130 0–200 0
— Gros Colmar, per lb. ...	8 0–10 0	Pears, Californian (Easter Beurré), cases containing 8 to 10 doz. per case	40 0–50 0
— Belgian per lb.	5 0 —	— E. Beurré ½ case	22 6–25 0
Nuts—		—Winter Nelis, per case	75 0–80 0
— Almonds, per cwt.	110 0–112 0	—W. Nelis, ½ case	40 0–42 6
— Barcelona, per cwt. ...	110 0 —	Strawberries, per lb.	24 0–30 0
— Brazils (new), per cwt.	200 0–220 0		

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Jerusalem per bus. ..	3 0- 3 6	Lettuce, Cabbage and Cos per doz.	2 0– 2 6
—Globe, per doz.	7 0– 5 0	Mint, per doz bun.	6 0– 0 0
Asparagus, Devonshire, per bun.	60 0 —	Mushrooms per lb.	5 6– 8 6
— Paris Green, per bundle ..	13 0 15 0	Mustard and Cress, per doz. punnets	1 0– 1 3
— — Sprue per bundle ..	2 2	Parsley, per ½ bus.	6 0– 7 0
Beans, French, per lb.	10 0–12 0	Parsnips, per bag	5 0– 6 0
Beetroot, per bus.	5 0– 6 0	Potatos new, per lb.	2 0– 2 3
Brussels Sprouts, per ½ bag ..	8 0–10 0	Radishes, per doz. bunches ..	2 6- 2 0
Cabbage per tally	10 0–15 0	Rhubarb, forced, per doz. ..	3 0– 2 6
Carrots, per bag ..	11 0–12 0	Savoys, per bag ..	7 6-12 6
Cauliflowers, per doz	6 0– 3 0	Seakale, in boxes (6-8 lbs.) per lb.	9 0 10 0
Celeriac, per doz.	9 0–10 0	Shallots, per lb. ..	0 6– 0 8
Celery, per doz. ..	36 0–50 0	Spinach	16 0 17 0
Chicory, Belgian, per lb. ..	1 0– 1 3	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box	60 0 70 0
Cucumbers, per doz	21 0–24 0	Turnips, per bag	5 0- 6 0
Endive, per doz. ..	9 0– 6 0	Turnip Tops, per bag	10 0–12 0
Garlic, per lb. ..	0 5– 0 7	Watercress, per doz.	1 0– 1 3
Greens, per bag ..	8 0–10 0		
merbs, per doz. bun.	4 0– 6 0		
Horseradish, per bun	3 6– 4 6		
Leeks, per doz. bun.	8 0–12 0		

Remarks.—The English Grape crop is finishing, but supplies of **Belgian Grapes** have shown an increase, including Muscats. Californian Pears arriving in larger quantities consist of the Winter Nelis and Easter Beurré. Strawberries (forced) are now offered. The Oranges now available are Denias, Valencias, and Californian Seedless and Tangerines. Forced Vegetables still continue a limited supply. Of Teneriffe Tomatos a consignment is due this week of 6000 to 7000 Bundles, each consisting of four boxes containing 12 lbs. to 14 lbs. weight. Outdoor Vegetables are scarce.

GARDENING APPOINTMENTS.

Mr. T. Burn, for the last four years gardener and bailiff to J. H. B. Noble, Esq., Sandhoe, Hexham, Northumberland, as gardener to R. A. Tatton, Esq., Cuerdon Hall, Bambury Bridge, Preston, Lancs.

Mr. D. Thompson, for nearly three years with H.M. Forces, has resumed his duties as gardener to A. Swingler, Esq., Smalley Hall, Derbyshire.

Mr. W. J. Collis, for the past three and a half years Gardener to Percy Honri, Esq., at Cromwell Hall, East Finchley, as Gardener to R. E. Johnston, Esq., Terlings, Harlow, Essex.

Mr. Harry James, late Royal Engineers, and previously Second Gardener at Ware Park, Hertfordshire, and Bray Court, Maidenhead, as Horticultural Instructor to the Y.M.C.A. Training Centre for Discharged Soldiers, Rose Dene, Woldingham, Surrey.

Mr. T. F. Wheeler as Gardener to A. P. Hoskyns, Esq., Linholme, Holmbury St. Mary, Dorking, Surrey.

Mr. G. Austin, for the past six years Gardener to Guy Hannaford, Esq., Dainsu, Brancaster, Norfolk, as Gardener to Col. Royds, Stubton Hall, Newark, Nottinghamshire.

Mr. Geo. W. Grass,, for the past 18 months Gardener to S. P. Austin, Esq., Hollin Hall, Ripon, as Gardener at The Brockhall Inebriates' Reformatory, Langho-Whalley, near Blackburn, Lancashire.

Mr. B. Webster, previously seven years Gardener to Capt. E. H. M. Luckock, Brynderwen, Usk, Monmouthshire; as Gardener to Vincent W. York, Esq., Forthampton Court, Tewkesbury.

Mr. W. G. Warner, Gardener to Major Tryon, M.P., Manor House, Gt. Durnford, Salisbury, as Gardener to Sir Algernon K. B. Osborn, Bart., Chicksands Priory, Shefford, Bedfordshire.

Mr. Harry S. Fincher, late of the H.A.C., has resumed his duties as Gardener to Capt. H. L. Townshend, Caldecote Hall, Nuneaton.

Miss M. M. Prior, for the past 9 years Gardener to Miss Wyatt, Heathfield, Ascot, as Gardener to the Earl of Clarendon, The Grove, Watford.

Mr. Wm. C. Crisp, N.D., Hort., as Superintendent of Horticulture, Village Centre, Enham, Hampshire.

Mr. A. J. Legge has resumed his duties as Gardener to Sir Gerald Mildmay, Bart., Dogmersfield Park, Winchfield, after serving 2½ years in His Majesty's Forces. [Thanks for 2s. for R.G.O.F. box.—Eds.]

Mr. H. Deverell, three years and nine months with His Majesty's Forces, and for some time foreman at Angerton, Morpeth, Northumberland, as Gardener to Col. P. B. Cookson, Meldon Park, Morpeth, Northumberland.

Mr. F. Radford, recently discharged from His Majesty's Forces, and previously Gardener at Ashendene, Bayford, near Hertford, as Gardener to Mrs. A. Thompson, Mymwood, near Hatfield, Herts.

Mr. Charles Huitson, for the past nine years Gardener to Chas. Dorman, Esq., Rye Hill, Nunthorpe, as Gardener to Sir Arthur Dorman, K.B.E., Grey Towers, Nunthorpe, Yorkshire. (Thanks for 2s. for R G.O.F. Box.—Eds.)

SCHEDULES RECEIVED.

Walsall Floral Fete, to be held on Tuesday and Wednesday, August 5th and 6th, 1919. Secretary, Mr. A. Ashwell, 349, Bloxwich Road, Walsall.

Wolverhampton Floral Fete, to be held on July 9 and 10, 1919. Secretary, Mr. G. W. A. Martin, 46, Queen Street, Wolverhampton.

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Duke of York ...	4/9	9/3	18/-	35/6
Sharpe's Express ...	4/6	8/6	16/6	32/-
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Epicure	3/3	6/3	12/3	24/-
Harbinger	4/9	9/3	18/-	35/6
Sharpe's Victor ...	5/-	9/6	18/3	36/-
Sir John Llewellyn ...	4/6	8/6	16/6	32/-

Second Early and Maincrop Varieties.

	14lb.	28lb.	56lb.	112lb.
Arran Chief	3/-	6/-	12/-	23/-
British Queen ...	3/-	6/-	12/-	23/-
Factor	3/-	6/-	12/-	23/-
*Great Scot	3/-	6/-	12/-	23/-
King Edward VII. ...	3/-	6/-	12/-	23/-
*Kerr's Pink ...	4/9	9/3	18/-	35/-
*Majestic	6/6	12/6	24/6	48/-
*Tinwald Perfection	6/-	12/-	22/6	46/-
*The Lochar ...	3/6	6/9	13/-	25/-
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HEAD GARDENER, at liberty at once; life experience in all branches; fruit, vegetables and glass; capable of managing small estate or farm; Midlands preferred; just demobilised; good references.—Apply to Messrs. WILLIAM BARRON & SON, Ltd., Landscape Gardeners, Borrowash, near Derby.

HEAD WORKING GARDENER wanted for large Hotel on South Coast; Greenhouses, Vinery, Kitchen Garden, and Grounds; also Bees; 7 acres of grounds; hotel supplied with the garden produce; applicant must thoroughly understand upkeep of Croquet Lawns, Grass and En-Tout-Cas Tennis Courts; cottage and coal found (if married).—Apply, stating full particulars of experience, references, wages required, to HOTEL, Box 4, 41, Wellington Street, Covent Garden, London, W.C.2.

WANTED, HEAD WORKING GARDENER of 2, with extra help; good all-round experience; good references necessary.—Write, stating age, wages and experience to Lloyd, North Hall, Basingstoke.

EXPERIENCED GARDENER wanted for Laying out Grounds in West of England.—Apply, with full particulars, to M. M., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, GARDENER; knowledge of Poultry; live in, good comfortable room; two small Greenhouses; usual Indoor duties required; small house, two in family; general kept; 28s. per week, all found.—SMITH, Briarwood, Slough Lane, Kingsbury, Middlesex.

WANTED for Breconshire, good GARDENER and his WIFE; with knowledge of milking and laundry work respectively; wages for a suitable man not exceeding 30s. per week, in addition cottage, garden, &c.; laundry work paid separately; reliable references as to character and efficiency essential; preference to ex-soldier.—Capt. DICKINSON, 6, Inverness Place, Bayswater, London, W.

GARDENERS wanted, thoroughly experienced, as follows:—PROPAGATOR and GROWER of Decorative and Bedding Plants, Alpines, &c., also for raising vegetables in quantity. Two for Outside; Trees and Shrubs, Climbers, Roses, Herbaceous and Alpines, Lawns, &c. Good wages, according to experience and qualifications.—State full particulars, age, &c., CADBURY BROS., LTD. Bournville, Birmingham.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village, N.6.

WANTED, for a small estate on Surrey Hills, GARDENER and WIFE; no children; help given; wages, £2 and cottage.—Write, Box No. 12, c/o Dawson's, 121, Cannon Street, E.C.4.

WANTED, in North of London, at the end of March, a thorough practical man as GARDENER; wages, 35s. per week; no bothy; with cottage; small family not objected to; under gardener kept; good references essential.—Full particulars, age, etc., to Mr. BAYLISS, Box 19, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER wanted, single man, experienced, as Second, Inside. State age, wages required, etc., to J. HARRIS, Avisford Park, Arundel.

WANTED, a good WORKING GARDENER, to make himself generally useful in small garden. —Reply by letter, stating wages, &c., "I. W.," "Hawkhurst," Swanley Junction, Kent.

WORKING GARDENER required, Kitchen Garden and Lawns, Small Greenhouse; single man—no house; state experience; underman kept to assist: wages 45s. per week.—F. W. SALTER, Cranford Brough, East Yorks.

WANTED, first-class SINGLE-HANDED GARDENER; help of boy; married; small family; state age; good cottage residence, large rooms, on premises; small greenhouse; garden 2 acres. —Apply, ALEXANDER RICHARDSON, "Langland," Northwood, Middlesex.

SINGLE-HANDED GARDENER (experienced) wanted at once, chiefly for Vegetables and Fruit; no cottage; wages 36s.—K., Woodside, Stanmore.

WANTED, SINGLE-HANDED GARDENER or UNDER-GARDENER; must understand care of cows; Scotsman preferred; comfortable cottage; state wages and references to avoid unnecessary correspondence.—"G. F.," Box 3, 41, Wellington Street, Covent Garden W.C.2.

WANTED, SINGLE-HANDED GARDENER, for Country; under 40 years; about 2½ acres in kitchen garden; lawns and flowers; 2 vineries; help when required; wages 35s. and cottage.—MRS. SEVERNE, The Lodge, Thenford, Banbury.

WANTED, SINGLE - HANDED GARDENER, for Garden, 1½ acres.—Apply, stating wages and previous experience, to KILROY, Omard, Harrow Weald, Middlesex.

WANTED, SINGLE-HANDED GARDENER, thoroughly experienced Vegetables, Herbaceous Borders; Garden about 1½ acres, practically no glass; no cottage; must be single on account of accommodation.—Apply, stating wages, experience, R. M. WOOD, Flint Cottage, Boxhill, Dorking.

WANTED, SECOND GARDENER or good JOURNEYMAN.—Apply, full particulars, age, wages, &c., F. W. OVERILL, Revesby Abbey Gardens, Boston, Lincs.

WANTED, sharp MAN as SECOND; Inside and Out; 35s. Also UNDER, chiefly Outside, 30s. With excellent bothy and attendance. State full particulars, H. WRIGHT, Gallowhill, Morpeth, Northumberland.

WANTED, at once, SECOND GARDENER (married) for Inside and Out; able to take charge of Vines and Peaches; good wages and cottage. —Apply, stating age, experience and wages required, to Mrs. SELBY-LOWNDES, Shenley Park, Bletchley.

WANTED, SECOND with good experience in Fruit and Plant House; state age, wages and experience; good bothy, etc.; 1 o'clock Saturdays.—F. COBBETT, Idsworth Park, Horndean, Hants.

WANTED, SECOND GARDENER; single; used to Vines, Peaches, Pot Plants, &c; state particulars and wages expected (no bothy) to W. CAIRNS, Southill Gardens, Biggleswade, Beds.

GARDENER (SECOND); single; with all-round experience for inside and Out Duty. State wages required with reference.—U. JONES, Hilton Park Gardens, Essington, Wolverhampton.

WANTED, at once, SECOND GARDENER, where four or five are kept; experienced inside and out; single man; wages 35s. and lodgings.—Apply, stating all particulars, to LADY MURIEL WORTHINGTON, Maple Hayes, Lichfield.

WANTED, SECOND GARDENER. Inside and Out; single or married. Also TWO GARDENERS, accustomed to General Garden Work.—Apply, A. WAGG, Ossington Hall Gardens, Newark.

SECOND, Inside and Out, single, 36s. a week; no bothy. Apply, with particulars and references.—E. HICKEY, Goldicote Gardens, Stratford-on-Avon.

WANTED, good Carnation GROWER: also JOURNEYMAN and IMPROVER, for Fruit and Plant Houses; and a smart BOY for Gardens; good wages and Bothy.—Apply, HEAD GARDENER, Nostell Priory, Wakefield.

KITCHEN GARDENER (experienced) wanted; 33s. 6d., dwelling and garden; good references required.—E. C. WICKENS, Tewkesbury Lodge Gardens, Forest Hill.

WANTED, FOREMAN, Fruit and Plants; also JOURNEYMAN; bothy; state wages expected.—Full particulars to and from W. GEDDES, Brockwood, Alresford, Hants.

WANTED, FOREMAN for the Fruit and Plant Houses; journeyman and lad under; state experience, wages expected; lodgings close to gardens.—W. TRATT, Holywell Park Gardens, Wrotham, Kent

WANTED, thoroughly experienced OUTSIDE FOREMAN, for large Pleasure Grounds.; state wages, with references; good bothy, with vegetables and attendance; overtime paid; 1 o'clock Saturdays.—T. SIMPSON, Newstead Abbey Gardens, Notts.

WANTED, FOREMAN, for Fruit and Plant Houses; also JOURNEYMAN; state experience, wages required, with bothy and vegetables.—T. PETTY, Arlington Manor Gardens, Newbury.

WANTED, FOREMAN for Fruit and Plant houses; also YOUNG MAN as Kitchen Gardener; both single, energetic men, who understand their work.—Apply, with copies of references, to J. PITTS, The Gardens, Pett Place, Charing, Kent.

WANTED, FOREMAN and two IMPROVERS for Fruit and Plant Houses. Please state experience and wages expected, with bothy and vegetables; 12 o'clock Saturday.—Apply A. H. CASEY, Huntroyde Gardens, Padiham, Lancashire.

WANTED, FOREMAN or good JOURNEYMAN; also JOURNEYMAN and IMPROVER, for Orchid Houses; state experience, wages required, with bothy, &c.; 4 in bothy.—E. BRISTOW, Leyswood Gardens, Groombridge, Tunbridge Wells.

WANTED, two JOURNEYMEN, one Inside, one Outside; no bothy.—Wages and experience to J. KIRKLAND, Cherry Hinton Hall, Cambridge.

JOURNEYMEN (two) required, one for Inside and Out one; Pleasure Grounds and Tennis Courts; wages 30s. with bothy; duty each other Sunday. —Apply, GARDENER, Branksome Tower Hotel, Bournemouth.

WANTED, two Inside JOURNEYMEN.—Apply, stating age and experience, wages required, with bothy, milk and vegetables, W. SIMPSON, Ribston Park, Witherby, Yorks.

WANTED, JOURNEYMEN; Outdoors; 30s., bothy, vegetables, potatos, &c.; 1 o'clock Saturday; seven in bothy.—WHITELAW, Hever Castle Gardens, Edenbridge, Kent.

WANTED, seven Outdoor JOURNEYMEN; three experienced in Flowers and Vegetables, and four capable of undertaking general Outdoor work and make themselves generally useful; age 18 to 21; wages 28s. to 32s. weekly and vegetables; Sunday duty extra; no bothy.—Apply, "J. D.," Box 5, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, JOURNEYMEN or IMPROVERS, for Fruit and Plant Houses.—State full particulars and wages required, with bothy, milk and vegetables, to W. J. GUISE, Keele Hall Gardens, Newcastle, Staffs.

WANTED, JOURNEYMAN for Herbaceous Roses and general Flower Garden work; wages 32s. per week; bothy, vegetables and attendance duty paid extra; 1 o'clock Saturdays.—Apply to G. LOW, The Gardens, Lees Court, Faversham, Kent.

JOURNEYMEN (two) wanted, chiefly Outside; wages 30s. per week, bothy and attendance.—Apply, H. DEVERELL, Meldon Park Gardens, Morpeth, Northumberland.

WANTED, JOURNEYMAN for Inside; wages 30s. a week and bothy; duty alternate weeks.—Apply, T. DENT, Brynkinalt Gardens, Chirk, Denbighshire.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; wages 30s. per week; rooms provided.—State age, with copy of testimonials, to A. KETT, Bifron Gardens, Canterbury.

WANTED, two JOURNEYMEN for Inside and Outside; bothy and good wages.—C. B. ELLIOTT, Blyth Hall Gardens, Rotherham.

JOURNEYMEN required at once; one for Herbaceous Borders, Roses and Lawns; used to Horse Machines; also one for Kitchen Garden and General Garden Work; no bothy; good lodgings close; wages, respectively, 38s. and 36s.; 1 o'clock Saturdays; duty once a month.—Apply, with copies of testimonials, to H. E. WALLIS, Drayton House Gardens, Sherfield-on-Loddon, nr. Basingstoke.

WANTED, two JOURNEYMEN for the Houses, with some experience; good wages, with bothy; 1 o'clock Saturdays.—W. BUTLER, Wilton House Gardens, near Salisbury.

WANTED, experienced JOURNEYMAN for the Plant House, used to decorating. Good bothy, vegetables and attendance. Saturdays 1 o'clock —Apply, stating experience and wages required, P. C. WRIGHT, The Gardens, Ashton Wold, Oundle, Northants.

WANTED, experienced JOURNEYMAN; Inside; wages 33s., bothy and attendance; extra pay for duty.—Apply GEO. GURNEY, Bodnant Gardens, Taly-Cafn, N. Wales.

WANTED, two IMPROVERS, Inside and Out; wages 25s. per week, bothy and vegetables; 1 o'clock Saturdays.—Particulars to W. PILGRIM, Bodorgan Gardens, Anglesey

WANTED, MAN for Pleasure Grounds; 35s.; duty once in three weeks 2s., no extras.—FRY, The Court, Llandaff, Cardiff.

WANTED, an experienced MAN for Kitchen Garden; wages 36s.; no bothy.—Apply, W. GUTTRIDGE, The Gardens, St. George's, Ascot.

WANTED, an experienced MARRIED MAN, able to take the lead as Kitchen Gardener, with knowledge of Hardy Fruits; good wages and a good cottage to a suitable man.—F. J. CLARK, Aston Rowant Gardens, Oxon.

WANTED, two or three good MEN for general outside Market Garden work; good wages.—BEN MATTHEWS, Whitton Nurseries, Whitton, Twickenham.

WANTED, an experienced MAN (married preferred) to take the lead in the Pleasure Grounds; knowledge of Trees and Shrubs essential; good wages and cottage to a suitable man, or if single, 35s. per week without cottage.—Apply, with full particulars, copies of testimonials, and stating wages expected, to F. J. CLARK, Aston Rowant Gardens, Oxon.

WANTED, HANDY MAN; Painting, Glazing, Carpentering, Hot and Cold Water, &c.; good wages to capable, industrious man.—BEN MATTHEWS, Whitton Nurseries, Whitton, Twickenham.

WANTED, experienced single MAN for Inside and Out.—State wages required and particulars to W. OVENDEN, "The Gardens," Hethersett, Reigate, Surrey.

WANTED, two YOUNG MEN as Improvers. State wages and age, bothy, milk and vegetables.—Apply, J. E. DAVIES, The Gardens, Talygran, Pontyclun, Llantrisant, Glam.

WANTED two YOUNG MEN experienced in Kitchen Garden and Pleasure Grounds; take duty; bothy and vegetables; 1 o'clock Saturdays.—Particulars and wages to J. A. MULFORD, The Gardens, Merivale Hall, Atherstone, Warwickshire.

WANTED, two single MEN with experience chiefly for the Pleasure Grounds; Alpines, Borders, &c; good wages.—Apply to A. ROBBINS, Canons, Edgware, Midd.

WANTED, single MAN; good knowledge of Lawns and Flower Beds essential.—Wages, particulars to JONES, Shirenewton Hall, Chepstow.

WANTED, an experienced man for Pleasure Grounds; wages, 35s. per week and 5s. for duty alternate week.—Apply, J. METCALFE, 20, Avenue Road, Regents Park, N.8.

WANTED, experienced YOUNG MAN to assist Under Glass and Outside; able to take duty.—State wages and further particulars to HEAD GARDENER, Delrow House, Aldenham, Watford.

WANTED, an experienced MAN for Kitchen Garden and Pleasure Grounds; able to use Scythe; wages, 45s. per week.—Apply, G. EARP, The Grange Gardens, Highgate, N.6.

WANTED, two experienced MEN for Kitchen Garden; one to take lead. Also MAN for Pleasure Grounds; good wages, with or without bothy. —Apply, with references, to HEAD GARDENER, Upper Gatton Park, Redhill, Surrey.

REQUIRED, a single MAN for Rock Gardening; must be experienced in rock and Alpine Plants; both with heating, light and attendance.—State experience, age, and wages to HEAD GARDENER, Pasture Wood, Abinger, near Dorking.

WANTED, two experienced MEN for Kitchen Garden and Pleasure Grounds; good bothy.—State wages, to J. KIRKWOOD, Sutton Place, Guildford.

WANTED, strong, active YOUNG MAN, about 20, with some experience, chiefly Outside; able to take duty.—Full particulars, wages asked, with bothy, to S. A. CHEFFINS, Myton Hall Gardens, Helperby, York.

WANTED, YOUNG MAN, 23-24, chiefly for Stove and Greenhouse Plants; good experience. Also strong, active LAD, 16-17, as Improver; bothy, vegetables, etc.—W. PHILLIPS, Gardens, Deny Ormond, Llangybi, Cardiganshire.

MARRIED COUPLE wanted as COOK and GARDENER. Live in, all found; house parlourmaid kept. Good wages for suitable couple.—Write, MRS. FOWLER, Hurstmonceux, Sussex.

HANDYMAN wanted for Garden and Estate Work; Painting, &c.—Wages and particulars to LOWE, Grendon Hall Gardens, Aylesbury, Bucks.

FLORIST.—LADY with experience wanted, who can do really artistic work.—R. TUCKER & SONS, 16 George Street, Oxford.

TRADE.

WANTED, GROWER, &c., for Fruit, Tomatos, Cucumbers, and general market stuff. Apply, stating wages required and experience.—J. W. LAWSON, Harby, near Lincoln.

WANTED, reliable REPRESENTATIVE, living in or near London, to periodically arrange and attend to Cut Flower Exhibits, London Flower Shows. Please state experience, references, wages, &c.—"C. R.," Box 11, 41, Wellington Street, Covent Garden, W.C.2.

HORTICULTURAL ASSISTANT MANAGER required by Wm. Duncan Tucker & Sons, Ltd., of Tottenham, for their offices at 3, Mount Street, Grosvenor Square, W.1.; a qualified Estimator and Salesman, of good education and address.—Apply, by letter, in the first instance, stating experience and salary required, to WM. DUNCAN TUCKER & SONS, LTD., Horticultural Builders, Tottenham, London, N.15.

EXPERIENCED GARDENER for Market Garden in the North of England, to take full charge of Small Quantity of Glass (chiefly flowers), also all Outside Flowers.—Please state age, wages, references, &c., to S. E., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

PROPAGATOR wanted; good wages to competent man, used to raising Spring-bedding and Herbaceous plants.—Apply TOOGOOD & SONS, The King's Seedsmen, Southampton.

WANTED, good PROPAGATOR and GROWER for our Glass Department, chiefly soft-wooded Bedding Plantos, Ferns, Tomatos, &c.—State full particulars, JAMES WRIGHT AND SONS, Nuserymen and Seed Merchants, Leicester.

WORKING MANAGER-FOREMAN wanted; take charge of small Hardy Plant Nursery in Yorkshire. Also capable LANDSCAPE FOREMAN wanted. State full particulars.—WOOD, 19, Moor Drive, Far Headingley, Leeds.

FOREMAN
FOR HERBACEOUS DEPARTMENT.
Must have had a thorough experience of every branch of the work, and be good exhibitor. Good salary and every encouragement given to efficient man showing a keen interest in the business.
Apply, giving details of experience, wages wanted, &c., to—

BAKER'S,
NURSERYMEN,
CODSALL,
WOLVERHAMPTON.

WANTED, WORKING FOREMAN; good at Cucumbers, Tomatoes, Chrysanthemums, etc. State age,, experience and wage, giving references.—W. A. HERRING, The Nurseries, Lincoln.

WANTED, a FOREMAN for Tomatos, Chrysanthemums, and other soft-wooded plants.—Apply, J. PIPER & SON, Ltd., Nurserymen, Bath Road, Langley, Bucks.

WANTED, FRUIT FOREMAN, to take charge of men.—State experience and wages to GEO. JACKMAN & SON, Woking Nurseries, Surrey.

FOREMAN (Working); Glass; North of England; £160 per annum; must be capable, energetic ,good grower, usual class stuff shop and markets; fullest details of experience, age, references; good trade men only need apply.—K., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

WORKING FOREMAN wanted for Chrysanths, Tomatos, Bedding Stuff, &c.—JOHN PIGG, The Nurseries, Royston, Herts.

WANTED, single YOUNG MAN, Inside and Out, for Tomatos, Carnations, and Crysanthemum growing; wages 32s.—Apply, C. F. WATERS, Deanland Nurseries, Balcombe, Sussex.

WANTED, a thoroughly up - to - date WORKING FOREMAN, for a Fruit Farm in the South of England; must be able to instruct students in all branches of Orcharding, Prunning, Spraying, Grafting, Budding, &c.—Apply, "FRUTUS," Box 14, 41, Wellington Street, Covent Garden, W.C.2.

SEED GROWING.—Wanted, a practical MAN to superintend cultivation of Garden and Agricultural Seeds, to conduct trials, and select stock seeds; previous experience and thorough knowledge of English and Foreign stocks essential.—Apply to GROWER, 41, Wellington Street, Cov. Gar., W.C.

WANTED at once, a capable YOUNG MAN (single) as Leading Hand in the Houses; Vines, Peaches, Tomatoes, Cucumbers, and plants in general. Good wages.—Apply, J. HUGHES, Manager, Messrs. A. HART & SONS, Manor Road Nursery, Guildford.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden; ROSE GROWER (Outdoor); majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WANTED, two good SPADE HANDS; also two men suitable for Jobbing work; permanent work for suitable men.—BROADHEAD'S, Wooldale Nurseries, Thongsbridge, Huddersfield.

LADY FLORIST wanted to take management of Florist's Shop in Bournemouth.—Apply, with references, stating age, experience and salary required, T. K. INGRAM, Parkstone Nurseries, Dorset.

WANTED, YOUNG LADY ASSISTANT for Seed and Floral shop.—State experience and wages expected, W. TROUGHTON, Florist, Preston.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

MISS JOSEPHY, highly recommended by Mr. BLAKE, Head Gardener to Earl of Carnavon, as charge of fruit houses, &c., requires Inside, Outside post, private establishment or market nursery. Partnership considered Outside; Inside in other posts.—Address, CONISTON, West Park, Far Headingley, Leeds.

D. A. BEVAN, Esq., wishes to highly recommend his Head Gardener to any Lady or Gentleman requiring a thorough efficient trustworthy man; 30 years experience in all branches, gained in good establishments; 10 years in present situation. personal reference if required.—Apply, T. J. GOFF, Burloes, Royston, Herts.

MR. J. VOSS, Kedleston Hall Gardens, Derby, wishes to highly recommend A. FRIEND as HEAD GARDENER to any lady or gentleman requiring the services of a thoroughly practical man; he has been General Foreman here seven years; age 3[illegible]; married; excellent references.

GENTLEMAN highly recommends HEAD WORKING GARDENER; thorough good all-round life experience all branches; thoroughly reliable, hard working; married; age 43; one son (19); excellent reference. Please state wages. — GARDENER, care of Mr. Backshell, Green Park, Pentrecagal, Newcastle Emlyn, Carmarthenshire.

THE EARL OF MORLEY highly recommends his late HEAD GARDENER, who has been with him six years; now demobilised; life experience in all branches; married; age 40; had charge large collection of Himalayan Rhodos., Shrubs, Conifers.—W. NORRIS, Gardens, Whiteway, Chudleigh, Devon.

MRS. PALMER, Marlston House, near Newbury, wishes to very highly recommend her HEAD GARDENER, now demobilised A1.; thoroughly trustworthy and most energetic; capable manager for large establishment; life experience in all branches, age 41; married (no family).—F. WESTRON, address as above.

J. N. HEATHCOTE, Esq., Conington Castle, Peterborough, highly recommends his temporary HEAD GARDENER; 8 years as Head with late employer; life experience; single; age 36. — Write, DENYER.

MAJOR COOPER can unhesitatingly recommend H. COUSINS as HEAD GARDENER; life experience in all branches; eleven years as Head at Markree Castle; age 36; married (two children, youngest five); at liberty when suited.—H. COUSINS, Markree Castle Gardens, Collooney, co. Sligo.

LADY VAUX, of Harrowden, wishes to recommend Wm. Warren, late HEAD GARDENER, as a first-class man; life experience in all branches; used to large establishments; excellent testimonials; thoroughly energetic; disengaged; just demobilised Royal Air Force; age 37; married (one child aged 8 years).—Model Farm, Shirburn, Nr. Watlington, Oxon.

THE Hon. H. B. Money-Coutts highly recommends W. ABRAHAMS as HEAD GARDENER, where several are kept; has been with him 7½ years, 30 years' experience, gained in large establishments, excellent testimonials from previous employers; married; age 44 years; leaving owing to estate being sold —WM. ABRAHAMS, Stoodleigh Court Gardens, Tiverton Devon.

MRS. PERCY A. CLIVE wishes to highly recommend her HEAD GARDENER to any Lady or Gentleman requiring the services of a reliable man; well up in all branches of Gardening; life experience, age 39; married (no family); nine years Head of present situation.—Reply to R. STEVENS, Whitfield Gardens, Hereford.

GARDENER-BAILIFF.—Sir Charles FITZWILLIAM highly recommends G. SAVAGE as above; life experience in all branches; good Manager of Land, Stock, Poultry, Dairy; age 43; married (no Family); demobilised.—SAVAGE, Birch Cottage, Bush Heath.

HEAD GARDENER of four or more desires re-engagement; life experience; married (one boy, 9 years); please state wages, &c.; making a change cause of leaving; free April 1.—GAUT, High Beech Loughton, Essex.

GARDENER (Head) seeks re-engagement where two or three are kept; age 48; married (one child); 30 years' practical experience in all branches of Gardening; good reference from present employer, T. Croysdale, J.P., and previous ones.—State particulars, H. LOCKWOOD, Hawke House, Sunbury-on-Thames.

GARDENER (HEAD).—A keen, energetic and capable MANAGER requires responsible post; first-class, all-round, expert Fruit Cultivator and Exhibitor. —Particulars, MORBEY, Town Hall, Knutsford, Ches.

GARDENER (HEAD), where four or five are kept; life experience all branches of Gardening; highest references; age 32; married (one child).—HURST, Wellesbourne Road, Barford, Warwick.

MRS. DELAVAL ASTLEY most highly recommends ALBERT PLUMSTEAD as HEAD GARDENER. He has had life experience in all branches. He is keen and thorough in all his work, and a really valuable servant, with excellent testimonials. Demobilised; age 27; married (no family). —Apply, ALBERT PLUMSTEAD, 7, Somerleyton Street, Norwich.

GARDENER (HEAD); highly recommended as Skilled Workman, thorough knowledge Inside and Out. Competent to take management; 20 years head; experienced Apiarist and Underwood plantings; abstainer; age 45; state wages.—KENT, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER as HEAD, where two or three are kept; experienced, Inside and Out, in Fruit, Roses, Carnations, Chrysanthemums, etc.; married (no family); age 32; three and a half years Army.—GODDEN, Heathwood, Cranbrook, Kent.

SCOTSMAN, now disengaged, requires permanent situation as HEAD GARDENER, where several are kept, where a fully competent man is required for producing choice Fruit, Flowers, and Vegetables; Inside and Out; good organiser; highly recommended: age 48; married (two children); Southern Counties preferred. Please state wages, with full particulars of requirements.—A. F. FYFE, "Clifton," Milner Road, Burnham, Bucks.

GARDENER (HEAD) where several are kept; life experience in all branches; seeks re-engagement where a competent man is required for a first-class establishment; eight years in present place; Head of twelve; leaving through death; age 41; married.—H. MANTON, Paxhill Park, Lindfield, Sussex.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; lifetime experience; skilful cultivator of choice Fruits, Vegetables, and Plants, excellent references; married (no family; age 47.—JOSEPH COLLINS, 22, Highfield Road, Chertsey, Surrey.

GARDENER (HEAD) (Army discharge); life experience, good establishments; Estate, Poultry; ten years Head; married (two children); age 37; excellent references State wages.—CAMP, 42, Cambridge Road, Sawbridgeworth.

GARDENER (HEAD), demobilised, seeks situation; life experience, Inside and Out. in all branches; highly recommended; last place sold while on active service; age 33; married (one child).—SCRIVEN, 7, Queen's Terrace, Romsey Road, Winchester.

GARDENER (HEAD) where several are kept; 23 years' first-class practical experience in the cultivation of Fruit, Plants, and Vegetables, Inside and Out; highly recommended.—WREN, 3, Raw Platt Lane, Felbridge, East Grinstead, Sussex.

GARDENER (HEAD demobilised), age 30, married, four years Sergt., R.E.; W. Melville Wills, Esq., can highly recommend advertiser to any lady or gentleman requiring enthusiastic and skilful, all-round cultivator; four years Foreman in these gardens, previously Eastnor Castle and Harewood House, —BOOTH, Bracken Hill, Leigh Woods, Bristol.

HEAD GARDENER seeks re-engagement; where Gardens are run on commercial lines preferred; accustomed to producing Fruit, Vegetables and Flowers (Inside and Out) on a large scale; good references; married (family one).—A SMITH, Warwick Hall Lodge, Bromsgrove, Worcestershire.

GARDENER (HEAD) where three or more are kept; life experience in all branches; good references; age 33; Lancashire or Cheshire preferred.—WOOLLOFF, Elmsley, Mossley Hill, Liverpool.

GARDENER, HEAD of four or more; life experience in good establishments; well recommended; age 36; married, with one child.—NEVITT, Briar's Hey Lodge, Rainhill, Lancs.

HEAD GARDENER, demobilised, seeks situation; 26 years' practical experience in all branches; 16 years as Head; first-class references; married (no family); total abstainer; age 42.—WORMAN, 12, Lochaber Road, Lee, London, S.E.

GARDENER, HEAD or FOREMAN, demobilised soldier requires situation; fully experienced in all branches; married; excellent references; age 30.—NASH, Sherwood Park Cottage, Tunbridge Wells, Kent.

GARDENER (HEAD).—Mr. T. COOK, The Royal Gardens, Sandringham, recommends T. Sparrow as above; life experience in all branches in good establishments; age 32; married; demobilised.—T. SPARROW, Herringstone, Dorchester, Dorset.

GARDENER (HEAD), Scotch, age 49, requires a situation of trust where several are kept; life experience in the cultivation of Fruit, Flowers and Vegetables; Inside and Out; a good Organiser and Manager of men; thoroughly understands the upkeep of a good garden, including Land, Roads and Forestry; excellent references.. Please state wages.—WILSON, Dunsmore, Rugby.

GARDENER (HEAD) seeks re-engagement; life experience in all branches; age 36; just demobilised; married (one boy, 5 years); good references.—P. LEONARD, West End, Ely, Cambs.

GARDENER (HEAD) or good SINGLE-HANDED with help; twenty years' general experience; Glass, Kitchen Garden, Lawns; demobilised; good reference; married (one child); between London and Reading preferred.—Apply, "F. S.," Box 24, 41, Wellington Street, Covent Garden, W.C.2.

HEAD GARDENER and FARM BAILIFF seeks situation on Gentleman's or Lady's estate, to take charge; highly recommended; demobilised; age 38; married. Please state wages.—OSGOOD, Stoneleigh, Cranleigh.

GARDENER (HEAD) or GARDENER-BAILIFF; seeks re-engagement where several men are kept; life experience in high-class culture of Flowers, Fruit and Vegetables; excellent references.—F. FRANCIS, The Bungalow, The Phillippines, Brasted Chart, Kent.

GARDENER (HEAD) or GARDENER-BAILIFF. J. L. MARWOOD seeks re-engagement in good establishment; highly successful in all branches, including Land and Stock, Carnations, Malmaisons, Landscape, &c.; 16 years' highest testimonials as to character, ability and management; age 48; married (no family).—Address, J. L. MARWOOD, Busbridge Hall Gardens, Godalming, Surrey.

HEAD GARDENER; lifetime thorough, practical experience all branches of Horticulture on good establishments; choice Fruit and Plant culture under glass, Pleasure Grounds, including Rock and Flower Gardens, Roses, &c.; Fruit and Vegetable routine, &c.; excellent testimonials to character and ability; age 34; married.—F. KING, 13, Reginald Road, Northwood, Middlesex.

GARDENER, just demobilised, Head of two or three; life experience all branches; married; age 35; last situation six years, Head.—Apply, E. W. CARTER, 19, Windsor Road, Hailsham.

MANAGER and GROWER open to re-engagement. Fully experienced in growing all market produce on a large scale; chiefly under glass; first-class references.—N. M., Box 27, 41, Wellington Street, Covent Garden, W.C.2.

ORCHID GROWER or GARDENER and GROWER seeks situation; first-class experience gained in good establishments, both Private and Trade; at liberty when suited.—References and particulars of ability, apply. "GROWER," 187, Crayford Way, Crayford. Kent.

JOHN DUVEEN, Esq., Chipstead Place, wishes to very highly recommend A. GULVIN as GARDENER (HEAD WORKING) to any lady or gentleman requiring the services of a thoroughly experienced and trustworthy man; life experience in good establishments; 8 years in present situation; married; age 33.—Apply, GULVIN, Chipstead Place Gardens, Sevenoaks.

A. C. ADLAM LORUM, Limpsfield, Surrey, just demobilised, is open to engagement as HEAD WORKING GARDENER; life experience; excellent references; 5 years head; age 39; married, one child; strongly recommended by Head Gardener, Brocklesby Park, Lincolnshire.

GARDENER (HEAD WORKING); age 38; married; life experience, both Inside out Out; eight years in last two situations; has good references; can be personally recommended; total abstainer.—TAYLOR, 28, Maybury Gardens, Willesden Green, N.W.

HEAD GARDENER (WORKING) (Scotch) seeks situation where a competent, trustworthy man, is required; thorough practical knowledge of Gardening in all branches; first-class references; age 52.—"F.," Box 15, 41, Wellington Street, Covent Garden, W.C.2.

HON. MRS. WYNN highly recommends her HEAD WORKING GARDENER, who has been with her 6½ years, to any Lady or Gentleman requiring the services of a thoroughly capable and practical Man; Land and Stock if required; 28 years' experience in all branches; married (no family).—BURCHILL, Rûg Gardens, Corwen. N. Wales.

GARDENER (HEAD WORKING) seeks situation, or as Foreman General, in good establishment; first class all-round life experience; good references; age 36; two children; wife capable laundress, if required.—MEAD, Hither Deacons Lodge, Elstree. Herts.

GARDENER (HEAD WORKING), demobilised. seeks re-engagement; life experience in good establishments; Inside and Out; well recommended; age 32; married (no family).—F. C. WALKER, c/o TYRRELL High Street, Ashwell, Herts.

GARDENER (HEAD WORKING); first-class experience in large establishments, Inside and Out; 13 years previously as Head; two years present place; age 48; married (no family).—HEATH, The Lodge, Millington House, Harlow, Essex.

GARDENER (HEAD WORKING) where four or five are kept; 25 years practical experience, Inside and Out, in good establishments; experience in Carnations, Chrysanthemums, &c.; age 49; married (one child age 10); excellent references.—D. J., c.o. Dicksons Nurseries, Chester.

GARDENER (HEAD WORKING), where two or three kept, or good Single-Handed; life experience in all branches; good references.—Apply R. SMITH Esqr., Hinton Avenue, Cambridge.

GARDENER (HEAD WORKING). — Mr. B. KINTOUL, of Melbury House Gardens, Dorchester, will be pleased to recommend H. WALLACE as above, age 32, just demobilised.

GARDENER (HEAD WORKING).—H. RAMSBOTHAM, Esq., wishes to highly recommend his late Head Gardener, where more are kept; life experience, Inside and Out; excellent references; demobilised; age 39; abstainer; married (one child).—C. BOORMAN, Garthmyl, Beeches Road, Crowborough, Sussex.

GARDENER (HEAD WORKING); a thoroughly practical, experienced man, Inside and Out, seeks situation; life experience in good establishments; demobilised; age 43; married (two children).—E. SMITH, 53, Napier Road, Tunbridge Wells, Kent.

GARDENER (HEAD WORKING); life experience in all branches; highly efficient in the cultivation of choice Flowers (Inside and Out), Fruits, and Vegetables; thoroughly experienced in the care of Lawns, Flowering and Ornamental Shrubs; age 41; married (four children); can be personally recommended.—T. OLIVER, Stoke Road, Fetcham, Surrey.

GARDENER (HEAD WORKING) or good SINGLE-HANDED; good references; six years last place; married (no family); age 37.—A. DEACON, The Ellerman Hospital, Regent's Park, London, N.W.1.

GARDENER (HEAD WORKING) where three or four are kept; life experience in the cultivation of Fruit, Flowers, Vegetables, Inside and Out, and management of well kept Gardens; highly recommended; age 37; married (no family); demobilised.—PHILLIPS, c/o Crow Gate, Crowborough, Sussex.

GARDENER (HEAD WORKING); life experience in Flowers, Fruit, and Vegetables, Inside and Out; good references; age 35; married; please state wages.—E BALL, Blackboys, Sussex.

GENTLEMAN highly recommends HEAD WORKING GARDENER; thoroughly well up in all branches, Inside and Out; disengaged end of March.—H. GARDENER, 24, Horsford Road, Brixton Hill.

GARDENER (HEAD WORKING) or GENERAL FOREMAN in good establishment; 11 years' experience in all branches; excellent testimonials; age 29; married when suited; demobilised.—Company Sergt.-Major L GREEN, Holme Farm, Shanklin, I. of W.

GARDENER (HEAD WORKING); demobilised; life experience in all branches; good references; R.H.S. Certificate; age 31; one child.—PHEAR, Sherston. Malmesbury, Wilts.

GARDENER (HEAD WORKING) where several are kept; life experience, all branches of Gardening, Inside and Out; 12 years Head; demobilised; age 41; married (no family); excellent testimonials.—A. HARWOOD, ex-Sergt., Newbold Revel, Rugby.

GARDENER (HEAD WORKING) thorough practical experience Gardening, all branches; understands land and stock if desired; age 48; married (no family); thirteen and four years' references; temporary here, now free.—Owthorpe Gardens, Branksome Wood Road, Bournemouth.

GARDENER (HEAD WORKING); age 45; 32 years' practical experience, Inside and Outside; confidently recommended as competent man where several men are kept; Apiarist; wife superintend laundry; large establishment; institution if desired.—DARTFORD, Box 14, 41, Wellington Street, Covent Garden, W.C.2

GARDENER (HEAD WORKING, one under, or SINGLE-HANDED with help); Vines. Vegetables, Orchids; good references; married; disengaged 15th March; London or near.—H. QUARTERMAIN, 157, Sumatra Road, Hamstead.

GARDENER (HEAD WORKING) seeks re-engagement; life's experience all branches (last place sold); age 45; married (no family); good references.—PACKHAM, 1, Birling Road, Tunbridge Wells.

GARDENER (HEAD WORKING). — UPTON, Southplain, Plummersplain, Horsham, can be highly recommended as above; life experience; married (no family); age 32; Army discharge. State wages with particulars.

HEAD WORKING GARDENER; position desired as above; life experience in all the varieties of Gardening in first-class places; very good testimonials; married (no family); age 36.—Apply, A. SPARROW, 30, Milton Street, Lincoln.

GARDENER (HEAD WORKING) seeks re-engagement; good all-round experience of the requirements of a gentleman's garden; age 42; married (boy 8 years); excellent references.—SADLER, Strelley, Nottingham.

GARDENER (HEAD WORKING) recently demobilised, active service, seeks re-engagement with Lady or Gentleman requiring same; 25 years' thorough practical experience all branches, 12 years as Head; excellent references; age 40; married.—H. BURFOOT, 2, Blenheim Cottages, Clayton Road, Hook, Surbiton, Surrey.

GARDENER (HEAD WORKING), Scotch, experience in all branches, Inside and Out, seeks situation where several are kept; 20 years as Head; good references; married.—ROBERT MURRAY, Hockwold Hall, Brandon, Norfolk

GARDENER (HEAD WORKING) in good establishment; life experience in all branches; age 38; married (one child); war service; old Kewite.—KEY, 2, Lochinvar Street, Balham, London, S.W.

GARDENER (HEAD WORKING) demobilised, seeks re-engagement; 24 years' experience of first-class Horticultural work; highly recommended by late employer; excellent references from previous employers, also from the Army; age 37; married (no family).—SUTTON, 8, Leffern Road, Shepherd's Bush, London, W.

GARDENER (HEAD WORKING) or good SINGLE-HANDED; life experience in all branches in good establishments ; age 42; married (no family); abstainer; demobilised.—NEVILLE, South Entrance, Saxmundham.

GARDENER (HEAD WORKING) where others are kept; 27 years' experience, Inside and Out; highly recommended; age 45; disengaged.—T. WILLIAMS, Sparkbrook, 22, Kinmil Street, Rhyl.

GARDENER (HEAD WORKING); 17 years' first-class experience in all branches; excellent references; last situation Head of three; Army discharge; age 33; married (two children).—GEORGE OLIVER, 1, School Terrace, Trowse, Norwich.

GARDENER (HEAD WORKING); life experience with Fruit, Flowers, and Vegetables; Inside and Out; nine years Head; age 41; well recommended.—TANNER, Honeys, Twyford, Berks.

GARDENER (HEAD WORKING), age 46, seeks re-engagement; life practical experience Inside and Out; good establishments; skilled Cultivator of Vegetables, Salads, Choice Fruits, Plants, Orchids, Carnations, &c., keen, competent, energetic; 18 years head; disengaged; married; excellent references.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD WORKING).—Mr. FISHER, Head Gardener to the Right. Hon. Earl of Cawdor, Stackpole Court, Pembroke, can, with confidence, recommend his late foreman, George Rubython as above; age 34; married (no family); demobilised.—GEORGE RUBYTHON, 4, Priory Terrace, Monkton, Pembroke.

GARDENER (HEAD WORKING) seeks situation; where 3 or more are kept; experienced in all branches; 10 years last place; left to join up; estate sold; married (no family).—C. GREEDY, Hestercombe Lodge, Taunton.

GARDENER (HEAD WORKING); life experience in all branches, Inside and Out; 14 years as Head in present situation; recommended by present employer; age 50.—A. WITT, The Gardens, Cuffnells, Lyndhurst, Hants.

GARDENER (HEAD WORKING), life experience, seeks situation with Lady or Gentleman who require a practical and thoroughly competent man in all branches; previous to army service, six years Head Gardener at Pyt House, Tisbury, Wilts. Highest references; age 39; married (no family).—H. MARTIN, Lodge Farm, Colne Engaine, Essex.

GARDENER (HEAD WORKING); demobilised; life experience in the culture of choice Fruits, Vegetables, Flowers; Inside and Out; excellent references; age 44; two children (age 14 and 10).—ARSCOTT, 13, The Grove, Eltham, S.E.9.

HEAD WORKING GARDENER. — Gentleman highly recommends his HEAD GARDENER; a very reliable, hard-working man; life experience; 29 years in former situation; good reason for leaving; married; aged 54; one daughter at home.—Please apply by letter to GEORGE JAGO, Longhill, East Liss, Hants.

WANTED, situation as HEAD WORKING GARDENER where several are kept; thoroughly efficient in all branches of Horticulture; 18 years' practical experience; married (one girl, age 6); well recommended.—WHITE, Great Maytham Gardens, Rolvenden, Kent.

GARDENER (HEAD WORKING); capable of keeping up a succession of Fruit, Flowers and Vegetables; Inside and Out; 28 years' practical experience in Growing for large establishments; age 45; married (no family); highly recommended by late employer.—G. SIMMONS, Markyate, Dunstable, Beds.

GARDENER - BAILIFF (HEAD WORKING); practical; life experience in all branches of Gardening, Land and Stock; excellent references; married (no family).—Apply, C. HOLDEN, Ravensbourne, Keston, Kent.

GARDENER (HEAD WORKING); life experience, Inside and Out; good reference; over three years present situation; can be well recommended from present employer; age 33; married.—Apply, C. BURGESS, Cottage Gardens, Westhope, Craven Arms, Salop.

GARDENER (HEAD WORKING) seeks post where several are kept; good experience and references; demobilised; age 33; married.—MASSEY, 101, Mobberley Road, Knutsford, Cheshire.

GARDENER (HEAD WORKING) where two or three are kept; age 32; 14 years' practical experience; good references and well recommended.—A HENLEY, 103, Dudley Road, Southall.

GARDENER (HEAD WORKING) or married FOREMAN seeks re-engagement; good practical experience Inside and Outside; excellent references; recently demobilised; age 32.—W. H. BAILEY, Church Road, Yardley, Birmingham.

GARDENER (HEAD WORKING), where one or two more are kept; 12 years' good practical experience; excellent references; age 26 (single); widowed mother, one sister; Home Counties preferred. —H. GREEN, Baldon House Gardens, near Oxford.

GARDENER (HEAD WORKING) requires situation; free when suited; exceptional character; aged 50 years.—POWELL, Hillside Cottage, Groombridge, Kent.

GARDENER, HEAD WORKING or SINGLE-HANDED; life experience all branches, also Poultry; excellent references; 16 years as Head Working; just demobilised; age 46; married (four children); eldest boy, 15½, with year's experience, could be employed.—"H.," 15, Buckingham Road, Leyton, E.10.

GARDENER, HEAD WORKING; life experience in all branches; for many years foreman at Charlecote Park,, Warwick; married (no family).—R. RODGER, 33, Market Square, Leighton Buzzard.

HONBLE. MRS. STUART WORTLEY thoroughly recommends HEAD WORKING GARDENER; good experience, Inside and Out; excellent references; three years Highcliffe Castle; age 36; married; demobilised.—"P. J.," Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) where several are kept; 12½ years' experience in first-class establishments, including Knowsley Hall, Drumlanrig Castle, Wemyss Castle; good knowledge of Orchids; highest references; married; age 31; 4½ years with the Colours (demobilised).—P. CRAGG, Halam, Southwell, Notts.

HEAD WORKING GARDENER open for immediate engagement where several employed; excellent references and qualifications from large establishments; expert Grower of Choice Fruit and Vegetables, Flowers, Inside and Out; also reconstructing, &c.—"G. L.," Messrs. Pound, Seedsmen, Doncaster.

GARDENER (HEAD WORKING) as good SINGLE-HANDED; experienced Inside and Out; good references; married.—G. BROAD, 1, Rawling's Well Lane, St. Martins, Marlborough, Wilts.

GARDENER (HEAD WORKING) seeks situation where two or more are kept; 24 years' practical experience, Inside and Out; married (child, age 12); age 40; excellent references from past employers; discharged soldier.—F. TIDY, The New Cottage, Donnington Hill,-Newbury, Berks.

GARDENER (HEAD WORKING), demobilised, seeks situation where one or two are kept; life experience Inside and Out; age 42; excellent references; married (no children).—F. NORRELL, 7, Russell Street, Portfield, Chichester.

GARDENER (HEAD WORKING) where three or more kept; highly efficient in all branches, including Orchids and Carnations; good testimonials from previous employers; no encumbrance; disengaged when suited.—"A. B.," c.o. Mr. Walters and Son, Newsagents, The Parade, Chislehurst, Kent.

GARDENER (HEAD) or good SINGLE-HANDED, experienced in all branches, Inside and Out; good references; age 41; state wages; North London preferred.—"C. D.," Box 3, 41, Wellington Street, London, W.C.2.

GARDENER (HEAD or SINGLE-HANDED); life experience; age 46; good references; six years present place; wife useful in all housework.—WRIGHT, Wyndcroft Lodge, Enfield, N.

CAPTAIN CROFT wishes to recommend his GARDENER; good Single Handed, or Pleasure Grounds, Herbaceous Borders, and Lawns; life experience; good references; age 32; married (one child).—C. STACEY, 30, South Street, Stanstead Abbots, Ware.

GARDENER requires situation, SINGLE-HANDED or with help; married (3 children); lifelong experience; near London preferred.—W. SKINNER, 33, Flask Walk, Hampstead, London, N.W.

GARDENER, good SINGLE-HANDED, or with help; married; age 47 (no small children; good reference; cottage near town.—H. TOWNSEND, 3, Orchard Grove Cottages, Chalfont St. Peter, Bucks.

GARDENER, Inside and out, or SINGLE-HANDED. Inside foreman previous to enlisting, August, 1914; good references; married; age 30.—W. WARNETT, Longcroft, Rotherfield, Nr. Tunbridge Wells.

GARDENER, SINGLE-HANDED, or where help given; life experience, Inside and Out; excellent references; age 28; married (no family); accustomed to animals; demobilised from R.N.—LACEY, 30, Falkland Road, Kentish Town, London, N.W.

GARDENER seeks situation; SINGLE-HANDED or otherwise; 12 years last situation; 5 years previous; good references; just demobilised; age 44; Bedfordshire preferred.—F. DICKENS, 26, Husborne Crawley, Aspley Guise, Beds.

G. L. EASTER, Esq., will be pleased to recommend his GARDENER, Single-handed or with Help; good experience; leaving through place being given up; excellent references; age 39; married (no family).—B. HAYNES, The Lodge, Greenford Place, South Harrow

GARDENER (SINGLE-HANDED) or with help; life experience, Inside and Out; married (boy 13); seven years last situation; good references.—HILL, Brondesbury House Lodge, 221, Willesden Lane, N.W.

GARDENER (SINGLE-HANDED) seeks situation; life experience Inside and Out; good reference; age 33; married (two children).—"A. C.," 65, Rommany Road, West Norwood, S.E.27.

GARDENER (SECOND) seeks situation; Inside, or Inside and Out; Army demobilised; 12 years' experience; good references; Southern Counties; age 28; married (no family).—RADFORD, 223, Wimborne Road, Poole, Dorset.

GARDENER (SECOND or good SINGLE-HANDED); life experience, Inside and Out, in first-class establishments; excellent references; age 32; married when suited; disengaged.—W. FISHER, Thirlestane, Althorpe Road, St. Alban's, Herts.

GARDENER requires situation as SECOND where three or four are kept; life experience; Inside and Out; excellent references; willing and obliging, single; age 41; discharged soldier.—Apply, J. SYMONS, 2, Berkley Cottages, Trevathen, Falmouth, Cornwall.

WANTED, situation as SECOND GARDENER; married; age 28.—For particulars, apply to A. JANCEY, The Cottage, Brooklands, Warwick New Road, Leamington Spa.

GARDENER (SECOND) seeks situation Inside; can be recommended; married (no family); disengaged.—"H. T.," Box 16, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (UNDER) seeks situation, where three or more are kept; good references and experience; discharged from Army; age 28; married (no family).—State wages, with cottage, to W. G. STEVENS, 11, Rilston Road, Attercliffe, Sheffield, Yorks.

UNDER-GARDENER (39) single, seeks Situation, Outside, near London; four years' experience; well recommended; particulars and wages, with bothy, &c., preferred.—P. J. RULE, St. Leonards, Crescent Road, New Barnet.

A GENTLEMAN recommends his temporary GARDENER, age 48, married, with two children; Head Gardener of three (6 years last situation); Church of England and abstainer; understands Glass and Outdoor work; would take a Single-handed place, near Norwich; requires a cottage.—Address, stating wages and full particulars, E. SHELDRAKE, 125, Bury Street, Norwich.

GARDENER seeks re-engagement in private service; fully experienced in Plant and Fruit houses; age 26; disengaged; good references; Kent preferred.—PALMER, Hothfield, Ashford, Kent.

GARDENER requires situation; thoroughly experienced, Inside and Out; Foreman previous to enlistment; married (no children); age 31; demobilised. G. TANTRUM, 40, Walton Road, Woking, Surrey.

GARDENER seeks situation; life experience in all branches; age 38. Also LAD of 15 to help. Please state wages and particulars.—LITTEN, Sedgehill, Shaftesbury, Dorset.

GARDENER (married), FOREMAN or HEAD, seeks situation; 14 years' experience in good establishments; excellent references; disengaged; demobilised soldier.—W. TRUEMAN, Rufford Cottages Ollerton, Newark.

GARDENER, demobilised, seeks situation as SINGLE-HANDED or Outside FOREMAN; good references; age 28; married; one child (14 months).—E. J. PAINE, 78, Hagden Lane, Watord, Herts.

FOREMAN.—F. G. STAINSBY, The Gardens, Brocklesby Park, Lincolnshire., recommends an exceptionally good man as FOREMAN in first-class establishment; recently demobilised; age 39; single.

FOREMAN or JOURNEYMAN (Inside); experience gained in good establishments, including Harewood and Teddesley Park; age 29.—L. BOSWELL, Beacon View, Pound Bank, Great Malvern

WANTED, position as FOREMAN on Market Nursery; 22 years experience in Cucumbers, Tomatoes, Grapes and bedding plants, &c., 7 years as Foreman; just demobilised.—W. ANDREWS, 45, Tankerton Terrace, Mitcham Road, Croydon.

GARDENER, age 30, married, just demobilised, seeks situation, INSIDE FOREMAN or otherwise; life experience, including Orchids and Carnations, at Longford Castle and South Lodge, Horsham; six years' trade.—A. SHIPTON, High Street, Tewkesbury.

DEMOBILISED SOLDIER (married) requires situation in Nursery as CHARGE HAND, or Foreman Grower; 10 years' experience Tomatos, Chrysanths, Liliums and general nursery stock; knowledge of designing and shopwork.—NORRIS, 27, Lawn Gardens, Hanwell, W.

YOUNG MAN, just demobilised, seeks situation as LEADING HAND in Kitchen Garden; well recommended.—L. BURBERRY, Maycote, East Molesey, Surrey.

GARDENER seeks situation; Inside and Out; 12 years' experience; good references; age 32; single; just demobilised.—H. CLARKE, Frogmill, Hurley, near Marlow, Bucks.

JOURNEYMAN, as FIRST seeks situation in good establishment; nine years' experience in Fruit and Plant houses; good references; demobilised.—Apply, H. WHITAKER, Effingham Hill, Dorking, Surrey.

JOURNEYMAN seeks situation, Inside and Outside; good references; five years' experience; age 21; discharged; please state wages.—H. DEAR, 18, Bucknell, nr. Bicester, Oxon.

JOURNEYMAN (SECOND); Fruit and Plant Houses; 3 years' experience; age 18; bothy preferred. T. H., c/o Dickson's Nurseries, Chester.

W. LEWIS, The Gardens, Iden Manor, Staplehurst, Kent, highly recommends a Young Man (17) as SECOND JOURNEYMAN; strong; good appearance.—Please state wages, with bothy.

IMPROVER seeks situation; Inside and Out; two years' experience; age 16; bothy preferred.—LEWIS SUTTON, Heydon, near Royston, Herts.

IMPROVER, chiefly Inside, seeks re-engagement; two and a half years' experience; age 17; bothy preferred. Write, stating wages given.—H. OAKMAN, 106, Bridge Road, Grays.

THE HEAD GARDENER, Melton Constable Park, Norfolk, wishes to highly recommend gentlewoman as ASSISTANT in Plant and Fruit houses. Three years' experience under glass in good establishments, where Fruit and Flowers were specialities. Enthusiastic and capable. Similar post desired in a good garden. Sole reason for leaving, demobilised men reinstated.—Apply as above.

DEMOBILISED SOLDIER seeks situation in Garden; 14 years' good experience; Inside and Out; married (two children).—A. BOWLER, 11, Poole Road, Woking, Surrey.

YOUNG MAN, 21, seeks situation, Inside or Inside and Out; demobilised; 3 years' experience; good character; state wages.—E. A. CHESHIRE, 5, Robertson Road, Grantham.

SITUATION wanted; Alpines, Herbaceous and Pleasure Grounds; good references; married, (one child); age 28.—A. W. FREAKES, 28, Friday Road, Erith.

SINGLE MAN (middle-aged) seeks situation in Gardens; used to Outside work; good references. MOORE, Norman Cottage, Rusper, Sussex.

MR. F. W. MILES, Horticultural Superintendent, Y.M.C.A. Training Centres for Discharged Soldiers, will be pleased to highly recommend a MAN who possesses a sound knowledge of his work, and is of irreproachable personal character, as Head Working Gardener, where four or five are kept; married when suited.—Apply, F. W. MILES, Y.M.C.A., Barnardiston Hall, Haverhill, Suffolk.

I CAN RECOMMEND a strong, willing LAD as Improver for Outside. Please apply with full particulars and wages, to H. KEMP, Priory Gardens, Reigate. Bothy preferred.

CARPENTER (ESTATE) requires situation; Painting and all Estate Repairs.—Address, "A.F.," Box 21, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER desires post as HEAD or FOREWOMAN; good training references; experience Glass and Outdoor work; 2 years head; free now. STEPHENSON, 32, Shaftesbury Road, Southsea.

WANTED, post as LADY UNDER-GARDENER; some experience.—Write, "MAUD," 2, Raby Place, Bath.

TWO LADY GARDENERS, one College trained, require re-engagement; preferably Home Counties; good references.—Apply, "C.," Box 11, 41, Wellington Street, Covent Garden, W.C.2.

LADY wishes to recommend a trained LADY GARDENER experienced in Rock Gardening and Greenhouse work; disengaged shortly.—Write "M.G.," c/o Streets, 30, Cornhill, E.C.3.

FOREWOMAN. — WOMAN GARDENER, college trained, R.H.S. Exam., wishes post as above in Fruit and Plant houses; has held similiar posts, and has excellent references; bothy preferred.—Apply, H., Box 9, 41, Wellington Street, Covent Garden, London, W.C.2.

YOUNG LADY desires post in large establishment under Head Gardener; strong and fond of Outdoor pursuits; Suffolk preferred.—Apply to "K.S.," Box 15, 41, Wellington Street, Covent Garden, W.C.2.

TWO YOUNG LADIES (22 and 15), with slight experience of Gardening, Poultry, Farming, wish to find a post under Head Gardener or on Farm. Preferably in Midlands.—Apply, "Wimble," 24, Haslemere Road, Thornton Heath.

TRADE.

ADVERTISER, officer demobilising, desires responsible post, administrative traveller, or partnership in Seed-Nursery Business; 12 years' experience of same; age 32; married.—B. P., Box 23, 41, Wellington Street, Covent Garden, W.C.2.

ADVERTISER (married, age 38), open to engagement as WORKING MANAGER; good London and Provincial Nursery Experience, Tomatos, Cucumbers, Chrysanthemums, Grapes, Peaches, Bedding and general pot stuffs, Bulb Forcing and Inside and Outside Market Cut Stuff; would take entire responsibility; good knowledge of glass building and most work connected with the nursery trade; would start new place; good references; please state salary.—Apply, first instance, "J. R.," Box 1, 41, Wellington Street, Covent Garden, W.C.2.

ORCHID GROWER. — Messrs. E. H. DAVIDSON & CO. strongly recommend demobilised soldier as above; 17 years' experience in good establishments; good references. Apply, S. P., 53, Kimberley Road, Nunhead, S.E.15.

ORCHID GROWER or HEAD GARDENER where Orchids are one of the leading features; expert in raising and growing Orchids; 15 years' experience in first-class places; highly recommended; 4½ years' Army service; age 33; married (one child).—C. RUSHTON, Walton, Stone, Staffordshire.

MANAGER, or MANAGING FOREMAN; life experience Market and Retail, General Culture under Glass; also Fruit, Vegetables, Salads, etc.; married; age 46; abstainer; good references — State wages and particulars, FOSTER, 56, South Street, Ponders End, Middlesex.

MANAGER, or HEAD SHOPMAN; life experience in Seed, Floral, Bulb and Sundries Trade; first-class references.—Particulars to "SEEDS," 13, Walterton Road, Paddington, W.9.

MANAGER or HEAD SHOPMAN; life experience in Seeds, Bulbs, Sundries, and Nursery Stock; also Fruit and Flower Trade; wholesale and retail; had seaside experience; good references.—R. M., Box No. 12, 41 Wellington Street, Covent Garden, W.C.2.

ADVERTISER (demobilised) desires post as MANAGER or HEAD GARDENER for Landscape, perfect Draughtsman; 18 years' continual experience; good references; London preferred.—Write, "Landscape," Box 7, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER or FOREMAN seeks re-engagement; life experience Cucumbers, Tomatos, Grapes, and general Market work under Glass; disengaged; please state wages.—"H. D.," Box 18, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER or FOREMAN; life experience in the trade; used to controlling labour and producing everything required for up-to-date Nursery; good references. LAWRENCE, 83, Warwick Avenue, Paddington.

WORKING FOREMAN or MANAGER; age 40 (married); 24 years' practical experience in all branches Chrysanthemums, Cucumbers, or any soft-wooded stuff; highest references; good decorator or making up, Dutch nationality.—H. J. WIGMAN, The Nurseries, 91, Bath Road, Bridgwater, Som.

ADVERTISER seeks position as MANAGER, Seed and Florist Business; house, shop, or similar, refs. and experience good.—"S. W.," Box 17, 41, Wellington Street, Covent Garden, London, W.C.2.

FOREMAN GROWER seeks situation; married; age 34; Tomatos, Cucumbers, Grapes, Mushrooms, Bulbs, and General Market Work, Inside and Out; knowledge Stock and Agricultural work; good references; disengaged first week in April.—KERNARD, Brick House, Farm Cottage, Eastwood, Leigh-on-Sea.

FOREMAN GROWER (demobilised) requires situation; married (age 26); Tomatos, Cucumbers, Vines, Chrysanths., Packing, &c.; references.—Offers to A. S., 28, St. Andrew's Road, Portslade, Sussex.

FOREMAN for Roses, Carnations, Chrysanthemums, Force Stuff, Bulbs, &c.; Cucumbers, Tomatos; age 50.—Please state wages (3½ years' entire control), GROWER, Box 10, 41, Wellington Street, Covent Garden, W.C.2.

WORKING FOREMAN requires situation as Rose Propagator and Grower; good Budder and Grafter; Inside and Out; age 38; married; good references.—Please state wages, NIGHTINGALE, 4, Norfolk Villas, Peel Road, South Woodford, London.

OUTSIDE NURSERY FOREMAN.—Situation wanted; good practical experience in leading nurseries; demobilised; age 42; good references; state wages.—"K. G.," Box 23, 41, Wellington Street, Covent Garden, W.C.2.

ADVERTISER (demobilised), married, seeks situation in Nursery; seven years' experience in Tomatos, Cucumbers, bedding and pot plants, &c.; Good references; please state wages. — Apply, "A.H.G.," Box 6, 41, Wellington Street, Covent Garden, W.C.2.

SITUATION required in Nursery; age 22; discharged; six years' good experience, Tomatos, Cucumbers, Chrysanthemums, Ferns, Bedding and Pot Plants.—Apply, F., 50, Gower Road, Hayward's Heath, Sussex.

CAPABLE, educated MAN requires post other than Nursery Manager; long experience in trade with noted firms; good business capabilities; excellent references; partnership considered.—"R.," Box —, 41 Wellington Street, Covent Garden, W.C.2.

ADVERTISER is open to take up work in Nursery or Market Garden; thoroughly experienced in Vines, Cucumbers, Tomatos, Bedding stuff, Hardy Fruits, Vegetables; age 26; excellent references. H. GREEN, Baldon House Gardens, near Oxford.

SITUATION required by SECOND SHOPMAN; thorough knowledge of Seed, Sundry, and Nursery Trade; capable of taking charge in absence of Head; good references; discharged.—"T. A.," Box 13, 41, Wellington Street, Covent Garden, W.C.2.

LADY ORCHID GROWER or Assistant; three years' practical experience; or would accept temporary post to assist with Orchid Potting, etc.—Address, Miss HOWES, West Point Lodge, Manchester Road, Manchester, S.W.

WOMAN GARDENER, experience Inside and Out, wishes post in Nursery Garden; would do gardening correspondence, &c.; good refs.—"W. A.," Box 7, 41, Wellington Street, Covent Garden, W.C.2.

LADY with Gardening experience wishes for work in Nursery or Market Garden, with view to partnership; or would join in starting one; good refs.—"W.," Brunswick Lodge, Brunswick Hill, Reading.

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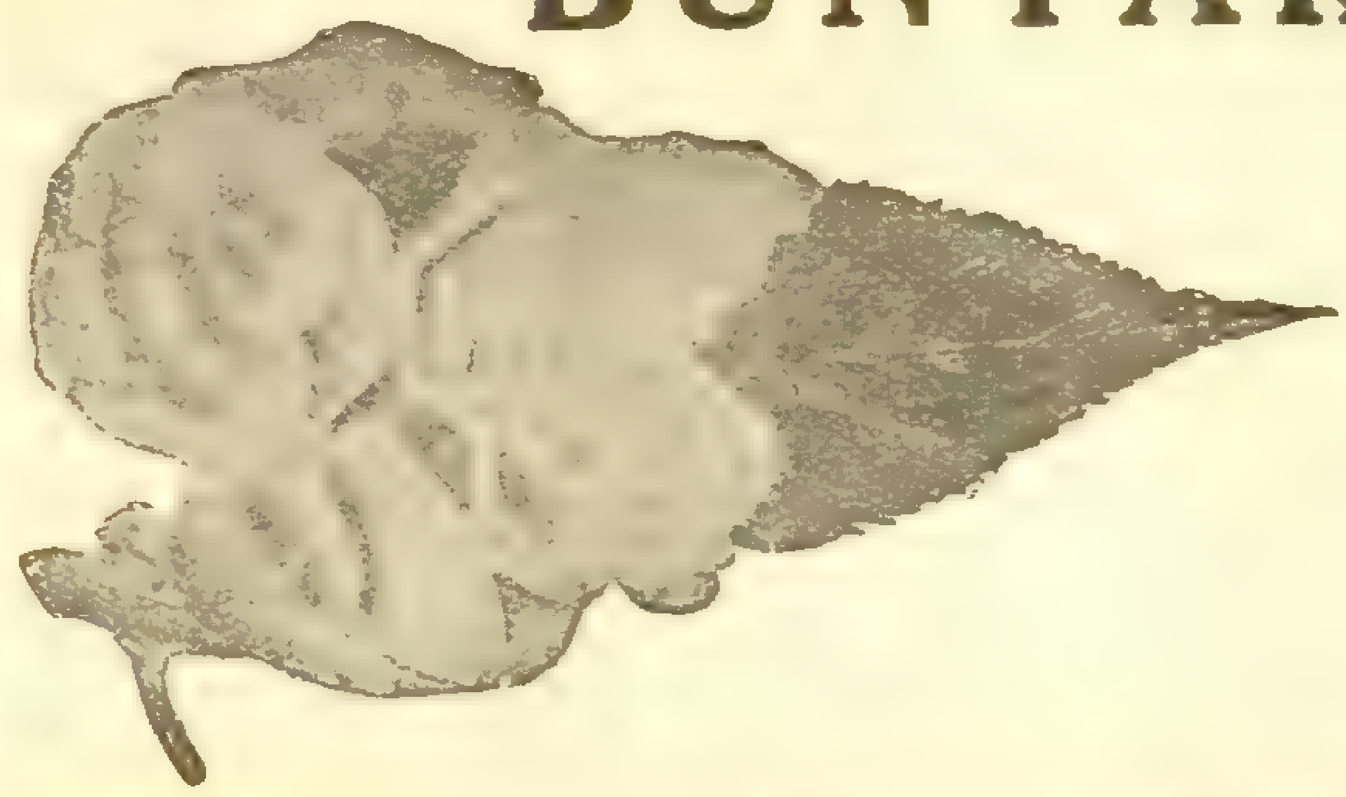

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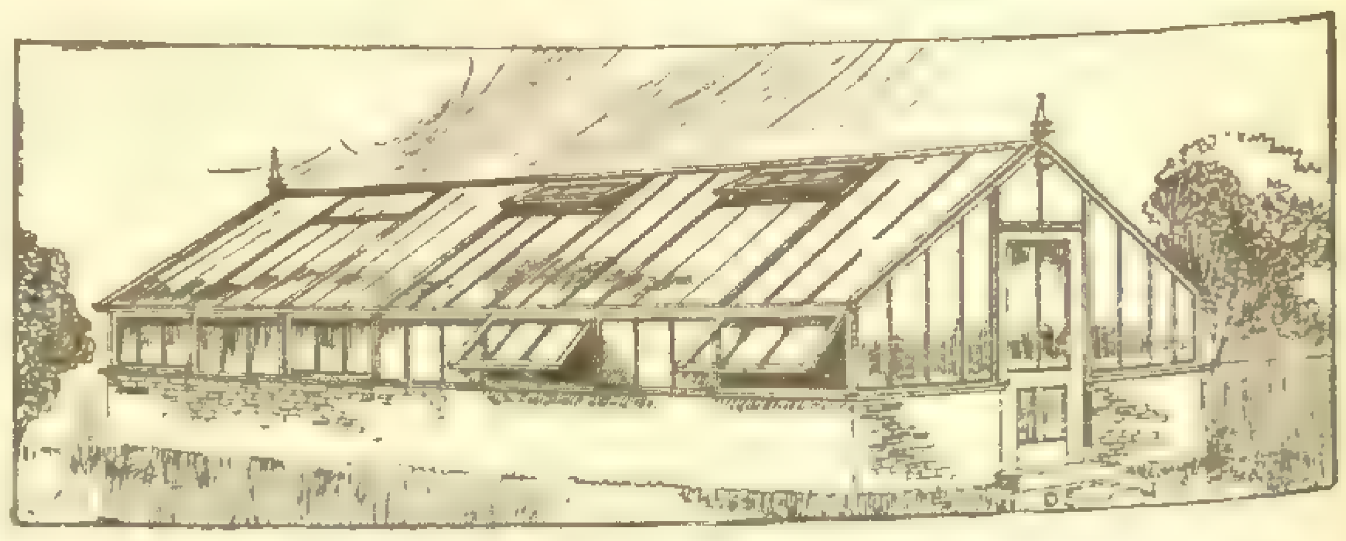

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PUBLISHERS' NOTICES.

"CHINESE FLORA."—Part having been reprinted, vols. 23, 26 and 36 of the *Journal of the Linnean Society* are now purchasable for £5 4s., through a bookseller, or direct from the Society, Burlington House, Piccadilly, London, W.1.

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NOW is the time to kill them. If your paths are cleaned now they will remain clean for the best part of the year. Our WEED KILLER is safe to handle.

CHEAPER THAN HOEING.

Will not harm birds or animals; is a powder; only requires sprinkling on the weeds.
1 cwt. Sacks, 20s., free on rail, London.
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15,000 Rhododendron Ponticum (for Covert Planting)		9 to 12 ins.
" " "		1½ to 2 ft.
" " "		2 to 3 ft.
" " "		3 to 4 ft.
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" Caucasica	..	1½ to 2 ft.
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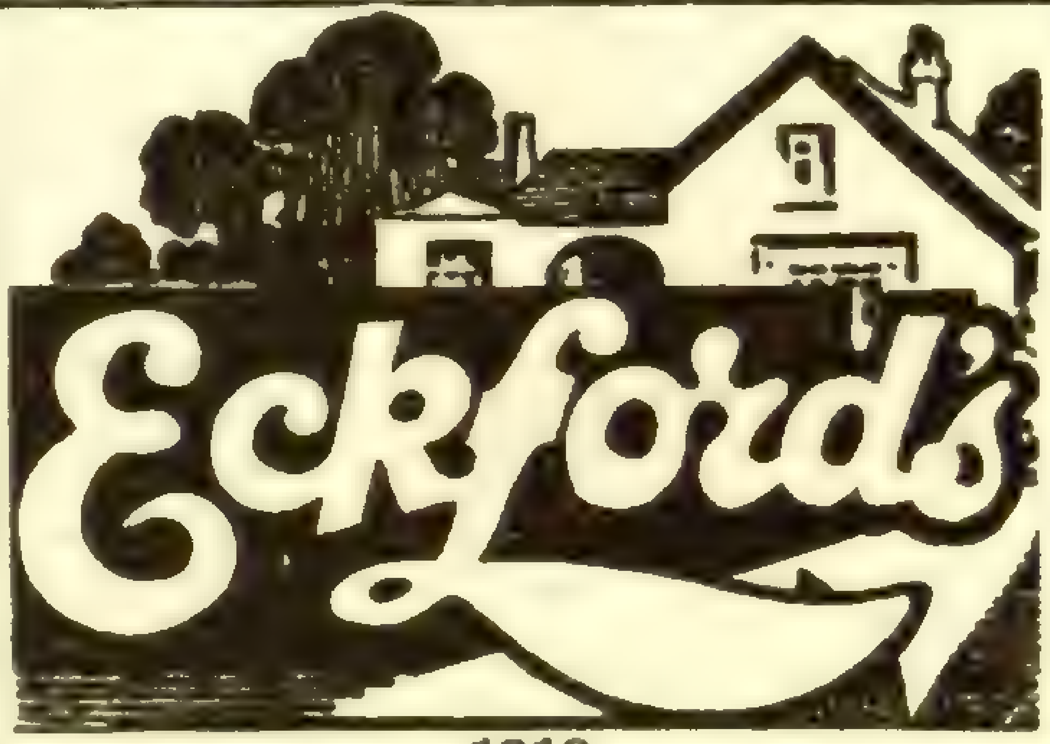

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Gardeners' Chronicle
No. 1682.—*SATURDAY, MARCH* 22, 1919.

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FLOWERS OF THE DESERT.

DESERTS are of many kinds and of all degrees of desertion, from those entirely devoid of life, such as in Central Arabia, to those which, like the Mesopotamian desert, support at certain seasons a considerable if modest vegetation, hence flocks, and, ultimately, men. The popular idea of a desert in the English parochial mind is very naturally a sahara of sand (sahara, by the way, is the Turkish word for desert), a waterless, lifeless, burning waste of dunes; for all the most famous deserts, such as are familiar to us in our school geography books, do fulfil these conditions more or less completely. I need only mention those of North Africa, Central Asia, and the interior of Arabia and Australia.

But sand, though typical of, is by no means essential to, desert conditions, nor must it be forgotten that extreme cold is just as natural to deserts as is extreme heat, and for the same reason. Thus much of Central Tibet is a desert, a rocky desert, and by this time most people are aware that Mesopotamia is a desert—a mud desert in the south (Iraq) and a gravel desert in the north, where lies the ancient Chaldea.

Of the great civilisations and famous cities which once flourished in Mesopotamia, the Bible gives a sufficiently tantalising account, and most people are aware that in the long wars between the rival races inhabiting Western Asia, and again between those races and the rising civilisations of Eastern Europe, this once fertile country was gradually reduced to a desert, partly owing to fundamental changes in the course of the Tigris, and partly owing to the fact that there was neither the population nor the personal security necessary for the upkeep of the canals. This last process must indeed have worked automatically, for with the destruction or disuse of a canal, many people would have either starved or gone elsewhere, thus further reducing the population. At any rate, the country was once supremely fertile, full of great cities, and crossed by a gridiron of canals, some of which, still standing, are immense works. That the land is fertile still the beautiful gardens of Baghdad and Basrah amply testify, as does even the desert in spring, when, for a brief month or six weeks, rain and dew, and an absence of intolerable heat, enable an ephemeral vegetation to hurry through its brief existence, before the desiccating summer cuts it short.

The capabilities of the soil, under the glow of the Mesopotamian sun, must be seen to be believed. It is almost incredible, therefore I shall confine myself here to talking of the deserts as they are to-day. It must have been these same deserts in spring which gave to the first pastoral inhabitants an inkling of what might be achieved with crops if they settled down to agriculture; that, and the green fringe along the river banks, which whispered to them that they had only to plant and water, and the soil would straightway bring forth three and four crops a year.

My first view of the desert was at Basrah. Memories of a cold winter day come back to me; the sun setting in a sullen blaze beyond the lip of a bare, grey, saucer-shaped plain, the last Date Palms staggering out from the rich grove to die in the bitter emptiness, their dog eared, stunted leaves flapping in a cold wind which lifted up the white dust in spiteful little eddies; and the silence, the sense of loneliness under the cold starlight. How bright and home-like the camp seemed in comparison!

This grey-white, silt desert, glittering with salt, flooded every spring when the river rises, is a type. It includes the very considerable deltaic area from Basrah to the sea, which is flooded annually, and vast areas up river, at least as far north as Baghdad, which are liable to be flooded. Up country, however, the amount of salt in the soil is naturally less. In the real delta region, from Qurnah to the sea, a distance of roughly one hundred miles, the soil is so salt that scarcely anything will grow there, and the desert, even in spring, is not "shot" with green as we find it further north. Cultivation is confined to a belt along either bank of the river, carried in the Basrah district some three miles inland by means of broad, tidal creeks, and the desert is just a blazing white-hot furnace of dust in summer, and a slate-grey slough of mud in winter. A few scattered plants grow here and there — Samphire, Camel-thorn (a gorse-like plant, with crimson, Pea-flowers) and a grass, but broadly speaking this type of desert is devoid of plant life. The Babylonian plain on the contrary, from Babylon, S.W. of Baghdad, to Samara in the North, including Baghdad and the Diala river, differs in that the alluvial soil is not excessively salt. It is a mud plain, just the same, absolutely treeless, without even a bush rising so much as 2 feet above the ground level, white with drifting dust or grey with mud, to some extent cultivated, where here and there a group of crumbling mud walls and the bleaching skeletons of dead animals mark the site of a wretched village. But in spring it is green with grass and sparkling with flowers.

Another type of Mesopotamian desert is the gravel desert of the plateaux. West of the Euphrates the edges of the plateaux are soon reached, but one has to travel many hundred miles up the Tigris valley before gravel terraces, with conglomerate cliffs enclosing the river, are met with, as at Samara. Some nine miles west of Basrah is a gravel ridge, perhaps 20 feet high. Ascending this one finds oneself on the fringe of the plateau which forms the western boundary of the Euphrates, and extends away into the vastness of the Syrian desert. It is not flooded in spring, being above the highest flood level, and the gravel being well drained is consequently not salt. This gravel desert, or escarpment, overlooking the Euphrates valley, is, even more brilliant with dwarf flowers than the grassland, mud desert, in spring.

It was with considerable astonishment that I passed from the salt mud of the Basrah desert, with its scanty patches of "Camel-thorn," its clumps of Samphire, and its wide barren spaces, up some 20 feet of gravel and sand on to the undulating plateau, which was covered with bright flowers—blue Iris, white Salvia, thorny Caragana, brilliant blue Pimpernel, Asphodel, Geranium, (several species), and many more, while dwarfed undershrubs, most of them speckled with flowers, dotted the landscape. The scene *looked* barren enough, for the flowers were widely scattered, but there was no doubt of their number and variety. When, by an effort—for by this time the heat was intense, and it was a twelve-mile journey from camp—I again visited this place at the end of April, most of the flowers had already set seed and withered away under the scorching blast.

In March of another year, when beyond Baghdad, I saw more of the gravel desert. It was mid-spring then, and there had been more rain than usual. Everything looked at its best. Soon the plateau was carpeted with green, which turned to velvet saffron in the golden light of sunset. By mid April—for spring lasts longer here than it does in the south—a rich carpet of grass and flowers had sprung up. In places the plateau comes down to the river in sheer cliffs of conglomerate, but elsewhere the scarped edge of the terrace sweeps down to the alluvial plain, and has been cut up into *nallas* by flowing streams, thus smoothing the harsh outlines of what were once cliffs. A wealth of wild flowers grew here. There was a Poppy with port wine-coloured flowers, and a scarlet-flowered species, a miniature of our own glorious corn Poppy; five species of Geranium, one with lavender-blue flowers; yellow Asphodel, Rock Roses, a crimson Silene, and many Cruciferae, Leguminosae, Compositae and others. It seemed strange to find all these familiar English flowers 600 miles up the Tigris amongst the ruins of the oldest civilisation in the world; more wonderful still to find them covering the vast Temple of the Sun and other famous buildings, of which huge fragments stand wearily sentinel over the sleeping cities where now wild flowers bloom on the mounds of brick and earth which stretch away mile on mile. A maze of trenches zig-zag across the desert, and every little hollow is emerald green, spangled with crimson and yellow flowers. A greater war than that which humbled these proud cities to the dust is raging as I write, but the nodding Poppies and flaming Anemones still soften the outlines of our trenches, even as they hide the shame of the razed cities.

But it is on the gravel terraces sloping gently inland from the high cliffs which hem in the Tigris (they are 50 feet high beyond Samara) that this desert flora is seen at its best. Here we are 300 feet above sea level, and can see the blue wall of the Jebel Hamrin, the outermost defences of the mountains, 30 miles away. In March and April there were over 50 species of flowering plants blooming on the gravel at the same time. There are two things which even in spring make the struggle a keen one for the gravel flora, first the scanty soil, for the rock beneath is hard, and fierce winds sweep up the surface soil as fast as it is formed; secondly the rapidity with which water drains off. Consequently it is in the hollows into which the water drains and a little soil is washed, that the flowers cluster thickest.

Amongst the ruined cities which line the river bank are rows of shallow crater-like depressions, believed to be ancient wells. Now they are filled with luxuriant grass and tall flowers. In one are bunched the crimson umbels of an Allium, mingled with white-flowered Star of Bethlehem; in another spikes of creamy Mignonette shoot up from amidst a bed of orange Ragwort; another hollow is dabbled blood-red with flaming, scarlet Anemones; yet others are white with Daisies, violet with Hyacinth, or pink with Catchfly. Out on the dry gravel are many Cruciferae, Leguminosae, Compositae, and other flowers; but the flora is in some respects alpine, rather than desert, in its character. True we find compact, rosette plants with deep tap roots, but water-storing devices, such as fleshy leaves, or a reduced transpiration surface, are exceptional, nor indeed are they needed. Springtime on the gravel desert offers to annuals at least almost as good terms as do the cultivated areas, and larger editions of many desert plants can be found in gardens and along the banks of irrigation channels. This is especially noticeable in the case of many Compositae, Cruciferae, Leguminosae, and species of Geranium.

Real desert plants are more typical of the hard, mud desert where there is no excess of salt in the soil. A species of Polygonum, with coral-red flowers, one or two Leguminosae, Santalaceae, Potentilla, Rumex and others grow here. They all form either compact tufts with small, closely imbricated leaves, or flat, spreading plates pressed closely against the soil. This mud desert, too, round Baghdad, is green in spring, interrupted by sheets of dwarf purple Geranium. Other flowers are scattered over the

thin sward or in places make up the carpet—Malva, Ranunculus, Plantago, familiar looking flowers, but all dwarfed and compact. On a fine spring day, with blue sky overhead, and the horizon tangled up in the mirage, the desert with its sheen of grass dotted with flowers—none the less desert on that account—looks beautiful. And then comes May, with its hot breath, and all is shrivelled up, while the dust sweeps on over the ruin. *F. Kingdon Ward.*

THE ROSARY.

ROSA MOYESII VAR. ROSEA.

In reply to "A.B.B." (p. 56), there is a wild variety of Rosa Moyesii, named rosea Rehder & Wilson (*Pl. Wils.* ii. p. 325), described as differing from the type in having pale rose or pink flowers, and I think this must be the one alluded to, for I know it to be in cultivation, and it is altogether inferior as a decorative plant. It is said to be abundant in the thickets and on the margins of woods, where the type is common, and "with its large, pale pink flowers and large leaves this form looks very distinct from the type." There are dried specimens at Kew, and I cannot suggest the significance of the variation. It seems, however, to be quite constitutional, and I do not think there is any danger of the type degenerating in the same way. With regard to the colour of the type, I admit the difficulty of describing it. There is nothing like it in the genus and, from memory, I should think it comes near Ridgway's spectrum red, or cochineal. Blood-red with a touch of carmine might describe it fairly, but I deliberately chose the non-committal term deep crimson. So far as colour is concerned, I failed to find any difference between R. Moyesii and the one called R. Fargesii—here I allude to the one cultivated at Kew as R. Fargesii, but the photograph bore the same name, and was apparently identical, so that I used the term var. Fargesii to preserve the connection, in preference to making it a mere synonym. Such a colour might well receive the attention of the hybridist. *R. A. Rolfe.*

ROSE MRS. WEMYSS QUIN.

I am glad that *White Rose*, in his "Review of the Yellow Roses" (on p. 93), gives Mrs. Wemyss Quin such a good character. He states that it is the most generally satisfactory yellow garden Rose that has yet had any trial, and I thoroughly agree with this expression of opinion. We have grown and sold this variety by the thousand since it was put into commerce, and every visitor to the nurseries has admired the beautiful yellow blooms. I am astonished that one sees so few notices regarding it in the gardening Press, and this variety actually appears to have been overlooked by the majority of nurserymen. It has, indeed, every virtue claimed for it by your correspondent in his article; but he has omitted a very important one. He concluded his review by saying that "I can as yet detect no fragrance in the new Yellows." He surely did not mean to include Mrs. Wemyss Quin in that statement, for this variety is one of the sweetest of all Roses; its fragrance is remarkable. *George M. Taylor, Edinburgh.*

FIG. 56.—CORYDALIS THALICTRIFOLIA: FLOWERS YELLOW.

CORYDALIS.

The genus Corydalis is a very extensive one, the numerous species being found over the whole of the north temperate zone. The majority are somewhat weedy in character and of little value as garden plants, but a few, including the Siberian species C. bracteata and C. nobilis, may be included among the most decorative subjects. China, which is the home of a large number of species, has given us some four or five sent home by Mr. E. H. Wilson when collecting for Messrs. Veitch and Sons. These include C. thalictrifolia, illustrated in fig. 56. This species is a limestone lover and grows in rocky soil on ledges and cliffs in warm situations in West Hupeh. It is a perennial, forming a woody rhizome, and produces tufts of glaucous Thalictrum-like leaves that are very elegant, while the yellow flowers are borne on long spikes throughout the summer. Although the plant sometimes survives the winter in very dry, sheltered places, it cannot be considered hardy in this country, but if lifted and placed in a cold frame during the winter it forms a good summer-flowering plant for a dry ledge in the rock garden. This Corydalis makes a very elegant basket plant for the cool greenhouse, and has been used in quantity as a border plant in the Temperate house at Kew, where it was very effective.

Other species sent home by Mr. Wilson from Central China include C. cheilanthifolia, with fern-like, green leaves, growing 9-12 inches high and bearing yellow flowers. This is a very free-growing, hardy plant that reproduces itself freely from self-sown seed, and is worth growing for its foliage alone. C. tomentosa is a distinct plant with tufts of white, woolly leaves and yellow flowers. This species also is not hardy, but produces plenty of seeds by means of which it is readily increased. The fourth species was named C. Wilsonii in compliment to Mr. Wilson. This Corydalis (see fig. 57) bears tufts of finely-divided, glaucous leaves of a fleshy nature, and produces long spikes of canary-yellow flowers during the summer. *W. I.*

INCREASE OF VOLES.

During many years' experience of gardening, I have known no visitation so serious as our present one of Voles. We are victims both of the Field Vole (Microtus agrestis), commonly known as the Short-tailed Field-mouse, and of the Bank Vole (Microtus glareolus). Last year, 1918, there was a preponderance of the former, this year there are more of the latter species. In 1917 both were very numerous, but last year their numbers increased enormously, and this spring there are, if possible, more than ever. I do not know how many we trapped last year (the traps are never idle), but I hear of a neighbour whose gardener believes he must have trapped more than 700 in 1918; he lost count at 500. We had no Peas, the Cabbage plants were eaten; the Voles almost stripped the Brussel Sprouts, and ate into the heads of Savoys. In late summer a family of barn owls, who inhabit a dovecote here, kept picking them up, and my little terrier had great fun catching them. They have stripped the bark off limbs of Cryptomeria japonica. Iris stylosa looks as if a cow had browsed on it. Cotoneaster angustifolia, six weeks ago a solid mass of orange berries, has now scarcely a berry, and the shoots are eaten as well. On going to transplant a shapely young Pinus leucodermis, I found it ringed just below the level of the ground. Bulbs, of course, are much eaten. Big heads of fine old Yucca gloriosa are lying on the ground gnawed through at the crown. Beautiful fat buds of Camellia reticulata are hopelessly spoilt. During winter and early spring, matted-up, wall-plants are in especial danger, for behind the matting the plants are hidden from observation, and it is saddening to remove the mat and find Crinodendron Hookeri, Edwardsia tetraptera microphylla, Callistemon speciosum or some other pet plant badly attacked, and perhaps damaged beyond hope of recovery. The ground over areas of some yards square is a mass of mouse holes; a pasture which has not been fed by stock is in a similar state, while a lawn, only scythe-mown because of the war, is also riddled, though the harder turf of machine-mown grass has almost entirely escaped, such Voles as there are in this area being in places where the ground had cracked. The Voles travelled much on the surface of the grass beneath the snow, and on the melting of the snow the scythe-mown lawn resembled a railway map.

The young of these Voles, born in April, are said to breed in the autumn of the same year; and a large proportion of those we are catching now (February) are young. Among the toll of Voles we take a few Long-tailed Field-mice (Mus sylvaticus). The Field Vole, as its name implies, is not an inhabitant of the woods, but our Beech woods are infested to an unusual extent by the

Bark Vole and the Long-tailed Field-mouse—more correctly called the Wood Mouse. These mice early stripped the Thorns, White Beam, Spindle Trees and Briars of their berries, and have now been occupied in whittling the bark of Ash saplings and Hazel; they even gnaw the outer bark at the base of the Beech trees. They probably the Wood Mice) climb along the slender green twigs of the Spindle trees and leave these either ringed like Scirpus zebrinus, or all white and glistening.

The sporadic visitations of these rodents have, of course, their parallel on an immensely larger scale in other countries; there is the well-known case of the Lemming (Myodes lemmus). The writer, though he has never been in Norway in a lemming-year, has seen something of the migration of an allied species (Myodes obensis), on the coasts of Arctic Russia. Here the waste was alive with them, and many bodies lay among the sea-wrack along the line of high water.

Various accounts have come down to us of Vole plagues on the Continent.

"During the twenties," says Blasius, "the Lower Rhine was repeatedly visited by such a plague. The fields were so undermined in places that you could scarcely set foot on the ground without touching a Vole hole, and innumerable paths were deeply trodden between these openings. On fine days it swarmed with Voles, which ran about almost openly and fearlessly. If they were approached, from six to ten rushed to the same hole to creep in, and unwittingly impeded each other's progress by crowding together. It was not difficult in the crush to kill half-a-dozen with the blow from a stick." Then, he says, "the animals became mangy. When I visited the place for the third time, four weeks later, every trace of them had disappeared. People said that the whole race had suddenly disappeared from the earth as if by magic. Many may have perished from a devastating pestilence, and many may have been devoured by their fellows, as happens in captivity; but people also spoke of the innumerable hosts that had swum across the Rhine at several places in open day. In order to give some idea of the hordes of Voles which sometimes appear in certain districts, it may be mentioned that in 1822, in the district of Zabern 1,570,000 Voles were caught in fourteen days, in the district of Nidda 590,427, and in that of Patzbach 271,941."

"In the autumn of 1856," says Lenz, "there were so many Voles in one district of four leagues in circumference, between Erfurt and Gotha, that about 12,000 acres of land had to be reploughed."

There have been several such visitations in Great Britain. A Government Report on that of 1891-2, quoted by the late Mr. Lydekker (Allen's Naturalists' Library) refer to such in 1580 in Essex, 1813-14, Forest of Dean and New Forest. "Upward of 30,000 Voles were destroyed by various means in the Forest of Dean, and 11,500 in the New Forest. In 1874 and 1875, a similar plague made its appearance in Wensleydale, and lasted until about 1876, during which time the Field Voles appeared in such numbers in the pasture farms of the hill districts of the borders of England and Scotland, and parts of Yorkshire, as to destroy the grazing ground. In 1892, another alarming plague of Voles made its appearance in the South of Scotland, where between 80,000 and 90,000 acres are reported to have been affected. In his report Mr. R. F. Dudgeon said, 'the gross area of the farms seriously affected may be stated as between 30,000 and 40,000 acres. I should not be far wrong in stating that some 12,000 to 15,000 acres have been rendered entirely useless by reason of the plague. The grasses are first attacked close to the surface of the ground, and the stalk is consumed as far as it continues white and succulent; young shoots are also nipped off; and green tufts are to be seen completely eaten through, what is left by the Voles being absolutely valueless. Sheep are suffering severely in the districts affected; large portions of many flocks have been removed to winterage, wherever that can be found, artificial food and purchased hay is being given to the stock on many Nirsels. Plantations are in some cases being attacked, buds being nipped off, and bark peeled.'"

One of these writers remarks on the great number of "hawks, foxes, weasels, buzzards and owls that were attracted by the abundant prey." In this conection I may say that the number of kestrels seen last summer and up to the time of the recent snow in this part of Hampshire had been quite phenomenal. The snow lay on the ground here for about three weeks, and the inability to procure this form of food during that period seems to have shifted the kestrels to more favourable districts; we only have now (February 27) our normal pairs.

It is not impossible that the unusual appearance this year of seagulls on our pasture lands in this valley may be connected with the Voles. In the dry summer of 1893, the black-headed gulls breeding on Scoulton Mere (as I was assured by the keeper) frequently brought "mice" to their nests, killing them by dropping them from a height. The jackdaw is very fond of them. When I was a lad a pet jackdaw would often, in laying time, leave my shoulder to fly off and catch a Field Mouse, and eat it with gusto. We have no rookery here, and it is only at rare intervals that one sees a rook on our pastures, which lie down in rather a deep hollow under the steep hills, and the rooks prefer to haunt the open plateau above. Now they come here, and I lately watched gulls, rooks, carrion crows, jackdaws and magpies in one field; none of them birds that would refuse a Field Mouse. Recently, my man who was working near a stream had his attention called by a lad to a bird creeping along the foot of a hedge with a "mouse" in its beak. He tells me it was a water rail—a Hampshire "Runner." I have no reason to question it; this man has lived from a boy by water-meadows where water rails are quite common. "Are you sure it was not a moorhen?" I asked him. "Oh no, sir," he said, "that was a Runner right enough." The birds help us all they can, but what can we ourselves do? Trapping is but "a drop in the ocean," and poison is unthinkable, for it would destroy our best friends as well as our enemies. Sir Walter Elliot, writing on the Wensleydale Vole plague of 1874-5, says, "Borers have been used with good results, with which, where the soil permits it, holes are made in the ground 12-18 c.m. in circumference, and 60 c.m. deep" (about 6in. wide by 20in. deep). "When the Voles fall in, instead of burrowing their way out, they devour each other. When the fields were being ploughed, children followed with sticks, and destroyed as many mice as possible. Smoke has been driven into the burrows, poisoned grain thrown in, whole fields saturated with a decoction of strychnine or spurge. In short, every means has been adopted to get rid of this terrible pest; but in general, all these methods have proved nearly useless, and some of them, especially poisoning, highly dangerous. The most efficacious poison not only destroys all the Voles in a field, but likewise their worst enemies, and consequently our friends, foxes, martens, storks, weasels, buzzards, owls and rooks, partridges, hares, and domestic animals from pigeon to horses and oxen—a sufficient reason for abstaining altogether from the use of poison."

What can we do?

I do not know how widespread this visitation may be, and have only spoken of it as experienced in my own greenland and garden, and it is not nearly so bad on those fields here that have been regularly fed since haying time, for there is not the same cover for the Voles, and the cattle's treading also keeps them down. This irregular garden with bits of old rockwork, banks, ivied walls and harbour generally, is a natural home for such vermin. In any case the dimensions at present reached by our little local Vole plague are a very long way from those in the instances quoted above. This can only be called a plague in its infancy. Let us hope it may remain so, for it is sufficiently trying at that. Next year, by analogy, it ought to disappear. *Aubyn Trevor-Battye, Ashford Chace, Hampshire. February 28, 1919.*

FIG. 57.—CORYDALIS WILSONII: FLOWERS CANARY YELLOW.

CULTURAL MEMORANDA.

PROPAGATING PLANTS BY MEANS OF CUTTINGS.

A NUMBER of commonly-grown stove and greenhouse plants are so readily propagated by means of cuttings that no detailed directions for preparing the cuttings are necessary. On the contrary, many subjects are difficult to increase in this way, and special treatment must be accorded them in order to ensure success.

The selection of the cuttings is an all-important matter, and, generally speaking, the most satisfactory are the shoots of medium vigour. The shoots, which should be of the current season's growth, should be taken when they have lost

their succulent character and before they are fully matured. This system is very effective in the case of the majority of hard-wooded plants, provided the after-treatment is correct. They may be dibbled into clean, well-drained pots filled with a mixture of peat and sand, which has been passed through a sieve having a quarter of an inch mesh. This compost must be pressed down very firmly; when inserting the cuttings care should be taken that the lower part is securely fixed in the soil. When the pot or pots are filled with cuttings, give water freely through a fine rose, in order to settle everything in its place. They should then be placed in a close propagating case, or covered with a bell-glass. A temperature a few degrees higher than that in which the parent plants grew will be suitable for the cuttings. The after treatment will consist in removing the glass or glasses every morning, in order to admit dry air, allow the removal of decayed leaves, and for watering when necessary. It is essential that the cuttings are shaded from the sun's rays.

In the case of some subjects that are more than usually difficult to strike from cuttings, a practice often resorted to with success is to put the stock plant, from which the cuttings are to be taken, in a warmer structure than that in which it has been previously growing. This is termed by professional propagators, "drawing out the cuttings," and it is a method frequently adopted.

A point of considerable importance in the case of most cuttings—except those of a succulent character—is to insert them as soon as possible after their separation from the parent plant: if allowed to flag, their chances of success are considerably lessened. An item of considerable importance is the health of the plant from which the cuttings are taken. Highly-fed plants yield the worst cuttings, for although the growths may appear to be good, fat shoots, they do not root so well as those produced in a more natural manner. This applies to such well-known subjects as Chrysanthemums, Fuchsias, and Pelargoniums: indeed, when Chrysanthemum shows formed a more prominent feature than they do now, some specialists made a feature of cuttings from plants that had been grown naturally, and not forced with stimulants. *W. T.*

ORCHID NOTES AND GLEANINGS.

NEW HYBRIDS.

(*Continued from February 1st, page 52.*)

Hybrid.	Parentage.	Exhibitor.
Brasso-Cattleya Golden Goody	B.-C. Ilene × C. Lord Rothschild	H. T. Pitt, Esq.
Brasso-Cattleya Princess Patricia ...	C. Enid × B.-C. Cliftonii magnifica	Charlesworth and Co.
Brasso-Laelio-Cattleya Imogen	L.-C. Trimyra × B.-C. langleyensis alba ...	Flory and Black.
Cattleya Mérope	Fabia × Trianae	W. H. St. Quintin, Esq.
Cymbidium Goldflake	rosenfieldiense × glebelandsiense var. J. Davis	Armstrong and Brown.
Cymbidium International	eburneo-Lowisanum × Woodhamsianum	Armstrong and Brown.
Cypripedium Major Hanbury Carlile..	Troilus Amy Moore × Lady Carlile	F. J. Hanbury, Esq.
Cypripedium Miss Hilda Lea-Smith .	Leeanum Purity × Gratrixianum	F. J. Hanbury, Esq.
Cypripedium Miss May Murray ..	Draco × Baron Schröder	F. J. Hanbury, Esq.
Cypripedium Oakwood Giant	Alcides Harold × Beckmannii	Mrs. N. C. Cookson.
Dendrobium Erota	chessingtonense × aureum	W. H. St. Quintin, Esq.
Laelio-Cattleya Majestic	Invincible Orama × Nella	H. T. Pitt, Esq.
Laelio-Cattleya Miss Mary Devitt ...	C. Trianae × L.-C. eximia	F. J. Hanbury, Esq.
Laelio-Cattleya Rex	L.-C. Haroldiana × C. Tityus Rex	Flory and Black.
Odontioda Alcides	Lambeauiana × Royal Gem	Charlesworth and Co.
Odontioda Garnet	Oda. keighleyensis × Odm. eximium	Charlesworth and Co.
Odontioda Lydia	Odm. Jasper × C. Noezliana	Charlesworth and Co.
Odontioda Mena	Oda. Lambeauiana × Odm. eximium	Charlesworth and Co.
Odontioda Rajah	Odm. Rio Tinto × Oda. Lambeauiana	Sanders.
Odontioda Flambeau	Cooksoniae × The Duchess	Armstrong and Brown.
Odontioda St. Andre	Oda. Sanderae × Odm. amabile	Sanders.
Odontioda Valda	Odm. Louise × Oda. Coronation	Charlesworth and Co.
Odontioda Victory	Oda. Henryi × Odm. amabile	Armstrong and Brown.
Odontoglossum Columbine	excellens × Arlequin	Armstrong and Brown.
Odontoglossum Emma	ashteadense × eximium	Pantia Ralli, Esq.
Odontoglossum Empire	eximium × Marathon	Armstrong and Brown.
Odontoglossum Euterpe	amabile × Doris	Armstrong and Brown.
Odontoglossum evershotense	gandavense × Lawrenceanum	Sanders and E. F. Clark, Esq.
Odontoglossum Marcus	Jasper × Harryanum	Charlesworth and Co.
Odontoglossum Orosius	Solon × Maillardianum	Charlesworth and Co.
Odontoglossum Orestes	Dora × percultum	Charlesworth and Co.
Odontoglossum Pallas	illustrissimum × Doris	Flory and Black.
Odontoglossum Portia	illustrissimum × Aglaon	Flory and Black.
Odontoglossum Radiant	Dora × Alexandra	Charlesworth and Co.
Odontoglossum cupreum	Rio Tinto × eximium	Sanders.
Sophro-Cattleya Eva	S.-C. Saxa × C. Enid	Flory and Black.
Sophro-Cattleya Nerissa	S.-C. Saxa × C. Trianae	Flory and Black.
Sophro-Laelio-Cattleya His Majesty ...	S.-L.-C. Marathon × C. Trianae Backhouseana	H. T. Pitt, Esq.

ODONTOGLOSSUM MAUVE QUEEN.

A month ago Mr. W. H. Young, Orchid grower to Mrs. Bischoffsheim, The Warren House, Stanmore, sent flowers of the first of two plants raised between Odontoglossum Lambeauianum and O. Triton—the latter a Vuylsteke hybrid of unrecorded parentage, with a strong suggestion of O. Pescatorei in its finely-developed lip. The second plant is now in bloom, and differs from the first mainly in the colour of the blotching, which is bright rosy-mauve, the former specimen having more red in its colouring

O. Mauve Queen is an exceptionally large and pretty form, of excellent shape. The sepals are rosy-mauve, with white tips slightly tinged with purple from the back. The petals are white, with the inner two-thirds heavily blotched with mauve; and the broad labellum, which again represents O. Pescatorei in an enlarged form, is white, blotched with mauve in front of the yellow crest.

ODONTOGLOSSUM HUMEANUM AND O. ASPERSUM.

In the note (*Gard. Chron.* March 15, p. 121), under the heading "Odontoglossum Humeanum," the statement reflecting on the correctness of the record of Odontoglossum Humeanum Rchb. f. *Gard. Chron.*, 1876, i, p. 170, and which is based only on conjecture, tends to obscure the important fact that the home-raised specimen shown by Mr. Rolfe satisfactorily establishes the correctness of the name and record of Odontoglossum aspersum (maculatum × O. Rossii) Rchb. f. in *Gard. Chron.*, 1879, 1, p. 266, and by that name the plant at Kew, and others resulting from the crossing of O. maculatum and O. Rossii, must be known. O. aspersum has been noted in its various forms a number of times in these pages; it appears that the correct parentage in the Royal Horticultural Society's list of awards and Journal; in Sander's *Hybrid Orchid List*, and other publications.

With regard to O. Humeanum, it must wait until the type specimen which Reichenbach named can be seen, and the cross between O. cordatum and O. Rossii raised at home settles the question. *James O'Brien.*

ORCHID SALE.

The sale of the very select collection of Orchids formed by the late F. Menteith Ogilvie, Esq., which Messrs. Protheroe and Morris announce to take place on the premises, 72, The Shrubbery, Woodstock Road, Oxford, on Tuesday, April 1, and two following days, is one of the most important events in Orchid circles which have taken place since the sale of the remarkable Brackenhurst collection of the late Mr. J. Gurney Fowler. Some of the best plants in Mr. Fowler's collection are included in the present sale, together with a rich selection of unique forms known as "The Shrubbery" varieties, which have secured the highest award given by the Orchid Committee of the Royal Horticultural Society. Considering its extent the collection may be said to be one of the richest ever formed. Odontiodas, Odontoglossums, Miltonias, Cattleyas, Brasso-Cattleyas and Laelio-Cattleyas are the most numerous. A large number of promising hybrids, raised at The Shrubbery, are included in the 1,113 lots, the whole of which will be sold "without reserve."

NOTES FROM AUSTRALIA.

After a Christmas on the Egyptian desert, one in the Somme mud, and one in the Bethnal Green Military Hospital, it is quite a change to spend one as a civilian among the flowers of Iris Kaempferi, late Rhododendrons, Gladioli, and Liliums, not to mention the numberless species of other plants which together constitute an interesting garden. In England I had Holly berries; here the bushes are crowded with the green berries, and a fair sprinkling of red ones remaining from last winter.

Leaving England just as the spring flowers were opening (and just missing the Rev. J. Jacobs' seedling pink Freesias by about two days), I seemed at the time to have hard luck, but I landed in Australia in good time for the displays of autumn.

Although decorative horticulture in Australia had not been put aside in the whole-hearted manner which obtained in England, the shows had decreased materially both in number and objectives; the proceeds of those held went exclusively to Red Cross and Comforts Funds. The R.H.S. of Victoria did not hold an Autumn Show in 1918.

A magnificent and comprehensive display of Dahlias was staged at the Melbourne Town Hall. By some, this was estimated as the finest collection ever seen in the State. Paeony, Cactus and Collarette varieties were mostly in evidence; but show, single, Pompom, and the Cosmea flowered forms (somewhat misleadingly named Star Dahlias) were by no means neglected. Just eight days later the same hall was filled to overflowing with Autumn Roses and amongst varieties that won prizes were Mrs. Foley Hobbs, Frau K. Druschki (best Rose in the show) and George Dickson.

Some other fine things at various shows were Salamander Carnations, Chrysanthemum Louisa Pockett, and Gladioli: A five-guinea cup offered for 6 Gladioli was awarded to spikes of Mahdi, Salomé, Niphetos, Mrs. Pendleton, Joe Coleman, and a yellow seedling.

In my own garden some Liliums were apparently rejoicing at the three seasons' absence of the gardener, for surely never before had I such vigorous colonies of L. auratum, L. a. pictum, L. a. platyphyllum, L. canadense flavum, L. Thayerae, L. parda-boldtii, L. parviflorum, L. Roezlii, L. nepalense, L. dal-hansoni, and L. sulphureum The self-invited carpet of Yorkshire fog-grass (Holcus lanatus) which covered the beds seemed to supply a more appreciated shelter and drainage than any Rhododendron or Azalea. Where, in 1912, a hundred of L. pardalinum had been planted there showed but a fringe of flower stems encircling a mat of grass; but from within that circle over 2,000 stunted bulbs were duly lifted and planted out. What I had considered three years ago to be solid, crimson flowered seedling of L. speciosum was flowering freely, 50% of the flowers showing as much white as any ordinary rubrum. Some L. regale were carrying healthy seed pods, whilst others had lost their leaves and on examination were found devoid of basal roots. L. Wallacei and L. Batemanniae had not flowered but were represented by countless thousands of tiny bulbs. L. Grayii, L. Marhan, L. Alexandrae, L. parvum, L. Sargentiae, L. tenuifolium, and L. pom-

ponium, were carrying on in a desultory fashion. A few species had departed this life, and those garden acclimatised species L. tigrinum, L. speciosum, L. elegans, L. testaceum, L. Hansonii, and L. candidum, were just as one expected to find them.

L. longiflorum, in pre-war days a most satisfactory Lily, had become weary and remained below ground, although fully equipped with healthy and well-anchored basal roots. This season it still sleeps—can any reader tell me the cause and remedy for such a lazy habit? Also can any reader enlighten me as to the botanical differences between L. Wallacei (sometimes grown as an L. elegans variety) and L. Batemanniae? Also the distinctions which separate L. sulphureum from L. Sargentiae? And, whilst on the Lilium question, just where in the genus does the group called L. umbellatum find its level? Some growers give its origin as L. davuricum—which itself is confused with L. croceum. L. davuricum I have bought from various sources, true or not, but what I get looks like a very undesirable form of L. umbellatum, which seems to point to parental relationship. Here L. croceum, in time, attains five feet in height; its cultural requirements are decidedly different from the so-called L. umbellatums.

Through your columns, I should like to mention the kindnesses I experienced from English garden lovers whilst in hospital—especially must I thank your assistant editor, and Messrs. Bliss, Elwes, Ellwood and Jacob. The lovely flowers which they sent or brought did much to leaven the tedium of waiting for bones to mend; and while I scarcely expect to repay them in similar circumstances, I trust that some opportunity will occur whereby I may honour the debt of gratitude which I acknowledge. *Gilbert Errey, Errey's P.O., Victoria, Australia.*

TREES AND SHRUBS.

AN EARLY FLOWERING PRUNUS.

The sketch reproduced in fig. 58 represents a spray from some branches cut from an overhanging hedge and brought indoors at the end of January. At that time, only one or two of the buds were sufficiently developed to show the tips of the white petals just beginning to emerge from the green calyx; yet by the middle of February these branches were in full flower and formed a welcome harbinger of spring. The plant is Prunus cerasifera, known also as the Myrobalan or Cherry Plum. The tree seldom fruits in England, probably owing to its early flowering habit. It forms useful hedges, if trimmed, but then the necessary pruning gives it little chance of flowering.

Almond branches may similarly be induced to flower two or three weeks in advance of trees in the open by bringing them into the warmth of a house in January, and it is a method which is well worth trying with other early-flowering shrubs. *W. R. Dykes, Charterhouse, Godalming.*

THE VEGETATION OF THE CRATER AND SUMMIT OF MOUNT ELGON.

(*Continued from page* 123.)

The Heath Zone extends from 11,000 to 13,000 feet, to the crest of the crater, when it almost entirely vanishes, and is replaced by the wind-swept Alpine Zone of the crater and Peak—the climax of vegetation. The crater itself is saucer-shaped, at a decided tilt, and is, as a vast, bleak moorland, broken here and there by flat outcrops of rocks, hillocks, and small conglomerations of lava, sparsely covered by a bleak-looking wind-swept shrubby vegetation, studded occasionally with decrepit specimens of tree heaths with tortuous, almost black, branches covered by lichens, almost parasitic in their numbers at times. Large, solitary boulders with rocks are almost entirely absent. Everything has a look of decrepitude and senility—it needs only a few Alpine Dinosauria feeding on the Cabbage-like tree Groundsels studding these vast tussocky-grassed tracts to complete a very archaic picture.

The silence is weird, broken only occasionally by the harsh croak of the white-necked crow, or the lowing of the dwarf mountain cattle in the lower reaches of the crater. This isolation impresses one with the sense of the infinite, and the littleness of man. Even our hitherto loquacious guides appeared to be silent, though this was, perhaps, more largely attributable to physical discomfort, for the weather was decidedly inclement, persisting in sleeting, and towards and at the summit a three-inch fall of snow impeded our progress considerably.

The altitudinal effects upon my companion were most marked and somewhat terrifying. Vomiting commenced at Crater Camp, and though I adjured him not to go further, with true Celtic obstinacy he persisted in his determination to reach the summit, which we eventually did, though at a very slow rate, the journey taking us three hours from Crater Camp, instead of the usual half an hour. He became ghastly white as we proceeded, his eyes bloodshot, his ears blue, while the throbbing at the temples was very painful, and the thumping of his heart quite audible at a distance. Progress as indicated was necessarily very slow, though it gave me an excellent opportunity of foraging botanically, much "booty" being secured.

Our guides (three Bagishu) showed remarkable fortitude, and, with the exception of one, whom I left at a fire which I made at the base of the Peak (14,100 feet) to assist him in gaining the use of his limbs, reached the summit, where, with due decorum, our names were inscribed on a slip of paper and placed in the bottle under the cairn of rocks, though the cold was so intense that writing was very laboured. Unhappily the weather persisted in its inclemency, and hence we were not even granted a glimpse of the plains, a panoramic view justly regarded as truly magnificent to whom it has been vouchsafed. The fall of snow was very phenomenal, which was confirmed by a Dutchman of the Masin Gishu plateau, whom I subsequently met, who had noticed the phenomenon and vowed that he had only seen it once in the eight years he had been on the plateau.

I had the temerity to snowball my companion, but he was far too lethargic and miserable to retaliate, so taking pity on his condition and to awake his sympathy pointed out the extreme affinity of the grasslands we were traversing with those of his beloved Scottish moors, but even this failed to awake his interest, though at the trickling of a "burn" he showed some faint enthusiasm. (It is not anything alcoholic I am alluding to, though I must confess we had a "nip" of brandy at the summit, just to commemorate the feat.)

Not far from the summit there is a small crater lake, fringed by an aquatic or semi-aquatic herb, 2 inches high, which latter remains as yet a botanical mystery. The banks of this lakelet were literally covered by the spawn of frogs, as large as fair-sized peas. On our return to Crater Camp, MacLennan wished to lay down and die, and blamed his indifferent state of health to the potted meat he had partaken of at lunch, an insinuation I promptly repudiated, particularly as that part of the provender was supplied by myself. However, by a series of lurches and staggers and assisted by the guides and pinching exhortations on my part, he eventually regained camp at night, when he straightway tumbled into bed. By this time I had developed a splitting headache, and what with the discomfort of the trip (my feet being almost frozen at the summit) felt little inclined for food, and followed his example. The following morning, however, we both were ourselves again and had a thorough rest, when the next day I returned to the crater with an askari and two Bagishu, spending the whole day there and collecting further material and data.

Fig. 58.—Flowering spray of Prunus cerasifera.

The similarity of the Alpine vegetation of Elgon, Ruwenzori, Kenia and Kilimanjaro is well known, and Volken's description of that of the latter mountain mass is much in accord with what I noticed on Elgon.*

The Everlastings alluded to by Volken form one of the most decorative features of the crater vegetation of Elgon, and without them the plant-life would lose much of its charm and beauty. Their hoary, grey-felted foliage blackening with age but persistent and reflexed and enfolding the axes as if to protect them from the periodic insolation, and cold which must alternately prevail, their silvery flower-heads, often blushing in youth, and studding these bleak mooorlands, present a picture irresistibly recalling the summit of Table Mountain. On the other hand swards of a moss—a Polytrichum—obtain, just as at Inversnaid, above Loch Lomond.

Orchids are very rare (at least at the time of our visit) and were represented only by a terrestrial Disa, apparently D. polygonoides, and a two-leafed Holothrix, a minute species inhabiting the crevices of the west crater-lip. Only a very indifferent specimen of the latter was gathered. Both these Orchids show unmistakable S. Africa affinities. Precisely so in the thickets covering the occasional hillocks. Anthospermum aethiopicum, a Rubiaceous

* Schimper's *Plant Geography*, pp. 638-741.

Juniper-like shrub, abounds, the identical species covering the slopes of Table Mountain, though in the intervening lowlands it is entirely absent. Ursinea nudicaulis, a Composite, and Scabiosa Columbaria are other instances of this very marked disconnected distribution. Of more extended S. African distribution are Romulea, Dierama, Grisebachia, Protea, Crassula, and Rochea.

On the other hand a very strong northern element is apparent in the vegetation in the shape of such genera as Geranium, Erodium, Hypericum, the Chickweed (Cerastium), Stock (Mathiola), Forget-me-not (Myosotis), Wormwood (Artemisia), Clover (Trifolium), Sagina, Verbascum, and a Larkspur of the finest delicate, cobalt blue with a dash of emerald green—a most exquisite and desirable plant.

In fact we have here an extraordinary fascinating complex of plants (and animals) remnant of that vast migration of living forms from the North and South coincident with the Glacial Epoch, and of which Darwin so aptly writes in *Origin of Species*.

The savages here are represented by the Mese—literally Ratmen or Molemen, who live in the crater, apparently an offshoot of the lowland Bagishu, who live sequestered up in the world so high, and work out their destiny in herding their cattle.

They fear the European and run off at his approach. Their huts are circular, mud-walled, but have a flat (not conical) mud roof. They have no beds and sleep on the ground, their only covering when herding cattle being a goatskin over their shoulders, nor do they cultivate anything, living principally on the products of their cattle, on moles and the produce of the lowlands, for which they occasionally barter their calves and other things.

These peoples and their customs should offer a very interesting study to ethnologists.

They live free of poll tax, their numbers perhaps being 200.

These mountain tops may be likened to oceanic islands, but the surprising part of it is that, despite the extreme isolation the vegetation has been subjected to for countless ages, that the percentage of endemic types is so remarkably low.

An analysis of the one hundred and fifty species collected at the summit and crater, of which one hundred approximately are flowering plants (the remainder being Ferns, Mosses and Lichens and cannot be taken into account in the theory of the more primitive the type the more world-wide its distribution), shows only about a 10 per cent. endemism, though the Tree Senecio, the two Cabbage-like Lobelias (examples of which weigh often 25lbs.), and the three Tree Heaths (the one perhaps not a true Erica) represent endemism in a physical degree, and are sole products of these Alpine heights.
R. A. Dummer.

(To be concluded.)

FLORISTS' FLOWERS.

OLD PLANTS OF CYCLAMENS.

The illustration in fig. 59 shows a small batch of Cyclamens in their third season, the plants being in the pots they originally occupied, without being repotted. None will be so ungenerous as to ask why they have not been repotted in these times. Neither have the plants been surfaced with fresh material and nothing but what the waterpot has conveyed, including a liquid stimulant as occasion requires, has been afforded them. They have not been out of the plant-house in which they are growing during the time mentioned, with the exception of such as have been used for house decoration.

There are differences of opinion as to the need for drying off the corms of Cyclamen: I believe in drying them off absolutely. As soon as flowering is over, if water is given the plants freely, they will start to grow afresh. To guard against fresh growth, one may be guided by the feel of the foliage when watering, for moisture should not be given so long as the leaves retain their turgidity. On becoming the least flaccid, sufficient water should be given to restore turgidity and this treatment should be continued until the foliage turns yellow, when water should be withheld entirely.

To enable the plants to flower in the same pots for several seasons in succession good soil should be used and potting done carefully. The pots should be well drained and the drainage material covered with moss, or turfy portions of the loam may be used. At the final potting nothing but the best turfy loam mixed freely with old mortar rubble, and a little wood ash and bone meal, should be used, and the potting should be done firmly, pressing the soil with the fingers. In the earlier stages a little leaf-mould may be used, but the potting should be fairly firm even then.

In potting seedlings see that the young corms are just covered with soil. Plants grown in suitable conditions are not much troubled with insects. The chief enemy is the Vine Weevil, Otiorhynchus sulcatus.

Where weevils are suspected, a nightly visit should be paid to the plant house, with a good lamp. The culprits will be found devouring the flowers. A deft finger and thumb will destroy them, and this method is the only effectual remedy. It is sometimes stated that the weevils drop when a light is thrown on them, but this is not true; but the very slightest movement of their feeding ground causes them to drop and feign death. Newspaper or tiffany placed underneath the pots previous to entering the house at night will assist in their capture. *Thos. Crosswell, The Gardens, Pickhurst Manor, Hayes.*

FIG. 59.—CYCLAMENS FLOWERING FOR THE THIRD SEASON IN THE SAME POTS.

The Week's Work.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Protecting Fruit Tree Blossoms.—Apricots and Peaches will soon be coming into bloom, and preparation should be made to protect the flowers from frosts and cold winds. It is surprising how much frost the flowers will endure unharmed, provided they are kept dry; therefore, it is a great advantage to have a glass coping, or boards about 2 feet wide, fixed on brackets at the top of the wall. From these copings a double thickness of ordinary garden netting should be hung, and fastened to pegs driven into the ground. Where no coping is available it is a good plan to drive eyelets into the top of the wall, about 6 feet apart, and run a copper wire the whole length of the wall and to which the protecting material can be fastened. All protecting material should be removed whenever the weather is mild and favourable, so that the trees may be fully exposed; but it should be returned at the first sign of frost, and not removed again until all the frost has disappeared in the morning. It is not necessary to afford protection until the flower buds begin to open.

Pruning Newly-Planted Trees.—The shoots of fruit trees planted last autumn or during the winter and spring should be shortened according to the mode of training required. Maiden trees intended for fan or horizontal training should have the growths cut back to six eyes, if strong, and, if weak, to four or even two eyes. Trained trees should be shortened in proportion to the strength of the shoots, the weakest being cut back to two or three buds. Under this treatment the tree will have a good opportunity of making good healthy growths.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to C. H. BERNERS, Esq. Wolverstone Park Gardens, Ipswich.

Muscat Grapes.—If the Muscat vinery was closed as previously advised, the Vines should be bursting into growth. Let the night temperature be 55° to 60°, with a rise of 10° by day; admit air freely in bright weather, but prevent cold draughts reaching the young, tender foliage. Disbudding should be done as soon as it can be seen which growth is the most suitable to retain. Atmospheric moisture should be afforded liberally but not in excess, for that would encourage thin, flimsy growth. Syringing the Vines may now cease. Houses set apart for Muscats, if not already closed, should be started forthwith. If the borders are dry, give them a thorough soaking with water warmed to a temperature of about 60°.

Cucumbers.—Early Cucumber plants are making roots freely, and require frequent top-dressings of good loam as the roots appear on the surface. When the plants are fruiting freely, watering with warm liquid manure once or twice each week will be of material assistance. Do not allow the plants to become unduly weakened by carrying heavy crops. Give regular attention to the stopping and training of the young shoots, and see that the foliage is not crowded. As the days lengthen and the sun gains power, plenty of atmospheric moisture should be maintained in the house, while syringing may be done liberally as a preventive of red spider. Provided a constantly moist atmosphere is maintained very little ventilating will be needed at this time of the year.

Early Vinery.—The Vines will now have reached their full leaf-development, and, on completion of the operation of thinning, the berries will swell rapidly until the stoning period is reached. The bunches should be examined occasionally and have superfluous

berries cut out, sufficient space being allowed for the final swelling without undue crowding of the fruits. Anything approaching drought at the roots must be carefully avoided. Where the borders are well filled with roots, stimulants should be liberally afforded. An equable atmospheric moisture should be maintained, by damping bare spaces at suitable intervals; the frequency of this operation should be governed by the weather, and an excess of atmospheric moisture must not be permitted. Admit air freely during the day whenever the weather is favourable, and at night leave the top ventilators open to the slightest extent. Afford a night temperature of 60° to 65°, with a rise of 10° during the day.

Orchard House.—Where the trees were started early to provide fruit well in advance of outdoor supplies, most of the fruits of Cherries and Plums will now be swelling freely. At this stage, steady forcing is necessary, and when the final swelling commences increased warmth may be given with advantage. On the appearance of green fly, fumigate the house, and thoroughly syringe the trees the following morning. Pot trees will require frequent applications of weak liquid manure at the roots, varied at intervals with soot-water and a suitable artificial manure. Planted trees may have a mulch placed on the borders, and there is then less need of water, and the slight amount of ammonia given off is beneficial. Syringe the trees freely on bright days, maintaining a temperature of 55° by night, with 10° rise by day without sun-heat. Afford plenty of air when outside conditions permit. All side growths not required for extension should be pinched at the fifth or sixth leaf. Certain varieties of Plums often set more fruits than the tree can properly develop, and where fine fruits are desired it is necessary to thin them to reduce the strain on the tree; but this should not be done until it can definitely be ascertained which fruits are likely to swell properly.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park Gardens, Barnet, Hertfordshire.

Rock Garden.—Where the Rock Garden has been much neglected during the past four years, it should be overhauled, thoroughly cleaned, and replanted. If the work is carefully carried out the plants will soon spread and give a good effect.

Plants in Tubs.—Ivy-leaved Pelargoniums growing in large tubs or pots will need a thorough examination. See that the trellises are made strong. Thin out some of the old wood and train in the young shoots, but avoid overcrowding. Give the roots a good soaking with tepid water and a top dressing of rich loam mixed with leaf-mould and decayed manure: then stand the plants in a newly-started vinery to encourage fresh growth. If new tubs are to be filled the drainage should be efficient and the compost sweet and lasting. Plant rather firmly but do not over-water.

Fuchsia.—If not already pruned bring Fuchsia plants from their winter quarters, prune them, give the roots a good watering and any other attention needed. Stand the plants in a house where there is gentle warmth and syringe them freely during fine weather to encourage good flowering growth. Fuchsias make splendid plants for terraces or for plunging in the ground in special positions in the flower garden during the summer months. Their principal requirements are plenty of water and liquid stimulants at the roots, and frequent syringings under the leaves to keep them free from thrip and other insect pests.

Perennial Asters.—To obtain good results with Michaelmas Daisies the plants should be renewed annually. The ground should be deeply worked and well enriched with decayed manure. Plant small clumps taken from the outside of the old stools, taking great care to arrange the plants according to their respective heights and colours.

Gladiolus.—If the Gladiolus corms have started to grow, set them out 4 inches deep in well-prepared soil containing a good supply of thoroughly decayed manure. There are many very useful varieties for making a brilliant display in either beds or borders. The old G. Brenchleyensis is the hardiest and is most useful where a dazzling scarlet colour is required.

Ferns.—Hardy Ferns will now be commencing to grow and will need a good clean over. Divide and replant those that require such treatment, and use fresh, sweet soil to give the plants a good start.

Lavender.—The stock of Lavender may be increased by pulling off quite large pieces from the old plants and planting them rather deeply. These quickly form roots and grow very rapidly. Plant very firmly, and should the weather be dry, supply water occasionally.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Phaius.—With the exception of one or two species, the genus Phaius is a most useful one for establishments where no houses are set apart for the cultivation of Orchids. The species and hybrids are easily grown, of handsome appearance at all seasons, and free-flowering. During the season of growth the plants require a liberal supply of water at the roots, and should be placed in the warmest part of the intermediate house. When at rest, the coolest part of the latter structure is most suitable, and for a considerable period very little water is required; a resting period is conducive to free flowering. The plants should be shaded from direct, hot sunshine, and a close, stuffy atmosphere, which causes the leaves to become spotted and decay at the tips, should be prevented. Repotting is best done in early spring, when new growth commences. The terrestrial kinds should be placed in well-drained pots, and potted like ordinary plants, *i.e.*, below the level of the rim of the pot. A good compost consists of equal parts of peat and fibrous loam—with the fine earthy particles shaken out—to which should be added a small proportion of chopped Sphagnum and a sprinkling of crushed crocks and charcoal. When the receptacles are filled with roots, weekly applications of weak liquid manure are very beneficial during the period of most active growth, and add materially to the vigour both of the foliage and the flower-spikes.

Epiphytal Species.—The tropical, epiphytal species, P. Humblotii and P. simulans, need a warmer house than the terrestrial ones, and moister conditions. They should be grown in a compost of A1 fibre and Sphagnum-moss. As P. simulans has ascending rhizomes, the plants should be fastened to a teak raft. The foliage of all species of Phaius is very subject to attacks by insect pests. The plants, therefore, should be placed so that the foliage may be syringed freely.

PLANTS UNDER GLASS.

By JAMES WHITOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Celosia pyramidalis.—This is a good decorative plant for the greenhouse or conservatory. Sow seeds in pans of finely-sifted light soil and place in a temperature of 60°. To grow Celosias successfully it is essential they receive no check in the successive stages of development. First pot the seedlings into 2-inch pots, and place them near the roof glass in a warm pit or house; repot into larger pots before they are root bound and guard against a check by shifting them into their flowering pots at an early date. The compost for the final potting should consist of equal parts of good loam and leaf-mould, rotted manure and coarse sand.

Roses.—Roses in pots or those growing in greenhouse borders do best in a cool or intermediate temperature when coming into flower. Cold draughts must be carefully guarded against to prevent mildew. Give occasional syringings with a weak insecticide to prevent attacks of green fly. It is necessary to feed the plants when in flower, and probably one of the best and least offensive manures to use is sulphate of ammonia in weak solutions. All blooms, either for room decoration or for packing, should be cut in a bud state, twelve hours before required, and placed in water in a cool place.

Begonias and Gloxinias.—Seedlings showing the first rough leaf should be pricked off into clean, shallow, well-drained pans filled with light sandy soil. The work of transplanting should be carefully done, afterwards placing the pans near the roof glass in a warm house, and giving shade from strong sunshine. A light spraying overhead will be sufficient watering for a time.

Zonal-leaved Pelargoniums.—The stock in 4-inch pots should be shifted into 6-inch pots, in fibrous loam, mixed with leaf-mould; add some gritty rubble, and a 6-inch potfull of a plant-fertiliser to each barrowful of the compost. Place the plants in a warm greenhouse until some growth is made, when they may be shifted to cooler quarters. When the shoots are of sufficient length, pinch out their tips.

Aspidistra.—The Aspidistra is not serviceable in large pots, and specimens which have become too large may be divided, potted in a mixture of loam, leaf-mould and some lime rubble, and placed in a warm house.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Cauliflowers in Frames.—To obtain early Cauliflowers when these are generally scarce, planting in frames should be resorted to. Proceed by digging in some well-decayed manure, even adding fresh soil if necessary; then finish off by giving a dressing of soot to the dug surface. Set the plants 15 inches apart each way, and fill in between the lines with the early sown Lettuces that were previously pricked off in boxes. With proper attention as to airing, hoeing and spraying, the Lettuces should be ready before the Cauliflowers require the space. Early Turnips and Spinach can be sown if all the space is not required for Lettuce.

Autumn-sown Cauliflowers.—These have stood the winter well, and have consequently become fine sturdy plants. Provided they have been well hardened off, they will now be in a good condition for planting out, therefore, whenever the plot is in a workable condition proceed with planting on a site that has been well prepared, as Cauliflowers delight in a rich medium. The distances to plant will naturally vary with the varieties, but 20 inches by 15 inches and 30 inches by 24 inches for the more vigorous types will suffice. A screen of evergreen boughs should be placed on the northern side to ward off the cold spring winds. If slugs abound place a ring of sifted cinder ashes around each plant at the time of planting, close up to the stems.

Seakale.—Where a breadth of Seakale remains out of doors it will prove most useful, particularly during a season like the present, when green vegetables have been badly damaged by the frosts. A few rows should always be kept in the open for cutting during April, when it is most tender and delicious cooked. Give the plot an occasional hoeing, and dust the soil with soot.

Parsnips.—Should any Parsnips remain in the ground, they should be dug up at once and covered with fine soil or ashes.

Peas.—From this date onwards the more tender marrowfat Peas can be safely sown in the open, whenever the ground is in a friable condition. Tall-growing Peas require a distance of 6 feet between the lines. Draw drills deep enough to form shallow trenches when the seeds are covered, as a depression is beneficial for watering and mulching during the dry times.

Peas in Boxes.—Seedlings in boxes must be gradually hardened off by placing them in cold frames, and ultimately withdrawing the lights.

EDITORIAL NOTICE.

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

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Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, MARCH 25—
Roy. Hort. Soc. Coms. meet.: Lecture by Mr. Edward White at 3 p.m. on "The Study of Economic Botany and the Professional Openings it Offers."

WEDNESDAY, MARCH 26—
Wargrave Gard. Soc. meet.

FRIDAY, MARCH 28—
War Hort. Relief Fund Matinée at the Palladium.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 43.0°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, March 19, 10 a.m.: Bar. 29.4; temp., 42°. Weather—Rainy.

Nitrogen Fixation by Root Nodule Bacteria.

It is now more than thirty years ago since the nitrogen-fixing power of the bacteria present in the root nodules of leguminous plants was finally demonstrated. During this time much of practical importance has been discovered. The bacteria have been isolated and cultivated in artificial media. Their mode of entry into the root and their power to stir up the cortical cells to abnormal growth are known; yet even now much remains to be discovered. Of the many outstanding problems, perhaps the most important is that—often asked and never satisfactorily answered—which concerns the power of the nodule-bacteria to associate themselves with non-leguminous plants and to bestow upon them powers of nitrogen fixation.

The discovery that sundry other plants enter habitually into association with micro-organisms and form in consequence nodule-like growths on their root system, led naturally to the suggestion that these symbiotic unions, like those occurring in leguminous plants, conferred on the plants which entertained them like powers with those enjoyed by Leguminoseae.

Among non-leguminous nodule-producing plants are species of such genera as Alnus, Ceanothus, Cycas, Elaeagnus, Myrica and Podocarpus, and sundry investigators have claimed to show that nitrogen fixation occurs in them, and have inferred that it is due to the symbiotic association. Other observers have gone further, and having discovered that certain plants habitually associate themselves with certain fungi, claim that these unions also confer on the contracting parties the power of drawing upon the free nitrogen of the air for their supply of nitrogenous food. It is, however, doubtful whether the evidence advanced in any of these cases is as conclusive as it is in that of the Leguminoseae. Indeed, and in the case of the non-leguminous nodule-bearing plants, the most recent evidence tends to throw doubt on the claim that they are nitrogen fixers, or at all events justifies the demand that more rigorous proof shall be forthcoming before this view is finally accepted. Thus in this last published work* the late Thomas J. Burrill shows that the non-leguminous nodules differ in certain respects from those of the Leguminoseae in that they are not caused by Pseudomonas radicicola, the bacterium present in the root nodules of leguminous plants.

This conclusion is in disagreement with that reached by Prof. Bottomley and his co-worker, who claim in the cases of Cycas, Alnus and Elaeagnus, to have isolated Pseudomonas radicicola from their nodules.

In the light of the more recent work of Prof. Burrill, this conclusion must now be regarded as doubtful, and these plants must be rejected, at all events provisionally, from the category of nitrogen fixers.

The case of Alnus glutinosa is somewhat different; for notwithstanding the fact that Prof. Burrill has shown that the nodules do not contain Pseudomonas radicicola, there is some experimental evidence which indicates that nitrogen fixation does actually take place in this plant. It would be well worth the while of botanists to take up this question once more and to ascertain first, whether fixation of nitrogen does occur in Alnus and other non-leguminous nodule-bearing plants, and second, what is the intensity of fixation as compared with that of leguminous plants. For apart from the purely scientific aspect of this subject, there is this most important practical aspect: that if some non-leguminous plants are in fact able to fix atmospheric nitrogen it should not be impossible to train others to do the same beneficent work. This, indeed, was the main object of Prof. Burrill's work. Having made the most careful study of the habits of the nitrogen-fixing bacteria, he endeavoured to induce this organism to enter into a union with non-leguminous plants—as, for example, the Tomato. His experiments were not, however, crowned with success, and so far as they may be regarded as final we have to be content with the conclusion that symbiosis between the nitrogen-fixing organism and non-leguminous plants is impossible. This conclusion is in general harmony with the facts discovered by Prof. Burrill with respect to what may be called the catholicity of infectiveness of the nodule organism.

Although Pseudomonas radicicola must be regarded as one species, it forms a series of biological races, each of which is capable of infecting a restricted number of leguminous genera. From Burrill's researches it appears that some eleven races of P. radicicola may be isolated. Of these, one race confines its activities to species of Trifolium, and can transfer itself from one of these species to another, for example, from Mammoth Red Clover to Alsike, Crimson Egyptian, White or Cow-Clover.

Another race is more catholic and may infect species of Sweet Clover (Melilotus), Medicago (Alfalfa, etc.), or Trigonella. A third race is common to no fewer than eight genera of legumes—Vigna, Cassia, Arachis, Lespedeza, Mucuna, Desmodium, Acacia and Genista. A fourth race is competent to infect Pisum, Vicia, Lens (Lentil) and Lathyrus, whereas a fifth race confines its attentions to the Soy Bean. Similarly, Phaseolus enjoys the exclusive use of a sixth race of Pseudomonas, whereas the Lupine and one other genus share the favours of yet another race of the nodule organism. The Hog Pea Nut (Amorpha canescens), the trailing Wild Bean (Strophostyles helvola), and the common Locust (Robinia Pseudacacia) have each a race of their own.

From these facts it must be concluded that the conditions which lay a plant open to infection are highly specialised—that the gate by which infecting organisms enter the plant is straight and the way narrow. The problem that awaits solution is this: Can man succeed in doing what Nature has apparently failed to accomplish, i.e., train plants and nitrogen-fixing bacteria so to accommodate themselves to one another as to admit of a symbiotic union, as a result of which every cultivated plant may, "without sweat or endeavour" in the shape of added nitrogen-fertilizer, make use of the atmospheric nitrogen as a source of food supply?

* *Is Symbiosis Possible Between Legume Bacteria and Non-Legume Plants?* By Thomas J. Burrill and Roy Hansen. Bull. 202, Univ. of Illinois Exp. Station, 1917.

Royal Horticultural Society's War Relief Fund.—Colonel Charles Gulliver is arranging a Serbian Matinee in aid of the Royal Horticultural Society's War Relief Fund at the Palladium on Friday, March 28th. The proceeds of the matinée are to be allocated to Serbia and will be administered on behalf of the R.H.S. War Relief Fund in Serbia by the Serbian Relief Fund. Queen Alexandra has granted her patronage to the matinée, and a good programme is being provided by leading artistes. In place of the usual sale of war relics, Mr. Charles F. Higham, M.P., will hold a Surprise Auction.

Prizes at the National Potato Exhibition, Birmingham.—We understand that Messrs. Webb & Sons are offering £100 in prizes for Potatos at the National Potato Exhibition to be held at Birmingham in November. This amount is to be awarded for the varieties Colonist or Express, Guardian, Goldfinder, Prosperity and Great Scot, £20, in five prizes, for each variety. Six tubers of each variety are required.

Mr. James Comber.—Mr. James Comber, who has represented Kensal Green on the Middlesex County Council for two years, fought a very stiff contest for his seat at the recent election, and was returned with a majority of 130, on a vote of 1,138. Mr. Comber is manager for Messrs. Strudwick, Florists, Westbourne Grove. For eight years he has been a member of the Willesden District Council and was, for one year, chairman. At that time he was chiefly instrumental in obtaining the Dollis Hill House hospital for wounded soldiers, for which the historic mansion in Gladstone Park, associated with Gladstone and other celebrities, was used. Mr. Comber has given liberally of his professional knowledge to his adopted district, and has improved the gardens attached to municipal institutions in Willesden in many respects.

Back to the Land and Country-side Exhibition and Conference.—An Exhibition and Conference on matters relating to land cultivation and country-side pursuits is to be held at the Royal Botanic Gardens, Regent's Park, during the months of July, August and September. The aims and objects of this Exhibition and Conference are as follows: (1) To interest and educate the public generally in all matters connected with Agriculture and Horticulture; (2) to encourage and foster Agriculture and Horticulture, and to better the conditions on the land; (3) to improve, by means of a conference, present methods of co-operation on the land, and to obtain new facilities for transport; (4)

to show by actual demonstration what a small land holding is, and how it can be worked to the best advantage; (5) to help forward the question of rural housing and to show actual models of rural houses and cottages; (6) to generally ameliorate the existing conditions of village life; (7) to generally improve sanitation in country houses and cottages; (8) to encourage fruit planting and forestry; (9) to show, under one roof, at one time, the latest appliances used in Agriculture and Horticulture, together with all articles necessary for furnishing and decorating country houses and cottages, and their environment: and (10) to help and encourage emigration, and to show the products from overseas, and the methods of obtaining them. During the whole time over which the Exhibition and Conference will extend every endeavour will be made to make a visit enjoyable as well as instructive. The best string and instrumental bands that are procurable will be engaged to play during the afternoons and evenings, and refreshments will be served in the beautiful gardens attached to the grounds of the Royal Botanic Society.

Spraying for Big Bud Mite.—Experiments carried out by Mr. A. H. Lees at Long Ashton, indicate that to control Big Bud Mite a mixture consisting of 10 per cent. soap and 5 per cent. crude carbolic acid is of value, particularly if the spraying is repeated twice or thrice. The first spraying should be done early, say at the beginning of December, and the later sprayings in January and February.

National Seed Testing Station.—The Food Production Department reports that the Seed Testing Station, established in November, 1917, to enable seed sellers to comply with the provisions of the Testing of Seeds Order and to provide growers with information on the quality of the seeds which they purchased, dealt with over 14,000 samples during 1918. A Sub-Committee of the Consumers' Council of the Ministry of Food, which was appointed to consider whether any of the measures taken by the Ministry of Food should be continued in peace-time, has passed a resolution regarding the Testing of Seeds Order as follows :—

"In the opinion of this Sub-Committee it is desirable that the testing process embodied in the Order be made part of the permanent legislation of the country, and, if possible, extended."

Representatives of the Agricultural Seed Trade Association of the United Kingdom have also expressed a hope that the Order will be made a permanent legislative measure.

The Dressing of Seed Grain to Protect it from Birds.—The usual dressings used to protect seed corn from birds are made from tar. The different kinds of tar vary in usefulness, and the Food Production Department of the Board of Agriculture have recently had tests of different tar dressings made at Rothamsted Experimental Station. No dressing tested gives absolute protection, and most of them injure the seed unless carefully used, but in certain cases rooks and other birds may cause so much damage that seed dressings are desirable. The best form of tar that has been tested is acetone tar. This is only supplied by the Ministry of Munitions (Propellants Branch, 32, Old Queen Street, London, S.W.1). Supplies are available in Essex, and in the Forest of Dean, Gloucestershire, and the current price is about 80s. per barrel at the works. To secure this product growers who do not require a 40-gallon cask should combine and secure delivery of a barrel through a dealer. The method of treatment is to sprinkle 1 pint of tar on 4 bushels of grain, and turn the seed over and over until the tar is uniformly distributed. The seed, if spread out, should dry in a day. If the tar is too thick for handling, as it is in cold weather, it must be warmed before use. This may be done by standing the vessel containing the tar in hot water. Ordinary coal tar is often used for dressing seed; it is rather variable in nature and is not quite so safe to use as acetone tar, but if the coal tar usually met with is used as follows, the risk of injury to the seed is slight. One pint is applied to 4 or 5 bushels of grain in the same way as acetone tar. If necessary, this may be thinned down with one-third its volume of paraffin oil and applied at the rate of 1 pint to 5 or 6 bushels of grain. This may be dried off with lime. Bone oil affords great protection to the grain, but is harmful if used alone. When dried off with lime it may be used with safety. One pint to 4 bushels is applied in the same way as acetone tar; 2—3 lbs. of lime are added as soon as the bone oil is evenly distributed, while the seed is still wet. The grain is then turned over and over until each seed is covered with lime. The oil has an objectionable smell. Blast furnace creosote affords less protection than the tars, but may be used at the rate of 1 pint to 4 or 5 bushels when tars are not obtainable. In dressing seed by any of the above methods, the most important point to remember is that the mixing should be thoroughly carried out, and the mixture used as directed. The material will then have little or no adverse effect on the germination of the grain.

Fig 60.—Freesia Daddy Longlegs; colour light rosy-mauve.

Freesia Daddy Longlegs.—In recent years plant breeders have raised many beautiful varieties of Freesia and the one illustrated in fig. 60 named Daddy Longlegs gained an Award of Merit at the meeting of the Royal Horticultural Society on the 11th inst., when shown by the Rev. Joseph Jacob. As will be seen from the illustration, which shows the flowers slightly reduced in size, the segments are more reflexed than in those of the older type of flower, so that the mouth appears very wide. An additional quality is the large number of flowers on the spike, many of these exhibited having no fewer than seven. The colour is light rosy-mauve, with a golden blotch at the base of the lowest segment, and a shade of purple on the lobes on either side of the blotched one. The great charm of the Freesia is its delicious perfume, and this, together with the fact that the flowers are available at a time when other flowers are scarce, makes them very popular for market purposes. Moreover, they have a certain elegance and lightness of form which render them suitable for indoor decorations and general florist's purposes. At this time of the year large numbers of Freesias are sold in Covent Garden and other flower markets in this country, the Guernsey growers sending immense quantities annually; indeed, so plentiful are the flowers that numbers are secured by the street hawkers, who retail them for a few pence per bunch.

Journal of the Kew Guild.—The *Kew Guild Journal* for 1919 is as interesting as previous numbers. The frontispiece is a portrait of Mr. George Stanton, the President for 1919. Mr. Stanton entered Kew in March, 1862, and served the usual period of two years, during which time he gained prizes for botany. For a long time he was gardener at Park Place, Henley-on-Thames, one of the most beautiful estates in the Thames Valley. The doings of the members of the Kew Guild make very interesting reading. Considerably over one hundred and fifty Kewites served with His Majesty's Forces in all parts of the world, and no fewer than twenty-four have made the supreme sacrifice. Several interesting letters are published from Kewites on active service, including one from Mr. A. W. Maynard and another from Mr. Guy Neville—both of whom relate their experiences as prisoners in Germany. Many interesting items of news are given under Notes and Gleanings. We learn that the number of visitors to the Gardens during 1918 was 640,729, and that the admission fees amounted to £2,564 12s. 3d. The wages of the garden staff have been considerably increased, and under-gardeners are now paid 47 shillings weekly, including a war bonus of 23 shillings. Labourers are paid 49 shillings, of which 25 shillings represents a war bonus. Instead of the sum of 3s. 6d. formerly paid for Sunday

duty the remuneration is now fixed at 1s. 6d. per hour, and overtime is paid for at the rate of 1s. 3d. per hour. The part taken by Kew in increasing food production is referred to, and an excellent illustration shows the lawn in front of Kew Palace being ploughed for a Potato crop. The usual list of names and addresses of old Kewites is deleted from the current number, owing, doubtless, to the increased cost of printing and paper.

Notes from Belgium.—Mr. Backhouse, of York, has received a long letter from the firm of De Smet Frères, Ghent, which he has kindly forwarded to us for publication. The communication states that the Germans arrived in Ghent on October 12, 1914. "In September we had already some battles in our neighbourhood, but we did not suffer and we went to visit the battlefields. On October 5, English and French soldiers arrived at Ghent and the battle was resumed. It lasted until the 11th, when the Allies retired. We established our daughters at Heyst with our two grandchildren. They fled from there on October 14, and went to England, where they are now, but we expect them back here every day. They settled at Teddington, near Hampton, and have been very happy there and words cannot express how grateful they are to the English. Mr. Snow, of Bush Hill Park, took them under his protection and Mr. Eisele, of Henry A. Dreer, Philadelphia, provided them with money. We knew all that and were very contented and happy, although we had scarcely a letter from them. Germaine, our eldest daughter, has been a nurse in the Red Cross Hospital at Teddington. Our second daughter, Yvonne, is married and was there also with her two children. Her husband, a soldier and doctor, is still in the army. He was promoted to the grade of Médécin de Regiment, to 2nd classe lieutenant and decorated with the Cross of War. He was in the battle which delivered Ghent, and we were proud to see him coming in our city with his regiment. Everything has been very dear and very scarce. Nearly every month the German soldiers came to our houses to look for plunder. They requisitioned all our copper, wool, leather, bicycles; our meat, ham, eggs, butter and other food in the house they took away. But we put most things away in security and they could only find a little plunder. They are thieves and murderers, but we bore everything with courage, knowing that we would be victorious. From October 25 to November 11 last we had very dangerous days during the battles around Ghent. The Germans had put sixty cannon close to our nurseries, and we heard during all those days the shells flying and whistling over our nurseries. We slept in cellars. Several dwelling houses have been disturbed in our neighbourhood, but we suffered no more damage than a lot of glass broken by shrapnel and the explosion of the railway bridges and railways."

Damping off and Collar Rot of Tomatos.—The disease which causes the damping off of seedling and young Tomato plants has been traced by Mr. G. T. Spinks to the action of a fungus, a species of Phytophthora, which gains access to the young Tomato plants from the soil. Sterilization of the soil appears to be a sure preventive of the disease.

Wart Disease of Potato Order.—The Board of Agriculture and Fisheries desire to draw attention again to the fact that under Article 4 of the Wart Disease of Potatos Order of 1918 no person is allowed to sell or offer for sale for planting any Potatos of varieties approved by the Board as immune from Wart Disease except under a licence from the Board, unless the sale is to a dealer direct. The object of this requirement is to secure the supply of pure seed of immune varieties for planting, since the planting of mixed stocks in soil infected with Wart Disease is calculated to increase the spread of infection. The licence is readily granted in respect of stocks that were examined and certified by the Board's inspectors in the growing season; in other cases enquiry has to be made before the licence can be issued, and growers of immune varieties during the coming season will be well advised to apply to the Board for the examination of their growing crops in order to avoid delay in issuing licences next year.

"Reversion" of Black Currants.*—According to the investigations of Mr. A. H. Lees, the malformation of Black Currants commonly known as Reversion is to be ascribed to the development of two weak lateral buds instead of the normal strong terminal. The causes which lead to the replacement of the normal terminal vegetative bud are various. The check to the terminal bud may be due to attack by Big Bud mite, and in this case the growth of two lateral buds results in the production of malformed shoots. In other cases weakness of the plant may result in the terminal bud becoming not a vegetative but a flower bud. This bud is, in reality, a mixed bud—that is, beside the terminal flower bud it bears two lateral growing points, and by their development Reversion is produced. Since a terminal flower bud is only produced on shoots making weak growths, the author suggests that it should be possible to control Reversion by suitable methods of pruning, and thinks that Reversion may often be a result of improper pruning. In support of this view he points out that a sucker in its first year makes strong growths and has nearly always a terminal wood bud. In the second year, the growth though weak is still strong enough to result in the production of a terminal wood bud; but in the third and fourth year the growth is still weaker and nearly always result in a terminal flower bud. Therefore, if suckers are allowed to grow for three or more years there will always be a prospect of Reversion appearing, and so pruning should be such as to remove all wood of more than three years' growth, and to allow only a little three-year-old wood to remain. Lastly, aphis attack in the previous year leading to a check may result in the development of two terminal growths instead of the normal one, and here again those symptoms of malformation known as Reversion may make their appearance.

Publications Received.—***Seedling Diseases of Conifers.*** By Carl Hartley, T. C. Merrill, and Arthur S. Rhoads. Reprinted from "Journal of Agricultural Research." Published by authority of the Secretary of Agriculture, with the co-operation of the Association of American Agricultural colleges and research stations. Washington: Government Printing Office; 1918. ***Relation of Inorganic Soil Colloids to Plowsole in Citrus Groves in Southern California.*** By Charles A. Jenson. Reprinted from "Journal of Agricultural Research." Washington: Government Printing Office: 1918. ***Effect of Farm Manure in Stimulating the Yields of Irrigated Field Crops.*** By C. S. Scofield. Reprinted from "Journal of Agricultural Research." Washington: Government Printing Office; 1918. ***Reports on Sugar Beet Trials, 1917; Calf Feeding Experiments; Isle of Wight Bee Disease; Demonstration Poultry Crofts; Small-holder's Cheese; Skim-Milk Cheese; Cottage Cheese; The Manufacture of Cheddar Cheese; Experiments on the Feeding Value of Bracken Rhizomes for Pigs and Poultry; Cropping under War Conditions.*** Fifteenth Annual Report. The West of England Agricultural College. Price 1/- post free. ***A Contribution to the Biology of Fruit-Fly Parasites in Hawaii.*** By C. E. Pemberton and H. F. Willard. Reprinted from "Journal of Agricultural Research." Washington: Government Printing Office; 1918. ***Botany for Senior Students.*** By Thoday. Second edition. Cambridge University Press. United States Department of Agriculture Bulletins. Washington: Government Printing Office, Circular 7. ***The Washington Asparagus; Information and Suggestion for Growers of New Pedigree Rust-Resistant Strains; Wart of Potatos: a Disease New to the United States.*** Circular 6.

* *Reversion in Black Currants.* By Mr. A. H. Lees, Annual Report, Agricultural and Horticultural Research Station, Long Ashton, 1917.

THE ALPINE GARDEN.

SAXIFRAGA KELLERERI.

This Saxifrage is undoubtedly one of the best of the red-flowered (Engleria) hybrids. The plant has a good constitution, is a free grower, and among other good attributes has more than a little tendency to profuse flowering—a matter hinging largely apparently on its continued growth and the successional development of flowering rosettes. For example, both this year and in 1918 the plant began flowering in January, and though March is the more usual time it not infrequently also gives a few spikes both in April and May. These are matters of which the hybridist or plant breeder should take note, since it affords a means whereby these early gems of the race may be employed in conjunction with later flowering kinds for purposes of cross-breeding. Requiring little or no protection, the plant is seen to the best advantage in the rock garden, where a colony of its red tinted flowers offers a novel and distinct feature. In an alpine house or frame the red tint passes away all too quickly; indeed, the enhanced colour-beauty assumed by the hybrid when grown in the rock garden is not developed with glass protection. Well-grown rosettes may be two inches across, and such as these give good sprays of flowers. The plant grows quite readily in gritty, well-drained loam.

SAXIFRAGA BURSICULATA.

It did not occur to me when looking about for a suitable name for this hybrid, which I was instrumental in raising nearly a decade ago, that the one eventually compounded and adopted clashed with a practically identical one having botanical significance—bursiculata (from bursa a purse). In the circumstances, the name of the hybrid would, I suppose, have been more correctly rendered thus — Burs-iculata. In order, however, that it may not be mistaken for a species in future years, it may be well to state that it was the result of crossing S. Burseriana major (the true plant) with pollen of S. apiculata. The hybrid possesses the good attributes of both parents and is a capital grower. From the pollen parent it inherited the bunch-flowered truss and not a little of its vigour; from the seed parent red-tinted stems and purity of tone—that sparkling whiteness which renders the true major form of Burser's Saxifraga all but unique. In the alpine house the red tinting of the stems is not developed. In a sunny position in the rock garden it is to the full, and, contrasting with the pure white of the flowers, the effect is particularly good. In substance of petal the hybrid surpasses both parents. The flowers, too, are rounded and well formed. The shape of the rosettes generally is that of S. apiculata touched with the silvery grey which characterises the other parent. The plant is easy to cultivate and grows well in sandy loam or that to which a free addition of old mortar has been made. *E. H. J.*

SAXIFRAGA APICULATA.

In planting this well known species, its precocious flowering should be kept in mind, so that colonies may be arranged in diverse positions and aspects. In abnormally mild winters like the present one the plant is continually in growth and flowering early, not infrequently is injured by frost. I have seen large patches of plants in sunny positions bearing, probably, hundreds of flowering sprays, cut completely off in their prime, whilst others, afforded a western exposure, have escaped uninjured. That there is more than one form of the plant is well known to cultivators, and since these differ in habit, time of flowering, sturdiness and strength of flowering stem, all are worth growing in order to secure a prolonged season of blooming. Moreover, by obtaining the several forms the cultivator is afforded an opportunity of weeding out the undesirables, which are rarely capable of standing erect. That known as S. a. Malvi is later flowering than the rest, though the plant is often sold as the ordinary form. Curiously, each of these variations has its white counterpart, an interesting fact which makes them alike desirable. *E. H. Jenkins.*

A GARDENER'S NOTICE.

By the Solicitor to the Chamber of Horticulture.

THE question of the amount of notice to which a Gardener is entitled before he is dismissed from his situation, or before the terms of his employment can be varied, has often been a subject of doubt in Horticultural circles. Now that so many gardeners are returning to work, on demobilisation from the Army, a few notes on the subject may possibly be of help in avoiding disputes hereafter.

In the first place, it should be borne in mind that a clear agreement in writing, if only in the form of a letter by one of the parties, is always the safest plan. The absence of a definite understanding often leads to unpleasantness in the future and a written document is worth far more than any amount of legal argument, in addition to being a good deal cheaper.

In cases where the parties are wise enough to put the terms of their arrangement into writing no difficulty should arise, as they are at liberty to agree to any terms they think fit, without paying regard to law or custom, with the exception of special legislation such as is to be found in the regulations of the Wages Boards, or in the Truck Acts, which prohibit various deductions being made from wages.

The trouble usually arises where a contract for service is entered into without anything being said on either side as to the length of notice which either party is to give to the other if it is desired to terminate the employment. In this case, the parties are thrown back on "custom," but in the present instance it is by no means easy to prove what the custom is. Cases between employer and gardener are heard in the County Courts from time to time, but the decisions of a County Court Judge are not binding on other Judges, and it needs a decision of the High Court of Justice to make case-law which would be binding on the country generally.

In the case of a head gardener in private service, the position is somewhat simplified by the fact that in the year 1835, the well-known case of Nowlan *v.* Ablett came before the High Court. Times change and the law changes with time, but it is not unreasonable to suppose that, if similar facts should again come before the Court of Appeal at the present day, the Judgment in that case would still be followed.

In Nowlan *v.* Ablett the facts were that a head gardener agreed to serve his employer for the space of one year, the wages being £100 per annum, in addition to the right to live rent free in a separate house on the estate. He had the supervision of five under-gardeners and was allowed to take two apprentices at a premium. At the end of nine months his employer gave him a month's notice, and considerable stress was laid by the Employer on the fact that the man had previously left a situation at the Royal Gardens, Kew, on receipt of a fortnight's notice. On entering the situation in question, nothing had been said as to the length of notice to be given on either side, and the question therefore arose as to whether the plaintiff was a yearly servant entitled to wages till the end of the year, or whether he was a "menial" servant entitled only to a month's notice.

In olden days, agricultural labourers were usually engaged by the year and, in the absence of such up-to-date facilities as labour exchanges or cheap newspapers, it was the custom for agricultural labourers to attend at the hiring season at some recognised spot, such as the market place, where bargains were struck between would-be employers and those who were prepared to enter their service. The dividing line between rich and poor was more strongly marked than at the present time, when the middle classes have grown in wealth and numbers, and when in consequence the enjoyment of a private garden is within the reach of the many, rather than the few. In ancient times, of course, the science of horticulture was comparatively in its infancy and, if the garden needed to be "tidied up" or the trees to be pruned, it was doubtless quite in the ordinary course of events for an agricultural labourer to be borrowed temporarily from the field or the orchard and instructed to execute a few simple jobs in his employer's garden.

On large estates, however, the luxury of a head gardener was indulged in, and the question which arose for discussion in the case of Nowlan *v.* Ablett mentioned above, ultimately turned on whether the head gardener was in fact entitled to regard his engagement as being by the year in the same way as if he had been an agricultural labourer or whether he should be treated as being rather in the nature of a member of his employer's household, and accordingly entitled only to one month's notice in the same way as if he were a footman or other domestic servant.

In the latter case he would technically be regarded as a "menial servant" and the discussion in Court as to the precise meaning of the term "menial" furnishes an interesting example of the manner in which words may change their meaning in the course of time. In the present day, the word "menial" is often used to describe work of a somewhat unintelligent, if not degrading, nature, but in past centuries that was by no means the sense in which the word was used. The Latin for the walls of a house is "mœnia," and accordingly a menial servant was one who was employed "within the walls" of his master's house. Any household servant was therefore a menial servant, irrespective of the nature of his duties, so long as he lived within the curtilage of the employer's residence. In Cowell's Law dictionary, published in ancient days, the following reference appears:

> "By 2 Henry IV. cap. 7. The giving of liveries is prohibited save that the king shall give only his honourable liveries to his Lords Temporal who shall please him and also to his knights and esquires *menial* and which be of his retinue and do take of him their yearly fee for term of life."

In an old Act of Parliament known as 2 Henry IV. cap. 21, it is enacted that "the Prince may give his honourable livery (a swan) to his menial gentlemen (Maynalx Gentilx)."

It will be seen, therefore, that there is nothing derogatory in the description "menial," and that it was not unreasonable to regard a head-gardener, living within the curtilage of his employer's house, as a menial servant. In the case referred to above, the Court held on appeal that Nowlan was entitled to a month's notice only, Lord Abinger the Presiding Judge saying:

> "I should have been inclined to have told the jury that the plaintiff was a menial servant, for though he did not live in the defendant's house or within the curtilage (intra mœnia) he lived in the grounds within the domain."

Another report states that the Judge added:

> "He was certainly employed for the service of the house."

(It might be well for private employers to consider whether a head gardener with a large staff under him should not be offered three months' notice in view of the limited number of situations of this nature available at any given moment).

The above case, however, throws no light on the position of under-gardeners. Are they also to be regarded as being in the service of the house, and accordingly equally entitled with a head gardener to a month's notice as a "menial servant," or is their position rather that of agricultural labourers entitled to such notice as the custom of the country or of their locality may sanction? The question is not one which can be answered with safety pending a decision of the High Court. It is true that under-gardeners are not usually provided with a cottage in the vicinity of their employer's house, but on the other hand they are certainly "employed in the service of the house," inasmuch as they are engaged in the cultivation of a garden which adds to the amenities of a house, and which is usually in close proximity to it. There appears to be a general impression in the public mind that possibly an under-gardener may not be entitled to more than a week's notice, but it would be a gross anomaly if a man who is frequently more or less skilled in the difficult science or horticulture were held not to be entitled to at least as long a notice of dismissal as a scullery maid. It is satisfactory to find that there are at least two recorded decisions of County Court Judges in this direction, although, as explained above, the Judge of a County Court cannot make law by his decision in the same way as a Judge of the High Court can do. In a case reported in *The Gardeners Chronicle* of March 6, 1909, the Judge of the Bath County Court held that a single gardener, who also looked after a couple of cows and did a little work in the house, was entitled to a month's notice. It may perhaps be contended that in this case the gardener was not an under-gardener, but on the other hand, neither was he a head gardener, as he was apparently at the head of no one but himself. Again on June 10, 1911, the Judge of the Salford County Court supported the view that gardeners were entitled to a month's notice, and not merely to one week's notice as claimed by the employer. Unfortunately, however, the accounts contributed by the local reporters were very meagre, and they did not even state whether the gardeners in these cases resided on their employer's premises. If necessary, however, further information could doubtless be obtained from the Registrar of the County Courts in question, though possibly this might entail some little expense.

In this connection, the facts in another somewhat ancient case, decided in the year 1841, may be of interest. One Johnson sued his employer Blenkinsopp under the following circumstances:

Plaintiff was engaged to act as gardener on the following terms, namely: To receive wages of 6s. a week in addition to 3 bolls of wheat, as well as the right to set Potatos for his family's use and to have a cow kept on his employer's premises, also to keep a pig but not poultry. He was also entitled to the free use of a house and firing. His duties were to keep the garden and pleasure grounds clean and in good order, to assist in the stables and, when required, to assist at the hay and corn harvests as well as to make himself generally useful. The point which arose in the case was whether his written agreement for employment could be put in evidence without being stamped as an agreement. It was admitted that if he were either a labourer or a menial servant then a stamp would not be required. Mr. Justice Pattison considered that Johnson was even more a menial servant than Nowlan, and Mr. Justice Williams added:

> "It is difficult to draw any line which may ascertain how much of house service makes a menial servant, but in this case the plaintiff is such a servant."

It was therefore held that the plaintiff was entitled to a month's notice and was not a yearly servant as had been claimed.

In 1893, the question of what is a menial servant again came before the Court in the case of Pearce *v.* Lansdowne. Mr. Justice Collins then held that "A menial servant denotes those persons whose main duty is to do actual bodily work as servants for the personal comfort, convenience or luxury of the master, his family and his guests, and who for this purpose become part of the master's residential or quasi-residential establishment." Incidentally, it may be interesting to the scholarly to note that his lordship expressed the opinion that the word "menial" came from the Saxon word "meiny" or "mesnie," meaning household or family, rather than from the Latin word "mœnia."

A menial servant is not necessarily a domestic servant. In the case of Toms *v.* Hammond decided in 1734, it was said that "A menial servant may be employed out of the house on household affairs, a domestic in or about the house only."

Surely, therefore, under-gardeners as well as head gardeners might reasonably ask for a month's notice before dismissal.

A natural enquiry which will probably occur to the reader is whether there is any distinction between the notice which a gardener is entitled to, according to whether he is employed on a private estate or in a nursery carried on in the way of business. The writer has been unable to find any reported decision bearing on this point, but it seems clear that a gardener would find greater difficulty in proving his right to be considered as a menial servant when working on a nursery than he would do if he were working for a private employer. The answer to this question is probably that the matter is one of the general custom of the Trade. In this connection it must be borne in mind that, in order to prove the existence of a general custom, the party on whom the onus of proof lies must be prepared to show not only that the custom is a general one, but also that it is reasonable. This furnishes an

additional reason why there should be a clear understanding on the subject of notice between employer and employed when a contract for service in nursery grounds is entered into.

Enough has perhaps been said to show generally what are the principles which would guide the Court in considering the facts of any particular case. One popular fallacy should, however, be borne in mind. There is a wide impression amongst a considerable section of the public that the length of notice to be given on dismissal turns upon whether wages are paid weekly, monthly or quarterly. This may be one of the elements to be considered in coming to a decision as to what would be reasonable notice, in the absence of evidence either as to specific agreement or custom, but it is not necessarily conclusive. A head gardener entitled to a month's notice, for instance, might still prefer his wages weekly for the sake of convenience, and he would not necessarily be deprived of his right to a month's notice merely on the ground of such an arrangement having been made. *H. M. V.*

THE UNSTERBERG PEAR TREE.

ONE of the many instances in which plants are associated with the fortunes of persons and places, is connected with an ancient Pear tree which has been growing for many generations at the foot of the Unsterberg, near Salzburg. Its periods of fertility are said to correspond with the fortunes of the Hohenzollerns. With their prosperity the tree flourishes and bears abundantly. When their star is no longer in the ascendant the tree looks as though it had been subjected to the smoke and heat of a bonfire. Thus in 1806, when the Rhine Confederation was founded and the Emperor abdicated, the Pear tree of the Unsterberg shrivelled and appeared dead; until 1871, when the tree put forth blossoms and leaves and bore fruit, which it has been said to have done unremittingly during the ascendency of the modern German Empire. This was told me some years since by the Director of a botanical institution in Germany; he also said that a branch of the Pear tree was preserved in the Hohenzollern Museum at Berlin. Whether the fall of the Hohenzollerns proves to be temporary or otherwise, time alone will show; but their fortunes are under such an unmistakably heavy cloud, that it would be interesting to know the condition of the ancient Pear tree.

There might be some means of ascertaining, perhaps through some lover of plant lore in the Army of Occupation, or one of those whose business takes them into the country.

This Pear tree is the same to which the Poet Chamisso alludes in one of his poems.

The subject is certainly one of interest to the lovers of plant lore. *E. Willmott.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

"The Two Tulip Trees" (see p. 128).—*W. J. B.* has omitted to mention the quickest way to enable anyone to distinguish between the Chinese and American species. In the latter the little horn which terminates the midrib at the top of the leaf is a noticeable feature, and is quite absent in the other, the midrib not extending beyond the blade. This is a far safer guide than shallow or deep lobes, which vary much on different trees and on different leaves of the same trees. I have grown both species for 10 or 12 years, and the general appearance of the foliage of the two trees is very much the same. The drawings of the two leaves in your paper of to-day would suggest that anyone could tell at a glance which species he was looking at. This, however, in real life is far from being the case. *Vicary Gibbs.*

Gardeners' Victory Memorial (see p.p. 115, 129).—The remarks of Mr. A. Cranston are of great interest, and I am at one with him when he suggests, as a national memorial amongst the horticultural circles of the community, the establishing of a large reserve in connection with the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund, and I should be pleased not only to forward my "mite," but also to do everything that lay in my power to further this splendid suggestion. I wish, however, to point out that the placing of a tablet containing the names of fallen men on one of the garden walls, would serve to perpetuate the memory of our glorious dead, and especially those with whom we were in constant touch in our daily work. Even though estates change hands, and men come and go, surely the heroes' names should be emblazoned in our memories for ever. I would urge that the wall selected be an outside one, and not one within a bothy, for those brave lads went from all departments of our gardens. I already know of some who, like ourselves here, intend to adopt this form of memorial. *Edwin Beckett.*

The Recent Severe Weather (see p. 115, 129).—The records of frost given by C. J. (Ampthill) and Mr. Edwin Beckett, from February 8 to 14 inclusive, are much the same as were recorded here. The readings were 23°, 30°, 19°, 19°, 13°, 26°, 16° respectively. All plants of the Brassica family, with the exception of Spring Cabbage, were killed outright. The heavy fall of snow doubtless saved the cabbages from the same fate, as it well covered them. Ceanothus Veitchianus on a wall suffered badly, also Berberis Knightii, Olearia Haastii and Viburnum Tinus (Laurustinus) in the open. Even the common Laurel and Privet were "scorched" as by fire. Roses suffered badly. A fine old standard tree of La France variety, which has stood at least 20 winters, will fail to grow again. I agree with the remarks of Mr. R. W. Thatcher (p. 129) as to late Savoys proving their usefulness in a cold season. I intend to rely largely on this vegetable in the future. My experience is that where the ground is heavy, as is the case here, it does not do to plant Broccoli, Kale, etc., largely. *T. W. Stanton.*

The Frog-Hopper or Cuckoo-Spit.—Well may your correspondent, *K. Ashley* (p. 122), write concerning this pest: "Nothing save the most careful personal attention, constantly exercised, can deter this insect from its destructive course." In my small suburban garden to the south-west of London it is far and away the greatest pest that I have to deal with during the summer. Nothing—either flower, vegetable, or shrub—keeps free from it, as they are all alike dotted over with disgusting froth-like masses. In this neighbourhood the pests abound on the Privet hedges, so frequently met with in suburban districts, while they also occur on the grasses and weeds generally. Being so numerous, as fast as they are destroyed in one particular spot, others make their appearance in quantity. Paraffin emulsion is perhaps as effectual a remedy as any, but it is necessary to syringe it on with considerable force in order to wash away the froth, and get at the insect itself. This pest cannot be as bad in many districts as it is here, otherwise it would be more generally referred to in horticultural journals. The life history as detailed by your correspondent is particularly interesting. *W. T.*

Gardeners' Wages and Hours (see p. 128).—The letter signed *W. W.* in your last issue—coming, as I presume it does, from a master of his profession—seems to me likely to cause a great injury to men who do not realise any more than he seems to do that the inevitable laws of supply and demand will determine this question. No union can force employers to employ its members at all, or to pay them more than they can afford to pay, for what is in a great many places more of a luxury than a necessity; and, judging from the advertisement columns in your paper, there are many more gardeners who want places than there are places vacant. I believe that when private employers can choose between members of a trade union and free men, they will in nine cases out of ten prefer the free man. The war has taught us that we can do without many things which we had before, and be just as happy without them. With income tax at 6s. in the pound, and super-tax in addition, very few owners of large gardens will be able to spend as much as before on their gardens. It is also certain that the price of coal will keep many forcing houses and plant-houses closed; and if wages continue at their present rate, it will simply mean that fewer gardeners can be employed in private and in Government establishments. For men with pleasant manners (which are much more important to a gardener than to most artisans), a real love of his work (without which no one should enter the profession), and a competant knowledge of the work, coupled with industry and steadiness, there will never be any lack of situations which, if not so highly paid as *W. W.* thinks they ought to be, have at least the advantage of being the most healthy of all known occupations—if one can judge from the great age to which most country gardeners remain active and able to do their work. But there are, unfortunately, a number of men who either have not the brains or ability to do skilled work, but who think they are entitled to the wages of skilled men, and these are just the ones to be carried away by bad advice from those who ought to know better. I really do not understand what *W. W.* means when he talks of the "millions of acres that are wasted on empty display in the form of parks, pleasure-grounds, and such-like private enclosures," or at whose expense they are to be "cultivated on intensive principles to the enrichment of the country." Such clap-trap as this might do in Glasgow or South Wales, but will not appeal to the gardeners of Great Britain—who, if I may judge from a very wide acquaintance amongst them, are as a rule not inclined to Socialism, and prefer to be treated as they are by a great majority of their employers, in the friendly spirit of consideration which prevails in this industry to a greater extent than in any other. Another point which *W. W.* seems to forget is that there are in most country places a considerable number of old men, boys and women not strong or capable enough to earn full wages, or even to do a whole day's work, but who, under the direction of one skilled gardener—or even of an employer who loves his garden, as many do—are able and willing to perform a great deal of the work, without regard to fixed hours. Though we may not be able to teach them such luxuries as Orchid-growing, such willing helpers as these will not be turned out of their places to please any trade union, as they are in an engineer's or shipbuilding yard; and the sooner gardeners who are discontented with their pay and prospects recognise this fact, the better for themselves. To such men—and especially to *W. W.*—I commend that charming little poem by Rudyard Kipling, *The Glory of the Garden* (one of twenty poems published at 1s. by Methuen). This wonderful poem ought to be printed on card and hung in every bothy and potting-shed, for the benefit of young and old. *H. J. Elwes, Colesborne.*

——Why does Mr. W. Chivers, of Leeds, spoil his case by including such a recommendation as the payment of full wages at the age of 18? Not one boy in a hundred is adult in either brain or muscle at that age, and consequently cannot *earn* full wages; so that the result of the clause in the Corn Production Act is bad for both employer and employed. Boys are being discharged when they come to the age of 18, which is bad for them, and in a few years' time employers will suffer from a lack of properly-trained men. Just a sample of how the thing works: three days ago my foreman told me that a smart-looking lad had called during my absence, seeking work. He asked him how old he was, at which his face fell, and he answered "eighteen," adding that was the reason he had been turned off, and that he had been to four places that day after employment, only to be told he could not possibly earn 35s., so could not be taken on. In another case a boy was turned away from his employment when reaching 18, nearly a year ago, has not had a day's employment since and has been helping his parents at home. What will the effect be upon the young fellows who come under this law? The sooner this idiotic clause is cancelled the better it will be for all concerned. *Chas. E. Pearson, Lowdham.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

MARCH 11.—*Present:* Mr. E. A. Bowles (in the chair), Dr. W. Bateson, Messrs. G. Wilson, W. C. Worsdell, W. Hales, and F. J. Chittenden (hon. sec).

Odontoglossum × aspersum.—Mr. G. WILSON showed several early drawings of the plant known as O. Humeanum and the alleged parents, and of O. aspersum and its parents.

Variations from Root Cuttings of Bouvardia. —Dr. BATESON exhibited drawings of Bouvardia "Bridesmaid," and of the plant raised from it bearing double flowers similar to the variety "Hogarth," exhibited at the meeting of the Committee in January, 1916. He now showed drawings of a single form, raised from a root cutting of the form like "Hogarth," dissimilar to any cultivated at Merton. He also showed drawings of a Regal Pelargonium with another of a plant raised as a root cutting from it having flowers many shades deeper than the parent. Mr. Bowles said that he had met with a case of such variation in Anchusa italica. A white variety appeared, and on attempts being made to propagate it by root cuttings all (or most of) the plants came blue.

Seedlings of Myosotis Pride of Zurich.—Dr. BATESON said that seedlings of the Myosotis form known as "Pride of Zurich," in which the petals have a white stripe down the centre, when the seed was obtained under protection from insect pollination all gave white flowers. The seedlings from plants raised in the open have either blue or white flowers, not striped ones. In one case a blue flowered seedling bore a branch producing white flowers with a blue central stripe unlike anything before met with. The production of white flowered seedlings suggested that the ovules were produced from the portion of the carpel corresponding with the white central stripe in Myosotis "Pride of Zurich."

Crocus with markings of outer like those of inner segments.—Mr. BOWLES showed a Crocus having some of the outer segments without the feathered markings like those of the inner, one flower so differing had occurred on the same parent corn with a normally coloured one. Others had a portion of one of the outer segments half within the others and unfeathered, the other half, which had been exposed, being feathered.

Galanthus nivalis green tipped.—Mr. BOWLES also showed a fine flower of Galanthus nivalis with a green tip to the outer segments. Such forms appear to occur in all the species of Galanthus and are usually associated with a malformed spathe.

LINNEAN SOCIETY OF LONDON.

General Meeting.

MARCH 20.—Sir David Prain presided at the Annual General Meeting, and, after the election of nine new Fellows, he read the proposed alterations in the Bye-Laws for the third time, and again explained the reasons which induced the Council to prepare these proposals. He was followed by the Treasurer, who showed that the adoption of these proposals would be advantageous from the financial point of view; and further stated that the number of Fellows was at that moment 702.

Two ballot-boxes were used, and the proposed alterations were separately voted for by chapters, and adopted as follows :—

The first section of Chapter I. and the second Section of Chapter VIII. to be repealed, and the following substituted :—

CHAPTER I. Section I.—The number of Fellows shall be limited to Seven hundred and Ten, exclusive of Honorary Members, Foreign Members, and Associates. The method of Election shall be by Ballot.

CHAPTER VIII, Section II.—The Council for the time being shall, before the day of Election, prepare Balloting Papers with lists of the Persons whom they recommend to the Society to be elected as Council and Officers for the ensuing year.

Dr. Harold Wager, F.R.S., F.L.S., then delivered a lecture, entitled, "On the Colour-sense of Wasps."

SCOTTISH HORTICULTURAL.

MARCH 4.—The monthly meeting of this Association was held at 5, St. Andrew Square, Edinburgh, on this date, Mr. Fife, president, in the chair.

A paper was read by Mr. GEORGE W. TAYLOR, Edinburgh, on "Plant Breeding and the State." Mr. Taylor briefly outlined the scheme which was proposed for the establishment of a plant breeding station in Scotland, and severely criticised the spending of public money on such an institution. State endowment was not wanted; what was wanted was a fair field and no favour, and he pleaded for the encouragement of the individual of the right type, who must get encouragement if progress was to be made. But the proposed station held out no prospect of this. By advocating the system of premiums they would harness the best brains of the country, and they would promote competition and would thus get progress, and it was to be hoped that those premiums would yet be forthcoming.

Mr. P. MURRAY THOMPSON, Cockhill House, Mealsgate, Cumberland, exhibited 20 species and varieties of Galanthus.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

MARCH 13.—The attendance at the annual meeting, held at the Royal Horticultural Hall on this date, was not large, but it was better than in the immediately preceding years. Mr. Chas. H. Curtis presided, and moved the adoption of the Report, which showed that the Society was in an excellent financial position and continues the excellent work for which it was instituted. Very many of the members joined his Majesty's forces during the period of the war, and no fewer than one hundred have lost their lives in the great contest. During the year 1918 the Committee invested £2,000 in War Loan, thus bringing their holding of War Stock to £7,500 and the total invested funds to £54,000. The Chairman pointed out that the Juvenile Section had not made much progress, but he expressed the hope that now so many gardeners had returned to their duties the garden lads would be induced to join the Society. He also referred to the advertisements the Committee was publishing in the Horticultural Press, and said that from the one in *The Gardeners Chronicle* no fewer than sixty inquiries had been received. The reports and accounts of both Ordinary and State Sections were adopted.

The retiring members of the Committee were re-elected, and Mr. Sargent and Mr. Bashford were appointed to fill vacancies. Messrs. Gunner and Puzey were re-appointed auditors, and Mr. T. Winter and Mr. A. C. Hill were re-appointed treasurer and secretary respectively, the latter being granted £50 for special work conducted under exceptional circumstances during the war period. The Trustees and the Horticultural Press were thanked for services rendered, and a vote of thanks was passed to the Officers and Committee.

An interesting discussion, raised by Mr. WINTER, followed the general business, and took the form of suggestions for further advertising the aims and objects of the Society. Messrs. BUTLER, BARTLETT, HOWARD, OXTOBY, NORTH and others took part, and eventually it was agreed that so far as possible the Society should be represented at leading shows, take advantage of mutual improvement societies' meetings and issue a leaflet setting forth the special advantages of membership.—At a subsequent meeting of the Committee Mr. C. H. Curtis was re-elected chairman for the eighteenth consecutive year, and Mr. Bedford vice-chairman.

TRADE NOTES.

THE recent activities of the Chamber of Horticulture give a clear exposition of its policy in regard to linking up. That policy was defined as one of not interfering with the work of any particular section, but using its influence and force to strengthen each section so as to in turn strengthen itself.

The following matters have been engaging the immediate attention of the Chamber :—

(1) *Manures.* A Manures and Fertilisers' Section having been formed, the attention of the Chamber was called to the need of some amendment being obtained, if possible, in the Compound Fertiliser Order of June 4th, 1918, under which Order it was felt by the manufacturers of compound fertilisers impossible for them to do justice to the growers by supplying a fertiliser at the unit price which should contain the desired organic constituents. The Chamber immediately convened a meeting of the section to which this matter properly belonged, and as a result of the discussion which took place an informal deputation to Dr. Keeble, of the Food Production Department, was arranged, the result being that Dr. Keeble sympathetically entered into the views of the members of the section and gave certain advice which will be followed by the Chamber and must tend to the benefit of the section which brought the matter forward. It is interesting to note that the feeling which has existed that the Chamber of Horticulture had a policy antagonistic to manufacturers of manures, is entirely dispelled by the proceedings of the conference, and the subsequent result which the section was able to obtain, backed up as it was by a prominent representative of the growers. The good attained by round-table conferences is emphasised in that as an outcome of the discussion growers and manure manufaturers went hand in hand, as it were, to the Government Department which could help them.

(2) *Insecticide Manufacturers' Section.* Here, again, the goodwill of manufacturers towards growers was brought into evidence by the section of the Chamber representing insecticides manufacturers asking the Organising Committee to arrange a conference with a view to establishing a standard for sprays. Recent articles in the Press have shown the necessity for some legislation alike in the interests of manufacturers and growers. The effect of the discussion which took place is that a sub-committee has been appointed to debate the desirability and practicability of establishing a standard for certain articles largely used in the composition of sprays. Government assistance will be called in through the medium of the Chamber, and co-operation established between departmental and private chemists which must be of lasting good.

Particulars of the discussion at these conferences may be obtained on application to the Secretary of the Chamber, at 11, Adam Street, Adelphi, W.C.2, the new temporary offices.

(3) The Chamber, having been approached to give assistance in the formation of Market Gardeners' Associations in Biggleswade and Cardiff, has undertaken the preliminary steps and organised public meetings in conjunction with the Market Gardeners, Nurserymen and Farmers' Association, to which these provincial associations will be affiliated. The Chamber does not derive direct benefit from its assistance, but hopes to make clear to the doubters that its policy is to help various sections of the Trade and to bring greater force to the arm which it hopes to wield on behalf of horticulture generally.

SOME time ago the British Florists' Federation took up the subject of flower and bulb exports from Guernsey, as somewhat severe restrictions were imposed last autumn, notwithstanding the fact that so far as flowers are concerned the Customs authorities had a general licence to admit fresh flowers from France and Holland. As a result of representations to various Government departments, an interview with the Home Office and Dr. Keeble's interest in the matter, the following communication has

been received by Mr. Chas. H. Curtis, sec. B.F.F.:

"Home Office, Whitehall, S.W.1.
March 14, 1919.

Sir,—With reference to your letter of the 8th ultimo, I am directed by the Secretary of State to say that the Guernsey Food Production Authority having given an assurance that no increase in the acreage of land now used for the cultivation of flowers will be permitted this year, he has authorised such a relaxation of the restrictions imposed by the Ordinance of the 30th September, 1918, as will permit of the free export, during the current year, of flowers and bulbs from Guernsey to the United Kingdom. The question will be reconsidered next year should it be thought necessary. *A. J. Eagleston.*"

CROPS AND STOCK ON THE HOME FARM.

Clover.

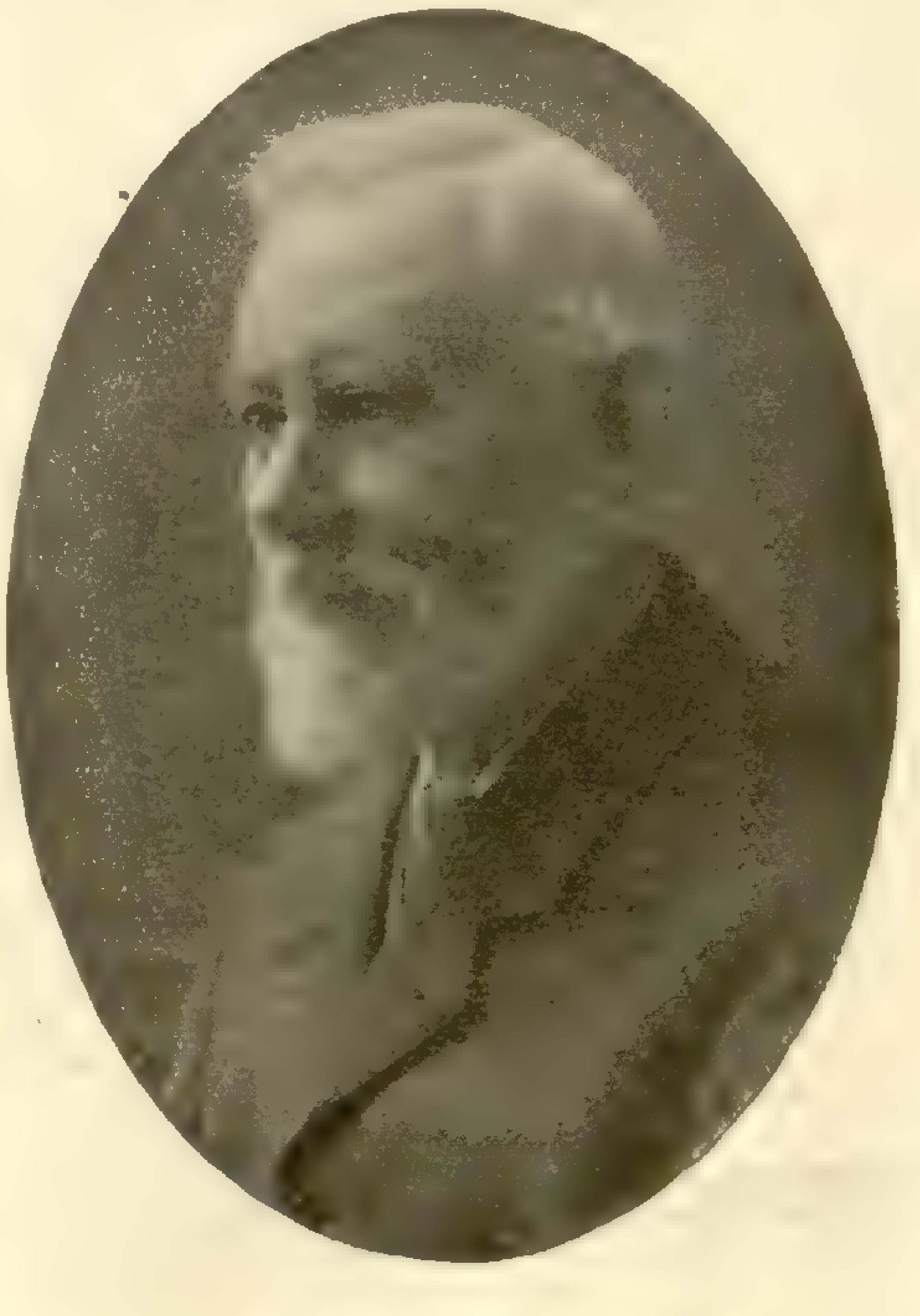
One of the most profitable crops grown on the farm is the Common Broad Clover (Trifolium pratense) where hay, Wheat seed or autumn feed is required for the sheep. Where hay alone is the main object, a mixture of Italian Rye-grass and Devon or Hampshire Bents is an advantage, as a greater bulk is obtained, while the hay is more appreciated by cattle, is more easily made and not so liable to suffer from adverse weather as does Clover alone, owing to its mass of woolly leaves, which hold the moisture more than the various grasses. Further, the grass is often the means of obtaining a crop when the Clover is poor.

Where a Corn crop is to follow Clover, as it usually does, with the exception of where the land lies wet during the winter, it is better to sow spring Oats, which are not so liable to suffer like Wheat sown in October. Italian Rye-grass is not a favourite preparation for Wheat, as it robs the Wheat plant of a large share of food. Bents, not being so vigorous or such gross feeders as Italian Rye-grass may be sown for a Wheat crop with greater safety.

Where the land is fairly dry during the winter, and Wheat is the principal crop, then only Clover should be sown, as it is usually conceded that the best Wheat crops are obtained after Clover. Amongst farmers this fact is generally known, but the cause is indifferently understood. The fact is that Clover, being a leguminous plant, it is able, by means of the bacteria housed in the nodules on its roots, to obtain free nitrogen from the air and render it available for the Wheat plant to follow. Where Clover only is grown the first cut is taken in June, often two tons per acre, and the second growth is fed by sheep folded on the land in September. The manurial dressing left is most beneficial to the Wheat or Oats which follow, especially if ploughed in at once instead of allowing the droppings to become dried up by long exposure to air. A well-grown crop of Clover, free from weeds, is often remunerative when the second cut is saved for seed, carefully harvested, and threshed but a good Wheat crop cannot be expected to follow if the sheep are not penned on the plot, and the plant is allowed to perfect and ripen seed. The remedy in such a case is to give either 6 cwt. of basic slag in the autumn, followed by 1¼ cwt. sulphate ammonia early in February, or farmyard manure in the autumn at the rate of 15 to 20 tons per acre. I have treated this subject rather fully because I realise what a valuable farm crop Clover is.

Other forms of Clover, such as Alsike (T. hybridum), White Dutch (T. repens), and Yellow Trefoil (T. procumbens) are useful in their several ways. The two former improve the feeding value of pastures. The last, mixed with Italian Rye-grass for an early cut of hay or sheep feed in May, when other foods are scarcce, is valuable. Some farmers sow 2 lbs. of Sainfoin per acre to increase the first season's crop of hay, but I do not approve of its use in that way because of overcrowding. The need for encouraging the growth of Alsike and White Dutch Clovers cannot be over-emphasised in pastures for sheep, cows, and young stock. Basic slag applied in the autumn, or a good dressing of farmyard manure, or a compost of roadside refuse, wood ashes and lime or fine chalk, will do much to increase the growth of the wild White Clover. Seed of Alsike should be sown in April at the rate of 6 lbs. per acre, thoroughly disturbing the surface soil with coarse harrows both before and after the seed is sown.

The method of sowing Broad Clover varies in different localities. Almost universally it is sown along with a cereal crop, but in the case of Oats and Barley the harrowing in of the cereal suffices for the Clover seed also. When sown with Wheat, as is frequently the case, the seed is usually sown the first week in April—earlier or later according to the condition of the soil, which should be dry for harrowing the Wheat and the more effectually to bury the Clover seed. It is the practice to harrow the land containing the Wheat crop in the spring, to accelerate growth, especially where the plant is "thin," by the admission of air, consequently the harrowing does double duty. The quantity of seed to sow per acre varies. Where the soil is well drained and the land fertile, I find 15 lbs. of Clover seed sufficient per acre. If grass is to be sown with the Clover to improve the bulk I use half a bushel of Italian Rye-grass or Bents.



THE LATE THOMAS NEVE.

The seed is sown by the aid of the hand seed-barrow, two of these being required if Clover and grass are sown, as the two kinds of seeds do not run well together from the same box. Some farmers do not harrow the soil after sowing the seed, but simply draw the roller over the whole. In a showery season this method may answer while germination is taking place, but should dry weather follow, as it often does in May, the seed is liable to "malt" and become useless.

The three enemies of Clover are Clover sickness, Dodder and impoverished soil, and all are remediable. The first is the more serious, especially where only a small area of arable land is available. Clover sickness is mainly the result of a too frequent use of Clover on the same land. Where Clover has to be grown more frequently measures should be taken to combat the Clover sickness, which is mainly the work of eelworms, which injure the stems. A dressing of gas lime at the rate of 2 tons per acre, spread on the land in the autumn before ploughing, should help to check this pest, or even ordinary lime would serve a useful purpose.

Dodder should not be present in clean Clover seed. Seedsmen knowing the injury done to Clover by this parasitic plant take great pains to remove all the seeds of the pest, which rapidly entwines itself around the Clover plants and spreads destruction all round.

As a rule the most vigorous and dense "plant" of Clover is found on the headland in every field, and the crop is often good there when other parts of the field are quite bare. This surely proves that Clover enjoys a firm rooting medium.

Obituary.

Thomas Neve.—We learn with sincere regret of the death on the 5th inst., at Wolvercote, near Oxford, after a very brief illness, of Mr. Thomas Neve, for over forty-three years head gardener at Sindlesham House, Wokingham. Mr. Neve, who had only retired into private life some ten months ago, was, previous to going to Sindlesham House, employed in the gardens at Wakehurst Place, Sussex, and was an active member of the Reading and District Gardeners' Mutual Improvement Association; and on his retirement was elected a life member of the association in recognition of his services. Some twenty years ago, when Mr. T. Turton left the neighbourhood of Reading, Mr. Neve took up the duties of honorary local secretary of the Royal Gardeners' Orphan Fund, to which institution he yearly rendered most valuable service, until a few months ago, and ever regarded the fund with deep affection. A good gardener, and a gentleman by nature, Mr. Neve enjoyed the esteem and regard of a wide circle of friends, and deep sympathy is felt by all with his family and only surviving brother, Mr. Albert Neve, proprietor of Hollamby's Nurseries, Groombridge.

ANSWERS TO CORRESPONDENTS.

Gardener's Notice to Leave: *R. R.* See article on A Gardener's Notice, p. 143.

Names of Plants: *G. Cooper.* No. 1 is Juniperus bermudiana (not hardy). The Yew is Taxus baccata var. aurea (Golden Yew). H. Cornus Mas.

Plum, Burbank's Giant Prune: *Notts.* This American Plum is a late flowering tree, and specimens grow splendidly in Kentish orchards. Trees should succeed quite well in your district, and you would be best advised to plant standards.

Roses, Rhubarb and Raspberries: *E. C.* (1) You cannot do better than clean the Maréchal Niel Rose stem with Gishurst compound, repeating the operation later if scale appears again. It is not safe to burn sulphur in any form in a house where there are plants with tender foliage; dust the leaves with dry sulphur if mildew appears. Prune the Rose tree in autumn or spring. (2) Cover the Rhubarb crowns first with pots or boxes, and then place the manure over and around these. (3) All Raspberry canes that have fruited should be cut away in autumn or early spring. From the description you give, yours must be autumn fruiting Raspberries, which fruit on the new current year's wood.

Yew Tree: *H. H.* You can cut back your Yew-trees at any time now before the end of April. Yews and Hollies of any age or size break freely from the old wood, and we should advise you to cut your trees back to the desired shape and size at once, as then they will break evenly all over and do much better than if the work is done piecemeal. It will take two, or perhaps three, years for them to become properly furnished again. After cutting back the shoots, give the roots a good surface dressing of stable manure, and see that they do not suffer from want of water during dry weather.

Communications Received.—J. M. H.—E. G. L.—R. W. R.—J. B. M.—J. M. M.—H. B.—W. R.—E. M.—H. B.—G. M.—W. H. E.—A. T.—G. P.—J. H. A.—S. C. T. F. E.—R. G. T.—P. S. H.—H. E.—A. H.—M. E.—C. L. R. S.—G. T.—B. B.—I. J.—J. B. H.—G. L. A.—C. N.—A. S. R.—T. T.—T. B. C. W.—J. E. H.—B. J. H.

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SOUTHAMPTON.

MARKETS.

COVENT GARDEN, March 18.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	10 0–12 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentias ...	18 0–24 0
		—— 60's ...	15 0–18 0
Cinerarias, 48's, per doz. ...	24 0–27 0	—Cocos	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum— Cuneatum, 48's, per doz. ...	10 0–12 0	Nephrolepis, in variety, 48's	12 0–18 0
		—32's	24 0–36 0
—elegans ...	9 0–10 0	Pteris, in variety, 48's	9 0–12 0
Asplenium, 48's, per doz.	10 0–15 0	—large 60's ...	4 0–5 0
— 32's	21 0–24 0	—small 60's ...	3 0–3 6
— nidus, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6
Cyrtomium, 48's ...	10 0–12 0		

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d		s. d. s. d.
Arums— — (Richardias), per doz. bl'ms.	10 0–12 0	Narcissus ornatus, per doz. blooms	10 0–12 0
Azalea, white, per doz. bunches	10 0–12 0	Orchids, perdoz:— —Cattleyas ...	24 0–30 0
Camellias, 12's-18's per box ...	7 0– 9 0	—Cypripediums,	6 0– 8 0
Carnations, perdoz. blooms, best American var.	5 0– 6 0	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
		— white, per doz. bunches ...	10 0–12 0
Daffodils, single, per doz bun.		Roses, per dozen blooms—	
— Emperor ...	12 0–18 0		
— Golden Spur ...	8 0–10 0	— Richmond, var.	12 0–15 0
— Victoria ...	12 0–15 0	Snowdrops, per doz. bun. ...	3 0– 4 0
— Princess ...	7 0– 9 0		
Freesia, white, per doz. bunches	4 0– 6 0	Tulips, per doz. blooms—	
Heather, white, per doz. bun.	6 0–10 0	— mauve ...	6 0– 8 0
		— white	6 0– 8 0
Lilac, white, per bunch, 6's ...	4 0– 6 0	— yellow... ...	5 0– 6 0
Lily-of-the-Valley, per bun. ...	5 0– 7 0	Violets, single, per doz. bun. ...	3 0– 6 0

REMARKS.—White blooms remain the chief attraction and supplies have been freer during the past week. Improved supplies have arrived from home growers consisting of Azaleas, Camellias, Carnations, Daffodils, Lily-of-the-Valley Narcissus ornatus, N. Grand Primo, Darwin Tulips, and an abundant supply of single Violets. The last are now in excellent condition. Roses are also increasing in number, General Jacqueminot can now be added to the list; prices are on the down grade. Orchids are a trifle more plentiful, especially Cattleyas, Cypripedium, Cymbidium, Odontoglossums, and a few blooms of red Odontiodas. French flowers show signs of the end of the season; many packages are almost unsaleable when they arrive, no doubt owing to the milder weather, and also possibly to delay in transit. Allium (Star) double white Stocks, Irises, and a few double Anemones still arrive in a fair condition. Consignments from the Channel Islands consist chiefly of Daffodils, White Narcissus, Violets, Freesia, but the supplies are very irregular and arrivals uncertain. A few hours delay in transit impairs the quality of these flowers considerably, especially Daffodils; they are unfit for transit again and have to be sold at low prices to clear.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Jerusalem per bus...	3 0– 3 6	Mint, perdoz bun.	8 0–10 0
—Globe, per doz.	7 0 5 0	Mushrooms per lb.	4 6– 5 6
Asparagus, Devonshire, per bun.	50 0 —	Mustard and Cress, per doz. punnets	1 0– 1 3
— Lauris... ...	10 0–12 0	Parsley, per ½ bus.	6 0– 7 0
— Paris Green, per bundle ..	13 0–15 0	Parsnips, per bag	7 0– 8 0
		Peas, per pad ...	10 6–12 0
— — Sprue per bundle ..	2 2 —	Potatos new, per lb.	1 6– 1 9
Beans, French, per lb.	3 6– 4 6	Radishes, per doz. bunches ..	2 6– 3 0
— Broad, per pad	12 0–14 0	Rhubarb, forced, per doz. ..	3 0– 4 0
Beetroot, per bus.	5 0– 6 0	— Natural, per doz.	8 0– 9 0
Brussels Sprouts, per ½ bag ..	8 0–10 0	Savoys, per bag ..	16 0 —
Cabbage per tally	10 0–15 0	Seakale, in boxes (6-8 lbs.) per lb.	1 2 —
Carrots, per bag..	10 0–12 0		
Cauliflowers, per doz	6 0– 9 0	Shallots, per lb. ..	0 6– 0 8
Celery, per doz. ..	36 0–50 0	Spinach per bus.	18 0 —
Chicory, Belgian, per lb. ..	0 5– 0 6	Spring Onions, per doz ...	4 0– 6 0
Cucumbers, per doz	12 0–18 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box.. ..	Controlled
Endive, per doz. ..	6 0– 9 0		
Garlic, per lb. ..	0 5– 0 7		
Greens, per bag ..	8 0–12 0		
Herbs, per doz. bun.	4 0– 6 0		
Horseradish, perbun	4 0– 6 0	Turnips, per bag	5 0– 6 0
Leeks, per doz. bun.	3 0– 8 0	Turnip Tops, per bag	7 6–10 0
Lettuce, Cabbage and Cos per doz.	2 0– 3 6	Watercress, per doz.	1 0– 1 3

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Grapes:—		Nuts, con.—	
— Almerias, per barrel (about 3½ doz. lbs.)	70 0–100 0	—Cobnuts per lb.	1 8– 1 4
		Walnuts, kiln dried, per cwt.	90 0–200 0
— Gros Colmar, per lb. ...	8 0–11 0	Pears, Californian (Easter Beurré), cases containing 8 to 10 doz. per case	55 0 60 0
— Belgian per lb.	8 0– 8 0		
Nuts— — Almonds, per cwt.	110 0–112 0	—Winter Nelis, per case	80 0–85 0
— Barcelona, per cwt. ...	110 0 —	Strawberries, per lb.	25 0–35 0
— Brazils (new), per cwt. ...	85 0–90 0	Pineapples, each	5 0– 7 0

REMARKS.—There are still fairly good supplies of Gros Colmar grapes from home growers, and Belgian supplies of this variety are also available. Some good samples of Spanish Almeria grapes are also offered. A few forced Strawberrise arrive daily. Pineapples are fairly plentiful. Californian, Winter Nelis and Easter Beurré Pears continue to be available. A consignment of Tasmanian and Australian Apples is due shortly, and it is anticipated that the whole consignment will amount to 700,000 cases. The forced Vegetables available include Seakale, Cucumbers, Mushrooms, Beans, Potatos and Asparagus (English and Continental). Salads are fairly plentiful, but outdoor vegetables are limited in numbers as is usual at this season of the year.

GARDENING APPOINTMENTS.

Mr. H. Etheridge, 5½ years at Meldon Park, Morpeth, as Gardener to Mrs. Clayton, Rothley Crag, Hartburn, Morpeth, Northumberland.

Mr. R. O. Jones, for nearly three years active service in His Majesty's Forces, previously Gardener to J. ARMITAGE, Esq., Iveridge Hall, Leeds, as Gardener to the same gentleman at Clova, Harlow Oval, Harrogate, Yorkshire.

Mr. Arthur J. Ward, after serving over three years on active service, has resumed his duties as Superintendent of Parks to the Shrewsbury Corporation.

Mr. F. W. Hart, for the past two years on war service with the N.A.C.B., has resumed his duties as Gardener to the Duchess of MARLBOROUGH, Crowhurst Place, Lingfield, Surrey.

Mr. W. Wheeler, as Gardener to WALTER CHILD CLARK, Esq., Michelgrove House, Boscombe, Hampshire.

Mr. E. Blackwell, for the past 12½ years Gardener to the Earl of READING, Foxhill, Reading, as Gardener and Bailiff to H. L. HIRST, Esq., at the same place. [Thanks for 2s. for R.G.O.F. box.—EDS.]

Mr. Philip Taylor, previous to joining His Majesty's forces for six years Gardener to J. W. BAKER WHITE, Esq., Street End House, Canterbury, Kent, as Gardener to W. S. CLARKE, Esq., Milfield Street, Somerset. [Thanks for 2s. 6d. for R.G.O.F. box.—EDS.]

Mr. F. Reid, for the past two years in the R.N.A.S. and R.A.F., previously Gardener for eight years to the late Captain FARWELL, Burnham Priory, Burnham, Buckinghamshire, as Gardener to Lord DE RAMSEY, Haveringland Hall, Norwich.

Mr. V. Sturgeon, late of the Royal Navy and previously foreman at Culford Hall, Bury St. Edmunds, Suffolk, as Gardener to Mrs. BRUCE, Oak Park, Carlow, Ireland.

Mr. Munday, for the past ten years Gardener to WM. GAY, Esq., Crowhurst Park, Battle, Sussex, and Higham, Canterbury, Kent, as Gardener to Commander LISTER-KAYE, R.N., Morley Manor, Derby.

Mr. D. Crombie, late of R.G.A., and previously Foreman at Marlston House, as Gardener to E. R. MOXEY, Esq., West Court, Finchampstead, Wokingham, Berkshire.

Mr. E. Denley, as Gardener to HUGH LONG, Esq., Mingory, Worplesdon Hill, Brookwood, Surrey.

Mr. T. Lawrence, as Gardener to C. SHEPERD CROSS, Esq., Alderwasley Hall, Whatstandwell, Derbyshire.

Mr. Harry Cousins, for the past eleven years Gardener to Major COOPER, Markree Castle, Collooney, as Gardener to H. C. BACKHOUSE, Esq., Nutley Park, Donnybrook, Dublin.—[Thanks for 2s. 6d. for R.G.O.F. box—Ed.]

Mr. F. Stenner, as Gardener to Captain WILDING, Wexham Place, Stoke Poges, Buckinghamshire.

CATALOGUES RECEIVED.

GEORGE ELSOM, Spalding, Lincolnshire.—Seeds.

JOHN KLINKERT, Royal Kew Nurseries, Richmond, Surrey.—Topiary.

C. S. DANIELS & SON, Wymondham, Norfolk.—Plants.

MORRIS & GRIFFIN, LTD., Newport, Monmouth.—Fertilisers.

BLACKMORE & LANGDON, Bath.—Begonias, Carnations, Cyclamen, Delphiniums and Gloxinias.

KENT & BRYDON, Darlington.—Farm seeds.

RYECROFT NURSERIES (H. J. JONES), Hither Green, Lewisham.—Chrysanthemums, Dahlias, Phloxes, and Vegetable Seeds.

E. P. DIXON & SONS, LTD., Hull.—Farm Seeds.

"FLORA," Egginton Vicarage, near Leighton Buzzard.—Plants.

DAVIES & BAKER, 46, Princess Street, Wolverhampton.—The "Perfect" Honey Extractor.

Canada.

A. E. MCKENZIE Co., LTD., Brandon, Manitoba.—Seeds.

Foreign.

PETER HENDERSON & Co., 35, 37, Cortlandt Street, New York.—Seeds.

THE
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The new edition of the Gardeners' Chronicle Horticultural Directory is now being distributed. Owing to the shortage of paper an unlimited number of copies cannot be guaranteed, and purchasers are advised to ORDER AT ONCE to avoid disappointment.

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Forms of application will be supplied by the undersigned, to whom they must be returned not later than the 29th instant.

C. COURTENAY HODGSON, CHARLES J. R. TIPPER, } Joint Secretaries.

County Offices,
The Courts, Carlisle,
8th March, 1919.

KINGSTON UNION.

MAN AND WIFE WANTED FOR CHILDREN'S HOME.

THE Guardians of the Kingston Union invite immediate application for the office of FOSTER FATHER and MOTHER, to take charge of a house containing 20-24 boys. Salaries, £40 and £28 respectively, with £5 war bonus each, plus rations, apartments, washing, etc. The Foster Father to also act as Gardener. Discharged Soldier preferred. Particulars of the duties can be obtained on application to Mr. HICKS, Children's Homes, Kingston Road, New Malden.

CHAS. W. DASH,
Clerk to the Guardians.

Union Offices,
Kingston-on-Thames,
14th March, 1919.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

WANTED, for Training Centre for Disabled Serbian Soldiers, TEACHER of Agriculture and Horticulture (man); knowledge of French essential. —Apply for details, stating salary, to LADY GROGAN, Serbian Relief Fund, 5, Cromwell Road, London, S.W.7.

HEAD GARDENER (Outdoor) wanted to reconstruct and manage large Garden; botanical garden training preferred. Wages 45s. and cottage.—Write, L. CAMPBELL-JOHNSTON, Esq., Woodcote Grove House, Coulsdon, Surrey.

WANTED, HEAD WORKING GARDENER (two under); ten acres, includng, Meadows, Kitchen and Pleasure Gardens, small stoved Greenhouse and Frames, two cows, pigs, and about 40 head poultry. Cottage (4 rooms and scullery); milk, firing and vegetables found. Fullest particulars, experience, age, family and wages to PRESCOTT, Highlands, Woldingham, Surrey.

GARDENER (HEAD WORKING) wanted by end of March, for Surrey; a very capable, energetic Man, thoroughly experienced in all branches of Horticulture. Inside and Out; early and late forcing of Vegetables, and used to managing good Private gardens; permanency; good wages; new cottage offered.—Please write, stating full particulars of previous experiences and age, to L. J. FAIRMAN, Secretary, Bookham Grove, Surrey.

WANTED, GARDENER (SINGLE-HANDED), Fruit, Flowers. Vegetables; experiences; good references.—Apply, BALDWIN, "Springfield," Rosemont Road, Acton, W.3.

WANTED, an experienced SINGLE-HANDED GARDENER for small place; must thoroughly understand Orchids and all branches of Gardening; there are several small Houses to attend to, also Kitchen and Flower Garden.—Apply, Mr. T., Great Chalfield, Wollstonecroft Road, Bournemouth.

WANTED, SINGLE-HANDED GARDENER, to help in House as well; good references and experience; no cottage.—Apply, ANTROBUS, St. Audreys, Hatfield.

GARDENER wanted, middle-aged, thoroughly experienced; single-handed, extra help when required; good references indispensable; able to milk. Wages £2, with roomy cottage, vegetables, etc.; wife or daughter to assist in house (extra remuneration); no young family.—Apply by letter, H. GREEN, Warfield Dale, Warfield, near Bracknell, Berks.

WANTED, MAN and WIFE: husband capable Single-Handed Gardener, with good knowledge Outside Fruit, Flowers, Vegetables; Wife to act as Cook General or House Parlourmaid; good cottage adjoining dwelling house, two miles centre Cardiff.—Apply, with full particulars, wages, etc., to ARTHUR VACHELL, Esq., Llandaff House, Llandaff.

GARDENER wanted; must thoroughly understand Kitchen and Flower Garden, Greenhouse; look after one Cow and Fowls; also required to clean knives, etc.; state age and wages required.—Apply, IRVINE BAILEY, Wilnecote Hall, Tamworth.

WANTED, good KITCHEN GARDENER, and to assist Inside when required; single; duty alternate weeks; state wages with bothy.—MUNDAY, Morley Manor, Derby.

MARRIED COUPLE required immediately, husband GARDENER, wife good, plain COOK. Fullest particulars and wages expected to Mrs. MacDONNELL, "Shraigh," Wimbledon Common, nr. London.

GARDENER wanted for private residence in Broadstairs (Kent); must be reliable and experienced cutting Shrubs; wages £2 per week.—Apply by letter, C. T., c/o J. W. VICKERS & CO., Ltd., 5, Nicholas Lane, E.C.4.

GARDENER wanted for gentleman's gardens in Surrey, four SINGLE MEN under Head; discharged soldiers preferred; good wages.—Apply, W. SMITH, The Gardens, Bookham Grove, Surrey.

WANTED, experienced GARDENER (male or Female); live out; write full particulars, age, and salary required.—RING, 9, Springfield, Upper Clapton, E.5.

WANTED, experienced WORKING GARDENER; at present Kitchen Garden, 1 acre, and Houses; cottage and vegetables.—Write, stating wages asked, age and family, COL. VIGNE, Barnton House, near Stamford.

WANTED, single and married UNDER-GARDENERS, for Indoors and Out, and help Mow Lawns with pony machine; Married Man cottage and garden; Single Man live in bothy in garden.—Apply by letter, stating wages required and references, to B. C. FINLINSON, Ingatestone Court, Essex.

WANTED, SECOND GARDENER for Herbaceous Borders, Roses, etc.; also MAN for Lawns and Pleasure Ground work; good wages to suitable men, bothy and attendance; 1 o'clock Saturdays.—Apply F. W. HART, The Gardens, Crowhurst Place, Lingfield, Surrey.

WANTED, SECOND GARDENER (single). —State particulars and wages required, to F. UNDERDOWN, The Gardens, Durrington House, Harlow, Essex.

WANTED, SECOND GARDENER; chiefly Inside. Apply, stating age, wage with bothy.—Full particulars to F. W. OVERILL, Revesby Abbey Gardens, Boston, Lincs.

UNDER-GARDENER wanted (two kept).—Apply, WM. WILSON, Beauchief Abbey, near Sheffield.

WANTED, UNDER - GARDENER (experienced), First; Inside; wages 30s. per week and bothy.—Apply W. J. GREEN, Grinkle Gardens, Loftus, Yorks.

WANTED, UNDER-GARDENER (experienced); state wages required, with particulars.—Apply, HEAD GARDENER, Bryngwyn Hall, Gorseinon, near Swansea.

WANTED, UNDER-GARDENER; chiefly Outside work; wages 32s. per week, with room, coal and vegetables; 2s. 6d. duty alternate week; 1 o'clock Saturdays.—J. BATES, Magna Carta, Wraysbury, Bucks.

KITCHEN GARDENER.—Wanted, YOUNG SINGLE MAN as such; energetic and know his work; live in bothy.—Apply, with copies of references, to J. PITTS, The Gardens, Pett Place, Charing, Kent.

WANTED, good SECOND GARDENER, experienced, Inside and Out; one that could run Hornsby's engine for electric light; cottage found.—Please state full particulars and wages asked, to the GARDENER, Fairhill, Tonbridge, Kent.

WANTED, good SECOND GARDENER for place in West Sussex where several are kept; married Man preferred, whose wife trained laundress.—Apply by letter, giving full particulars, to SIR F. S., 48, Cadogan Place, London, S.W.

WANTED, INSIDE FOREMAN (single) to take full charge; also MAN for Rock Garden.—Particulars, etc., J. W. FORSYTH, Putteridge Park, Gardens, Luton.

WANTED, FOREMAN for Fruit and Plant Houses; wages 35s. per week; bothy, milk and vegetables; 1 o'clock Saturdays.—Apply, stating age and experience, to L. T. PETTY, Arlington Manor Gardens, Newbury.

WANTED, FOREMAN for Fruit and Plant Houses; state experience, wages required, with bothy, etc.—W. H. BACON, Mote Park Gardens, Maidstone, Kent.

WANTED, FOREMAN for Fruit and Plant Houses; bothy, vegetables, etc., and attendance; state age, experience, and wages required.—G. E. WEEKES, Penoyre Gardens, Brecon.

WANTED, FOREMAN (Inside), good, reliable man, to take interest in place; wages 40s., &c.—W. R. POWELL, Newton Park Gardens, Burton-on-Trent.

WANTED, FOREMAN for the Houses; must be a capable Man, with good references; wages 35s. per week, bothy, etc.—Apply, A. BULLOCK, Copped Hall Gardens, Epping.

WANTED, thoroughly experienced OUTSIDE FOREMAN, for large Pleasure Grounds; state wages, with references; good bothy, with vegetables and attendance; overtime paid; 1 o'clock Saturdays.—T. SIMPSON, Newstead Abbey Gardens, Notts.

WANTED, FOREMAN for Inside; wages, 37s. 6d.; also JOURNEYMAN, Inside and Out, wages 32s. 6d.; Single Men; bothy, etc., provided; duty extra.—Apply, stating experience, to H. WHEELER, Wenvoe Castle Gardens, near Cardiff.

WANTED, INSIDE FOREMAN, well up in Fruits, Carnations, Chrysanthemums, and able to take charge; good bothy; also JOURNEYMAN, Inside; also JOURNEYMAN, for Pleasure Grounds; able to drive Motor Mower or willing to learn duty, etc.; good bothy, milk and vegetables.—State wages expected and particulars to C. JONES, Digswell House Gardens, Welwyn, Herts.

WANTED, YOUNG MAN to take charge, under Glass; also TWO for General Garden work; good bothy, milk, and vegetables.—Wages required to H. C. DURNFORD, Broadhanger Gardens, Petersfield, Hants.

WANTED, LEADING HAND in Kitchen Gardens. Also IMPROVERS and JOURNEYMAN for Pleasure Grounds; bothy and good wages.—HEAD GARDENER, Nostell Priory, Wakefield.

LEADING JOURNEYMAN wanted immediately; well up in Fruit Houses; good wages with bothy to suitable man.—Apply, giving full particulars, to the ESTATE OFFICE, Oulton Park, Tarporley, Cheshire.

WANTED, good JOURNEYMAN for Stove and Greenhouse Plants; age 24; also Strong, active IMPROVER, age 16; wages, 30s. and 20s. respectively, with bothy, vegetables, etc.; Sunday duty and overtime well paid.—W. PHILLIPS, The Gardens, Derry Ormond, Llangybi, Cardiganshire.

WANTED, a JOURNEYMAN for Fruit and Plant Houses; good wages, with bothy, vegetables and attendance; 1 o'clock Saturdays.—State age, experience, and wages required, to W. L. BASTIN, Berscot Gardens, Faringdon, Berks.

WANTED, in large establishment a JOURNEYMAN, with thorough Orchid experience, to take charge of several Houses; age about 23; wages 31s. weekly; bothy and usual allowances; good pay for duty and overtime; 1 o'clock Saturdays. —H. LLOYD, Tewin Water Gardens, Welwyn, Herts.

WANTED immediately, seven outdoor JOURNEYMEN, experienced in Flowers and Vegetables; ages 18 to 21; wages 28s. to 32s. weekly and vegetables; no bothy; Sunday duty extra.—Apply, I. D., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, three or four JOURNEYMEN or Improvers, chiefly for Outside, under Foreman. Good wages offered, with comfortable bothy and attendance.—Apply, A. BULLOCK, Copped Hall Gardens, Epping.

WANTED, JOURNEYMEN; Outdoors; 30s., bothy, vegetables, potatos, etc.; 1 o'clock Saturday; seven in bothy.—WHITELAW, Hever Castle Gardens, Edenbridge, Kent.

WANTED, JOURNEYMEN for Inside and Out; good wages; bothy, attendance and vegetables.—C. STEWART, Branksome Dene Gardens, Bournemouth West.

WANTED, experienced JOURNEYMAN for Fruit Houses; wages 31s., bothy, milk, vegetables; Sunday duty paid; 12 o'clock Saturdays.—State age, copies of references, to W. H. ALLEN, Minley Manor Gardens, Farnborough, Hants.

WANTED, FIRST JOURNEYMAN for Fruit and Plant Houses; also KITCHEN GARDENER. State age, wages and experience, with bothy, vegetables and attendance.—Apply, L. YOUNG, Gopsall Gardens, near Atherstone.

WANTED, JOURNEYMEN; Outdoors; 30s., bothy, vegetables, potatos, etc.; 1 o'clock Saturday; seven in bothy.—WHITELAW, Hever Castle Gardens, Edenbridge, Kent.

WANTED, JOURNEYMAN for Fruit and Plant Houses; bothy, milk and vegetables; 1 o'clock Saturdays; Sunday duty paid; state experience and wages required.—H. PAGE, Stoke Place Gardens, Slough.

WANTED, two JOURNEYMEN; one for Fruit Range and Carnations, the other Outside Flower Beds; must take duty; bothy and vegetables; state full particulars, wages.—Apply, G. BARRELL, Chalfont Park Gardens, Bucks.

WANTED, MAN to take lead in Kitchen Garden; also one for Outside work; state age, wages and experience; good bothy, etc.—A. SMITH, Parkwood Gardens, Henley-on-Thames.

WANTED, experienced MAN for Inside; some knowledge of Orchids preferred.—State experience and wage required, to J. SMALES, The Gardens, Franche Hall, Kidderminster.

WANTED, MAN for hardy fruit growing; must be well up in Pruning, etc.; also TWO MEN for Kitchen Garden, etc.; all must be single, energetic men, and interested in their work; all produce grown for sale; able to take duty when required, which is paid extra for; good bothy, vegetables and attendance; 1 o'clock Saturdays.—Please state wages required, with copies of references, age, etc., to L. SMITH, Cadland Park Gardens, Southampton.

MEN WANTED for Garden Work; regular employment for suitable Men; wages 40s. per week.—Apply by letter, "G. L.," Box 23, 41 Wellington Street, Covent Garden, W.C.2.

WANTED, MARRIED MAN, about 30, for Pleasure Grounds and Herbaceous Borders, to assist in decorating; able to take duty; good cottage and garden; state wages.—Apply HEAD GARDENER, Dynevor Gardens, Llandilo, Carmarthen.

WANTED, MARRIED MAN for Outdoor Work in Gardens; able to use scythe and take duty.—T. WRIGHT, Sprotboro' Gardens, Doncaster.

WANTED, steady, reliable MAN (single) for General Garden Work; good character essential; wages 30s. per week and room.—Apply, GARDENER, "Rignall's," Great Missenden, Bucks.

WANTED, MAN for Pleasure Grounds; able to take duty; 30s. per week; good bothy.—LOWE, Grendon Hall, Aylesbury, Bucks.

WANTED, for Pleasure Gardens, YOUNG MAN, about 21 years of age; good bothy.—Please state wages expected to GARDENER, Peeble Coombe, Headley, Epsom.

WANTED, strong SINGLE MAN for Outside Work; able to use scythe and take duty; bothy and good wages.—H. WENMAN, Temple Newsam Gardens, Leeds.

WANTED, SINGLE MAN; knowledge Lawns and Flower Beds; wages 33s. per week; no bothy.—Particulars to JONES, Shirenewton Hall, Chepstow.

WANTED, a YOUNG MAN, experienced in Kitchen Garden and Pleasure Grounds; take duty; bothy and vegetables; 1 o'clock Saturdays.—Particulars and wages to I. A. MULFORD, The Gardens, Merevale Hall, Atherstone, Warwickshire.

WANTED, YOUNG MAN for Herbaceous Borders, assist on Lawns, etc.; able to take duty. State wages, with bothy, &c.—Apply, GARDENER, Wilton Park, Beaconsfield.

WANTED, two YOUNG MEN, age 18 to 20, for Inside and Out; strong and active; bothy and vegetables.—State wages, references, to F. BULLEY, The Gardens, Burkham House, Alton, Hants.

WANTED three YOUNG MEN; one Inside and Out, two for Kitchen Garden and Pleasure Grounds; state wages, with bothy, etc.; duty and overtime paid extra.—R. RYE, Woodlands, Uxbridge.

WANTED, strong, active YOUTH, 18 to 21, chiefly for Glass; able to take Sunday and firing duty.—Apply, stating particulars, wages wanted, with bothy, to Barton, Sidbury Gardens, Sidmouth, Devon.

HANDYMAN wanted for Garden and Estate Painting, etc.; Single; bothy.—Wages and particulars to LOWE, Grendon Hall, Aylesbury, Bucks.

WANTED, two or three YOUNG MEN for Inside and Out.—Apply, with reference and wages required, with bothy and vegetables, to GEO. BECKETT, Kinmel Park Gardens, Abergele, N. W.

WANTED, MAN for Pleasure Grounds, able to use Lawn Mower.—Particulars and wages, with bothy, etc., to H. S. FINCHER, Caldecote Gardens, Nuneaton.

WANTED, IMPROVER for Inside, 17-18; duty and overtime paid.—State wages, previous experience, to W. J. EARL, Tranby Croft, Hull.

WANTED, YOUNG MAN, age 23-24 (Inside); good plantsman; state age, experience, wages expected, with bothy, milk and vegetables; duty every alternate week.—Apply, W. H. THRUSH, Gardens, "Sunnyside," Holmwood, Surrey.

WANTED, reliable, experienced YOUNG MAN for Inside; wages 35s. to commence; bothy; also YOUTH capable of taking duty; wages according to experience.—Particulars of capabilities and reference to T. BLAKEWAY, The Gardens, Bromham House, near Bedford.

WANTED, GARDEN LABOURER, fully active; demobilised soldier preferred; good cottage provided.—State age, wages and experience to GARDENER, Morton Hall, Swinderby, Lincoln.

WANTED, two MEN; one for Pleasure Grounds; one for Inside and Out; bothy, milk and potatos; please state wages.—J. AXFORD, Denham Mount Gardens, Denham, Bucks.

WANTED, LAD about 18, interested in his work, as IMPROVER, Inside, under Foreman; bothy, milk, vegetables, attendance, etc., provided.—Give particulars of experience and wages asked to HEAD GARDENER, Brownsea Castle, Poole, Dorset

TRADE.

FOREMAN
FOR HERBACEOUS DEPARTMENT.
Must have had a thorough experience of every branch of the work, and be good exhibitor. Good salary and every encouragement given to efficient man showing a keen interest in the business.
Apply, giving details of experience, wages wanted, &c., to—

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CODSALL,
WOLVERHAMPTON.

THE NORTHAMPTONSHIRE Fruit and Vegetable Society, Ltd., require the services of a BUSINESS MANAGER; experience in marketing essential.—For form of application and further particulars apply at once, enclosing stamped addressed envelope, to the Hon. Secretary, County Education Offices, Northampton.

WANTED, two GARDENERS with some knowledge of Tomato growing; state experience and wages required.—J. F., Box 4, 41 Wellington Street, Covent Garden, W.C.2.

WANTED, WORKING FOREMAN; also experienced KNIFESMAN for Fruit Trees and Roses.—BRINKMAN BROS., Wraysbury, Bucks.

WANTED, WORKING FOREMAN GROWER, chiefly Inside, with a thorough knowledge of growing all kinds of general market produce and flowers. State age, wages required and when at liberty, with copies of references, to HANMERS Nurseries, Pine Grove, Rhos-on-Sea, Colwyn Bay, North Wales.

WANTED, FOREMAN for Alpine Department.—State full particulars, PERRY'S HARDY PLANT FARM, Enfield, Middlesex.

FOREMAN for Alpine Department.—Wanted, early in April, by old-established firm in the North of England, an energetic MAN, thoroughly experienced in Alpine and Herbaceous Plants.—Only highly efficient men need apply, with details of experience and wages required, to B. J., Box 9, 41 Wellington Street, Covent Garden, W.C.2.

WANTED, Outside WORKING FOREMAN for a General Nursery; state age, experience, and wages expected.—WM. TROUGHTON, Nurseryman, Preston.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR, for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden; ROSE GROWER (Outdoor); majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WANTED, good GROWER and PROPAGATOR; one who is experienced in Alpine and Rock Plants.—State age, experience and wages to P. C., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, an experienced Indoor MAN for Forcing Bulbs and Tomatos; permanency for suitable man.—Apply H. W. WHITE, Cradge Bank Nurseries, Spalding.

WANTED, MAN (single preferred) with general knowledge of Nursery work (Outside and In), for Nursery recently started near London (16 miles south).—Write in first place, with references, experience and wages expected, to F. G. WOOD, 161 Walworth Road, London, S.E.17.

WANTED, SINGLE MAN for Greenhouses, experienced in Bedding Plants, Tomatos, Chrysanthemums, and Cut Flowers; wages, age and experience to T. CROSS, Bury St. Edmund's.

WANTED, smart, intelligent YOUTHS in our Rose, Fruit, Herbaceous and Alpine Departments; good wages to the right men.—Particulars as to age, experience, if any, and wages, to JOHN WATERER, SONS & CRISP, LTD., Hare Hatch, Twyford, Berks.

HANDYMAN wanted for Painting, Glazing, Piping and General Repairs; also two single YOUNG MEN for Cucumbers, Tomatos, and Bedding.—Particulars, references, and wages required, to I.C.L., Box 12, 41 Wellington Street, Covent Garden, W.C.2.

WANTED, capable married MAN; take charge small Outside Nursery, mail order and cut flowers; cottage, wages and commission.—"NOTTS," Box 18, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, six SINGLE MEN for Jobbing Gardening, Kitchen Garden and Greenhouse work; regular work to suitable Men.—M. DELL, The Nurseries, Norbury, S.W.16.

WANTED, a YOUNG MAN with a general knowledge of Outside Nursery work; Roses, Fruits, Herbaceous Plants; good propagator.—Experience and wages required to CLARKE, Royal Hampton Nurseries, Broad Lane, Hampton, Middlesex.

SEED TRADE.—Wanted shortly, by wholesale house, experienced and reliable MAN as MANAGER of Garden Seed Department. Able to control staff and supervise crops and trials. — Apply, S. C., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, reliable REPRESENTATIVE, living in or near London, to periodically arrange and attend to Cut Flower Exhibits, London Flower Shows. Please state experience, references, wages, &c.—"C. R.," Box 11, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, COUNTER HAND accustomed to retail Seed and Bulb trade.—Write, with full particulars and address, MESSRS. BARR AND SONS, King Street, Covent Garden, London, W.C. (marked "private").

WANTED, ASSISTANT SHOPMAN, with good knowledge of Seeds, Bulbs and Plants.—Write, with full particulars and address, Messrs. BARR & SONS, King Street, Covent Garden, London, W.C., marked "Private."

FLORIST FURNISHER and Decorator required for West End Trade.—Apply ROBERT GREEN, Ltd., 28, Crawford Street, W.

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PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

VISCOUNTESS KNUTSFORD wishes to recommend her Head Gardener, H. SYMONDS to any lady or gentleman requiring the services of a thorough good all-round man; 28 years' experience in all branches; married; age 43.—The Priory, Royston, Herts.

SIR OSBORN HOLMDEN recommends his HEAD GARDENER; thoroughly practical and expert in all branches of Horticulture; excellent references.—Apply T. JOHNSON, Awbrook, Hayward's Heath.

MR. J. VOSS, Kedleston Hall Gardens, Derby, wishes to highly recommend A. E. FRIEND, as Head Gardener, to any lady or gentleman requiring the services of a thoroughly practical Man. He has been General Foreman here seven years; age 33; married (no children); demobilised; excellent references.

MAJOR A. H. Thurburn, Cransley Hall, Kettering, highly recommends CHARLES FORD, his late Head Gardener for 16 years; life experience in all branches; energetic, good organiser; age 44; married; demobilised.

J. C. POTTER highly recommends his HEAD GARDENER; thoroughly efficient all branches; highest references; 4 years present, 9 previous; age 48; disengaged; leaving through establishment being broken up.—ELBOURN, 8, Bryanston Square, London, W.

LADY strongly recommends good GARDENER, thoroughly experienced; Head of two or three preferred, married (no children); age 42.—Write Box 367, Harrods Advertising Agency, Hans Crescent.

GARDENER (Head) A. G. SOAMES, Esq., will be pleased to recommend W. EDWORTHY (recently demobilised), for over eight years Head Gardener at Sheffield Park, Uckfield, Sussex, to anyone requiring first-class Man for good establishment; thoroughly efficient all branches; age 43; married (two children, 8 and 4).—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

GARDENER (Head). — The Marquis of Breadalbane, K.G., strongly recommends JOHN DICK, who has been his Head Gardener for 8½ years; married; 39 years of age; over 25 years' all-round experience in well-known gardens in Scotland and England; satisfactory reasons for leaving; disengaged when suited.—JOHN DICK, Taymouth Castle Gardens, Kenmore, Perthshire.

MRS. PILKINGTON YOUNG, Stand Hall, Whitefield, Manchester, highly recommends her late HEAD GARDENER; just demobolised (2½ years in France and Belgium); life experience in large establishments, public and private gardens, nurseries, including Worsley Hall, Manchester, Kimpton Hoo, Wentworth Woodhouse, Royal Gardens, Kew, Veitches and others; a practical cultivator of choice Exotics, Flowering and Foliage Orchids, Ferns, Greenhouse and Conservatory decoration, choice Fruits, Inside and Out, Vegetables, pleasure grounds, &c.; married (one daughter, age 16).—PHILIP J. BOLT, 7, Park Terrace, Park Lane, Whitefield, Manchester.

MAJOR ALEXANDER, having sold his place, confidently recommends his late HEAD GARDENER to any lady or gentleman requiring a thorough good all-round man; was in my employ 8 years; age 43; married (2 children); demobolised.—Apply, SMITH, 53, Napier Road, Tunbridge Wells, Kent.

MRS. PALMER, Marlston House, nr. Newbury, wishes to very highly recommend her HEAD GARDENER, now demobilised, A.1.; thoroughly trustworthy, capable manager, for large establishment; life experience in all branches; excellent references; age 41; married (no family); abstainer.—F. WESTRON, address as above.

THE Hon. H. B. Money-Coutts highly recommends W. ABRAHAMS as HEAD GARDENER, where several are kept; has been with him 7½ years; 30 years' experience, gained in large establishments; excellent testimonials from previous employers; married; age 44 years; leaving owing to estate being sold.—WM. ABRAHAMS, Stoodleigh Court Gardens, Tiverton, Devon.

LADY VAUX, of Harrowden, wishes to recommend WM. WARREN, late HEAD GARDENER, as a first-class man; life experience in all branches; used to large establishments; excellent testimonials; thoroughly energetic; disengaged; just demobilised Royal Air Force; age 37; married (one child, aged 8 years).—Model Farm, Shirburn, near Watlington, Oxon.

MRS. MURDOCH highly recommends her late HEAD GARDENER; recently demobilised; nearly 5 years at Buckhurst; 5 years previous; life experience in all branches; age 43 (1 child age 10).—P. H. REED, Melrose Villas, Fairview Road, Wokingham, Berks.

THE HONBLE. MRS. GUY FEILDER highly recommends her late HEAD GARDENER; recently demobilised; life experience in all branches; charge of electric light if required; married, (2 children, age 13 and 9).—Please state wages, CHARLES HARVEY, 54, Lea Road, Southall, Middlesex.

MRS. GUTHRIE, East Haddon Hall, desires to highly recommend her late HEAD GARDENER, where several are kept, as a thoroughly competent, reliable man in all branches; demobilised.—TURNER, 18, Blomfield Street, Bury St. Edmunds.

GARDENER (Head).—Mr. T. COOK, The Royal Gardens, Sandringham, recommends T. Sparrow as above; life experience in all branches in good establishments; age 32; married; demobilised.—T. SPARROW, Herringstone, Dorchester, Dorset.

HEAD GARDENER disengaged; 30 years' experience all branches; good experience with Orchids, etc.; no family; good references.—JAS. SMITH, Springlock, Blenheim Park, Woodstock, Oxon.

GARDENER (Head) (Army discharge); life experience, good establishments; Estate, Poultry; ten years Head; married (two children); age 37; excellent references State wages.—CAMP, 42, Cambridge Road, Sawbridgeworth.

GARDENER (Head), F.R.H.S. Gold Medalist, Fruit Specialist; highest references for character and abilities; life experience in large places; good worker and organiser; state wages; age 46.—H. W., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head) or GARDENER-BAILIFF.—J. L. MARWOOD seeks re-engagement in good establishment; highly successful in all branches, including Land and Stock, Carnations, Malmaisons, Landscape, etc.; 16 years highest testimonials as to character, ability and management; age 48; married (no family).—Address, J. L. MARWOOD, Busbridge Hall Gardens, Godalming, Surrey.

HEAD GARDENER. — Wanted re-engagement by Man with 26 years' experience of Glass, Pleasure Grounds, and Kitchen Gardens; also Landscape work and alterations; first-class references and personally recommended by last employer; age 42; married (no family); last situation 5 years as Working Head.—ARTHUR GREENTREE, Hopton, Stafford.

HEAD GARDENER (two or more kept); life experience in all branches; 7½ years last situation; left through death; first-class references.—Apply, R. WALLIS, Winstone, near Cirencester, Glos.

GARDENER (Head); life experience in all branches in good places; age 42; married (3 boys); good references; 7 years present situation.—KEEBLE, Manor Gardens, Lechlade, Glos.

HEAD GARDENER seeks re-engagement; thoroughly efficient in all departments; Inside and Out; lifetime experience in large establishments; skilful cultivator of choice Fruits, Vegetables, and Plants; first-class qualifications as Head; energetic and hard working; trustworthy; Home Counties preferred.—F. W., Box 2, 41, Wellington Street, Covent Garden, W.C.2

GARDENER (Head) where two or more are kept; life experience in all branches; excellent references; age 37; married (one girl); five years as Head previous to joining the Service, now demobilised.—D. REYNOLDS, High Street, Hopton, Thetford, Norfolk.

GARDENER (Head) life experience, all branches; also estate management; electric plant; excellent references from previous employers; demobilised; age 43; married (three children, youngest 12).—P. E. HARPER, Tugela Villas, Danbury, Essex.

GARDENER (Head) desires engagement in good establishment; thorough practical experience, both Inside and Out, in good gardens; age 35; just demobilised; please state wages.—W. E. KING, Sunnyside, Reginald Road, Northwood, Middlesex.

GARDENER (Head) where several are kept; life experience, Inside and Out, in first-class establishments; 8½ years last situation; married; age 34; demobilised.—Apply STYLES, Greyhound, Charcotts, Leigh, Kent.

HEAD GARDENER; lifetime thorough practical experience all branches of Horticulture, in good establishments; choice Fruit and Plant culture under glass; Pleasure Grounds, including Rock and Flower Gardens; Roses, etc., Fruit and Vegetable routine, etc.; excellent testimonials to character and ability; age 34; married.—F. KING, 25, Reginald Road, Northwood, Middlesex.

GARDENER (Head), life experience, seeks situation with Lady or Gentleman who require a practical and thoroughly competent Man in all branches; previous to Army service six years Head Gardener at Pyt House, Tisbury, Wilts; highest references; age 39; married (no family).—H. MARTIN, Lodge Farm, Colne Engaine, Essex.

GARDENER (Head), two or three; life experience all branches; age 35; married (two children); 6 years last situation, Head; demobilised.—CARTER, 19, Windsor Road, Hailsham, Sussex.

HEAD GARDENER, just demobilised, seeks situation; life practical experience in all branches; 6 years Head Gardener to Lieut.-Col. Sir F. Hall, M.P., previous to joining Colours; highly recommended.—A. LUCKHURST, 174, Sunny Hill Road, Streatham.

GARDENER (Head).—A keen, energetic and capable manager desires responsible post; first-class all round, expert Fruit Grower and Exhibition.—GEO. MORBEY, Town Hall, Knutsford, Cheshire.

GARDENER (Head) where three or more are kept; life experience in all branches; good references; age 33; married.—WOOLLOFF, Elmsley, Mossley Hill, Liverpool.

GARDENER (Head of three or four); life experience; just demobilised; 10 years as Head in last situation; knowledge of Land and Stock; age 42.—Please state wages to E. WITTS, 111, Pauney Road, Maidenhead.

ORCHID GROWER or HEAD GARDENER where Orchids are one of the leading features; expert in raising and growing Orchids; 15 years' experience in first-class places; highly recommended; 4½ years Army service; last place sold while on active service; age 33; married (one child).—C. RUSHTON, Bremhill, near Calne, Wilts.

HEAD GARDENER or ORCHID GROWER, could manage small estate, seeks employment on demobilisation (Navy); experienced in all branches; previously at Kew and "Branksome Hall"; age 33; married.—C. HARRIS, 11 Mess, H.M.S. "Diamond," c/o G.P.O., London.

GARDENER (Head Working); life experience in all branches of Gardening, Inside and Out; 6 years 10 months in present place; age 45; married (no family).—A. EVERITT, Knott Park, Oxshott, Surrey.

GARDENER (HEAD WORKING) where two or three are kept; life experience in all branches; 12 years Head (8 in last situation); just demobilised; age 42; married; abstainer.—GEO. HEMLEY, Bottle House, Slinfold, Horsham, Sussex.

GARDENER (HEAD WORKING), age 37, first rate experience in all branches; good refs.—J. BROTHERHOOD, 58, Tudor Road, Hampton-on-Thames, Middlesex.

GARDENER (HEAD WORKING); life experience Inside and out; good references; 17 years Head; married (one grown-up daughter); Surrey or Sussex preferred; free end of March.—H. P., Gardens, Sandhurst Lodge, Wellington College, Berks.

GARDENER (HEAD), where four or more are kept; experience in all branches; a good practical experience of Kitchen Garden; 18 years last place; demobilised; age 39; married (no family); good reference.—Apply, T. W. HINE, 11, New Road, South Street, Ponders End.

GARDENER, HEAD or good SINGLE-HANDED; life experience, Inside and out; good references; married (one child, 7).—JACKMAN, Gardener's Cottage, Hascombe Grange, Godalming.

GARDENER (HEAD or good SINGLE-HANDED), demobilised, seeks situation; life practical experience; age 37; married (two children, 5½, 8).—BROWNING, 65, Bensham Lane, West Croydon, Surrey.

GARDENER (HEAD) or good SINGLE-HANDED; experienced in all branches; age 31; married; good references; demobilised.—A. COKER, 17, Winifred Road, Apsley, Hemel Hempstead, Herts.

GARDENER (HEAD) or good SINGLE-HANDED; demobilised; life experience in all branches; age 30; married (no family); good references; state wages.—A. BLURTON, 15, Blackheath Vale, Blackheath, S.E.

GARDENER (HEAD or good SINGLE-HANDED); practical life experience in Gardening in all its branches, Inside and Out; Land and Stock; married; age 50; excellent references.—Apply J. DAVIS, Highlands, Woldingham, Surrey.

GARDENER (HEAD), one or two, or good SINGLE-HANDED with help; life experience; Inside and Out; Kitchen garden; Fruit, Flowers; 10 years' present situation as Head; excellent references; state wages; good cottage essential.—HILL, Brookside Lodge, Avening, near Stroud Gloucestershire.

GARDENER (HEAD or SECOND); Inside; good Fruit and Plant grower; in or near London; age 60; single.—PULLINGER, Gardener, Holly Lodge, Kensington.

MR. E. H. M. DENNY highly recommends HEAD WORKING GARDENER; thoroughly efficient and trustworthy; life experience in all branches; age 48; married (one child); excellent previous references; please state wages and particulars.—Apply, T. CORNISH, Staplefield Place, Staplefield, Sussex.

T. H. BUCKLEY, Esq., recommends W. PAPWORTH as Head Working Gardener, where one or two more are kept; life experience in all branches; Surrey, Kent or Sussex.—PAPWORTH, Sunny Hill Lodge, Crawley Down, Sussex.

MR. R. RENTOUL, of Melbury House Gardens, Dorchester, will be pleased to recommend H. WALLACE as Head Working Gardener; age 32; demobolised.

GARDENER (HEAD WORKING).—Mr. S. H. CUFF, Elmslie, Eltham, wishes to highly recommend his late Head Gardener, for 12 years; thoroughly experienced Inside and Out; most capable and trustworthy; demobilised; age 44; two children (10 and 11 years).—J. ARSCOTT, 13, The Grove, Eltham, S.E.9.

JOHN DUVEEN, Esq., Chipstead Place, wishes to very highly recommend A. GULVIN as GARDENER (HEAD WORKING) to any lady or gentleman requiring the services of a thoroughly experienced and trustworthy man; life experience; eight years in present situation; age 33; married (no family). Please state wages.—GULVIN, Chipstead Place, Sevenoaks.

GENTLEMAN highly recommends HEAD WORKING GARDENER; thoroughly well up in all branches, Inside and Out; disengaged end of March.—H. GARDENER, 24, Horsford Road, Brixton.

GENTLEMAN highly recommends HEAD WORKING GARDENER; good grower choice produce; reliable, systematic, trustworthy Man, age 46.—State wages and particulars to K, Box 2, 41 Wellington Street, Covent Gardens, London, W.C.2.

HEAD WORKING, where two or three are kept; life experience Inside and Out; age 34; married (1 child); excellent references.—A. STAPLES, Jasmine Cottage, Westcott, Dorking.

GARDENER (HEAD WORKING) or good SINGLE-HANDED; life experience in all branches, Inside and Out; Carnations and Fruit speciality; good references; married (no family); age 49.—ELLIS, River Lane, Whitchurch, Oxon.

GARDENER (HEAD WORKING) where four or more are kept; Midlands preferred; 25 years' practical experience, Inside and Out in good establishments; experience in Vines, Peaches, Stove and Greenhouse Plants, Carnations, Chrysanthemums, &c.; married (one child, age 11); age 49; excellent references.—Apply, D. J., c.o. Dickson's Nurseries, Chester.

GARDENER (HEAD WORKING), ex-soldier, seeks situation; first-class experience in all branches, Inside and Out; highest testimonials; partial disablement, but good for a lot of useful work; age 35.—Particulars and wages offered, to GRENADIER, Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) where three or more are kept; experience, Inside and Out; age 32; eight years as Head at last place (just demobilised); please state wages; married (three children).—W. CLARKE, The Gardens, Elsfield, near Oxford.

GARDENER (HEAD WORKING) where several are kept, 12½ years' experience in first-class establishments, including Knowsley Hall, Drumlanrig Castle, Wemyss Castle; good knowledge of Orchids; highest references; married; age 31; 4½ years with the Colours (demobilised).—P. CRAGG, Halam, Southwell, Notts.

GARDENER (HEAD WORKING) where three or more kept, Lady recommends; life experience all branches; demobilised; married (no family); Southern Counties preferred; age 37.—C/o BUTTS, Kirdford, Billingshurst, Sussex.

GARDENER (HEAD WORKING); demobilised; life experience in all branches; good references; R.H.S. Certificate; age 31; one child.—PHEAR, Sherston, Malmesbury, Wilts.

GARDENER (HEAD WORKING), age 46, seeks re-engagement; life practical experience, Inside and Out; good establishments; skilled cultivator of Vegetables, Salads, Choice Fruits, Plants, Orchids, Carnations, etc.; keen, competent, energetic; 18 years late Head; married; excellent references.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD WORKING); demobilised; A1; life experience gained in first-class establishments; 15 years Head; skilled grower of choice Fruits, Vegetables, Plants, Carnations, Roses, Orchids, and well-kept grounds; age 44 years; married (one daughter, 10 years).—Apply, PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (HEAD WORKING), just demobilised, seeks post where several are kept; life experience in all branches, gained in first-class establishments; 3 years and 8 months Head in last situation; age 36.—A. MORPHETT, The Common, Cranbrook, Kent.

L. MULLINS, Coombe House, Shaftesbury, Dorset, seeks situation as GARDENER (Head Working); life experience in all branches, gained at well-known establishments; excellent testimonials; 7 years as Foreman previous to enlistment; age 35; married when suited.

GARDENER (HEAD WORKING) widower with son, age 17; life experience, Inside and Out, requires engagement together; good references.—Apply H. W., 41, Bendemere Road, Putney, S.W.15.

GARDENER (HEAD WORKING) or good Single-Handed with help; long experience in all branches, Inside and Out; excellent references; can be well recommended; age 36; married when suited.—W. MILLER, Barnardiston Hall, Haverhill, Suffolk.

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GARDENER (HEAD WORKING) or married Foreman; life of practical experience, Inside and Out; can be well recommended; age 32; no family; recently demobilised; three years' active service.—UPTON, Southplain, Plummer's Plain, Horsham, Sussex.

GARDENER (HEAD WORKING) where two or three are kept; demobolised; married; age 31; experienced Inside and Out; good references and well recommended.—ANDERSON, 5, Reidhaven Road, Plumstead, S.E.18.

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HEAD GARDENER (WORKING) where two or more are kept; life experience in all branches; just demobilised; 9½ years as Head last situation; age 42; married (two children, 17, 14); excellent references.—W. QUENNELL, Gairlock Villas, Sunninghill, Berks

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GARDENER (SINGLE-HANDED or otherwise); life experience all branches; age 45; married (no family); 12 years' reference; last place sold.—PACKHAM, 1, Birling Road, Tunbridge Wells.

GARDENER (SINGLE-HANDED or otherwise); 8 years' experience, Inside and Out; good references; age 27; married; demobilised.—Apply JOHNSON, Cross House, North Creake, Fakenham, Norfolk.

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SINGLE - HANDED; situation required; 12 years' general experience; Surrey or Middlesex preferred.—WHENNETT, 17, Cottage Grove, Surbiton, Surrey.

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GARDENER seeks situation (SINGLE-HANDED or with help); thorough experience; good references; age 30; married (one child); demobilised.—REYNOLDS, 11, Queen's Mews, Bayswater, W.2.

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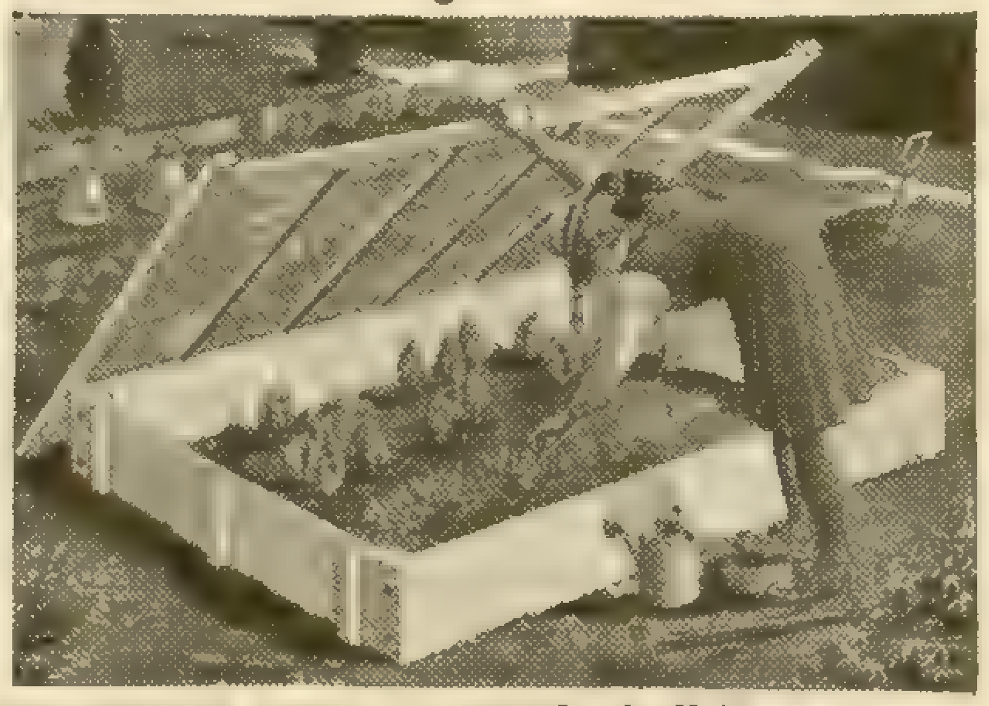

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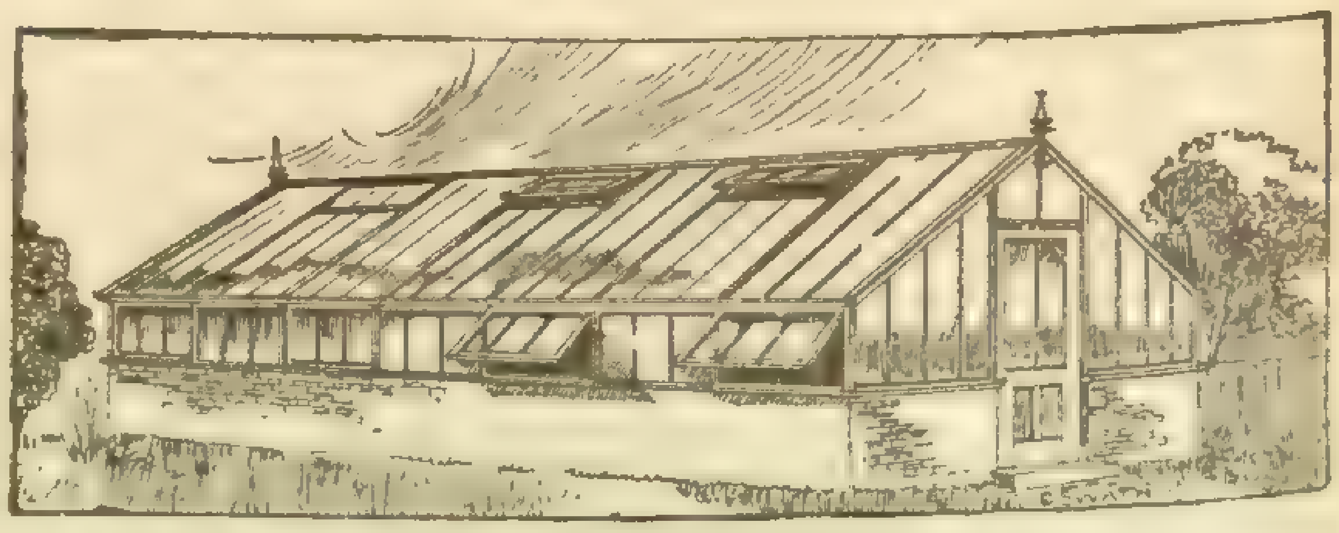

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The Collection comprises about 9,000 Plants, and will be submitted to Auction on the premises as above, on

TUESDAY, APRIL 1 AND TWO FOLLOWING DAYS,
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The Collection contains many valuable plants of Odontoglossums, Odontiodas and Cattleyas, some of which have received first class certificates at the R.H.S. Meetings. Also Cattleya, Laelio-Cattleya Seedlings, and other cool, intermediate and hot house varieties.

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On TUESDAY, APRIL 8th, 1919,

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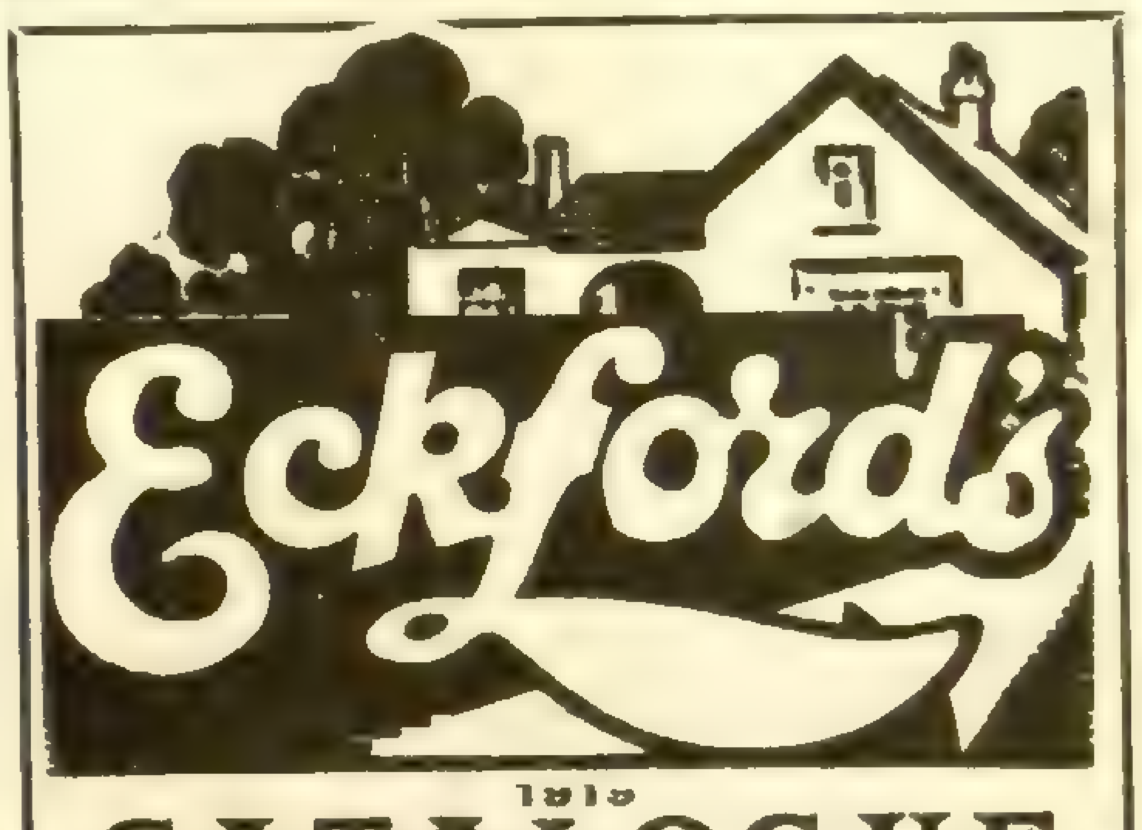

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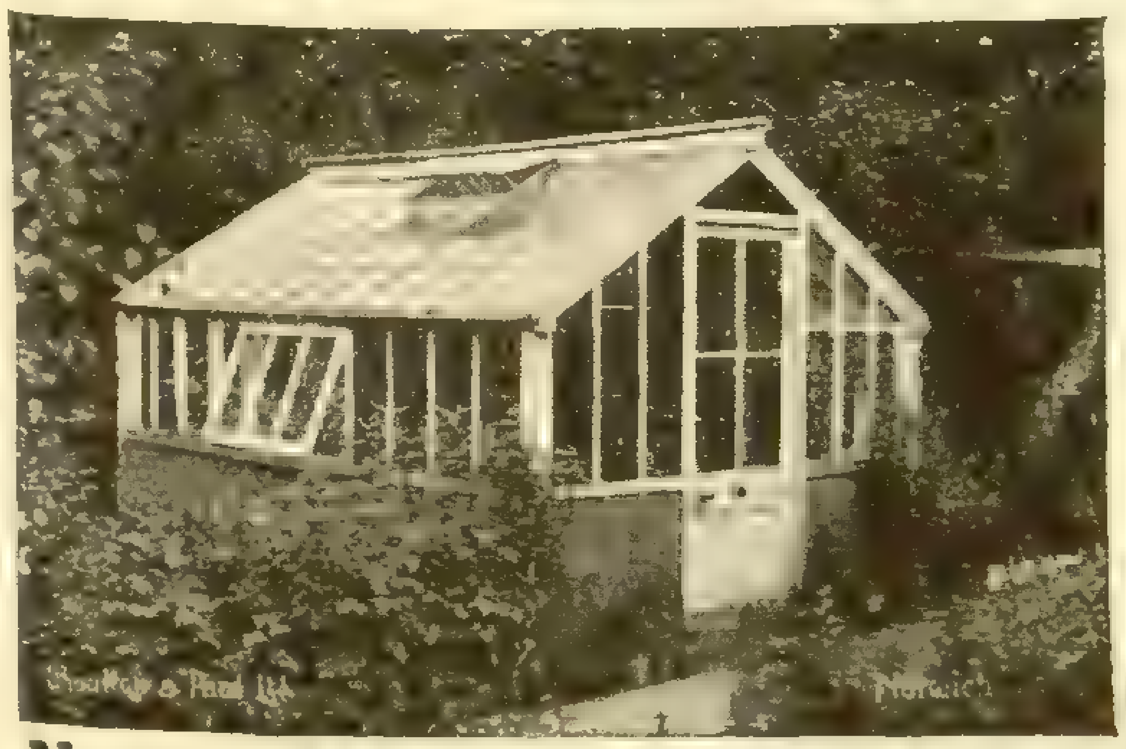

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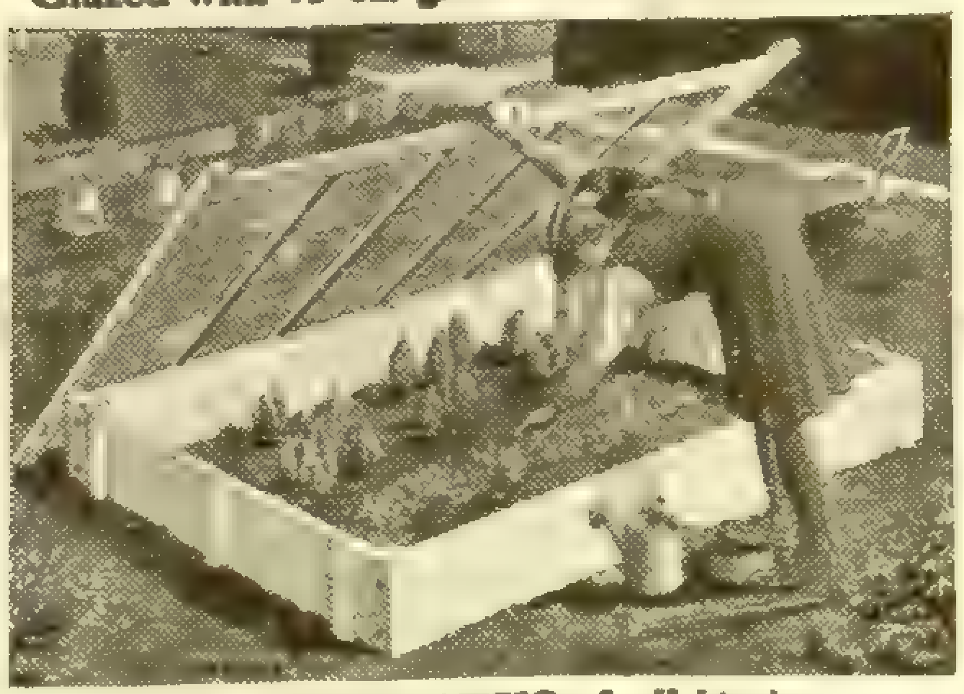

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THE

Gardeners' Chronicle

No. 1683.—*SATURDAY, MARCH* 29, 1919.

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SOME LITTLE KNOWN BOTANISTS.

IN going through Musgrave's *Obituary* for the names of such gardeners and others connected with horticulture whose deaths up to the end of the 18th century are there recorded, for the article published in *The Gardeners' Chronicle*, December 14, 1917, I extended the scope of my notes, and included botanists, with. I think, some interesting results. In the 17th and 18th centuries a botanist of any note was nearly always a medical man. In view of the very large part which in those days herbs played in the composition of medicines, this was not surprising. A knowledge of the properties of herbs was a very important part of a medical man's curriculum, and whilst the majority may have been content with a utilitarian acquaintance with botany, others entered into the science with enthusiasm, and became distinguished ornaments of it. Even in modern times it would be easy to make up a long list of men who abandoned the profession of medicine for the science of botany, and perhaps no more conspicuous an instance could be mentioned than the late Dr. M. T. Masters.

It will, therefore, be readily understood how it is that the term botanist was, until about a century ago, almost always synonymous with medicine, though we find it sometimes applied to such amateur gardeners as Evelyn. But while nearly all botanists practised medicine, the number of doctors who became eminent botanists can hardly be described as large. Very few escaped the wide net thrown by Mr. James Britten and Professor Boulger in their admirable *Biographical Index of British and Irish Botanists*, 1893, and its three supplements, bringing the work up to 1902, and of which an entirely new edition is much wanted. They have indeed left very little for those who come after them. And if those who fish in shallow streams cannot expect to land big catches, their joy is none the less justified by the occasional netting of a few small sprats! But I think that at least one of the men I have rescued from oblivion is much too important to be included among the small fry. I think, indeed, he may be regarded as a very important person in the history of 18th century botany. I refer to Dr. Thomas Clarke, who is a very prominent figure in the history of Jamaica, for he was His Majesty's Botanist of that island, and the first to hold that appointment. He arrived in the island in 1774, at the particular instance and request of Sir Basil Keith. Mr. Frank Cundall, Secretary of the Institute of Jamaica, and the author of *Historic Jamaica*, tells me that Dr. Clarke obtained the Akee, a very popular fruit (eaten as a vegetable) in Jamaica, from a West African slave ship in 1778. The first public garden established in the Island was the old Botanic Garden, at Bath, and in the Journals of the House of Assembly mention is made of Dr. Thomas Clarke, "Practitioner in Physic and Surgery," to superintend two Botanic Gardens then intended to be established in the Island. One was to be a European garden, which, however, was not established till long after at Cinchona, and the other was the Tropical Garden at Bath. Dr. Clarke, according to Mr. Cundall's *Historic Jamaica*, 1915, on his arrival on the Island, brought with him the Jujube tree (Zizyphus Jujuba), the Litchi (Euphoria or Nephelium Litchi, from China), the purple Dracaena, the Sago Palm, and the valuable Camphor tree; so that it is reasonable to assume that he came, not direct from England, but from some other colony, perhaps from the East Indies. A fairly full record of Dr. Clarke's activity as a botanist and as a benefactor to the Island may be found in the "Hortus Eastensis," which Dr. Arthur Broughton contributed to Bryan Edwards' *History, Civil and Commercial, of the West Indies*. Vol. III., pp. 367-407. My edition is the fifth, issued in 1819, so that the references may not be exactly applicable to the other editions. Very large numbers of exotics are registered there as being introduced by Dr. Clarke, and in most cases the date of introduction is given as 1775. These include plants from the East Indies, Cape of Good Hope, China and Japan, Africa, Peru, Egypt, and Carolina, so that the problem of Dr. Clarke's residence prior to his settling in Jamaica is not easily solved. Dr. Clarke died in February, 1792, and a brief obituary notice appeared in the *European Magazine* of that year (p. 239). There were other botanists connected with Jamaica of whom it would be interesting to have fuller details, notably, M. Wallen, a friend of Swartz, who introduced the first plants of the Watercress and the Bamboo. Wallen, however, appears in Messrs. Britten and Boulger's *Index* (the date of his death has not been traced), but Dr. Thomas Clarke does not.

One of the earliest names, in point of date, extracted from Musgrave is that of "Sands," who is described as of Wadham College, Oxford, and Professor of Botany. This undoubtedly refers to Edwin Sandys, who is recorded by Messrs. Britten and Boulger in their first Supplement, and is noticed by Dr. J. R. Green in his *History of Botany*, 1914, in Foster's *Alumni Oxonienses*, and in Pointer's *Oxoniensis Academia*, 1749 (p. 250). He was Sherardian Professor of Botany, 1720-4, and Fellow of Wadham from 1713 until 1731, when he probably died. Another Oxford man, Dr. John Robinson (1650-1723), Bishop of London, claims notice, not so much perhaps on account of his being a botanist, as from the fact that he was a benefactor of the Physic Garden at that seat of learning.

Another man who combined the twofold functions of medicine and botany, and is unrecorded by Messrs. Britten and Boulger, was Charles Chemys, one of the Fellows of the College of Physicians, and Professor of Botany at Trinity College, Dublin (Scholar, 1718; B.A., 1720; M.B., 1724; ; and M.A., 1727). He died in Dublin, September 9, 1733, but does not appear to have made any contribution to botanical literature. From the *Gentleman's Magazine* we learn of the death. on January 21, 1733, aged 95, of a Dr. Moze, "a learned antiquary and botanist," whom I have failed to identify; perhaps the name was Mose, and he may have been the Henry Mose who "augmented" James Hodder's *Arithmetic*, 1683, a work which passed through many editions. There was a Sussex family of this name.

I bracket together, two contemporary medical men who, if they are not known as botanists, were probably deeply versed in the knowledge of the properties of plants. Of them very little information appears to be available. Dr. Benjamin Fleeming, who died on January 8, 1734, was "famous for his bitter tincture"; and Dr. John Tennant, who died October 27, 1748, discovered the virtues of the Rattlesnake Root (probably Polygala Senega). Tennant was a Scotch physician in Virginia. The Indians used the root as a remedy for the sting of the rattlesnake, and Tennant considered that it might be administered in cases of pleurisy and peripneumonia. He communicated his observations to Dr. Mead (1673-1754), the famous London physician and art collector, and these were published in the form of an Epistle, with an engraving of the plant. Tennant's practice was to administer the root in powder or as a strong decoction, and more often infused with wine.

Dr. Thomas Brisbane, who died early in 1742, was Professor of Botany and Anatomy at Glasgow, but Dr. Green (*History of Botany*, p. 189) notes that his teaching of botany did not do him much credit. Yet another man who combined medicine and botany was Dr. James Newton, who died at the age of 78, on November 5, 1750; he kept a private asylum near the Islington turnpike, and his claim to rank as a botanist may not be great, but Musgrave, who described him as a "botanist and medic," may have had further details about him than what appeared in the *Gentleman's Magazine* in 1750. Although described as a "celebrated botanist," Dr. John Wodrow, a Glasgow medical man, who died December 12, 1768, is not mentioned by Messrs. Britten and Boulger, nor by Dr. Green. He was the son of a minister (perhaps Robert Wodrow, the ecclesiastical historian), and may be identical with the man of the same name who translated Ossian's Poems. Dr. Thomas Hamilton, who died January 7, 1782, was Emeritus Professor of Anatomy and Botany at Glasgow and is mentioned by Green, who, however, does not refer, in his account of botany at Cambridge, to a namesake of his, the Rev. Thomas Green, who was Professor of Botany at Cambridge and Woodwardian Professor of Fossils, and who died on June 7, 1788. He was, says the writer of his obituary notice in the *Gentleman's Magazine*, "deprived of the use of one side by a paralytic stroke, as he was shooting in Huntingdonshire last autumn, and with difficulty brought home to his College, and though he went thence to Bath, found no relief from its waters. His goodness of disposition, and his botanical knowledge, made him regretted by all who knew him." Another Cambridge man not recorded by Dr. Green or Messrs. Britten and Boulger, was John Saltons, who was Curator of the Botanic Gardens at that University, and who died July 4, 1794, but probably in those days a Curator was only a euphemism for caretaker

Messrs. Britten and Boulger mention Dr. Richard Kentish, who was President of the Society of Naturalists, Edinburgh, but give his period as "fl. 1782-1791." He died at the age of 62, on April 5, 1792, when he was at Bridlington, Yorks; a list of his publications is given in the *Biographical Dictionary of Living Authors*, 1816. Finally, reference may be made here to John Woolshafen, who was born in Canterbury, and who died there September 20, 1794, at the age of 74. He was described as "an excellent herbalist," and as the son of Mr. Woolshafen, "formerly an eminent apothecary in that city." *W. Roberts.*

TREATMENT OF LAWNS.

MANY lawns are infested with moss and "fairy rings" due to various Fungi. Both are best checked by a dressing of lime. This should not be applied alone, but mixed with rich garden loam, leaf-mould, and well-rotted farmyard manure. I am not in favour of stable manure as a substitute for mixed farmyard dung. As regards the kind of lime to use I favour ground quicklime, free from magnesium salts. It is mixed with the other materials at the rate of one to four, and all should be turned once or twice during the fortnight they remain in the heap. Dress the lawn at the rate of four to six cartloads per acre, that is, about three to four and a half tons per acre, or half to three-quarters of a cwt. per 40 square yards. Distribute the materials evenly and rake off the lumps.

The manurial treatment of lawns is a great problem, and particular cases can only be settled by experiment after taking into account such items as the soil, climate, aspect, drainage, proportion between grasses and Clovers, and the use to which the lawn is to be put. As all know, it is undesirable to encourage too much Clover, as it burns and wears badly, besides staining tennis balls and the like. If we suppose a loamy to light soil with no undue proportion of Clover, then the lime and soil may well be supplemented by some well-known lawn manure. Those who prefer to mix for themselves can try 2cwt.-3cwt. of basic slag or 2cwt. of steamed bone flour and 2cwt. of kainit per acre. Add these to the lime and soil when they are mixed. If the soil is heavy the kainit may be dispensed with, but in practice this is rather risky, as neither phosphates nor potash give such a satisfactory result when applied separately. If Clover abounds no autumn dressing will be advisable, but a light dressing of superphosphate (1cwt. per acre) and ½cwt. of sulphate of potash can be given about February. On sandy soils and those deficient in lime substitute 2cwt. of bone meal for the slag and use sulphate of potash instead of kainit. Apply both about the end of January. If the soil contains a sufficiency of lime apply about ¾cwt. of sulphate of ammonia in April, especially if Plantains are present; otherwise dress with 1cwt. of nitrate of soda per acre when the grass begins to grow.

If no seed has been sown in autumn and there are bare patches, about a bushel of a well-known seed mixture should be sown per acre. The date on which to do this will depend on the season, but in the south the middle of March will be suitable, and a month later in the north. The winter dressing will have worked in by this time, and the roller should be used, followed by the rake. Sow seed from north to south and east to west; rake lightly, and finish with the roller. Those who have the time and knowledge will doubtless compound their own seed mixtures, remembering that certain kinds of grasses are suited for certain soils and situations.

Weeds should be attended to in the spring when they are at their lowest vitality, and on small lawns guinea-pigs have been found most useful in ridding greensward of Daisies, Plantains, and Dandelions. *T.*

FIG. 61.—GLADIOLUS TRISTIS; FLOWERS BUFF, WITH PURPLE MARKINGS.

GLADIOLUS TRISTIS.

A GRACEFUL but not commonly-grown species of Gladiolus is G. tristis, a native of South Africa. It is a plant known to cultivation for a long number of years and recorded as flowering in the Chelsea Botanic Garden in 1745. The species is variable as to colour, a common form being buff or light sulphur-coloured, with pencillings of light purple on the three lower segments, the middle segment generally having a median band of this colour. Although the flowers are not strikingly effective the colouring is scarcely so sombre as to warrant the name of tristis, given by Linnaeus in the days of long ago.

G. tristis is quite hardy in the South of England, and is probably the earliest of Gladioli to flower out of doors. Moreover, it is easy of increase either from seeds or "spawn," i.e., small corms, and seeds ripen readily in Devon and Cornwall. More attractive than the type is G. tristis concolor, also known as G. t. sulphureus, which has clear, light, sulphur-yellow flowers.

The form of the blooms and their disposition on the slender spikes is well shown in Fig. 61, which illustrates some spikes which came from France to Covent Garden Market in the or-

dinary way of business, tied in bunches and packed closely together in the usual wicker pads. After a day in water the flowers expanded beautifully and emitted the delightful fragrance for which the species has had a reputation for the better part of 200 years. The spikes were over 2 feet long, and carried three or four expanded flowers at one time. No large quantities of these Gladioli spikes are sent from France, but some arrive with almost every consignment of flowers over a period of about three weeks. It is generally considered that none but gay blooms or those with decided colours are saleable in Covent Garden Flower Market, but this is scarcely true, because Gladiolus tristis and Iris tuberosa have been on sale for several weeks and, apparently, never have had to be thrown away for lack of a purchaser.—*C. H. C.*

PLUMS ON WALLS AND FENCES.

Among hardy fruits the Plum is much appreciated, as its fruiting extends over a long season. River's Early ripens in July, and Coe's Golden Drop hangs on the trees until the end of October. Varieties are numerous, and every sort has some claim to merit, such as appearance, type of flesh, flavour, growth or prolific cropping qualities.

Plums succeed in any aspect, and the more variable the sites the longer the season extends. Although trees in the open will, in some seasons, produce heavier crops, there is not the same reliability of cropping as from trees on walls or fences, owing to the protection such trees receive from frost and adverse weather conditions generally. Trees on walls are more easily protected from birds during the winter and early spring, when they destroy the buds, than those in the open, and in the latter case persistent lime spraying is necessary.

As a rule, fan-shaped trees are the most favoured and answer the purpose well, filling their allotted space in a short time. In some instances cordon-trained trees are employed with advantage to fill spaces between other permanent trees, recently planted. Cordon-trained trees may be advantageously employed wholly where there is a limited space and much variety is required.

If such trees are tained upright they may be planted 15 inches apart. It matters not whether the walls are high or low, Plum-trees will succeed, although, naturally, the higher the wall the greater is the crop. For walls or fences lower than 6 feet the trees require greater depression, and should be trained horizontally, or obliquely, to give greater length to the branches. The roots, too, should be kept in bounds by occasional pruning to reduce exuberant growth.

The aspect for the several varieties should be carefully chosen, and the sunniest spot selected for the finest dessert sorts. South walls facilitate the ripening of the fruits, and the additional sunshine promotes a rich flavour. Therefore south walls should be reserved for the early, choicer varieties. East walls suit all Gages and many other richly-flavoured sorts. North walls are suitable for free-bearing culinary varieties. Hardy varieties not addicted to skin cracking during wet weather succeed admirably in western aspects.

The space to allow for each fan-shaped tree varies according to the height of the wall. For instance, for a wall 12 feet high the trees should be planted 15 feet apart, and for those on walls 10 feet high 18 feet of space is required. In the case of walls and fences 6 feet high the trees should be planted at 20 feet apart.

The preparation of the soil is important. If the ground is excessively rich in manure the shoots become gross, and do not ripen well, ending in gumming and a scarcity of fruit. On the contrary, Plums should not be planted in very poor soil or they will make weakly, unfruitful growth. A safe plan is to add a small quantity of half-decayed farmyard manure at planting time to give the trees a start and supplement the supply as required.

The best soil for Plums is a medium loam overlying a well-drained subsoil, and it should be trenched 3 feet deep. Except in the case of a clay subsoil, it should not require artificial drainage, as the trenching will enable surplus water from excessive rains to percolate freely from the roots. Where a clay subsoil exists 13 inches of loamy soil is sufficient over a drainage formed of 6 inches of broken bricks, clinkers, or stones. Trees may be planted with success now, but they will require attention in watering and mulching should the summer be hot and dry, and especially during May and June. In deeply-trenched soil, plant the trees a few inches above the natural level to allow for the soil settling again.

Pruning the trees is an all important detail, and especially during the season of planting.

Fig. 62.—Group of Gladiolus tristis showing habit.
(*See page* 148.)

In the case of the autumn-planted trees February is a good time to prune. March planted trees should be pruned at the time of planting. Shorten all the shoots to within 6 inches or 8 inches of their origin. This method ensures well-furnished trees from the ground upward. Where the walls are low hard pruning is especially important, as a loss of fruiting branches near the base of the trees reduces the crop very considerably. Some growers allow the shoots to remain almost their whole length, just removing the point of each. In this system there is a danger of the lower buds failing to start into growth, with the result that the trees become bare at the base.

The subsequent shoots should be carefully trained, especially in the first year, to obtain well-balanced trees that will furnish the wall space as quickly as possible. All superfluous shoots should be cut back to within 3 inches or so of their base at the end of June, these being reduced to one bud at the winter pruning. In this way fruiting spurs are formed.

Of insect pests that attack the Plum, green and black fly are the most troublesome in spring. Timely spraying of the trees with paraffin emulsion, soft soap and tobacco water, quassia water or "Katakilla," a powder prepared by McDougall, are all efficacious. Red spider sometimes attacks the lower part of the trees, owing mainly to absence of moisture at the roots. Daily syringing of the trees after a hot day will help to keep the trees healthy, and mulchings of light, half-decayed farmyard manure are beneficial during the hot, dry weather.

The following is a list of desirable varieties for various sites :—

South Wall.—Kirke's, dark purple, rich flavour, one of the best dessert plums, ripening at the end of August. Jefferson, golden yellow, excellent flavour, an abundant bearer; ripe in September. Golden Transparent Gage, one of the richest and most delicious Plums; colour greenish-yellow; ripe in September. Late Transparent Gage, greenish yellow, changing to purple when exposed to the sun; rich in flavour; ripe at the end of September. Oullin's Golden Gage, skin greenish yellow, dotted crimson; handsome, juicy, and rich; middle to end of August. Reine Claude de Bavary, yellowish green, rich and juicy; September. Coe's

Violet, a sport from Coe's Golden Drop; a grand September Plum in every respect. Blue Rock, an early August Plum. Denniston's Superb: ripens early in August; fruit greenish yellow and of good flavour.

East Wall.—Coe's Golden Drop, one of the finest of all Plums; the tree crops abundantly, and the fruits frequently hang on the trees until the end of October. Trees of Kirke's and Jefferson do equally well in east aspects; Orleans is one of the best early kitchen Plums, ripening in August. Victoria cannot be omitted from any list of Plums, no matter how small; it is the most certain cropper of all, and one of the best for kitchen use. Late Orange is of excellent flavour; colour, orange yellow with a light bloom on the surface. Bryanstone Gage, ripens in mid-September, and is good in every respect. Belle de Louvain, produces heavy crops, and the fruit is valuable in the kitchen. President, of a deep purple colour, ripens in October; as a market Plum it will be valuable. Primate is a new, purplish-red variety, ripening in October. The Czar bears abundantly, and the fruits are ripe in August and may supersede Orleans. Pershore Purple is an early August variety; a very heavy cropper, useful for market.

West Wall.—Monarch is one of the best of late Plums; the fruit does not crack during wet weather, which is an important point; it is an excellent variety for bottling. Pond's Seedling is the best of all Plums for kitchen use; the fruits are fleshy, crisp and juicy. Sultan is useful either for dessert or the kitchen; the tree grows freely and bears abundantly reddish-purple fruit. White Magnum Bonum, ripens early in September; the fruits are pale cream yellow in colour, and are good for preserving or bottling; the tree grows to a large size. Count Althann's Gage, ripens at the end of September, is of rich flavour, roundish and of a reddish-purple colour. Autumn Compôte is a large, oval-shaped fruit with an amber flush on the sunny side. Blue Imperatrice is of medium size, covered with a thick blue bloom; a useful culinary Plum in October.

North Wall.—Jefferson, Count Althann's Gage, Coe's Golden Drop, Monarch and Pond's Seedling will all succeed on north walls or fences. *E. Molyneux.*

THE VEGETATION OF THE CRATER AND SUMMIT OF MOUNT ELGON.

(*Concluded from page 138.*)

Reminders of the lowland vegetation of Uganda are exemplified in a Commelina (the same species found gregariously in the spray of the Ripon Falls), Sebaea and Swertia (both Gentianaceous genera of the Tropics), and an exquisitely dissected-leaved Rhamphicarpa, unknown to science, with glaringly mauve flowers.

Cryptogams specifically occupy the first place in the scheme of vegetation, representing about 35 per cent. of the species collected. The majority of these are Mosses and Lichens, which remain as yet to be determined. Only three Ferns obtain; the South African Asplenium furcatum, and a very distinct variety of that species, with hirsute stipes. The other Fern is Actiniopteris radiata.

Fungi are exceedingly rare, and only one species was found, apparently parasitic on a tree heath—a Fuligo. In the Bamboo Zone a solitary specimen of an enormous Daldinia was met with, as large as a child's head, and with furrows and markings not unlike the convolutions of the adult brain. No leaf fungi were noticed anywhere on the route.

Of the flowering plants of the crater, Composites occupy the highest place with about 20 species, of which a large proportion are Helichrysums—the Everlastings alluded to. Grasses are represented by half that number, though the Sedge Order has only one to its credit; Rosaceae and Caryophyllaceae respectively by 6 and 5, and the remaining Orders (approximately 32) by 1—4 species.

Elgon does not agree with Volken's remarks anent the frequency of bulbous and tuberous plants. Monocotyledons occupy a relatively low position.

There are only two Orchids, a Red Hot Poker plant, a Bulbine? (not in flower), two Gladioli and Dierama—the Sparaxis pendula—a beautiful bell-shaped, lilac-mauve Irid, a Romulea species, and possibly an Aristea.

The Peak itself is a boulder-strewn, wedge-shaped knob of the crater-lip, about 100 feet high, covered with a striking, silvery leaved, shrubby, sprawling Cliffortia?—2 feet high—a Rosaceous plant—one of the floral gems of these heights, whose stipules, ruby red in colour, act as a foil to the argent leaves. This peak, with its strange garb, must be an intensely beautiful sight on a clear, sunny day. Only about half-a-dozen distinct flowering plants occupy this rocky mass, of which a hoary-leaved, sprawling Lady's Mantle (Alchemilla) is the most prevalent and ubiquitous. Lichens, as expected, are frequent, Physcia and Parmelia particularly covering the top-most rocks. It was too cold to chip off the less foliaceous types, an omission I sincerely trust will be rectified by the next enthusiast. A few empty sardine-tins recall Byron's

"Man marks the earth with ruin,
His control stops with the sea."

To any botanists who may subsequently visit Elgon, I commend the exploration of the three peculiar table-lands, each successively smaller than the other, which stretch westward of the Peak on the ridge of the crater. Their conformation appears to offer also specially interesting geological features.

Animal life is by no means wanting, apart from the savages and their stock. The white-necked crow hovers about these heights, and swifts and swallows twitter away in the sunshine (when there is any). A chameleon was secured, but distinct from either of those depicted by Johnson in his classic, *The Uganda Protectorate.* A lizard, very like the one of Signal Hill, above Cape Town, wriggles occasionally through the grass, and beetles and spiders are particularly abundant in the dried leaves of the Tree Groundsels which, reflexed with age, enfold their stems. Of mammals, the mole is very frequent, its mounds being everywhere. A dwarf type of mountain buffalo is reputed to be present, but we failed to see its tracks.

Sir Harry Johnston, in his work alluded to, proffers a tentative list of the plants collected by him on the slopes of Elgon and the adjoining Nandi Plateau, embracing about 112 species, of which, however, only 10 can be conscientiously referred to as Alpine plants, the remainder being of the slopes and lowlands.

This expedition is, therefore, the first serious attempt at exploiting the crater and summit of Elgon, and its slopes, the material collected numbering over 5,000 specimens, representing over 2,000 ticketed specimens, and embracing about 600 distinct types.

The scientific results, it is hoped, will be subsequently published in a separate memoir, and the collections and data of Johnston, Battiscombe and others, as also of Mr. Snowden, District Agricultural Officer, who visited Elgon in 1917 and collected further material, duly embodied therein.

In penning this short article the writer is actuated by a desire to show what an untrodden field, what a veritable Eldorado, Elgon presents to the naturalist and to the nature lover. We have only touched the fringe of the natural wealth of this mountain mass, and if subsequent trippers and travellers would only collect material, and communicate this and their data to Kew or the British Museum, we would eventually amass a fund of information which, intelligibly interpreted will give some adequate representation of one of the most striking topographic features of the Uganda Protectorate—Elgon.

Botanical science generally is too much in the background, despite the teachings of the utility of science in this war, simply because it shows no immediate material gain.

Collecting should be stimulated by the powers that be, and the creation of an adequate herbarium representative of the vegetation of Uganda be made as one of the pressing needs of the department it concerns.

East Africa (German) had its sumptuously compiled Flora worked up by experts. We have only Dawes' 65 paged *Economic Resources of Uganda*, the only real serious attempt at literature of this kind, and now practically obsolete. The compilation of a Manual of Uganda Trees and their timbers, and the working up of the flora of this inexhaustible region should be undertaken, and, lastly, an inquiry into the possible medicinal values of many of its herbs, shrubs and trees be instituted, and botanical work generally pushed forward.

In conclusion, it is a pleasant duty to refer to the courtesy and genial hospitality of the District Commissioner, Mr. Perryman, and his staff at Mbale, who throughout assisted us in every possible way, thus materially contributing to the success of the expedition. *R. A. Drummer.*

TREES AND SHRUBS.

ABIES FORRESTII.

MANY of the so-called new Chinese Conifers, grown from seed collected by Wilson and Forrest, in their separate expeditions some eight or ten years ago, are now maturing into the state of established and assured adolescence.

The possession of them has doubtless given pleasure and interest to their owners, but there is one little drawback, one little rift within the lute, the baffling perplexity that surrounds their nomenclature.

An appointed day for their orthodox christening seems to have been, somehow or other, overlooked in the ceremony of their existence. Even around those to which names are generally supposed to have been attached, a continual state of battle for the holding of their title seems to rage. All this sort of skirmishing offers bewilderment to those anxious to pierce the veil of mystery, and to talk of them by name, as one amateur dendrologist to another.

When we hear, and we do at times, that labels have been wrongly affixed to seeds sent back, confusion arises. We may know the tree perfectly, its characteristics, its outstanding features, its idiosyncrasies in general, the length and colour shades of its leaf, the shape of their apices, the surface and colour of its twigs, nearly everything that is to be known about it except its undue cone, and yet often our lips are left without a name to bless it with.

But the object of this letter is not despairing discontent, but congratulation on the fact that the name of one plant, which has long endured the privations of anonymity—a certain Silver Fir, the best and most beautiful of all Silver Firs, I dare to say, unless I except the Himalayan Abies Webbiana—has been extracted from those entitled to play the part of potential god parent, and the name conferred is Abies Forrestii. I render my personal thanks to Prof. Bayley Balfour, Regius Keeper of the Royal Botanic Gardens, Edinburgh, in that he has accorded us permission to call the tree referred to, and which is numbered by Forrest in the Bees Expedition 6744 (if I have it rightly) after the name of its renowned discoverer.

A second object of this letter is, if possible, to elicit opinions and experiences from other owners of this tree. It came, labelled, to an exhibition of Chinese Conifers we had at the Shrewsbury Royal Agricultural Society's show at Shrewsbury in 1914, as A. Delavayii, and as such it came labelled in the form of seed, so far as I can recall.

Now A. Delavayii has been what is called "described," that is authoritatively once for all and finally defined inside and out, through and throughout, and registered so to speak in the recognised Stud Book of botanical certification, with full credentials of authoritative identification. It requires no second Daniel to come to judgment upon this point, that neither the A. Delavayii, nor its pubescent affinity A. Faxonia, have any connection with the subject of this discourse, A. Forrestii. The arrangement, the position, the lengths of their leaves, the external surface and the colour of the twigs, all have proclaimed the fact of their separate entity, with clarion clearness.

Let me try and give a primâ facie idea of some of its characteristics—not try and describe

it, if I could, as do the authorities, in words of learned length and wondrous Latin sound, but in simple unsophisticated homespun strain of mother tongue.

The most noticeable feature that first catches the eye, is the brilliant, vivid, silver-white stomatiferous effect of the underside of the leaves. No other tree except the more than often short-lived A. Webbiana can be compared to it on this point. The next, perhaps most arresting characteristic is the bright, dark orange, glabrous, and smooth-surfaced twigs, which seem to glow with a redundant and unexcelled robustness of health, that, for instance of comparison, the lighter coloured, corrugated, pubescent in grooves, twigs of the Himalayan Webbiana neither seem to attain nor maintain.

Again, the aggressively upright position of the median leaves, neither bending forward, as do many of the genus, nor backwards as only the A. humidica does, but standing up straightly, disclosing no bare centre of V depression, and so straight up as to expose the silvery-white effect of the underneath of the leaf to the beholder looking down upon it, as do the lower ranks to those who view it from below.

The length of the leaf is 1⅜ inch (rather shorter than that of its rival A. Webbiana), and the length of the median leaves is about 1⅛ inch. The apex of the leaf is notched, not sharply bifid, as in the case of A. Webbiana, and the colour of the upper side of the leaf is a dark, rich green. Perhaps when we have paid a tribute to the robust appearance of its growth, and testified to the fact that the highest of many planted here in Radnorshire, at altitudes varying from 700 to 800 feet above sea level, measured over 7 feet in 1918, our conscience should smite us that we are beginning to outstay our welcome in your columns. *Chas. Coltman Rogers, Stanage Park, Radnorshire.*

THE ALPINE GARDEN.

COPTIS.

THE interesting genus Coptis belongs to the Ranunculus family, and consists of about half a dozen species of low-growing evergreen plants spread over the whole of the North Temperate zone. Coptis is closely related to Anemone, Helleborus and Thalictrum. The name Coptis signifies "cut" in reference to the numerous divisions of the leaves. The species are mostly woodland plants, and all thrive in partly shaded situations. They flower very early in the year and are useful subjects for the rock garden. Most of the species produce seeds, by means of which they can be increased. All grow well in light, rich, well-drained soils that do not become excessively dry. The following five species are probably all in cultivation:—

C. ASPLENIFOLIA.—The leaves of this species have very much the appearance of the Spleenwort or Asplenium, from which the specific name is derived. They are biternate, while the leaflets are pinnatifid and deeply cut. The scapes grow about nine inches high, and usually bear two white flowers with five petals. This species is found in the Sphagnum bogs of North-Western America and also in Japan.

C. BRACHYPETALA.—This plant is similar to C. asplenifolia in habit, but has more finely-cut leaves which have acute divisions. The pretty, white flowers are produced early in March on scapes a few inches high. This species is a native of Japan.

C. OCCIDENTALIS.—This is one of the largest species. It grows more than a foot in height. The leaves are trifoliolate and the leaflets are about three inches across, deeply and unequally cut and lobed. The white flowers have six petals and are usually produced three together on each scape. The plant is a native of North America.

C. ORIENTALIS (see fig. 63).—This species blooms in February, and makes a good plant for the alpine house with its bronzy leaves and scapes of white flowers. When in flower the plant is about six inches high: the flower scapes of this species, as well as those of all the others, develop considerably after flowering. The plant is a native of Japan.

C. TRIFOLIA.—This, the most widely spread and commonest species of all the Coptis, is found in the mossy woods of Canada, Siberia and Northern Europe. It forms a dwarf-growing, creeping plant with trifoliolate leaves and pretty, white flowers on single-flowered scapes three to four inches long. The roots are yellow, and together with the leaves, are used for producing a yellow dye. From this fact it receives its common name of "Gold Thread." It is a suitable plant for the peaty bog, soon spreading and forming an evergreen carpet studded from April to July with flowers. *W. I.*

THE ROSARY.

YELLOW ROSES.

I AM grateful to your correspondents, Messrs. Walter Easlea and Matchett Watson, for their comments on my articles on Yellow Roses. I think Mr. Easlea is right in suggesting that Mme. Chédanne Guinoisseaux should have been included (I take the spelling of the name from the *Noms des Roses,* which is usually accurate). This Rose was brought out in 1880, and I still present I have seen no beds of it in my friends' gardens that would induce me to alter my opinion.

Iona Herdman had the same fate, but seemed even a worse grower, as it did little even as a maiden. This I much regretted, for it has magnificent colour. Of the other Roses mentioned by Mr. Easlea I have as yet no experience.

Mr. Watson refers to the question of perfume, and here, perhaps, I must plead some personal defect. I am fully conscious that Duchess of Wellington variety has a perfume which is pleasing to others, and which I recognise as a scent which, if left to myself, I should describe as of the Tea Rose type. But I recognise fragrance of this type rather as a result of practice than of any pleasurable sensation it produces, and I think I must be, at least in part, "smell-blind" to odours of this description.

Lady Greenall is a Rose of which I grow a good group, and appreciate highly in some respects. It is an excellent grower, with lovely foliage, and the flowers, though thin, are well formed. It has, however, two serious faults,

[*Photograph by W. Irving.*

FIG. 63.—COPTIS ORIENTALIS; FLOWERS WHITE.

have a plant or two of it. With me, though it grows well, it is too poor in form to be worth much attention, but as I have seen it growing in Gloucestershire gardens it is quite a different Rose, and well worthy of all Mr. Easlea writes about it.

Medea and Mme. Hoste are both fine exhibition Teas, but were omitted from my list as too pale in colour for the class of Roses I was considering. Mme. Hoste is perhaps near the border line in this respect. Of late years I have grown it entirely as standards, but, alas! I shall have no flowers from them this year, for every one of them was destroyed by the heavy, clinging snows of February, which seriously crippled several of my standards, and in the case of Mme. Hoste destroyed the remaining plants by breaking them off below the insertion of the buds.

Margaret Dickson Hamil was tried for two years here, but though it came well as a maiden it declined to grow as a cutback, and was therefore discarded. Hence its omission. Of course, I may have been unfortunate, but down to the which induced me to omit it. One is that the beautiful, bronzed foliage is very readily attacked by mildew, and the other that the substance of the petal is not strong enough to withstand wet weather, which soon deprives it of colour and spoils the flowers. Moreover, it is only the early flowers that are first rate in colour; the later ones are apt to lose it alike from the effects of rain and sun, which is scarcely satisfactory.

It is essential that the Yellow Rose of which we are in search should keep its colour in the autumn flowers as well as those of early and mid-summer.

THE LAST ROSE OF WINTER.

FOR some years past I have tried to notice the last Rose flowers we have been able to pick in the season. With an ordinarily open autumn, such as in 1918, we now get several varieties flowering more or less down to Christmas; but after this, even though the weather continues mild through the early part of January, the

outdoor Roses become few, and those that are worth gathering easily noticeable.

I doubt whether any general principle emerges from a list of the latest Roses, except perhaps this, that the plants that have bloomed most freely and continuously through the season usually find a place among the latest varieties. But the nights are then so long and the weather so trying, even to the most persistent flowerers, that it is something a matter of luck which varieties find a place in any year as the latest in bloom. Thus the latest Roses are found to include both full flowers and thin, provided the substance of petal is fairly stout. In one year I have Frau Karl Druschki, in another Mrs. Walter Easlea. Edu Meyer has appeared more than once, and even some of the Chinas.

This year in the last week of the Christmas vacation, about 6th January, I picked three quite good vases of Red Letter Day, which ended a fine season for this Rose, that had flowered continuously since June; and on the first day of the Hilary term, 11th January, my wife gathered enough flowers of Mme. Edouard Herriot, the "Daily Mail" Rose, to make quite a creditable decoration for the dinner table, without aid from any other flowers or foliage. These were practically the last Roses we had of the season, for though a bed of Edu Meyer afterwards produced a good crop of buds they were unable to open.

It was perhaps permissible, in these evil days for the garden, to feel a small triumph in obtaining these two Roses so late in the season, for both are somewhat easily affected by black spot, than which nothing is more fatal to autumn flowering, and both beds had in the past suffered more or less from this plague, but constant attention in dusting the plants with flower of sulphur, when the weather was sufficiently warm to make this effective, succeeded in warding off any serious attack last season. *White Rose.*

FRAGRANT WICHURAIANA ROSES.

THE Wichuraiana Roses are decorative subjects of the highest value in the adornment of the garden, and their free-flowering qualities are reflected in the beauties of many arches, pillars, pergolas, and other structures which lend themselves so admirably to the character of these Ramblers. There is, however, one unfortunate characteristic common to this class of Rose, and that is a general lack of fragrance. Opulent in blossom most of them undoubtedly are, but few have the perfume that is considered an essential attribute of all good Roses. Of the older varieties among the Wichuraiana hybrids, Gardenia and Alberic Barbier certainly possess a decided perfume, and so in a measure does René André. But it is to the newer introductions that we are indebted for a strong and decided richness of fragrance. Sylvia is probably the first of the strongly perfumed varieties, but, unfortunately, it lacks a good climbing habit, and in this respect it is one of the weakest growers in the section in which it is classed. Sanders' White Rambler, the best white Wichuraiana Rose, is perhaps the most sweetly scented of all. One cannot pass an erection which is clothed with this Rose without pausing to ask from whence comes the fragrance. It is also a good, strong grower, highly, if not wholly, resistant to mildew, and it bears elegant trusses of well-formed flowers of the purest white. It is not so widely known as it deserves, but it will probably become one of the most popular of the Ramblers in a year or two. Edgar Andrieu is an admirable companion to Sanders' White Rambler. It is a variety sent out by Barbier in 1913, and the raiser states that it is derived from R. Wichuraiana × Cramoisie Supérieur. Here we have an interesting combination, and possibly the first example of a union of the China blood with that of R. Wichuraiana. The fragrance of Edgar Andrieu is very strong, and the colour of the flowers is a rich blood-red shaded with deeper crimson. The highly polished foliage is mildew-proof. This and Sander's White Rambler are two varieties worthy of the attention of every grower who wishes to cultivate Ramblers that possess a delightful perfume. *George M. Taylor, Mid-Lothian.*

NURSERIES IN THE WAR DEVASTATED AREAS.

I AM writing these brief notes in Germany, after being some few months in France and across Belgium, and my mind carries me back to devastated areas where not a house stands complete for miles and not a civilian is to be seen, or was not during the period I am thinking of, just a few weeks prior to the armistice.

From Amiens to Villers Bretoneaux; to Froissy, La Flaque and Bray: back to Marchelpôt, and thence forward from Villers Carbonnel, Poeuilly, Vermand, across the once famous Hindenberg Line at Bellenglise, over the St. Quentin Canal, and away ahead to Le Cateau—is practically a vast waste, more particularly up to the Canal, for there the German horde broke into precipitate retreat—so rapid, in fact, that our own artillerymen will tell you that our guns frequently "lost touch" with the Germans entirely.

Often have I wandered round the ruins of Caulaincourt, Poeuilly, Vermand and other villages, scrambling over piles of bricks and broken walls, peeping into cellars, and generally "scrounging round"—to use the military slang term which implies "doing nothing in particular." And on such occasions it has usually been my luck to tumble across what was once a garden.

One such occasion brought me into what must have been a nursery garden, and a description will suffice to explain not only the one, but hundreds, even thousands of similar cases.

The gardens ran from the corner of two cross roads and stretched a considerable distance from the roads, being roughly diamond shaped.

Along the back were the remains of glass houses and frames, an occasional iron pillar and portions of the brick walls being all that remained, save for a few pieces of broken glass, scrap iron, burnt timber, and the powdered remains of flower pots. The water tanks were more or less full of rubbish, and a one-time heating apparatus lay in fragments in the chaos of a one-time stokehole.

Walking round—to walk on paths was impossible, for there were none in particular—I endeavoured to trace out, with the assistance of paper and pencil, the general plan of the gardens. I had unconsciously attempted a more difficult task than I had anticipated, but so far as I could discern the paths ran parallel to the road walls, or rather hedges, thus giving a diamond form to the general plan.

The whole place can best be described as "chaotic." Weeds were absolutely prolific; two Rose bushes (one still bore a bloom or two, which I packed into a tin box and sent home) and a few clumps of Michaelmas Daisies, in a far corner a straggly bed of Mint, and a Lavender, represented the entire stock of plants in the grounds.

What a problem faces the owner on his return—if ever he does return! Perhaps I saw him at Cartignies, where, from the office window, I watched the crowds of liberated French and Belgians loading their few goods and chattels on to the British W.D. motor lorries conveying them hither and thither to (I almost said) homes, but that in the vast majority of cases would not be true—for their homes were like the old garden, a chaos. "A little help is worth a lot of pity." The French and Belgian nurseryman has to face a dismal, almost hopeless looking future. Years must elapse before he can see any recompense for his labour. He has to "start again."

But the greatest problem he has to face is not the chaos, but the question, "How can I do it?"

The only echo the British nurseryman can send back is, "We will help you!"

In the rebuilding of Belgium and France, the already strong links uniting them with us will be strengthened, for the mutual advantage of all, and British nurserymen must see to it that their addition to the chain is not missed.—"*One of the Archers.*"

The Week's Work.

HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Pear Trees on Walls.—The flower buds on Pear trees are well advanced, and crowded or unsightly spurs should be cut back, to keep the trees in a good shape and assure a large crop. Where the fruit buds are very numerous it is as well to thin them a little: this will save much work in thinning the fruit later and allow more light to reach those that remain.

Manuring.—Pear trees on light soils are greatly benefited by dressing the roots with nitrate of soda as soon as top-growth starts, and also after the fruit has set. The fertiliser should be applied at the rate of ½oz. per square yard. It should not be given to trees that produce plenty of wood and little fruit.

Protecting Fruit Blossom.—Pear blooms of many varieties are very tender, open very early, and are very subject to damage by frost. They should, therefore, be protected, using means similar to those recommended for Peaches in a previous issue.

Cracking in Pears.—In many gardens Pear fruits crack through the agency of a fungus. The trouble is worse in the case of trees growing in soil that is inefficiently drained, and depends also on the quality of the soil itself. It is now too late to deal with the drainage, but the ground may be improved by the use of a good fertiliser. Trees liable to attack should be sprayed with a solution of sulphate of copper, ½lb. to 12 gallons of water, just before the buds commence to swell. The specific should be applied when the trees are dry. When the trusses show, but before the flowers expand, the trees should be sprayed with the following mixture:—¼lb. Paris green to 70 gallons water, with sufficient slaked quicklime to make it the colour of skim milk. The spraying should be repeated after the fruit has set, and again every three weeks until June. This specific also acts as a preventive of insect pests that feed on the foliage. The same mixture may be used for Apples, but should be diluted with another 50 gallons of water.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cattleya, Laelia, and Laelio-Cattleya.—The numerous species and hybrids in these sections comprise an important group of the finest and most popular Orchids in cultivation, and unequalled for the gorgeous character of their flowers. The chief points to observe in their culture are to get the growth developed in season and well-ripened, to have consolidated pseudo-bulbs, and to keep all plants that require rest dormant in winter. One of the chief, if not the sole, reason why these Orchids fail to succeed in some places is that they are so frequently over-watered at the roots. Wherever the material in which these plants are potted is kept, even during the growing season, in anything approaching a very wet condition, their roots are certain to die prematurely, and not only the old roots, but the new ones in course of formation, will rot in material that is kept too moist. The quantity of root moisture the plants require depends largely on the amount of light they receive, and this will be governed by the nature of the house in which they are grown, and their position in relation to the roof glass. The plants require considerably more water when exposed to full sunlight than they will do when heavily shaded, as under the former conditions the strengthening influence of good light enables the plants to assimilate more moisture. Also the extent to which air is admitted, and the amount of atmospheric moisture in the house will

obviously have a great influence on the amount of water required by the roots.

Repotting.—During the present and succeeding months Orchid growers will be busy repotting these plants. The late-summer and autumn-flowering kinds are best repotted now, and the work should not be much longer delayed, for although the roots above the surface may not appear to be very active, those below will be, and this condition should be taken advantage of to get the plants established in the new compost. Those of the late-winter and spring-flowering section can seldom be too quickly repotted after blooming, as a considerable number of new roots frequently develop soon after from the base of the flowering pseudo-bulb, and these help in re-establishing the plant quickly. The treatment of the roots is the same for all: they all require a rough class of material, Osmunda or Al fibre about three-fifths with one-fifth each of Polypodium fibre and Sphagnum-moss, and a good sprinkling of crushed crocks and charcoal. Provide perfect drainage, and in potting press the compost firmly about the roots. Frequent disturbance of these plants is harmful rather than good, and large specimens may be allowed to grow for two to four years without being repotted. When repotting is necessary the work should be done thoroughly, and all old, sour material and decayed roots removed, as well as all useless back pseudo-bulbs, which are not only a drain on the plants' energies, but, if allowed to remain, necessitate the use of large receptacles. Three or four pseudo-bulbs behind each lead are sufficient.

Brassovola Digbyana.—From this fine old species has been raised a number of beautiful hybrids by crossing it with the members of the above-named families. They include some of the most exquisitely beautiful Orchids in cultivation. Culturally, this species and its hybrids, in practically every instance, require similar treatment to that recommended for Cattleyas, Laelias, and Laelio-Cattleyas.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Ornamental Foliage Plants.—Codiaeums (Crotons) and Dracaenas should be repotted now, in a compost of fibrous loam, peat, leaf-mould and sharp sand. Pot firmly, and place the plants in a warm, shaded house, where they may be syringed twice daily with warm water. To destroy insects use an insecticide, and subsequently syringe the plants with clean water. Young stock raised by ringing or from cuttings should be placed into 3 inch or 4 inch pots when sufficiently rooted. Place them in a close propagating pit, and syringe lightly until well rooted, when they may be removed to brighter and more airy conditions.

Pandanus Veitchii.—The variegated Pandanus Veitchii is a most serviceable ornamental-foliaged plant for decorations. To preserve the best form of vegetation comparatively small pots should be used, and light, sandy soil. Keep the plants rather dry at the roots and expose them to the light. When taking cuttings from the old plants, choose those of slender and variegated growth, insert them singly in small pots in sandy soil, and place them in a warm propagating-frame until rooted.

Caladiums.—Potted on now singly, in medium-sized pots, in a mixture of loam, leaf mould and sand, and grown in a moist atmosphere and a temperature of 60°, Caladiums should do well. When established, afford plenty of light, as this renders the beautiful foliage less liable to flag when the plants are used for decorative purposes. The small-leaved C. argyrites is most useful for table decoration, or as an edging in a plant-house.

Bulbs.—To prolong the period of spring-flowering bulbs, place them in cold frames with a north aspect, and bring them into the flowering-house as required. Give shade from strong sunshine, ample ventilation, and plenty of water at the roots. As they pass out of flower, remove them to a cold frame, and continue to water them until the foliage dies down. Freesias, in particular, should have careful attention, in the matters of watering and feeding, until the foliage has quite died down. May-flowering and Darwin Tulips provide the latest batch of flowering bulbs. When needed for use as cut-flowers, cut the blooms before they expand and they will last a long time in water.

Shading Plant-houses. Blinds of such materials as tiffany, scrim and white cotton, are suitable for shading purposes, if fixed on rollers so that they may be let down or pulled up, as required. Shading should only be used during bright sunshine, being withdrawn each day when the sun's rays strike indirectly on the glass roof.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park Gardens, Barnet, Hertfordshire.

Summer Bedding Plants.—Seedling plants for summer bedding will need very careful attention just now. Prick them out early and encourage growth by placing them in gentle warmth, but a not too humid atmosphere, the aim being to secure healthy growth and sturdy plants. All young seedlings should be very carefully watered, especially in dull weather, otherwise many may damp off. Place them in a light, sandy compost warmed to the same temperature as that of the house in which the seedlings were raised. Keep the plants near the roof glass and shade them slightly during sunshine until they become established.

Zinnias, Asters and Stocks.—It is a mistake to sow Zinnias, Asters and Stocks too early, nor should they be raised in great heat, because early-raised plants, which cannot be safely planted out before the first or second week in June, receive a check and assume a sickly appearance by planting time. I consider the middle of April the best time to sow the seeds.

Various Annuals.—Seeds of most of the popular annual flowers should be sown from now onwards in light soil, covering the seeds lightly with finely-sifted sandy soil. See that each kind and variety is properly labelled and protected from birds.

Planting.—Any further planting should be carried out at once. Hollies and Rhododendrons may be planted late with good results, but the larger and choicer plants to be removed at this period should be most carefully taken up and planted with large balls of soil adhering to the roots. Afterwards they should be mulched, kept well supplied with water and syringed overhead in dry weather, otherwise many of the leaves will fall.

Climbers for Walls.—Both deciduous and evergreen plants suitable for covering walls and fences should be planted at once. If Ivies, Vines, Roses and Clematises are in pots, and the roots have become cramped and dry, soak them for some time and disentangle the roots so that they may be spread out when planted. Thoroughly prepare the stations so as to give the plants a good chance of growing freely at once, thus enabling them to cover a larger amount of space as rapidly as possible.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Rhubarb.—On heavy land the planting of new plots of Rhubarb should be carried out at once. Plant the crowns 3 feet apart, in rows 4 feet apart. Place some leaf-soil in immediate contact with the roots, as this ensures quick root action. After planting is finished mulch the surface of the plot with partially decayed manure.

Forming New Asparagus Beds.—The next ten days provide the best period in which to plant new beds of Asparagus. If the site was well prepared during the past autumn by trenching and manuring the ground will now be in a good condition. Previous to forking or harrowing the surface, give a dressing of burnt garden refuse, and when all is ready plant the roots, promptly, 15 inches apart and at a depth of 4 inches. Spread the roots very carefully and surround them with the finer particles of soil, remembering that too great pains cannot be taken with this important crop. On no account let the roots be exposed before planting.

Tomatos.—The batch of Tomatos raised in January will be ready for transference to their fruiting pots. Use 8 inch or 10 inch pots, place one crock over the drainage hole and some fibrous loam or moss over it. For the final potting use a compost of three parts good loam and one part burnt garden refuse, with a little road grit. Pot firmly and low, so as to allow for periodical top dressings.

Perpetual Spinach.—During the past six weeks the value of Perpetual Spinach has been fully proved. This vegetable has stood the extremes of frost and rain wonderfully well, and maintained a steady growth all the time, whereas the Prickly type has suffered greatly. Where much Spinach is needed, one sowing of the Perpetual kind should be made now and another during July. Sow in drills 14 inches apart, and thin the seedlings to 6 inches apart.

Broccoli.—A batch of Michaelmas White and Self-Protecting Broccoli should be sown in a cold frame to provide successional supplies.

Parsley.—Whenever the ground is in a suitable condition make a sowing of Parsley. If sown in a shallow drill one foot from the Box or other edging this crop will form an attractive and profitable feature.

Peas.—The early sown Peas raised in boxes will now be ready to plant out, drawing drills about 3 inches in depth and planting the seedlings evenly and firmly. If slugs are troublesome ashes placed on each side of the rows will check them. Stake the Peas at once, as the stakes will shelter the plants from frost and winds.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to C. H. Berners, Esq. Wolverstone Park Gardens, Ipswich.

Figs in Pots.—The fruits on the earliest Fig trees will now be nearing the ripening period. As soon as they show signs of maturing the ventilation of the house should be judiciously increased, and the atmospheric moisture reduced. Sufficient fire-heat should be maintained to afford a night temperature of about 65°, with a further rise of 5° to 10° by day, otherwise the prospects of a good second crop will be impaired. Syringing should be discontinued when the fruits are ripening, and an undue amount of atmospheric moisture must be prevented when closing the house or there will be the danger of the fruits cracking and splitting badly. A close watch must be kept for any signs of red spider on the leaves, and if the pest appears sponge the foliage with soapy water. The quality of the fruits will be enhanced by free exposure to sun and air, *i.e.*, by thinning and stopping the shoots. When applying stimulants during the ripening period, never use manures with an offensive odour, or the flavour of the fruits may be impaired.

Unheated Orchard House.—If the house is unheated it is advisable to allow fruit trees to develop slowly. Comparatively cool treatment up to the time the flowers commence to open generally means finer flowers, and better prospects of a good set. As the trees come into flower, every possible means must be exercised to produce a genial, buoyant atmosphere. Cherries, Apricots and Plums in particular, will suffer badly if the atmosphere is close and damp. Cherries when in flower should have the pollen distributed daily by means of a soft, feather brush. Apples and Pears may be transplanted to fill vacancies right up to the time the buds are ready to burst, if the operation is carefully carried out; but the trees should have plenty of fibrous roots, or the operation will be a failure. If there is a reserve stock of trees prepared for emergencies, it will not be a difficult matter to find those suitable for the purpose.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the **PUBLISHER, 41, Wellington Street, Covent Garden, W.C.**

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

SALES FOR THE ENSUING WEEK.

TUESDAY AND TWO FOLLOWING DAYS—
Sale of the Collection of Orchids formed by the late F. Menteith Ogilvie, Esq., at the Shrubbery, Oxford, at 11 o'clock each day, by Protheroe & Morris.

WEDNESDAY—
Fruit Trees, Roses, Rhododendrons, &c., at 1 o'clock; Azalea Indica and Begonias at 4 o'clock, by Protheroe & Morris.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 45.5°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, March* 26, 10 a.m.: Bar. 29.80; temp., 40°. Weather—Dull.

Revision of Pritzel. The decision of the Royal Horticultural Society to proceed with the revision of one of the most useful and indispensable volumes in a horticultural or botanical library, i.e., Pritzel's *Icones Plantarum*, will meet with the approval of all lovers of plants. The merit of moving in this direction is due to a few energetic Fellows of that Society, and their services should be put on record on the score of our gratitude for them. About ten years ago, Mr. E. A. Bowles advocated the preparation of a new edition, brought down to the present day, but his efforts were not immediately successful. Mr. H. J. Elwes, F.R.S., too, frequently urged the publication at the anniversary meetings, and thus kept the movement constantly before the attention of the Society. After the International Exhibition held in 1912 in the grounds of Chelsea Hospital, on the initiative of Mr. E. A. Bowles, the Council agreed to put aside £250 as a nest-egg for the work in question, and thenceforward several sums in succession were added. In our own pages, in the issue for April 10, 1915, Mr. Gerald Loder contributed an article of some length on the same topic, and gave an account of the author of the invaluable *Icones Plantarum*, to which we may refer our readers. Meanwhile, the need for a new edition, including the numerous additions of more than half a century which has elapsed since the issue of the second volume in 1866, was becoming pressing; the question was, How was this demand to be met?

In November, 1917, two committees were constituted by the Council of the Royal Horticultural Society, one to advise on the amount of information which those for whose benefit the revision would be mainly undertaken would wish the new Pritzel to include; and the other to report what information would be considered possible to include, in the opinion of those familiar with the preparation of such works. Both of these committees have grappled with their assigned tasks, and have compiled a practicable method which may be briefly cited.

The extant "Index" is to be the basis, and all botanical illustrations of value are to be included, even of some intentionally omitted by Pritzel himself, but under the names employed in the given publication, with the addition of such cross-references to changes in nomenclature as may be found feasible without exceeding the means and the time available. It would need the help of an army of experts to carry out the claims of some people, and even then their determinations might be challenged by other experts equally entitled to credit. Printer's errors and obvious slips can and will be set right, but the "Index" sets out to do that and no more; it will guide the searcher to the figures ostensibly those required; after that, the skill of the expert comes into play. Hybrids will be included, but the numberless garden forms, many of which are of multiple origin, are to be left out. That is the present intention; but if the Fellows and subscribers desire "Florists' Flowers" to be included—the numerous named Tulips and Pelargoniums or Roses—it could be achieved, but the additional labour and consequent cost will be very greatly increased, possibly doubled; but further consideration of this point must be postponed.

The compilation was started last autumn under the honorary directorship of Dr. Stapf, F.R.S., keeper of the Herbarium and Library of the Royal Botanic Gardens, Kew. In that library there already exists a copy of Pritzel, and the additions noted since 1865 have been carefully typed into volumes easy to consult. Through the kindness of the Director, Sir David Prain, the requisite accommodation has been provided in the library at Kew for the staff workers, under the eye of the keeper, the Honorary Director of the new venture. The script for the printers is being typed by clerks familiar with botanic literature, and a set of cards is at the same time being prepared for card cabinets as a permanent record, to be placed in the library of the Royal Horticultural Society, where it can always be kept up to date for consultation.

The original work contained about 107,000 entries, and it has been estimated that at least an additional 125,000 will have to find a place in the new edition. A rough estimate of the cost of preparing the MS. for the printers has been made of £1,500, not including the proof-reading; add to this the cost of printing, of late so seriously enhanced, and it will be seen that a great task has been taken in hand. The Council, however, has been encouraged by a liberal response to its appeal to the Fellows for special help, and there can be no doubt that the edition will be eagerly taken up and bought by the public. It must not be forgotten that assistance has been promised by the United States, and that a large public exists on the other side of the Atlantic who readily buy volumes which appeal to them, as we believe this will do.

It may be asked, "How does this undertaking appeal to the Horticultural world? Admittedly, botanists will find it useful in a high degree, but cultivators are hardly likely to need the kind of information contained within the covers of the new 'Index.'" This appears to be a mistaken view; within the last twenty or thirty years, the love of gardening has spread widely, and has been more thoroughly and intensely studied than before. Many gardens throughout the United Kingdom have been enriched by their owners benefiting by the gardening Press, and constantly reference is made to illustrations for confirmation of naming, or for information of the flowers or fruit of a plant or shrub which has still to develop. Consider the multitude of admirable drawings which have been published in the pages of *The Gardeners' Chronicle* during the past sixty or seventy years, and the "Index" will afford a quick and ready means of turning up the page where a figure of the plant in mind is to be found, even though it mentions other figures for the moment out of reach.

Although Pritzel in his preface speaks of his "Index" as having "no prototype," we have in our own literature something which may be looked upon as the first attempt in a department which has now grown so enormously. In the second edition of Dr. Withering's *Botanical Arrangement of British Plants*, issued at Birmingham in 1787, there will be found under each plant a series of references to the iconological literature then existing, which was compiled by Dr. Jonathan Stokes. Comparatively few coloured plates were then accessible, so that the woodcuts of the old herbalists were largely drawn upon for citation. In passing we may call attention to one excellent feature of Dr. Stokes's work; that is, he carefully points out where a certain figure is reprinted elsewhere, and where it is copied; besides this, he offers critical remarks, comparatively easy then having only British plants to deal with and a modest array of illustrations. It must be remembered that even the veteran *Botanical Magazine* was only starting on its long career in the same year, 1787. Our previous remarks testify to the remarkable increase of figures during the past fifty years, therefore we look forward in the hope that before long we shall have the gratification of beholding the modernised "Index" issued by the Royal Horticultural Society.

The Surveyors' Institution.—The next ordinary general meeting of the Surveyors' Institution will be held in the lecture hall of the Institution on Monday, the 31st inst., when a paper, entitled "Building Contracts Before and After the War, and the Functions of the Quantity Surveyor," will be read by Mr. John W. Hurrell (Fellow). The chair will be taken at five o'clock.

Lectures on Food Problems.—Professor Henry E. Armstrong, F.R.S., will deliver a series of three lectures on "Problems of Food and Their Connection with Our Economic Policy" on Monday afternoons, March 31, and April 7, and 14, at half-past four o'clock, before the members of the Royal Society of Arts, John Street, Adelphi, London, W.C.2. The object of the course is "to discuss present knowledge of foodstuffs—their character, functions, and assimilation—and to consider the directions in which our dietic policy is open to criticism and improvement and should be taken into account in determining agricultural practice and our economic policy. The effect of faulty feeding on public health will be specially considered, also the problem offered by vinous beverages."

Mr. George Bacon Mallett.—In the issue for September 26th, 1914, we published a letter from Mr. Mallett, written from the Bristol Battalion, Gloucestershire Regiment, stating that he had suspended his Cheddar nursery business for the period of the war. "All the eligibles of my nursery and contracting staff are with me in the Army for the period of the

war, old men alone being left at home to keep things alive till our return from active service abroad." He now writes: "I have survived the war, am demobilised, and anxious to pick up the threads of the business I relinquished to join Kitchener's Army in 1914." Mr. Mallett's many friends in the horticultural world will be delighted to know that he has passed through the terrible times safely, and we trust that the old men were able to "carry on" during their patriotic master's absence, so that he will find plenty of business awaiting him. Such men as Mallett made great sacrifices for their country in the most critical days of the war.

Dendrobium speciosum nitidum.—The central specimen in the fine group of Dendrobiums staged by Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey, at the meeting of the Royal Horticultural Society on the 11th inst., was the fine plant of Dendrobium speciosum nitidum, illustrated in Fig. 64. D. speciosum, all the varieties of which are to be found in Queensland, is a very variable species, and those who know only the stout and commonest form in gardens, and the less plentiful, taller-growing D. speciosum Hillii, both with their dense spikes of creamy-white flowers with some purple markings on the lip, would scarcely realise that the rarer and more slender-growing Bancroftianum and nitidum are but varieties of D. speciosum. Much as these plants may differ in habit, however, there is no structural botanical feature either in growth or flower to warrant their separation as distinct species. In the case, however, of D. fusiforme (see Fig. 65), which was originally described by F. M. Bailey (*Synopsis of the Queensland Flora*, page 509) as D. speciosum fusiforme, the very different shape of the pseudo-bulbs later decided the author to remove it from D. speciosum and name it D. fusiforme. In gardens the various forms are easy to cultivate and very free flowering, the old kinds being very often found thriving in warm conservatories, vineries, or warm greenhouses where they obtain plenty of air and sunlight, conditions which are essential to all the species of the group to ensure the full production of their flowers. The variety nitidum varies in the tint of its flowers from cream-white to greenish-yellow in the mature stage. The plant illustrated was imported with other species by Sir Jeremiah Colman. It has been shown several times at the Royal Horticultural Society, and received a Botanical Certificate in 1910 and a Cultural Commendation in 1913.

Fig. 64.—A fine plant of Dendrobium speciosum nitidum.

Food from Back Yards and Gardens at Leyton.—In the densely populated district of Leyton the school authorities appealed to the boys and girls to cultivate their back yards and gardens. A report on the work of the year just ended shows that over 3,000 cultivated their own plots, while more than 2,500 helped on allotments. Potatos, Cabbages, Turnips, Carrots, Parsnips, Radishes, Onions, Cauliflowers, Runner Beans, Beet, Sweet Herbs, Leeks and Sprouts were among the vegetables grown, and large quantities of food were obtained. As a rule the children were well pleased with the results, and are most eager to continue their efforts. One headmaster purchased seeds to the value of £4 3s., and sold them in penny and halfpenny packets. He has already received requests for 1,649 packets for this year. In most of the schools information and advice were freely given, difficulties discussed, and the children instructed in the method of combating pests. A case is reported of a boy aged 13 years, who, during the absence of his father in the Army, cultivated the garden and an allotment, and the produce he grew sufficed for the whole family of seven.

Tenure of Allotments in the London Parks.—In reply to an inquiry respecting the tenure of the allotments provided in parks and other spaces under the control of the London County Council, the Parliamentary Secretary to the Board of Agriculture has written as follows:—"Dear Sir,—In reply to your letter of the 22nd ult. as to the tenure of allotments, I have to say that my reply to the questions on the subject in the House of Commons on the 17th ult. referred to land of which the Board of Agriculture and Fisheries have taken possession under the Defence of the Realm Regulations. In providing allotments in the parks and open spaces the London County Council were dealing with land already in their possession and under the special provision in the Defence of the Realm Regulations No. 2 L, enabling them to arrange for the cultivation of the land on their own behalf and at their expense, and the Board do not consider that they are in a position to override the exercise by the County Council of their discretion as to the period for which the land shall continue to be used for allotments. I may add that the decision of the Council to terminate the tenure of the allotments in the parks and open spaces at the end of the present year appears to the Board to be reasonable, as nothing but the stress of war conditions could have justified the use of the parks and open

spaces for this purpose, and when the war is over it is only reasonable that the land should be restored to the use for which it was acquired. In view of the great demand for additional land for games and recreation, the Board do not feel that they can press the London County Council to allow a small minority of the ratepayers to monopolise the use of land which was provided for the benefit of all, and to which all ratepayers have to contribute.—Signed A. G. Boscawen.

Prices of Nicotine.—Manufacturers of nicotine have agreed that the maximum price to be charged for nicotine to the grower or manufacturer of compound washes up to the 30th June next is 16s. per lb., 95 to 98 per cent. purity, for 100lb. lots, delivered to purchaser's nearest railway station, and 16s. per lb. f.o.r. for sales of less than 100lb. lots. Prices for nicotine of lower purity are to be proportionate. Buyers of nicotine are required to give an undertaking, in writing, that any nicotine purchased by them will be used solely as an insecticide for their own crops, or in the manufacture by them of compound washes for re-sale.

The Flora of a Single Tree.—The remarkable richness and variety of the epiphytic vegetation of tropical and sub-tropical forests is illustrated by the records* obtained by Messrs. Longman and White from the botanical survey of a single recently felled tree in the sub-tropical rain-forest of the Tambourine Mountain (Queensland). The tree subjected to investigation was a specimen of the Lauraceous Litsea reticulata or Bolly Gum, a tree used locally for building purposes. Chief among the epiphytic species were the large Bird's Nest ferns (Asplenium Nidus) which grew side by side with the Elk-horn's (Platycerium bifurcatum and P. grande), and the Hare's-foot fern (Davallia pyxidata) and the so-called Rock Lily (Dendrobium speciosum). Large vines of the semi-parasite Loranthus celastroides were in full flower, and on them was "a plant of the hyper-parasite" Notothixos cornifolius var. subaureus—the Golden Mistleto. Two Apocynaceous creepers—Chilocarpus australis and Parsonsia velutina, embraced the branches, together with the Liliaceous climber Rhipogonum elseyanum. In the branches in a fork cavity was a thriving specimen of Pithecolobium grandiflorum, a tree which could not permanently find room for its development in such a restricted soil medium. Seven species of Orchids flourished on this hospitable Bolly Gum, and all except Cleisostoma tridentatum which habited on slender branchlets, were attached to the main trunk or main branches. With the Orchids were nine Ferns. The Orchids were Dendrobium speciosum, D. tetragonum, D. teretifolium, D. gracilicaule, a species of Sarcochilus and the aforementioned Cleisostoma. Beside the Ferns already enumerated were found Anthropteris tenella, Asplenium adiantoides, Vittaria elongata, Polypodium pustulatum and Cyclophorus serpens. In all, fifty plants were found growing epiphytically on the single tree.

* *The Flora of a Single Tree. By H. A. Longman* and *C. T. White. Proc. Roy. Soc. Queensland*, XXIX, 6. 1917.

Fig. 65.—Dendrobium fusiforme; flowers cream white. (*See page* 155.)

Prizes for Potatos.—At the National Potato Exhibition to be held at Birmingham in November, 1919, Messrs. Sutton and Sons, Reading, will offer the sum of £100 in prizes, in classes for several of their specialities in Potatos. The sum of £60 will be offered in ten first prizes and £40 in others. During the past forty years Messrs. Sutton and Sons have been pioneers in the introduction of heavy cropping, disease-resisting varieties, a number of which are immune from wart disease. Particulars of the classes in which the prizes named above are offered may be obtained from Mr. W. G. Morter, Hon. Sec. National Potato Exhibition, Council House, Birmingham.

HOME CORRESPONDENCE.

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

The Recent Severe Weather and Plant Life (see pp. 115 and 129).—The temperatures recorded by the three writers on this subject seem almost incredible for such a short cold snap as we had last month, and it would be interesting to learn how they compare with the records in the same districts for the long frost of Feb.-Mar., 1917. On the latter occasion, my thermometer, which is on a window-sill facing N.E., registered decidedly lower temperatures by 4 or 5 degrees than it did this year in the same position; but to the best of my recollection it never went below about 18° (*i.e.*, 14° of frost in 1917. *C. Nicholson, Hale End, Chingford.*

Birds in the Garden.—I was much interested in the article on "The Study of Wild Birds" in your issue of March 15th. Some five or six years ago owing to the serious destruction of fruit buds on my Plum-trees, I covered in with ¼ inch wire netting alternate trees, only taking the top netting off when the fruit was well set and replacing it after the crop had been gathered. I continued the experiment for three years, and found that there was no appreciable increase of fruit in the netted trees in comparison with the unprotected trees. A neighbour of mine tried the same experiment, with the same result. Is it possible that the birds only attack fruit buds that have some grub in them and which would never produce fruit? *W. Cameron Gull, Frilsham House, Yattendon, Berkshire.*

Women in Horticulture (see page 77).—*W. W.*'s remarks on "Women in Horticulture" were very interesting reading, and the facts so eloquently described ought, I think, to bring forth very strong comments from some of our leading professional gardeners. If something is not done very soon the professional gardener will soon be extinct, and will be finally supplanted by the class your correspondent describes as "our gardener." Not for a minute do I impute that "our gardener" is not a practical man, but is he a professional man? The difference between practical and professional men in the sphere of horticulture is, in my opinion, very great, and a wide gulf divides the two. Now that the war is over, it is a fit time to try and bring professional horticulture to the front again—a very difficult task to accomplish. The only way I can see to do this is by organisation, and I think that if our professional men would only unite and pull together there is yet time to save the gardening profession from sinking below that of the ordinary agricultural worker. The work of a gardener is, in most cases, away from the centre of industrial communities. He may be quite near to, but not actually amongst, his fellow-workers whose calling is in a different sphere of life, and therefore he does not know their working conditions. Those of us gardeners who have worked on food production schemes during the war, actually amongst other classes of workers in some of the largest industrial centres of England, know what organisation has done for them—not, do I mean, during strikes, but helping them to get proper and fair conditions under which to work. The gardener of to-day—even the "professional"—cannot say that the conditions under which he works are fair and proper. Are we to wait (as 'our correspondent nearly suggests) until there are sufficient lady gardeners to force employers to alleviate our position? Cannot something be done by Act of Parliament to have all horticultural workers recognised, as has been done in the case of agricultural workers? *W. P.*

Spraying for Big Bud Mite.—It is interesting to learn from the Long Ashton experiments (see page 141) that big bud mite (Eriophyes ribis) may be controlled by using a mixture consisting of 10 per cent. of soap and 5 per cent. crude carbolic acid, particularly if the spraying is applied twice or thrice. This mixture will kill the mites without doubt, but it appears to me that the season recommended for applying it is too early. The member of the family of Eriophyidæ which causes so much damage to Black Currant bushes is one which is very easily killed, and any ordinary

insecticide will soon exterminate the pest. Black soap and compound Quassia extract are both fatal to the mite, but both are absolutely useless unless they be applied at the actual period of migration. Mr. A. H. Lees recommends that the first spraying should be done at the beginning of December, and the later sprayings in January and February I cannot understand such a recommendation, and would ask what purpose is served by spraying during these months? I am not aware, of course, of the climatic conditions that prevail at Long Ashton during the months in question, but the mites certainly do not venture out in Scotland until much later in the season. Migration does not begin properly in this district until about the beginning of April, but it is a circumstance that is wholly governed by the weather. This year, for example, we had a particularly fine spell of warm weather and genial sunshine towards the end of the second week in March. I watched the bushes very carefully, and could detect no movement on the part of the mites up till March 8. The magnifying glass failed to reveal any sign of life on the branches, but a week later, encouraged, no doubt, by two days of remarkably fine weather, I found some mites on the move. These mites would perish, for two or three days later we had a very cold spell of north wind and snow, which we are still experiencing at the time of writing. The beginning to the middle of April is the time when migration begins in earnest; and it has been my practice to begin spraying at the end of March and to continue doing so once weekly until the first week in June. The bushes so treated are absolutely devoid of mite, and consequently are free from big bud. The variety is Boskoop Giant. Half of the bushes are sprayed with quassia extract at the times indicated, and the other half is left unsprayed. This is done purely for experimental purposes, as we are testing an alleged immune variety amongst the infected bushes, and it is a remarkable fact that the sprayed bushes are free from mite, whilst the other half which is unsprayed is badly infected. The main thing is to catch the mites when on the move, and their destruction and complete eradication is then a very simple matter. I am familiar with the details of the life history of this mite, which have been worked out by Collinge, Embleton, Lewis, and Warburton, and I cannot see what good can possibly result from spraying in December, January, and February. Even if the mite ventured out during these months—and I question that very much—it would, in Scotland at least, perish from the results of exposure. I quite agree with what Mr. Lees says in regard to reversion in Black Currants, and his experiences coincide exactly with my own in this respect. I cannot, however, follow him in so far as the migration of the mite is concerned, and I cannot see any necessity for wasting time in spraying during the months of December, January, and February. *George M. Taylor, Edinburgh.*

Tomato Seedlings Damping Off (see page 142).—I do not presume to deny that Mr. Spinks has found Phytopthora on the stems of young Tomato plants, but that this fungus is the general cause of damping off is open to doubt. According to my experience the damping does not occur in the seed pan. Seedlings raised singly in pots are not subject to it, neither are plants which have become well established and are rooting freely. It only occurs during the winter when the nights are cold, and it is not infectious. With the exception of those already attacked the disease disappears when the plants are growing freely. An odd seedling here and there may collapse when the plants are repotted in 5 inch pots, but that may be accounted for by the fact that the stems are very soft at the time, and are frequently buried an inch or two below the former surface. It is true a fungous growth may be found on the affected stems, but that is a consequence and not the cause of the mishap. If Phytopthora is the culprit, why should it not continue to affect the plants to the end when we know how much this fungus and its allies delight to flourish on the class of plants to which the Tomato belongs? The damping off occurs when the little plants are transferred to fresh soil and before root action has recommenced. If the plants are in an unvarying stove temperature until such time as they are rooting freely they will most likely escape, but should the temperature fall rather low, and remain so sufficiently long for the soil to cool, condensation will take place on the surface, and although the atmospheric temperature may rise rapidly on a sunny morning it will be some time before the soil becomes sufficiently warm for the moisture to be dispersed. Under such a contingency an early application of water heated to 90° will be likely to prevent injury. It is a good plan when sowing seeds in winter to place two or three in a small pot, and allow only one plant to remain. The pot should be only half-filled at the time of sowing, and more soil added when the plant is sufficiently high to allow it. When raised from seeds sown in pans or boxes I prefer, when potting, to place the plant close to the side of the pot, for it commences to grow more quickly than when placed in the middle. Seedlings should not be potted too soon. They should be allowed to make at least two leaves beside the seed leaves, when the roots will be in a position to take hold of the soil quickly.—*Wm. Taylor, Bath.*

Gardeners' "Victory" Memorial (see pp. 115, 129, 144).—The remarks of Messrs. Beckett and Cranstone deserve the most serious consideration of horticulturists. I consider Mr. Beckett's suggestion of placing a tablet on the garden wall worthy of the consideration of all employers. True, men may come who know not the fallen heroes, but that is all the more reason why their memory should be kept fresh in the minds of coming generations. The suggestion was decided upon by my employer some time ago. That probably would not seem such a noble memorial as, say, a tablet placed in the Hall of the Royal Horticultural Society, but from the local interest taken in gardens generally I think the former would be the most suitable. While we talk about memorials to the fallen, would it not be also a very great matter to remember the living and try to do something for the widows and orphans of the men who so nobly fell in defence of their country. Much has been written and much money has been collected with the intention of assisting the replanting of devastated areas in the war-stricken countries. A very good purpose, truly, but I think that charity should, even in this case, begin at home, and our first consideration should be for those amongst us who have suffered and are still suffering. No doubt a grateful country will make a certain provision for widows, and children may receive a pittance for educational purposes. Some employers have dealt very generously towards widows and their children. Those of us who were spared the hardships of war and also the men who donned khaki and returned in safety should try and do something for the less fortunate. If the Royal Agricultural Society, in conjunction with the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund, would take up this subject a considerable advance would be made in the way of doing something for those left behind. Were the Royal Horticultural Society to appeal to its Fellows and Associates, as well as Affiliated Societies, for a donation towards such a noble purpose I feel assured it would find a speedy and satisfactory response. Probably a meeting could be arranged on one of the days of the Chelsea Show, when the matter could be discussed and while green in our memories we could set on foot a truly worthy Gardeners "Victory" Memorial. *C. Shaw, Torgswood Gardens, Hawkhurst, Kent.*

Sparrows and Winter Moth Larvæ.—Mr. J. G. Blakey (pp. 119-20), in coming to the conclusion that the sparrows he saw picking Winter Moth larvæ from fruit-buds were not doing much good, because the larvæ, being nearly full-grown, had already done the damage they could, overlooks the fact that every larva so devoured meant one less moth for the next winter, with the consequent reduction in the number of larvæ the following spring. Although sparrows undoubtedly do a fair amount of damage in some places, I utterly decline to subscribe to the idea that they are wholly injurious: there are many instances on record in which they have achieved wonders in reducing—and sometimes annihilating—disastrous insect plagues. Even wood-pigeons are not wholly black!—*C. Nicholson, Hale End, Chingford.*

Gardeners' Hours and Wages (see pp. 128, 144).—Mr. Charles E. Pearson considers I spoil my case by asking full wages for employees at 13 years of age. I disagree with him, for my contention is that if a lad of 18 years is old enough to fight for his country and receives the same Army pay as the man of any other age, he is entitled to full wages and benefits in the labour world. Mr. Pearson may say boys of 18 years have not been fighting. This may be true since June 29, 1916, but when I joined the Army on September 5, 1914, we had lads of 17, 17½ and 18 years, whose conduct and endurance were equal to that of men of older age. Mr. Elwes must surely have been sleeping for the past 50 years. He states that no union can force employers to employ its members or to pay them more than they can afford for what is a luxury, more than a necessity, in a great many places. The word luxury seems to be the one and only term that those who seem to be against the emancipation of the members of our profession can use. Actors and actresses, who cater entirely for amusement, have a union which manages to control wages, hours and conditions. Even domestic servants are, at the present time, demanding fixed hours, minimum rates, time off duty, and heaps of other reforms. Yet, in spite of the fact that in every walk of life people, including clergymen, doctors and policemen, are forming and joining trade unions, gardeners, as a whole, are still existing under miserable conditions. Taking next the question of forcing the employer to employ only union men and pay union rates, Mr. Elwes writes that fewer gardeners will be employed owing to the cost of upkeep. Well, what of that? Is it not better that the rising generation should cease to be exploited by the private employer for his pleasure, and enter industry where he can still maintain his self respect and through his union control his hours and wages? When he mentions Glasgow and South Wales does he mean that in reality and against his desires they are more enlightened than the average gardener? If that is what he means I quite agree. The South Wales miner and the Glasgow workers are out to make life worth living for the labouring classes. Mr. Elwes further states that in many country districts there are many old men, boys and women not capable of a full day's work, etc. Yet, further on, he states "without regard to fixed hours," which only means, in my opinion, longer hours than 48. But this is quite a new line to take. My experience of country districts and the workers are that they can beat the average town-bred man, boy or woman for endurance and hard work. Gardeners were not sent to give pleasure entirely to the wealthy. The very man who employs gardeners at a fearfully low wage and long hours is, in all probability, made to pay the full trade union rates in his works in another part of the country. Large numbers of gardeners are greatly dissatisfied and are ready to fight for what is justly theirs. In my opinion, there is only one way to get it, and that is to join a union, not a gardeners' union, but a union like the Dock, Wharf and Riverside and General Workers', or the National General Workers'. When I read such remarks as those of Mr. Elwes about the employers' friendly spirit of consideration, and view the past and present experience of myself and those I have come in touch with, it makes me sick of such twaddle. If the wealthy want beautiful gardens, flowers, fruit, etc., let them pay to the full, as they have to for their race-horses and race-gowns, their house-boats and motor-cars, trips abroad and boxes at the theatre. If they are not prepared to pay, it would be better to close the garden and let labour seek its level in some other sphere. *H. Chivers.*

Publications Received.—***Dung Heaps and the Preservation of Farmyard Manure.*** Board of Agriculture and Fisheries. Food Production Leaflet No. 60.

SOCIETIES.

ROYAL HORTICULTURAL.

MARCH 25.—In spite of bitterly cold weather, there was a good attendance at the London Scottish Drill Hall, Westminster, on the occasion of the R.H.S. meeting on the above date. The principal floral features were Orchids, Azalea mollis, Rhododendrons, Saxifragas, and Daffodils.

The Floral Committee granted two Awards of Merit and Medals; the Orchid Committee recommended three Awards of Merit, two Preliminary Commendations, and awarded four Medals to groups; the Narcissus Committee granted two Awards of Merit and three Medals; the Fruit and Vegetable Committee made no award.

The subject of the afternoon lecture, delivered by Mr. Edward White, was "The Study of Economic Botany and the Professional Openings it Offers."

Floral Committee.

Present: Messrs. Henry B. May (in the chair), W. J. Bean, Sydney Morris, R. C. Notcutt, E. H. Jenkins, H. Cowley, W. B. Cranfield, John Green, John Heal, G. Reuthe, C. R. Fielder, W. Howe, A. Ireland, Thos. Stevenson, J. F. McLeod, J. W. Moorman, W. H. Page, C. Dixon, Arthur Turner, John Dickson, E. F. Hazelton, W. P. Thomson, Chas. E. Shea, F. Page Roberts, H. R. Darlington and J. W. Barr.

AWARDS OF MERIT.

Freesia Pinkie.—This new variety has neat, shapely flowers of modest size, coloured soft, bright pink, with some yellow in the interior of the paler tube and occasionally a small yellow mark on one of the segments. We could not detect any fragrance in the flowers.—Shown by Rev. J. JACOB.

Saxifraga lilacina.—A charming species belonging to the encrusted group, its densely clustered tiny leaves resembling little mounds of grey-green rock. The flowers, borne singly on short stems, are ½ to ¾ of an inch across, and of a rich, rosy-lilac colour. The species appears to flower quite freely, and it is certainly very effective.—Shown by R. TUCKER AND SONS.

GROUPS.

The colouring in the group of Azalea mollis varieties exhibited by Messrs. R. and G. CUTHBERT was very fine and reminiscent of the gorgeous displays this firm used to make at Temple shows. A few standard Forsythias formed a background, but the freely-flowered dwarf plants of Azaleas Nicholas Beets, Frans Van der Bom, T. J. Seidel (vivid orange), Fairy Queen, and the golden Hortulanus Witte, were most admired (Silver Flora Medal). The sweetly scented Viburnum Carlesii was well shown by Messrs J. PIPER AND SONS, with Saxifrages in variety, Juniperus pachyphlaea, and hardy Cyclamens (Bronze Flora Medal). Mr. G. PRINCE had a charming group of freely flowered branches of the yellow Banksian Rose and a few blooms of Fortune's Yellow (Silver Banksian Medal). Messrs. H. B. MAY AND SONS showed Ferns, Genistas and Cinerarias (Silver Banksian Medal), and Messrs. J. PEED AND SONS exhibited Cyclamens (Bronze Banksian Medals).

Messrs. ALLWOOD BROTHERS exhibited capital blooms of perpetual flowering Carnations, their leading varieties being Beacon, White Enchantress, Destiny, Mary Allwood and May Day; the flowers were of fine colour (Silver Banksian Medal). A gorgeous grouping of Rhododendrons from Messrs. R. GILL AND SON gave evidence of warmer weather at Falmouth than in London. With the R. arboreum varieties and the large-flowered Himalayan hybrids were branches of Magnolia conspicua, Erica arborea and the exquisite Andromeda japonica (Silver Flora Medal).

Little drifts of Saxifraga Burseriana Gloria, S. L. G. Godseff, S. apiculata, S. oppositifolia, Primula denticulata and Morisia hypogea made up a charming group from Messrs. JOHN WATERER, SONS AND CRISP (Silver Banksian Medal). Messrs. R. TUCKER AND SONS exhibited a capital lot of Saxifragas, and here the red S. Bertolonii, S. lilacina, the blush S. Irvingii, the rosy S. kewensis and the brilliant S. Griesbachii, very fine, were some of the rarer kinds (Silver Flora Medal).

Mr. G. W. MILLER again displayed spring flowers extensively, and showed Polyanthuses in a wide range of colouring, with Daffodils, Hepaticas and Crown Imperials (Bronze Banksian Medal). Messrs. J. CHEAL AND SONS showed hardy Primulas and Rhododendrons, and Mr. G. REUTHE staged Sarcococca humilis, somewhat like a Cotoneaster in growth; and Vaccinium Mortinia (Bronze Banksian Medal).

ORCHID COMMITTEE.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. secretary), W. Bolton, W. H. White, Arthur Dye, C. J. Lucas, J. Charlesworth, W. H. Hatcher, E. R. Ashton, Pantia Ralli, T. Armstrong, A. McBean, Fred Sander, Walter Cobb, Stuart Low, S. W. Flory, Frederick J. Hanbury and R. A. Rolfe.

AWARDS OF MERIT.

Laelio-Cattleya Queen Marie (L-C. Goldfinch × D. Empress Frederick), from Sir JEREMIAH COLMAN, Bart., Gatton Park (gr. Mr. Collier). A handsome hybrid, retaining the form of the large-flowered Cattleya and with finely expanded lip. The sepals and petals are clear rose colour; the broad lip ruby purple in front, with gold lines extending from the base to the yellow blotches on each side of the tube.

Odontoglossum St. André (Oda. Sanderae × Odm. Amabile), from SANDERS, St. Albans. One of the best of its class, the flowers being large, of very bright colour and effectively displayed. The ground colour is pale yellow, heavily blotched with bright red, the yellow ground showing through the segments in wavy lines between the blotching.

Odontoglossum Vardar (mirificum × eximium), from Messrs. FLORY AND BLACK, Slough. A distinct flower of excellent shape. The ground is white, richly blotched with claret red, the white margin being clearly defined. The lip, which is exceptionally broad, has purple markings in front of the yellow crest.

PRELIMINARY COMMENDATION.

Odontoglossum Pallas (illustrissimum × Doris), from Messrs. FLORY AND BLACK. The third member of a very pretty batch shown by this firm. The variety Pallas has large flowers, spotted over the greater part of their surface with claret red, thin white lines showing between the blotches.

Odontioda Cyclops (see fig. 66) (*Oda. Bradshawiae × Odm. Mars*), from Messrs. ARMSTRONG AND BROWN, Orchidhurst, Tunbridge Wells. A grand new hybrid with broad sepals and petals of a rich red colour, with a decided gold shade and very slight white margin. The lip is light lilac with red blotches in front of the yellow crest, and there is a narrow band of purple markings inside the margin.

OTHER EXHIBITS.

Sir JEREMIAH COLMAN, Bart., Gatton Park (gr. Mr. J. Collier) staged a pretty group of Gatton hybrid Dendrobiums and other hybrids raised at Gatton, the finest of which was Brasso-Cattleya Gatton Lily var. magnifica, the largest of the satisfactory batch, two of which have recently secured First Class Certificates; a brightly-coloured selection of Sophro-Laelias and Sarcochilus Hartmannii were also included.

Messrs. CHARLESWORTH AND Co., Haywards Heath, were awarded a Silver Flora Medal for a very effective group of Odontoglossums, Odontiodas and Laelio-Cattleyas. Two very fine hybrids were Odontoglossum crispo-Solon, with large and finely blotched flowers, and the best form of Odontioda Schröderiana (Oda. Bradshawiae × Odm. crispum) yet shown; the flowers are large and of perfect shape, the inner parts of the segments being orange red.

Messrs. STUART LOW AND Co., Jarvisbrook, were awarded a Silver Banksian Medal for a group of Laelio-Cattleyas, the fine L-C. Luminosa aurea, with yellow sepals and petals, and dark purple lip; and a very dark L-C. Dominiana being prominent features. The large-flowered Cattleya Cyrus and various bright Sophronitis crosses were included, together with a good selection of Dendrobiums and Cypripediums.

Messrs. J. and A. McBEAN, Cooksbridge, were awarded a Silver Banksian Medal for a finely flowered group of Cymbidiums, good forms of Laelio-Cattleva Beatrice and the white Cattleya Cowaniae alba. An interesting exhibit was Adaglossum nanum (Ada aurantiaca × Odm. Phœbe), a dwarf plant with narrow segments to the orange coloured flowers, which are spotted with dark purple.

Messrs. SANDERS, St. Albans, were awarded a Silver Banksian Medal for a group of showy Odontoglossums and Odontiodas, including hybrids, the new Odontioda Rajah, having large, dark violet flowers with slight white markings, and the rare and pretty Odontoglossum naevium.

FIG. 66.—ODONTIODA CYCLOPS.
(See awards by the Orchid Committee.)

Messrs. Armstrong and Brown, Tunbridge Wells, showed a fine selection of new hybrids, including the handsome Odontoglossum Ajax (amabile × promerens), a grand cream white flower tinged with pale yellow and bearing effectively-arranged clusters of spotted lines and blotches of claret red. The lip is white, with small red markings around the yellow crest. O. Ajax Armstrongiae, broader in all its parts than the preceding, white, blotched in the inner half with ruby-red. Odontioda Ariadne (Oda. Coronation × Odm. Conqueror) of Odontoglossum size and shape, white blotched with Indian red, the front of the lip being white; and Odontioda Jupiter (Oda. Coronation × Odm. eximillus), a large flower, claret red with a few white markings in the margin and bases of the petals. A plant of Sophronitis grandiflora had eighteen brilliant scarlet flowers.

E. R. Ashton, Esq., Broadlands, Camden Park, Tunbridge Wells, showed a selection of good Odontoglossums and Odontiodas, a very dark maroon form of Odontioda Joan being specially noteworthy.

Messrs. Flory and Black showed the new pure white Cattleya Princess Ileane (Myra Peeters × Luddemanniana alba), a very attractive flower.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), showed Miltonia Bleuana Hessle variety, a pretty clear white form, with violet mask on the lip.

Narcissus and Tulip Committee.

Present: Messrs. E. A. Bowles (in the chair), F. H. Chapman, H. Hawker, H. Smith, H. V. Warrender, F. Barchard, Peter R. Barr, G. Reuthe, W. Poupart, G. W. Leak and W. B. Cranfield, Miss Willmott, Rev. J. Jacob, Rev. C. T. Digby, and C. H. Curtis (Hon. Sec.).

Awards of Merit.

Narcissus Buxted.—A very finely proportioned Trumpet variety of large size. The trumpet is light golden yellow and the spreading mouth is neatly frilled. The wide perianth segments are soft yellow and of fine substance. This variety is like a glorified Lord Roberts, and it is one of the late Mr. Haydon's seedlings. Shown by Messrs. R. H. Bath, Ltd.

Narcissus Golden Cycle.—An effective hybrid presumed to have been derived from Golden Spur crossed with Narcissus cyclamineus. It has stems 12 to 15 inches high, stiff foliage, and golden yellow flowers about the size of those of N. Johnstonii. The trumpet is fairly straight and suggestive of N. cyclamineus, and it has a frilled mouth. The perianth segments are reflexed. The plant does well in pots, and the form of the flowers render it suitable for the rock garden. Shown by Capt. Hawker, Strode, Ermington, Devon.

Groups.

The largest group in the hall was one of May-flowering and Darwin Tulips, grown in fibre, in bowls, and staged on the floor by Messrs. R. H. Bath, Ltd. A few bowls were raised a little above the general level. The flowers were well developed, but they did not like the cold weather. Leading varieties included Feu Brilliant, Gesneriana lutea, Orion, Euterpe, Mr. Farncombe Sanders, Bouton d'Or, La Candeur, and Mrs. Moon. Bunches of Chionodoxas were grouped at the end of the exhibit, facing the entrance to the hall (Silver-gilt Banksian Medal).

The small group of choice and finely developed Daffodil blooms shown by Messrs. R. H. Bath, Ltd., was greatly admired; The President (of King Alfred type), Sunrise, Refulgence (very bright), Lady Mayoress (white), Silver Dawn (giant Leedsii) and Croesus (with a vivid orange cup) were a few of the superb varieties shown (Silver Flora Medal). Messrs. Barr and Sons showed a collection of cut Daffodils, and among their special varieties we noted Peter Barr, Uncle Robert, some King Alfred seedlings, Phineus, a very richly coloured Barrii form, Blazing Star, and Ulysses (Silver Flora Medal). Capt. H. Hawker, Strode, Ermington, Devon, showed a few seedling Daffodils and two pots of the charming Narcissus Golden Cycle.

Fruit and Vegetable Committee.

Present: Messrs. J. Cheal (in the chair), G. F. Tinley, W. Bates, W. Bullock, W. Poupart, P. C. M. Veitch, James Vert, W. H. Divers, F. Jordan, A. R. Allan, Geo. P. Berry, A. E. Fidler and Rev. W. Wilks.

The only exhibit before this Committee was one of several dishes of Potatos—King Edward, Drummond Castle, Edinburgh Castle, Sir John Llewelyn, Satisfaction and others—from W. G. Ridgen, Esq. (gr. Mr. J. Lingwood), Queenswood, Englefield Green. In most dishes the tubers were large, and in some instances they were rather coarse.

LEEDS AND DISTRICT MARKET GARDENERS' ASSOCIATION.

This Association held an Exhibition of Rhubarb on the 8th inst., at the Albion Hotel, Leeds. Prizes were offered in four classes; a cup, value 10 guineas, was offered by Messrs. Garcia Jacobs and Co., for the best three marketable bunches of Victoria Rhubarb, not to exceed ¾-lb. each, tied with ordinary material. The best six sticks of Prince Albert or Linnaeus variety were shown by Messrs. T. W. and H. Popplewell, Bramley; the best six sticks of Victoria by Mr. R. Driver, Bramley; the best six sticks of Daw's Champion by Mr. Sam Brook, Morley. The Silver Cup was won by Mr. A. Cowling, Tingley. At the close of the Show the exhibits were sent to the wounded soldiers at the Military Hospitals, Leeds.

CROPS AND STOCK ON THE HOME FARM.

Pigs.

The more I see of the markets and the prices obtained for pigs, the more I am convinced that pigs at the present time form one of the best paying things on the farm. Some twelve months ago people were getting rid of their sows owing to food shortage and other reasons, but I increased my breeding sows, knowing that there must be a scarcity of young pigs later.

Those who followed my advice at the time have cause for satisfaction. As giving an idea of how valuable store pigs are, animals twelve weeks old realised 78s. in the open market last week.

A litter of ten pigs at that age made £34; not a bad investment.

The point I would impress on all who intend to keep pigs is to obtain a good type of pig and attend to them well. Many persons think anything will do for a pig in the way of food or accommodation, and too many seem to think if the pigs are wallowing in mud they are flourishing. This is a mistake. Nothing is so desirable as dry, wooden sleeping quarters. Concrete is the worst of all for this purpose, for too often with concrete floors the young pigs are affected with cramp in their legs. Where skim milk is obtainable, as it is on farms where butter is made, the pigs drink this freely while quite young, grow rapidly, and look well in their coat, showing constant progress, that by the time they are weaned at seven weeks old they are strong animals. Some wean them first, and castrate the males after. This is, in my opinion, wrong. They should be left with their mother fully a week after that has been done, otherwise the young pigs receive a check to growth.

Many make mistakes in their management of the sows and boars, paying little regard to purity of breed. My practice is to obtain one cross only, as I consider by that means greater strength and a full development of the two types are obtained, which, I need hardly say, should be of a desirable character to effect the purpose in view. Having tried many breeds, I have come to the conclusion that no sort is better for general utility purposes than a cross between a large Yorkshire white sow and a middle white boar. From these we may expect on an average a litter of ten pigs, with a reduction in number as the parents get older. The progeny from this cross grow quickly, are shapely, having great depth of body to make desirable porkers, and sufficient length to produce bacon. Such a sow mated with a Berkshire boar would produce pigs equal in quality, but generally the young are fewer in numbers.

Calves.

We are advised by the Board of Agriculture to keep all heifer calves, with which I agree, especially on farms in grass counties, as the stocks of cows have of late been running very low.

The type of cow most desirable is purely a question of requirement. Where milk alone is the aim, no sort is so good as a well-bred shorthorn from a good milking strain; while some persons pin their faith to those of a light roan colour, others are equally keen on red and white or even self colours.

Colour is but one quality; result in milk is the main object. Where the dairy produce is intended for home use and high quality milk, cream and butter are required, then no breeds are so desirable as Guernsey or Jersey. While the latter may give milk and butter of slightly higher quality they are less hardy than the former, and not so profitably disposed of when their milking days are past; therefore I recommend the Guernsey, which is a first-class breed in every respect. For general utility purposes a cross between a short horn cow and a Jersey bull is very desirable, as such a cow gives a milk in bulk and of good quality.

Regular attention to the feeding of the calves from their birth naturally produces the best animals. I find the E.C.C. calf meal excellent; it is highly nutritious, and I have never known it to scour the animals, which is important. When this occurs with other foods it is generally traceable to an excess, which should not be given in fairness to the food as well as the welfare of the animals.

Scour in calves is detrimental to their growth, as a bad attack checks growth and lowers the condition of the animals, if it does not kill them. High quality meadow hay and linseed cake form a valuable food for calves. To maintain good shape in the animal it is not wise to turn them out on grass until they are at least six months old; even longer would be all the better. An airy yet warm shed or barn free from direct draught is an advantage, so that the animals can have exercise at will. *E. Molyneux.*

Obituary.

H. E. Wallis.—It is with regret that we record the death of this well-known exhibitor of first-rate vegetables. Mr. Wallis will be remembered for the excellent collections of vegetables which he contributed to the R.H.S. meetings. Probably his best effort was that of September last, when at the annual show of British-grown vegetables he set up such a splendid non-competitive exhibit as to win the highest honour of a Gold Medal. This medal, by the irony of fate, was received by his widow two days after his death, which occurred on March 14, after only five days' illness, following a serious operation. Mr. Wallis was in the prime of life, and one would naturally have expected that very many more years of useful activity would have been spared him. He was a native of Warwickshire, and commenced gardening at Elcot Park, Kintbury, Hungerford. From this place he went to the nursery of Mr. E. van der Meer, Croydon, and thence to Sulhampton House, Berks., and on to Mongewell Park, Wallingford. His next move was to Bucklebury Place, the Berkshire garden of Mr. Arthur Sutton. From there he became foreman at Wyford Court, Oxfordshire. Twelve years ago he was appointed head gardener at Sherfield Hall and seven years later he took charge of Drayton House Gardens, Sherfield-on-Loddon, where he soon made his mark as a good all-round gardener as well as a successful exhibitor of fruit and vegetables. Of unassuming demeanour, Mr. Wallis possessed a lovable nature and was a grand man in all his ways.

TRADE NOTES.

The following Order, made with regard to special rates for market gardening workers in Essex, came into operation on the 24th inst. :—

In the application of the Order of the Board fixing minimum and overtime rates for male workmen in Essex, dated the 2nd July, 1918, to any workman of the age of 21 years and over employed wholly or mainly in connection with the use of land for a market garden under a contract of service or apprenticeship with an employer who is engaged in the trade or business of market gardening :—

(1) 36s. shall be substituted for 32s. in Clauses 1 and 2 as the minimum wages payable in respect of 54 hours in summer and of 48 hours in winter.

(2) 36s. shall be substituted for 32s. in Clause 3 as the minimum weekly wage payable in the case of a whole-time workman employed by the week or any longer period for the hours of work agreed between him and the employer in any week (excluding hours of overtime employment), notwithstanding that those hours are less than 54 in summer or 48 in winter.

(3) 10d. shall be substituted for 9d. in Clause 4 (2) (a) as the differential rate for overtime on week-days.

(4) 1s. shall be substituted for 11d. in Clause 4 (2) (b) as the differential rate for overtime on a Sunday.

This Order shall come into operation on the 24th day of March, 1919.

SOME members of the horticultural trade want total prohibition of imports of horticultural produce; others want unrestricted imports; and others desire prohibition in certain directions and free imports in others. Each group has arguments in favour of their own views, and on Thursday, March 20, at Essex Hall, Strand, the opportunity of expressing these views was afforded. The meeting was arranged jointly by the Horticultural Trades' Association and the British Florists' Federation, and it followed a morning meeting of the Chamber of Horticulture at which there was a preliminary discussion concerning the answer to be furnished to the letter from the Horticultural Advisory Committee of the Board of Agriculture asking for a considered expression of opinion with regard to the relaxation of the present prohibitory Orders.

THE Chamber of Horticulture meeting felt that only one answer to the inquiry could not well be given, because, while there seemed to be little or no difference of opinion about the exclusion of the majority of ornamental and forest trees and shrubs, there might be great diversity of opinion as to the exclusion of bulbs, owing to the fact that there are growers, and also dealers who are not growers. This view was placed before the afternoon meeting, and about three-quarters of the time was taken up in discussing the bulb question. Mr. G. W. Leak made a capital chairman. Messrs. R. Wallace, W. Atkinson, W. Cuthbertson, W. Laxton, R. Oldham, G. W. Barr, A. W. White, M. Allwood, L. Perkin, F. Sander, H. Hudson, B. Cant, J. Cunliffe, R. H. Page, and W. H. Page were the chief speakers, in addition to Mr. Chas. E. Pearson (secretary, H.T.A.), and Mr. C. H. Curtis (secretary, B.F.F.), in a meeting attended by nearly 250 people.

Discussion continued from 2.30 to 5 p.m. The first suggestion that all horticultural 5 p.m. The first suggestion that all horticultural imports should be excluded was turned down, and exclusion for five years met with no better reception. The spirit of compromise prevailed, and eventually it was agreed by a very large majority "That the embargo on the importation of the following bulbs from Holland be removed, and that free imports of these kinds be admitted —*i.e.*, Hyacinths, early-flowering single and double Tulips, Crocus, Gladioli, Spanish Iris, Chionodoxa and Scilla sibirica; and that the embargo on other bulbs be continued for a period of one year from April 1, 1919."

THE nurserymen, as apart from bulb growers and dealers, then had their turn, and the following resolution was passed unanimously: "That the restriction on the importation of peat-loving plants, evergreen shrubs, coniferae, flowering shrubs, creepers, herbaceous plants, rock plants, Roses and forest trees be still maintained for two years from April 1, 1919." It was understood that this resolution applied only to Dutch produce. This over, the flower growers came forward, and in spite of some objections from at least one retail florist, they carried the following resolution :—"That the present embargo on the importation of cut flowers from Holland be strictly enforced and that the granting of licences be discontinued forthwith." All these resolutions were to be forwarded to the authorities by the respective associations and also through the Chamber of Horticulture. A well-deserved vote of thanks to the Chairman concluded an interesting and, at times, quite exciting meeting.

MR. R. GREENFIELD, Leamington Spa, who has been supervising Munition Food Production schemes for the Ministry of Munitions during the past two years, will resume his duties, on April 1, as Midland and Northern representative for Messrs. John Peed and Son, West Norwood.

An inquest was held at Marks Tey, Essex, on the 22nd inst., on the body of Henry Wright, manager to Messrs. Dobbie and Co., seed growers, Edinburgh and Marks Tey, who was found dead in his office from gunshot wounds. Two double-barrelled guns were found lying on the floor, one cartridge having been discharged from each. It was stated that Mr. Wright had been suffering from influenza, and had worried about business matters. His employers stated that his accounts were in perfect order. The jury returned a verdict of "Suicide during temporary insanity." It will be remembered that Mr. Wright recently succeeded Mr. Andrew Ireland as manager at Messrs. Dobbie and Co.'s Marks Tey Nursery.

NOTES FROM IRELAND.

On the 14th inst. the Interim Forestry Authority, consisting of Lord Lovat, Mr. F. D. Acland (chairman), and Mr. T. B. Ponsonby, D.L., received a deputation from several bodies interested in Irish afforestation at the offices of the Timber Controller, 6, Hume Street, Dublin. Four bodies were represented, the Irish Forestry Society, the Royal Horticultural and Arboricultural Society, the Surveyor's Institution, and the Irish Landowners' Convention. Among those attending were the Marquis of Headfort, president of the two first-named societies, Viscount Powerscourt, K.P., and Lord Cloncurry.

Pyrus crenulata yunnanensis has been very conspicuous the winter through, and is so at present, by reason of its heavy crop of rich red fruit, at the entrance to the Royal Botanic Gardens, Glasnevin. Birds seem to let the fruits severely alone, but that they have not been on short rations is apparent in the many veteran Thorns still laden with heavy crops of fruit, now fast shrivelling.

St. Patrick's Day, the great national holiday of Ireland, the 17th inst., proved clear, cold, and dry in Dublin. All sorts and conditions of folks, including many overseas warriors, sported Trifolium minus, the now recognised "Shamrock of Ireland," although evidence is not wanting to show the original plant thus honoured was Oxalis acetosella.

A First Class Cultural Certificate was awarded by the Royal Horticultural and Arboricultural Society of Ireland, at the Council meeting on the 14th inst., to Mrs. Stanistreet, The Rectory, Newmarket-on-Fergus, for a collection of Violets, comprising a score of distinct varieties from the open. *K., Dublin.*

ANSWERS TO CORRESPONDENTS.

BORDERING OF TRAINED APPLE TREES : *J. A. B.* There is no great difficulty in training young Apple trees to two horizontal stems extending within a foot or so from the ground-level; nor is the task of grafting the branch of one tree on to the branch of its neighbour beyond the skill of an amateur.

COLLECTION OF VEGETABLES : *W. E. P.* The member of your Committee is wrong in stating that in a class for a collection of vegetables the number of kinds is never specified. But you, yourself, are wrong in the contention that the number of varieties is always expressly stated in the schedule. In many cases the schedule calls for a collection to fill a certain amount of staging, say, six feet by four feet, and in that case the exhibitor is at liberty to furnish the space allotted to him with any kind and any number of dishes.

CYMBIDIUM HYBRIDS H. E. The names of the Cymbidiums, of which you give parentage, are: C. Diana (Pauwelsii × eburneo-Lowianum), C. Lowio-grandiflorum (Lowianum × grandiflorum, syn. Hookerianum), C. Pauwelsii (Lowianum concolor × insigne), C. langleyense (Devonianum × Lowianum), C. Woodhamsianum (eburneo-Lowianum × Lowianum). The other two crosses with C. Pauwelsii have no recorded name.

FRENCH GARDENING : *B.* Two suitable works for your purpose are *French Market Gardening*, by J. Weathers, price 4s., post free, and *Intensive Culture of Vegetables on the French System*, by P. Aquatias, 6s. 6d., post free. Both works may be obtained from our publishing department.

HERBACEOUS PAEONIES : *T. of Kent.* The only book on the Paeony with which we are acquainted is the *Book of the Paeony*, by Mrs. Edward Harding. This work may be obtained from our publishing department. Price 25s. 9d.; post free.

STRAWBERRY CULTIVATION : *R. C. W.* On the part of your farm where the subsoil is chalk and within 18 inches of the surface, plant the Strawberries on the flat. Where the subsoil is clay and liable to be wet plant three rows on one 6-foot bed with deep alleys between the beds to ensure drainage during the winter. The method of planting should be in rows on the flat 2 feet 6 inches wide, putting the plants 1 foot 6 inches apart; or where much foliage is produced, as in some soils, allow a further 6 inches space both between the rows and the plants. Directly the fruit is gathered clear off the old plants, bury the refuse, dig the ground deeply, and plant Cabbage in September. Runners should be employed for the making of new plantations. Instead of the varieties which you know will not succeed in your soil plant Leader and more Royal Sovereign. Runners are best put out in August or September. Such early plants get well established and sometimes fruit the following season. To prevent the fruit trees being damaged by the horse-hoe use a whippletree narrower than the hoe. The probable reason why your plants of Royal Sovereign were two years before they fruited was that the runners were weak and planted too late.

WAGES AND HOURS. *G. P.* The rate of wages fixed by the Agricultural Board for England and Wales has nothing to do with any Union but is an Order drawn up by the Government and made compulsory. It mainly applies to agricultural workers: certain sections of Horticulture have been brought under its scope, and you will see on p. 159 a note referring to the conditions of market gardening workers' hours and wages in Essex as fixed by the Wages Board, the address of which is 80, Pall Mall, S.W.1.

Communications Received.—R. G. (thanks for donation to R.G.O.F. box)—B. J. H.—A. H.—E. G. L. —J. H. S.—A. T. H.—C. C. R.—W. U.—R. T.—E. M.D A. W. J. W.—R. W. L.

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LE FRUITIER MANURE.

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LOAM—RICH, YELLOW, FIBROUS,

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Telephone—Palmers Green, 377-8

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Fairness of Price.

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The Best in the World

All the problems of labour and material are not yet solved but we are preparing to largely increase our output to keep pace with the demand which is already being experienced. Although we fear that we shall be unable to fill the requirements of all our customers this season, we feel sure those who will be disappointed will extend us their consideration and bear with us until such time as we are in a position to supply them.

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Complete reliable manure for digging in for Vegetable Crops, or as top dressing for Fruit Trees and Flower Beds.

NO STABLE MANURE REQUIRED.

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12/6 per cwt., 7/- half-cwt., 4/- 28 lbs., 2/6 14 lbs.

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NORMAN GROVE. A.M., R.H.S., 1914.
A very free-flowering, robust-growing variety. Bell-shaped flowers of a delicate rich blue. Plant 6 inches high and quite hardy. A fine edging plant. Strong Plants, **9d.** each, **7/6** doz.

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Charming Bell flower, with saucer-shaped flowers, almost white, b having an opalescent effect caused by the soft blue which shows through from the back of the petals. Quite hardy, growing 10in. high
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Very prolific flowering variety, pyramidal habit, with bell-shaped lilac-blue flowers. Grows 9in high, and quite hardy.
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Pure white flowers very freely produced. Grows 8in. high, with erect habit.
Strong Plants, **2/6** each.

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Erect blue flowers, saucer-shaped, growing 8in. high. A good variety. **1/6** each.

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White flowers, bell-shaped, very free, growing 8in. high. **1/6** each.

One each of the above 6 Choice Campanulas, packed free, for 10/-, carriage paid, cash with order.

HELIANTHEMUM (SUN ROSES).
A most effective plant for a sunny rookery. A blaze of colour—white, pink, orange, red, yellow, cream, in variety. **5/-** doz.

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CARRIAGE PAID AND BAGS FREE.
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Early Varieties.

	14lb.	28lb.	56lb.	112lb.
Duke of York ...	4/9	9/3	18/-	35/6
Sharpe's Express ...	4/6	8/6	16/6	32/-
Eclipse	4/3	8/-	15/6	30/-
EPICURE	3/3	6/3	12/3	24/-
Harbinger	4/9	9/3	18/-	35/6
Sharpe's Victor ...	5/-	9/6	18/3	36/-
Sir John Llewelyn ...	4/6	8/6	16/6	32/-

Second Early and Maincrop Varieties.

Arran Chief	3/-	6/-	12/-	23/-
British Queen ...	3/-	6/-	12/-	23/-
Factor	3/-	6/-	12/-	23/-
*Great Scot	3/-	6/-	12/-	23/-
King Edward VII. ...	3/-	6/-	12/-	23/-
*Kerr's Pink ...	4/9	9/3	18/-	35/-
*Majestic	6/6	12/6	24/6	48/-
*Tinwald Perfection	6/-	12/-	23/6	46/-
*The Lochar ...	3/6	6/9	13/-	25/-
Up-to-Date	3/3	6/3	12/-	23/-

Ton rates on application.

Varieties marked * are supplied under licence from the Board of Agriculture as being true to name and free from Wart Disease.

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MARKETS.

COVENT GARDEN, March 25.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	10 0–12 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentias ...	18 0–24 0
Cinerarias. 48's. per doz. ...	24 0–27 0	—— 60's ...	15 0–18 0
		—Cocos	24 0–36 0

REMARKS.—Business is improving in this department. Flowering plants include Cyclamens, Genistas, Ericas, Acacias, Boronias and Marguerites. The newest lines are Rambler Roses, and a few white, pink and blue flowered Hydrangeas. There is a good supply of Cinerarias in various colours.

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum—cuneatum, 48's. per doz. ...	10 0–12 0	Nephrolepis, in variety, 48's	12 0–18 0
—elegans ...	9 0–10 0	—32's	24 0–36 0
Asplenium, 48's per doz	10 0–15 0	Pteris, in variety, 48's	9 0–12 0
— 32's	21 0–24 0	—large 60's ...	4 0–5 0
— nidus, 48's ...	10 0–12 0	—small 60's ...	3 0–3 6
Cyrtomium, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arums— (Richardias). per doz. bl'ms.	12 0–15 0	Lily-of-the-Valley, per bun. ...	5 0– 7 0
Azalea, white, per doz. bunches	10 0–12 0	Narcissus ornatus per doz. blooms	10 0–12 0
Camellias, 12's-18's per box ...	7 0– 9 0	Orchids, per doz:— —Cattleyas ...	24 0–30 0
		—Cypripediums	6 0– 8 0
Carnations, per doz. blooms, best American var.	5 0– 6 0	Pelargonium double scarlet, per doz. bun. ...	10 0–12 0
Daffodils, single, per doz bun.		— white, per doz. bunches ...	10 0–12 0
— Emperor ...	12 0–18 0	Roses, per dozen blooms—	
— Golden Spur ...	8 0–10 0		
— Victoria ...	12 0–15 0	— Richmond, var.	12 0–15 0
— Princess ...	9 0–10 0	Tulips, per doz. blooms—	
Freesia, white, per doz. bunches	4 0– 6 0	— mauve ...	6 0– 8 0
Heather, white, per doz. bun.	6 0–10 0	— white	6 0– 8 0
		— yellow	5 0– 6 0
Lilac, white, per bunch, 6's ...	4 0– 6 0	Violets, single, per doz. bun. ...	3 0– 6 0

REMARKS.—The supplies of cut flowers are again somewhat shorter, and prices are firmer generally. Roses, notwithstanding the colder weather, are a fairly plentiful supply. The leading sorts offered are: Hoosier Beauty, Lady Pirrie, Richmond, Sunburst, Ophelia, Prince de Bulgarie, and W. Stevens, the last a very useful white for market. Best blooms of home-grown Daffodils are soon cleared. Empress, Emperor, Victoria, and Sir Watkin are the leading sorts offered at the present time; Golden Spur is practically finished. Carnation blooms are improving in quality, and there has been a good supply of these flowers up to this morning. French flowers are gradually becoming fewer in numbers; double white Stock and Star (Allium), which is arriving in good condition, are replacing the White Narcissus, which is now finished. The supplies from Guernsey and Scilly are greatly reduced, and these are cheap Daffodils. White Narcissus is selling at higher prices than last week.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Jerusalem per bus...	3 0– 4 0	Mint, per doz bun.	10 0–12 0
—Globe, per doz.	6 0 7 0	Mushrooms per lb.	4 6– 5 6
Asparagus, Devonshire, per bun.	50 0 —	Mustard and Cress, per doz. punnets	1 0– 1 3
— Lauris... ...	10 0–12 0	Parsley, per ½ bus.	6 0– 7 0
— Paris Green, per bundle ..	13 0–15 6	Parsnips, per bag	6 0– 8 0
— — Sprue per bundle ..	2 2 —	Peas, per pad ...	10 6–12 0
		Potatos new, per lb.	1 6– 1 9
Beans, French, per lb.	3 6– 4 6	Radishes, per doz. bunches ..	2 6– 4 0
— Broad, per pad	11 0–13 0	Rhubarb, forced, per doz. ..	3 0– 4 0
Dwarf (French) per packet ...	2 6 —	— Natural, per doz.	9 0–10 0
Beetroot, per bus.	5 0– 6 0	Savoys, per bag ..	16 0 —
Brussels Sprouts, per ½ bag ..	8 0–10 0	Seakale, in boxes (6-8 lbs.) per lb.	1 2 —
Cabbage per tally	10 0–15 0	Shallots, per lb. ..	0 6– 0 8
Carrots, per bag ..	10 0–12 0	Spinach per bus.	18 0 —
— New, per bun.	1 6 —	Spring Onions, per doz ...	4 0– 6 0
Cauliflowers, per doz	6 0– 8 0		
Celery, per doz. ..	36 0–50 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box	Controlled
Chicory, Belgian, per lb. ..	0 4– 0 5		
Cucumbers, per doz	12 0–18 0		
Endive, per doz. ..	5 0– 7 0		
Garlic, per lb. ..	0 5– 0 7		
Greens, per bag ..	8 0–12 0	Turnips, per bag	5 0– 6 0
Herbs, per doz. bun.	4 0– 6 0	Turnip Tops, per bag	7 6–10 0
Horseradish, per bun	4 0– 6 0		
Leeks, per doz. bun.	2 0– 4 0	Vegetable Marrows, each	2 0– 2 6
Lettuce, Cabbage and Cos per doz.	2 0– 3 6	Watercress, per doz.	1 0– 1 3

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Grapes:—		Nuts, con.—	
— Almerias, per barrel (about 3½ doz. lbs.)	70 0–100 0	—Cobnuts per lb.	1 4– 1 8
— Gros Colmar, per lb. ...	9 0–11 0	Walnuts, kiln dried, per cwt.	90 0–200 0
— Belgian per lb.	4 0– 8 0	Pears, Californian (Easter Beurré), cases containing 8 to 10 doz. per case	55 0 60 0
Grape Fruit, pr. cse.	60 0–65 0		
Nuts—			
— Almonds, per cwt.	110 0–112 0	—Winter Nelis, per case	75 0–80 0
— Barcelona, per cwt. ...	110 0 —	Strawberries, per lb.	25 0–35 0
— Brazils (new). per cwt. ...	85 0–90 0	Pineapples. each	4 0– 7 0

REMARKS.—Supplies of home-grown Grapes are gradually diminishing in quantity. Gros Colmar and Muscat Grapes from Belgium are arriving in fairly good condition, considering all the circumstances. A few forced Strawberries are obtainable daily. Pineapples are fairly plentiful. Pears on offer consist of the varieties Easter Beurré and Winter Nelis. Supplies of forced vegetables are very limited. A few Vegetable Marrows are on offer. Chicory from Belgium shows a considerable increase in quantity. Outdoor vegetables continue to be scarce. Large numbers of Onions are reaching the market from Dutch growers.

GARDENING APPOINTMENTS.

Mr. J. O. Jones, as Gardener to PHILLIP NUTTER, Esq., Halebourne, Chobham, Woking, Surrey.

Mr. T. Wilkins, for nearly five years Gardener to Mrs. TRAHERNE, Coedarhydyglyn, near Cardiff, as Gardener to J. G. MOREL, Esq., Wenstaff Court, Pontyclun, Glamorgan. Thanks for 2s. for R. G. O. F. box.—EDS.)

Mr. F. A. Bush, late temporary Gardener to Sir IAN AMORY, Bart., Knightshayes Court, Tiverton, and previously Foreman at Bowood, Wilts, as Gardener to J. G. MOREL, Esq., Henstaff Court, Worcester.

Mr. W. A. Cook, formerly Gardener to the late Hon. A. DAVEY, Abbott's Wood, Godalming, and at Leonardslee, Horsham, as Gardener to J. OSBORNE, Esq., Drynham, Walton-on-Thames, Surrey.

Mr. J. Williams, after serving for nearly two years with His Majesty's Forces has resumed his duties as Gardener to F. MONCKTON, Esq., Stretton Hall, Stafford.

Mr. Charles E. Faulkner, late Royal Garrison Artillery, previously Foreman at Lisnavagh, Abbottstown, and Loughcrea, as Gardener to Lord RATHDONNELL, H.M.L., Lisnavagh, Rathvilly, co. Carlow, Ireland.

Mr. G. S. Aubertin, for nearly three years with H.M. Forces, has resumed his duties as Gardener to J. N. HEATHCOTE, Esq., Connington Castle, Peterborough.

Mr. G. C. Johnson, late 2/15 London Regt., and previously Sub-inspector, H Branch, Board of Agriculture and Fisheries, and the Royal Gardens, Kew, as Assistant Horticultural Instructor, Wrexham Horticulture Training Centre, North Wales.

Mr. Jas. Smith, late Gardener at Oldbridge, and previously for six years at Mulroy, as Gardener to the HON. LADY ANNALY, Gowran Castle, Co. Kilkenny.

Mr. John G. Davidson, previous to the outbreak of war Gardener to Sir JAS. ROBERTS, BART., Strathallan, Perthshire, as Gardener at Stirling District Asylum, Larbert.

CATALOGUES RECEIVED.

STUART LOW & Co., Bush Hill Park, Enfield.—Carnations.

FOREIGN.

PETER HENDERSON & Co., 35-37, Cortlandt Street, New York.—Vegetable and Flower Seeds (wholesale).

VILMORIN-ANDRIEUX & Co., 4, Quai de la MegIisserie, Paris.—Plants.

SCHEDULES RECEIVED.

The Bournemouth Horticultural Society's summer show, to be held on June 24th and 25th, on the Horseshoe Common; the autumn show will be held on October 28th and 29th, in the Winter Gardens, Bournemouth. Secretary: Mr. J. Mann, 4, Lansdowne Crescent, Bournemouth.

National Auricula and Primula Society.—T. E. Henwood, 16, Hamilton Road, Reading.

The Birmingham Horticulture Society's Floral Fête and Exhibition, to be held in Handsworth Park, on Friday and Saturday, July 18 and 19, 1919. Secretary: Mr. L. W. Webster, 62, Frederick Road, Stechford, Birmingham.

Flower Show, in conjunction with the Royal Agricultural Society's Exhibition to be held at Cardiff on Wednesday, June 25, to Friday, June 27, 1919. Secretary of the Horticultural Section, Mr. Peter Blair, Trentham, Stoke-on-Trent.

THE

HORTICULTURAL

DIRECTORY &

YEAR BOOK

FOR 1919.

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SITUATIONS WANTED.

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SUBSCRIPTIONS.

THE UNITED KINGDOM ... ... 19/6 per annum.
ABROAD ... ... 22/- " "

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41, WELLINGTON STREET, COVENT GARDEN, LONDON, W.C.2.

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PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2 Journeymen are required for good situations. Send full particulars of past experience.

GARDENER (HEAD WORKING) wanted by end of March, for Surrey; a very capable, energetic Man, thoroughly experienced in all branches of Horticulture. Inside and Out; early and late forcing of Vegetables, and used to managing good Private gardens; permanency; good wages; new cottage offered.—Please write, stating full particulars of previous experiences and age, to L. J. FAIRMAN, Secretary, Bookham Grove, Surrey

WANTED, HEAD WORKING GARDENER of three for Yorkshire, near Boroughbridge.—Write, stating full particulars and wages required, to CAPT. HUTTON CROFT, Grand Hotel, Eastbourne.

WANTED for country near Kingham, GARDENER (SINGLE-HANDED); thoroughly experienced Inside and Out; married (small or no family); boy kept; wages 35s., cottage and vegetables.—COLONEL KETTLEWELL, Fifield, Oxford.

WANTED, LEADING HAND for Pleasure Grounds; knowledge of Rookery, Roses, Herbaceous; state experience, age, wages expected, with bothy, vegetables, attendance; 1 o'clock Saturdays.—J. HOAD, Colworth Gardens, Sharnbrook, Beds.

WANTED, at once, SINGLE-HANDED GARDENER, with all-round experience; £2 to £2 5s.; suit single man; no cottage.—Apply, with references, WINGFIELD, "Brooklyn," West Drayton, Mdx.

WANTED, good GARDENER (SINGLE-HANDED); married; experienced in Bush and Cordon Apple Cultivation; good cottage, vegetables, etc.—Apply, stating wages and experience, to DR. BAILEY, Havelock House, Crewe.

WANTED, experienced man KITCHEN GARDEN and PLEASURE GROUNDS; wages 30s., bothy, milk, vegetables, firing and light; extra pay for duty and overtime.—LAWRENCE, The Gardens, Burnham Grove, near Maidenhead.

WORKING GARDENER wanted immediately for large grounds of Village Homes, Barkingside, Essex; skilled Man with good experience, able to direct work of other men.—Apply, GOVERNOR, as above, with testimonials, and state wages asked.

WANTED, GARDENERS, experienced; accustomed to Laying Out; state wages.—J. WRIGHT, Jun., 13, College Avenue, Leicester.

WANTED, GARDENER; single; must have good references; thoroughly experienced in rearing rotation of crops for house supply; good knowledge of Greenhouse Flowers; usual house duties required; live in; age 35-50; 28s. per week, all found.—Apply, SMITH, Briarwood, Slough Lane, Kingsbury, Middlesex.

WANTED, GARDENER (SINGLE); splendid home, live in; all found; good pay; must understand Flowers and Vegetables.—67, Wigmore Street, W.

WANTED, a thoroughly reliable GARDENER-CARETAKER, for a house near Horsham; wages, 30s. to 40s.; cottage; profit sharing; experienced, vegetables and fruit; fowls and pigs, if possible; married preferred; wife to give occasional help in house.—Reply fully to Lieut.-Col. H. E. DAY, Air Ministry, Strand, W.C.2.

WANTED, good SECOND GARDENER; experienced Inside and Out; single preferred; wages 35s; overtime paid.—Apply, HEAD GARDENER, Bartley Lodge Gardens, Cadnam, Hants.

WANTED, SECOND GARDENER (married); to take charge Inside; well up in Fruits, Carnations, and Chrysanthemums; good cottage and garden.—State wages expected and particulars to A. W. TIDY, Greathouse Gardens, Chippenham, Wilts.

WANTED at once, SECOND GARDENER, chiefly Outside, take turn with duty; three kept.—Apply, stating wages expected and particulars, to J. CHAMBERS, The Gardens, Leigh Holme, Streatham, S.W.16.

WANTED, good SECOND GARDENER, chiefly Outside; married.—Apply, with full particulars, wages required, with cottage and garden found, to F. SPENCER, Gardens, Tockenham Manor, Wootton Bassett, Wilts.

WANTED, good SECOND GARDENER, experienced Inside and Out. Please state full particulars and wages required with room and attendance.—Apply, POCOCK, The Gardens, Poundon, Marsh Gibbon, Bicester, Oxon.

WANTED, SECOND GARDENER, Inside and Out; take duty; no bothy; comfortable place and good wages given; overtime paid; 12 o'clock Saturdays.—GEO. DYKE, The Hermitage Gardens, Holmes Chapel, Cheshire.

WANTED at once, experienced SINGLE MAN, about 20 years of age, as Second Gardener, for Inside and Out; able to take duty; state wages, without bothy, and when at liberty.—Apply, HEAD GARDENER, Sketchley Hall, Hinckley, Leicestershire.

WANTED, a MAN for the Houses, second of six; rooms, coal and light found; state wages required.—F. TUSTIN, Abbotswood Gardens, Stow-on-the-Wold.

WANTED, UNDER - GARDENER, experienced.—Apply, stating wages required, age, experience, etc., to Mr. COMLEY, The Gardens, Hitcham Place, Taplow.

UNDER-GARDENER wanted, second in staff of five; good, general man of experience; remuneration, 37s. 6d., made up as 32s. 6d. and 5s. bonus; cottage available later; permanent situation in ideal surroundings. State full qualifications. All moving expenses paid.—CAPT. STEWART SMITH, Heathlands, Kinver, near Stourbridge.

WANTED, FOREMAN for Fruit and Plant Houses; good, reliable man to take interest in place. Also JOURNEYMAN for Lawns; wages 35s. and 33s., with bothy, milk and vegetables.—J. ALEXANDER, Godinton Gardens, Ashford, Kent.

FOREMEN, Outside, for good situations.—Stewart & Co., 13, South St. Andrew Street, Edinburgh.

WANTED, FOREMAN for the Houses; must be a capable man with good references; wages 35s. per week, bothy, etc.—Apply, A. BULLOCK, Copped Hall Gardens, Epping.

WANTED, FOREMAN; a knowledge of Vines, Peaches, and Greenhouse Plants essential; wages 35s. per week with bothy; to take charge until head gardener is demobilised.—Apply, with copies of testimonials, to A. CALDERBANK, Nurseryman, Lawton Street, Congleton, Cheshire.

WANTED, FOREMAN; Inside, single.—State experience, wages required, with bothy, etc., to THE GARDENER, Ramsbury Manor, Wilts.

WANTED, experienced FOREMAN for Inside work only, to take charge of fruit and plant houses; bothy and good wages.—Apply, W. J. BAKER, Golding's Gardens, Great Warley, Essex.

WANTED, FOREMAN for Fruit and Plant Houses; wages 35s. per week; bothy, milk and vegetables; 1 o'clock Saturdays.—Apply, stating age and experience, to L. T. PETTY, Arlington Manor Gardens, Newbury.

WANTED, FOREMAN for Fruit and Plant Houses; bothy, vegetables, etc., and attendance; state age, experience, and wages required.—G. E. WEEKES, Penoyre Gardens, Brecon.

WANTED immediately for these gardens, FOREMAN; inside; wages 36s.; also good man for Flower Garden and Pleasure Grounds; wages 34s.; 6s. extra for duty; bothy, milk, and vegetables.—Apply, W. H. COOKE, Kingston Hall Gardens, Near Derby.

WANTED, MARRIED MAN to take the lead on Pleasure Grounds, etc.; state wages and full particulars; cottage provided.—T. F. STANNETT, Houndswood Gardens, Radlett, Herts.

WANTED, good JOURNEYMAN for Stove and Greenhouse Plants; age 24; also Strong, active IMPROVER, age 16; wages, 30s. and 20s. respectively, with bothy, vegetables, etc.; Sunday duty and overtime well paid.—W. PHILLIPS, The Gardens, Derry Ormond, Llangybi, Cardiganshire.

WANTED, JOURNEYMAN, Inside and Out; bothy, milk, vegetables; duty; state age, experience, and wages; good references.—T. HERBERT, Tilstone Lodge, Tarporley, Cheshire.

WANTED, two JOURNEYMEN or IMPROVERS, one for Fruit and Plant House, one for Inside and Out; state experience and wages expected, with bothy and vegetables.—A. H. CASEY, Huntroyde Gardens, Padiham, Lancashire.

WANTED, JOURNEYMEN for Plant Houses and Chrysanthemums; 32s., excellent bothy, vegetables, and attendance; duty every second week.—Apply, D. D. ROBERTSON, Ashridge Gardens, Berkhamsted.

WANTED, JOURNEYMAN for Outside; good wages and bothy.—Apply, REID, Gardener, Wyck Hill, Stow-on-the-Wold, Glos.

WANTED, two JOURNEYMEN, one Inside, one Outside; wages 30s. and 28s.; bothy, milk, etc.; duty alternate Sundays.—Apply, GARDENER, Lamb Close House, Eastwood, Notts.

WANTED, JOURNEYMAN for Lawns and Flower Gardens; good wages; no bothy.—Apply, H. BLAND, Head Gardener, Heawood Hall, Chelford, Cheshire.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; wages 30s. Also LEADING HAND in Kitchen Garden; wages 35s.; good bothy and attendance; 7s. 6d. paid for duty, 9d. per hour overtime; 1 o'clock Saturdays.—State age, with full particulars of experience, to J. BROWN, Gardens, Burford, Dorking, Surrey.

WANTED, JOURNEYMEN for Inside, also Outside, 30s. per week, bothy, etc.; England and Scotland.—STEWART & CO., 13, South St. Andrew Street, Edinburgh.

WANTED, good JOURNEYMAN for the Houses; state experience, age, wages expected, with bothy, attendance; duty extra; 1 o'clock Saturdays.—J. HOAD, Colworth Gardens, Sharnbrook, Beds.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; 1 o'clock Saturday; Sunday duty paid.—State experience and wages required, to E. CARTER, High Leigh Gardens, Hoddesdon, Herts.

WANTED, JOURNEYMAN for Fruit and Plant Houses; bothy, vegetables, and attendance; 1 o'clock Saturdays.—Apply, stating experience and wages required, E. C. KINNS, Blenheim Gardens, Woodstock.

WANTED, experienced JOURNEYMAN, chiefly for Houses, wages 32s. per week; also JOURNEYMAN for Kitchen and Pleasure Gardens, wages 30s. per week; bothy and vegetables included in each case; Sunday duty paid.—WILSON, Dunsmore Gardens, Rugby.

WANTED, IMPROVER, Inside; 25s. per week; bothy and vegetables; 1 o'clock Saturdays.—Particulars to WM. PILGRIM, Bodorgan Gardens, Anglesey.

WANTED, good MAN for Grapes, Peaches, Tomatos, etc.; wages £1 17s. 6d. per week. Also two MEN for the Pleasure Grounds, Herbaceous Borders, Alpines, etc.; wages £1 15s. 6d. per week, with an allowance towards lodgings.—Apply to A. ROBBINS, Canons, Edgware, Middlesex.

WANTED, experienced MAN for Inside; some knowledge of Orchids preferred.—State experience and wage required, to J. SMALES, The Gardens, Franche Hall, Kidderminster.

WANTED, an experienced MAN to take the lead in Kitchen Garden; 30s. per week, with bothy, milk and vegetables; good bothy and attendance; 1 o'clock Saturdays.—Apply, with references, to A. BALLARD, Glanusk Park Gardens, Crickhowell.

WANTED, MAN for Flower Garden; well experienced in Herbaceous Plants, Alpines, &c. W. GILL, Oakfield Gardens, Wimbledon Common, Surrey.

WANTED, a thoroughly experienced Single MAN for Inside, well up in Fruit and Plant Culture, to take charge of Glass department; good wages given with bothy, etc.; duty each other week. Apply, stating age, experience and copies of testimonials, to HEAD GARDENER, c/o J. Stuart, Esq., C.B.E., Stonehurst, Ardingley, Sussex.

WANTED, MAN, married or single, for work on Pleasure Grounds; able to take duty.—T. WRIGHT, Sprotboro' Gardens, Doncaster.

WANTED, good active MAN for Lawns and Pleasure Grounds; able to use scythe and take duty.—Apply, with references and wages required with bothy, to GEO. HALLETT, Netherby, Carlisle.

WANTED, strong SINGLE MAN for Outside Work; able to use scythe and take duty; bothy and good wages.—H. WENMAN, Temple Newsam Gardens, Leeds.

WANTED, YOUNG MAN, age 20-23, for Inside work; state experience and wages, with bothy, vegetables; 1 o'clock Saturday.—J. PEPLOW, Compton Verney Gardens, Warwick.

WANTED, a YOUNG MAN, experienced in Kitchen Garden and Pleasure Grounds; take duty; bothy and vegetables; 1 o'clock Saturday.—Particulars and wages to J. A. MULFORD, The Gardens, Merevale Hall, Atherstone, Warwickshire.

WANTED, YOUNG MAN, age 23-24 (Inside); good plantsman; state age, experience, wages expected, with bothy, milk and vegetables; duty every alternate week.—Apply, W. H. THRUSH, Gardens, "Sunnyside," Holmwood, Surrey.

WANTED, two young men; one inside and out, one Kitchen Garden and Pleasure Grounds; good bothy; wages 28s.; duty and overtime extra. R. RYE, Woodlands, Uxbridge.

WANTED, YOUNG MAN with experience of Bedding Out, Herbaceous Borders, etc.; able to take duty; Saturdays, 1 o'clock; all overtime and Sunday duty paid.—Particulars to S. BURGESS, The Gardens, Ranelagh Club, Barnes, S.W.

WANTED, a YOUNG MAN for Pleasure Grounds, work under Foreman, wages 30s. per week, with bothy; take duty; also strong YOUTH for Kitchen Garden, wages £1 per week, with bothy.—Apply, T. BURN, Cuerdon Hall Gardens, Bamber Bridge, Preston, Lancashire.

WANTED, strong YOUTHS from 18, for Inside; live in bothy.—For particulars and wages apply, BARTON, Sedbury Gardens, Sidmouth.

LADY UNDER-GARDENER for Outdoor work; strong, capable, reliable, with some knowledge of poultry; good cottage, coal; wages 30s.—Apply, HEAD GARDENER, Quarry Cottage, Ashurstwood, East Grinstead, Sussex.

EXPERIENCED LADY GARDENER wanted, near Belfast; non-resident; Protestant; man to help; 45s. weekly.—G. M. E., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, two WOMEN GARDENERS to work jointly, Inside and Out; good wages, bothy, etc.; 1.30 Saturdays.—J. F. DANCER, Talacre Hall Gardens, Presttatyn, N. Wales.

LADY GARDENER to help private owner (expert) with large Rock and Water Garden, seven miles from Leicester; intelligent, strong, young Woman wanted; keen on learning; previous experience not essential; state wages; good references necessary.—A. F., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

YOUNG LADY required to help in the Garden, also Greenhouses.—Apply, stating wage and experience, to H. SHARPE, Midhurst Road, Fernhurst, Surrey.

HANDYMAN wanted for Garden and Estate Painting, etc.—Wages and particulars to LOWE, Grendon Hall Gardens, Aylesbury.

WANTED, MAN to drive motor Lawn Mower; good wages, with bothy and vegetables; 12 o'clock Saturday.—G. W. MUSK, Wiseton Gardens, Bawtry, Yorks.

TRADE.

WANTED for the staff of a public Parks Department, a DRAUGHTSMAN used to planning and setting out Parks and Gardens. One with a knowledge of Trees and Shrubs and landscape values preferred. Applications, stating experience and salary required, together with copies (which will not be returned) of three recent testimonials, to be addressed to "MIDLANDS," Box 25, 41, Wellington Street, Covent Garden, London, W.C.2.

WANTED, WORKING MANAGER to take charge of three acres of Glass; Cucumbers, Tomatos; must be good manager of labour; good references essential. — State wages required and experience.—H. S. W., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

ASSISTANT MANAGER for Indian Tea Estate, wanted, GARDENER, age 20 to 25 preferred. For particulars apply to THOS. COOMBER, The Hendre Gardens, Monmouth.

GARDENER, MARKET FOREMAN, MANAGER; experienced Grower Cucumbers, Tomatos, Grapes, Chrysanthemums and Pot Flowers for market sale. Responsibility given and profits shared to good organiser. Full particulars Nursery experience, salary expected, when disengaged.—ELM NURSERIES, Warwick Hall, Bromsgrove.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village N.6.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR, for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden; ROSE GROWER (Outdoor); majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

WANTED, FOREMAN for Glass Department; must be good grower and propagator; chiefly soft-wooded plants; state experience and wages required.—J. WRIGHT & SONS, Nurserymen, Leicester.

WANTED, capable MAN to take charge; general Outside Nursery work, Cut Flowers for Covent Garden Market, Growing and Bunching. Also two or three general NURSERY HANDS, for Inside and Outside work. Single men preferred, owing to shortage of housing accommodation. Lodging available.—Write, giving particulars, experience, wages required, &c., to ST. GEORGE'S NURSERY CO., Harlington, Middlesex.

PROPAGATOR wanted; good wages to competent man; used to raising Spring Bedding and Herbaceous Plants.—Apply, Toogood and Sons, The King's Seedsmen, Southampton.

WANTED experienced GROWER and PACKER, principally for Tomatos, Chrysanthemums and Bedding Plants, etc., with early prospects of Foremanship to smart capable man.—State wages expected, with copy of references, to HENRY H. GIBSON, Woodside Nurseries, New Longton, near Preston.

WANTED, a FERN RAISER and GROWER.—Apply, with references and wages, required, to L. M., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, experienced Cucumber and Tomato Hands; good wages given; good references essential.—H. S. W., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, MAN for Greenhouses; Grower, and able to serve customers; bedding plants, tomatos, chrysanths, perennials, cut flowers; state wages and references, age, etc.—W. A. CROWDER, Horncastle, Lincs.

WANTED immediately, smart, capable MAN for Landscape Work (Single Man preferred); must be thoroughly experienced and able to carry out contracts and make himself generally useful in all kinds of Outside work.—WRIGHT, The Nurseries, Pangbourne.

WANTED on Fruit Farm, SINGLE MAN for Inside and Out; some knowledge of Peach growing.—Particulars to A. E. KERR, Fruit Farm, Sandon, Chelmsford.

WANTED, SINGLE MAN for Cucumbers at once; good wages to right man; state age, experience.—MANAGER, Clifton Fruit Growers' Co., York.

WANTED, NURSERY HANDS; single men; hours, 52½; wages 43s. 9d. and share of profits.—Detailed applications to J. B. SLATER, The Nurseries, Skipton.

WANTED, smart, intelligent YOUTHS in our Rose, Fruit, Herbaceous and Alpine Departments; good wages to the right men.—Particulars as to age, experience, if any, and wages, to JOHN WATERER, SONS & CRISP, LTD., Hare Hatch, Twyford, Berks.

WANTED at once, REPRESENTATIVE to Travel for a leading Wholesale House in the Seed Trade. Apply K., Box No. 15, 41, Wellington Street, Covent Garden, W.C.2, with fullest particulars as to experience, references, salary required, etc.

SEED TRADE.—Wanted shortly, by wholesale house, experienced and reliable MAN as MANAGER of Garden Seed Department. Able to control staff and supervise crops and trials. — Apply, S. C., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, smart young SHOPMAN with some knowledge of Seed and Nursery Trade, state age, experience, and wages required; references.—WILLIAM THOMPSON, Sheen Nurseries, Richmond, Surrey.

WANTED, expert FLORIST, experienced Seeds, Bulbs, Sundries; Male or Female; single.—Apply, J. SLATER, Seedsman, etc., Skipton.

FLORISTS wanted: MANAGERESS and an IMPROVER; state age and salary; good home.—STRATTON, Fruiterer and Florist, Luton, Beds.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

HEAD GARDENER and BAILIFF, age 45, seeks an appointment where a thorough competent and trustworthy man is required; life experience in good establishment; highest recommendation as to character and ability.—A. J., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

ESTATE or GARDENER - BAILIFF; good knowledge of both; Repairs, Rents, Accounts, Timber, etc.; no family at home; three sons on active service; leaving through estate being sold; good references.—HOBBY, Moor End, Maisemore, Gloucester.

GARDENER-BAILIFF (WORKING); good all-round experience fruit, flowers, vegetables, and usual estate work, also growing in quantity for institution; life references; three years present place; married, no family.—W. WILSON, Fast Dene Gardens, Bonchurch, Ventnor.

THE Hon. H. B. Money-Coutts highly recommends W. ABRAHAMS as HEAD GARDENER, where several are kept; has been with him 7½ years; 30 years' experience, gained in large establishments; excellent testimonials from previous employers; married; age 44 years; leaving owing to estate being sold. —WM. ABRAHAMS, Stoodleigh Court Gardens, Tiverton, Devon.

HEAD GARDENER or GARDENER-BAILIFF, age 41, demobilised, seeks re-engagement; 26 years' first-class practical experience in all branches; 10 years as gardener-bailiff; highly recommended; married.—LETTS, Woodmansterne, Epsom, Surrey.

MRS. GUTHRIE, East Hadden Hall, desires to highly recommend her late HEAD GARDENER where several are kept as a thoroughly competent, reliable man in all branches; demobilised.—TURNER, 18, Blomfield Street, Bury St. Edmunds.

THE HONBLE. MRS. GUY FEILDEN highly recommends her late HEAD GARDENER; recently demobilised; life experience in all branches; charge of electric light if required; married; (two children, age 13 and 9). Please state wages.—CHARLES HARVEY 54, Lea Road, Southall, Middlesex.

THE HON. A. J. MULHOLLAND, who is leaving Worlingham, will be pleased to recommend his Head Gardener as a thorough practical man in every branch, hard working, economical and good manager; estate work, also bees.—Address to above, or MORRIS, Worlingham Gardens, Beccles.

MR. F. R. PELLY recommends thoroughly experienced HEAD GARDENER, competent in all branches of his work, who has been in his service throughout the period of the war.—Write ROBERT MURRAY, Hockwold, Brandon, Suffolk.

MRS. FORSYTHE will recommend A. KELLAWAY, HEAD GARDENER where two or more are kept; was five years in her service previous to enlistment; age 42; understands electric light plant.—A. KELLAWAY, Avenue Villa, Kingston Road, Leatherhead.

MR. J. VOSS, Kedleston House Gardens, Derby, wishes to highly recommend A. E. FRIEND as HEAD GARDENER to any lady or gentleman requiring the services of a thoroughly practical man. He has been General Foreman here seven years; age 33; married (no children); demobilised; excellent references.

MAJOR ALEXANDER, having sold his place, confidently recommends his late Head Gardener to any Lady or Gentleman requiring a thorough good all-round man; was in my employ eight years; age 43; married (two children); demobilised.—Particulars, SMITH, 53, Napier Road, Tunbridge Wells, Kent.

H. J. BUCKMASTER, Esq., can with confidence recommend his late HEAD GARDENER to any Lady or Gentleman requiring a first-class trustworthy man; life experience in all branches, including landscape; good manager of men; age 40; married (two children); demobilised.—H. WRIGHT, Upper Highway, Hunton Bridge, King's Langley, Herts.

J. C. POTTER highly recommends his HEAD GARDENER; thoroughly efficient all branches; highest references; 4 years present, 9 previous; age 48; disengaged; leaving through establishment being broken up.—ELBOURN, 8, Bryanston Square, London, W.

GARDENER (HEAD).—A. G. SOAMES, Esq., will be pleased to recommend W. EDWORTHY (recently demobilised), for over eight years Head Gardener at Sheffield Park, Uckfield, Sussex, to anyone requiring first-class Man for good establishment; thoroughly efficient all branches; age 43; married (two children, 8 and 4).—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

GARDENER (HEAD); life experience all branches; expert fruit grower; also estate management, electric light; highest references; 12 years as Head; demobilised; age 43.—HARPER, Danbury, Chelmsford.

HEAD GARDENER leaving Ireland is open to engagement; qualified for extensive charge; highest credentials; recommended by Mr. A. Chapman, Gardener to Lt.-Col. Sir Geo. Holford, and others.—Apply, "GARDENER," c/o Mr. T. Lewis, 45, Uxbridge Road, Hanwell, W.7.

GARDENER (HEAD) where four or more are kept; experience in all branches; a good practical experience of Kitchen Garden; 18 years last place; demobilised; age 39; married (no family); good references.—Apply, S. W. HINE, 11, New Road, South Street, Ponders End.

HEAD GARDENER, disengaged; life experience in all brances, Inside and Out; good references; married (no family).—GARDENER, c/o Mr. Cooper, The Stables, Beomonds, Chertsey.

GARDENER (HEAD), demobilised, life experience all branches; six years Head last place; suburbs preferred; age 38; married (one child).—Apply, C. MARKE, 71, Elm Road, Kingston-on-Thames.

GARDENER, demobilised, seeks situation, Head of two or more; excellent testimonials and good general experience; age 30; married.—MARTIN, 170, Hamilton Road, West Norwood, London.

GARDENER (Head of two or three); age 38; married; good all-round experience, Inside and Out.—State wages, FRANKLIN, The Gardens, Burnham Grove, Burnham, Bucks.

WANTED, situation as HEAD GARDENER; 17 years' excellent experience gained at Bowood, The Dell, Stoke Place, Hall Barn, Knowsley, and Blankney; Carnations a specialty; good references; age 34; married (one boy 3 years); recently demobilised from Royal Navy.—J. BISHOP, 2, Gordon Villas, Desborough Park Road, High Wycombe, Bucks.

GARDENER (HEAD), demobilised, seeks re-engagement; life experience; energetic and hard-working; good manager; age 38; married.—EVANS, 1, Gladstone Terrace, St. John's Road, Epping.

GARDENER (HEAD).—A keen, energetic and capable MANAGER desires responsible post; first-class all-round, expert Fruit Grower.—GEO MORBEY, Town Hall, Knutsford, Cheshire.

GARDENER (HEAD) where two or three others are kept; life experience inside and out; over a year Head; age 42; married, one child.—WHEELER, Glengarriff, Queen's Road, Crowborough. (Demobilised.)

HEAD GARDENER seeks re-engagement; life thorough practical experience; inside and outside; good establishments; skilled cultivator of vegetables, salads, choice and hardy fruits, plants, orchids, carnations, roses, pleasure grounds; 18 years head; excellent testimonial; age 46; married; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD) where three or four kept; life experience all branches; good references; abstainer; demobilised Navy; aged 30; married.—WELLS, 16, Barnsdale Road, Paddington, W.9.

GARDENER (HEAD); life experience in all branches, seeks re-engagement where fully competent man is required for first-class establishment; eight years at Paxhill; highly recommended; age 41; married; disengaged. — H. MANTON, Paxhill Park, Lindfield, Sussex.

GARDENER (HEAD), life experience, seeks situation with lady or gentleman who require a practical and thoroughly competent man in all branches. Previous to Army service, six years Head Gardener at Pyt House, Tisbury, Wilts. Highest ref.; age 39; married (no family).—H. MARTIN, Lodge Farm, Colne Engaine, Essex.

GARDENER (HEAD) where a thorough practical man with life experience is required in all branches; accustomed to large establishments, renovations; woods and grass lands if required; good or ganiser; excellent credentials; demobilised; aged 41; married, no family; abstainer.—F. WESTRON, Marlston, Near Newbury.

GARDENER (HEAD or good SINGLE-HANDED); practical life experience in Gardening in all its branches, Inside and Out; Land and Stock; married; age 50; excellent references.—Apply, J. DAVIS, Highlands, Woldingham, Surrey.

HEAD GARDENER disengaged; 30 years' experience all branches; good experience with Orchids, etc.; no family; good references.—JAS. SMITH, Springlock, Blenheim Park, Woodstock, Oxon.

HEAD GARDENER (two or more kept); life experience in all branches; 7½ years last situation; left through death; first-class references.—Apply, R. WALLIS, Winstone, near Cirencester, Glos.

GARDENER (HEAD) where two or more are kept; life experience in all branches; excellent references; age 37; married (one girl); five years as Head previous to joining the Service, now demobilised.—D. REYNOLDS, High Street, Hopton, Thetford, Norfolk.

GARDENER (HEAD); life experience in all branches in good places; age 42; married (3 boys); good references; 7 years present situation.—KEEBLE, Manor Gardens, Lechlade, Glos.

GARDENER (HEAD); life experience all branches, vines, peaches, melons, plants, and outside work; good recommendation; 32; married, one child; state wages.—H. A., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD).—Mr. A. D. THOMPSON, F.R.H.S., Consulting Horticulturist, highly recommends an organising and productive Horticulturist, under glass and outside, including Alpines and Landscape; undertake estate duties; age 42; married.—CUCKNEY, 59, Ashleigh Road, Mortlake, Surrey.

ORCHID GROWER or HEAD GARDENER where Orchids are one of the leading features; expert in raising and growing orchids; 15 years' experience in first-class places; highly recommended; 4½ years' Army service; last place sold while on active service; age 33; married (one child).—C. RUSHTON, Bromhill, Calne, Wilts.

JOHN DUVEEN, Esq., Chipstead Place, wishes to very highly recommend A. GULVIN as GARDENER (HEAD WORKING) to any lady or gentleman requiring the services of a thoroughly experienced and trustworthy man; life experience; eight years in present situation; age 33; married (no family). Please state wages.—GULVIN, Chipstead Place, Sevenoaks.

GENTLEMAN highly recommends his HEAD WORKING GARDENER; thoroughly practical in all branches; please state wages; suburbs preferred.—GARDENER, 24, Horsford Road, Brixton Hill, S.W.2.

MR. O. N. HOLT-NEEDHAM, Barton Court, Colwall, thoroughly recommends R. RUSSELL, age 31, as WORKING HEAD GARDENER; experienced and capable; only reason for leaving, demobilisation and return of former Head Gardener; Midlands or West Midlands preferred.—Ivy Cottage, Colwall Green, near Malvern.

OXLEY PARKER, Esq., of Sharpham, near Totnes, Devon, wishes to highly recommend G. R. HORROCKS as Head (Working) Gardener; thoroughly experienced inside and out; foreman previous to enlistment; married when suited; age 29; demobilised.—G. R. HORROCKS, Wray House, Emsworth, Hants.

GENTLEMAN will be pleased to recommend his Head Working GARDENER where two or more are kept. Life experience all branches; middle age; married.—C. C., c.o. E. P. Dixon and Sons, Seedsmen, Hull.

GARDENER (HEAD WORKING) where several kept; life experience in all branches; nine years Head; just demobilised from Army; married (one child, age six years); personal recommendation from late employer.—G. DYER, Fawsley Park, nr. Daventry, Northants.

GARDENER (HEAD WORKING) or good SINGLE-HANDED; life experience in all branches, Inside and Out; Carnations and Fruit speciality; good references; married (no family); age 49.—ELLIS, River Lane, Whitchurch, Oxon.

GARDENER (HEAD WORKING) seeks situation; age 37; demobilised; life experience all branches of private gardens; 4½ years previous as Head; married.—E. FULLUCK, Bricket Wood, Watford.

GARDENER (HEAD WORKING), age 37, first-rate experience in all branches; good refs.—J. BROTHERHOOD, 58, Tudor Road, Hampton-on-Thames, Middlesex.

GARDENER (HEAD WORKING) where two or three are kept; life experience in all branches, both Inside and out; 8 years last situation; disengaged; age 42; married; abstainer; good references.—GEORGE HELMLEY, Slinfold, Horsham, Sussex.

GARDENER (HEAD WORKING) where three or four are kept; life experience in all branches, Inside and Out; age 45; married (no family); disengaged when suited.—A. EVERITT, Knott Park Gardens, Oxshott, Surrey.

GARDENER (HEAD WORKING) where two or three are kept; life experience in all branches; just demobilised; 9½ years as Head last situation; age 42; married (two children, 17, 14); excellent references; wife would manage dairy.—W. QUENNELL, Gairlock Villas, Sunninghill, Berks.

GARDENER (HEAD WORKING); life experience gained in large establishments; thoroughly understands Fruit, Plant Culture under Glass; first-class knowledge Herbaceous, Alpines, Roses, etc., Fruit and Vegetable culture; 3½ years Head to Mrs. Hornby Lewis, "Danesfield"; good organiser; well recommended; age 35; married one child).—N. DAVEY, "Danesfield," Marlow, Bucks.

GARDENER (HEAD WORKING), demobilised; life experience in all branches, Inside and Out, in good establishments; four years as Head last situation; age 38; married (one child); excellent references.—Address, P. BUTLER, 2, Berkeley Terrace, Norwood Road, Southall.

GARDENER (HEAD WORKING), life experience, seeks situation with lady or gentleman who requires a practical and thoroughly competent man in all branches; skilful cultivator of choice Fruits, Vegetables and Plants; leaving through death of employer and estate being sold. Can be highly recommended by a lady and a gentleman; married.—WILLIAM COLE, The Gardens, Clewer Manor, Windsor, Berks.

GARDENER (Head Working). — F. PAY, just demobilised, desires engagement; 20 years' experience in good establishments; well recommended; married (one child); age 33. — Harewell Cottage, Faversham, Kent.

GARDENER (Head Working) where three or more are kept; first-class experience in all branches, Inside and Out; married (one boy, age 8); age 42; just demobilised; excellent references.—Apply, COOK, Lamport Station, Northampton.

GARDENER (Head Working); age 38; life experience in all branches; good references; married (one boy, 10 years); just demobilised.—C. WILLIAMS, Rectory Cottage, Woolhampton, Berks.

GARDENER (Head Working).—H. RAMSBOTHAM, Esq., wishes to highly recommend his late Head Gardener where more are kept; life experience, Inside and Out; excellent reference; demobilised; age 39; abstainer; married (one child).—C. BOORMAN, Garthmyl, Beeches Rd., Crowborough, Sussex.

GARDENER (Head Working); thoroughly experienced in all branches; trustworhty, competent and good organiser; understand Electric Light Plant; age 48.—J. STARDEN, Angas Gardens, Cudham, Kent.

GARDENER (Head Working), with first-class qualifications from nobleman's garden for efficiency in all departments; skilful cultivator of Fruits, Plants, Vegetables; inside and out; highly recommended as a thoroughly practical, energetic and trustworthy man; Home Counties preferred.—W. T., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head Working) seeks re-engagement where four or more are kept; over 25 years' practical experience in all branches including Orchids (references qualifying same); age 40; married; abstainer.—Please state wages, H. STEDMAN, Ravenscraig Gardens, Conway, N. Wales.

GARDENER (Head Working); life experience gained in large establishments, under Glass, Kitchen Garden and Pleasure Grounds, Herbaceous Borders, etc.; excellent references; married; eight years head in last place.—Apply, GARDENER, c/o E. Guildford, Newsagent, Northolt Road, South Harrow.

GARDENER (Head Working); 17 years' thorough practical experience in all branches; highly recommended by previous employers; three years Head previous to three and a-half years with H.M. Forces; age 34; married (one child).—JOHN PARMENTER, Gay's Cottages, Upminster, Essex.

GARDENER (Head Working) where two or three are kept, requires situation; life experience in all branches; good references.—B., 33, Park Road, Henley-on-Thames.

GARDENER (Head Working) seeks situation; life experience, Inside and Out; married (one in family); age 40; good references. — Apply, J. MONNERY, Albert Villa, Cartbridge Send, Woking.

HEAD WORKING GARDENER, recently demobilised, active service, now desires re-engagement with lady or gentleman requiring same; 25 years' thorough practical experience in all branches; twelve years as Head; age 40; married.—HENRY BURFOOT, 2, Blenheim Cottages, Clayton Road, Hook, Surbiton, Surrey.

GARDENER (Head Working) or good Single-handed with help; 12½ years' experience Inside and Out; good knowledge of Orchids; age 31; married; demobilised.—Apply, P. CRAGG, Halam, Southwell, Notts.

GARDENER (Head Working) or FOREMAN, inside experience; age 38; single; demobilised.—W. OWENS, Hayne Cottages, Longmoor, Cullompton, Devon.

HEAD GARDENER (Working); life experience in all branches Inside and Out; 14 years as Head in present situation; recommended by present employer; age 50; no family.—A. WITT, The Gardens, Cuffnells, Lyndhurst, Hants.

GARDENER (Head Working), demobilised, disengaged; age 44; married (boy 15, girl 12); life practical experience all branches in large establishments, including Stratfieldsaye, Trentham, and Penrhyn; fifteen years last place as Head; excellent references; reason for leaving, estate sold during war.—LAILEY, Nettlestead, Maidstone.

GARDENER (Head Working); life experience in all branches Inside and Out in good establishments; Midlands preferred; experience in Vines, Peaches, Stove and Greenhouse Plants, Carnations, Chrysanthemums, &c.; age 49; married (one child, age 11); excellent references.—Apply, D. J., c.o. Dickson's Nurseries, Chester.

GARDENER (Head Working or good Single-handed with help) good references; 11 years present situation; married (no family); can be well recommended.—A. SAWKINS, The Elms Cottage, Sydenham Hill, S.E.

HEAD WORKING, where two or three are kept; life experience Inside and Out; age 34; married (one child); excellent references.—A. STAPLES, Jasmine Cottage, Westcott, Dorking.

GARDENER (Head Working) where several are kept; age 46; married (no family); life experience in all branches; 19½ years as Head; excellent testimonials; North or Midlands; please state wages.—OWEN, Broughton Hall Gardens, Skipton.

GARDENER (Head Working), age 38, seeks situation; life practical experience Inside and Out; Choice Fruits, Plants, Vegetables, Pleasure Grounds; married (no family); highly recommended; state wages.—WREN, 16, Sandlands Road, Walton-on-the-Hill, Surrey.

GARDENER (Head Working), just demobilised, seeks post where several are kept; life practical experience in all branches, gained in first-class establishments; three years and eight months head in last situation; age 36.—A. MORPHETT, The Common, Cranbrook, Kent.

GARDENER (Head Working); demobilised; A1; life experience gained in first-class establishments; 15 years Head; skilled grower of choice Fruits, Vegetables, Plants, Carnations, Roses, Orchids, and well-kept grounds; age 44 years; married (one daughter, 10 years).—Apply, PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (Head Working) requires situation in or near London; 24 years' experience, Inside and Outside; good worker and organiser; age 38; married.—Apply, F. J. CROSBY, 84, Falkland Road, Hornsey, N.8.

GARDENER (Head Working) where three or four kept; life experience; age 35; married (one girl of 10); personal recommendations; disengaged.—TURNER, Buckingham Road, Holmwood, Dorking, Surrey.

GARDENER (Head Working) where two or three are kept; life experience in all branches; well recommended; age 35.—C. MULLINS, Coombs House, Shaftesbury, Dorset.

GARDENER (Head Working or Single-handed with help); life experience inside and out; good references; married when suited; age 36; well recommended; discharged soldier; state wages.—W. MILLER, Assist. Hort. Instructor, Barnardiston Hall, Haverhill, Suffolk.

GARDENER seeks situation, Single-handed or with help; thorough experience; good references; age 30; married (one child); demobilised.—REYNOLDS, 11, Queen's Mews, Bayswater, W.2.

GARDENER, Single-handed or with help; 20 years good all-round; can run electric light; 5 and 3½ years good references.—Apply, SARGENT, Hillmead, Bushey.

GARDENER, good Single-handed or with help; life experience; Glass, Lawns, and Kitchen Garden; age 40; single; good references.—GREEN, 35, Eamont Street, St. John's Wood, N.W.8.

GARDENER (Single-handed or otherwise); life experience all branches; age 45; married (no family); 12 years' reference; last place sold.—PACKHAM, 1, Birling Road, Tunbridge Wells.

GARDENER (Single-handed) seeks situation; age 34; married (two girls); life experience Inside and Out; excellent references; understands poultry.—E. ANDREWS, Meadowside Stables, Cambridge Park, Twickenham.

GARDENER, Single-handed, experienced in all branches, age 33; married; good references; demobilised; London or suburbs preferred.—W. REED, Smithville, Gravelye Lane, Lindfield, Haywards Heath, Sussex.

GARDENER (Single-handed or otherwise) seeks situation; just demobilised; age 27; married (1 child); good reference.—F. SIMMONS, 6, Halleigh's Cottages, Cuckfield, Sussex.

GARDENER (good Single-handed or otherwise); life experience in large establishments; excellent references; age 43; married (no family); demobilised.—G. LEGGATT, 26, Wellfield Road, Streatham, S.W.16.

GARDENER, good SINGLE HANDED or otherwise; age 38; life experience in all branches; demobilised: married (one child); good references.—J. BAKER, 3, George Street, Worthing, Sussex.

GARDENER (Single-handed) or where help given; life experience inside and out; excellent references; age 28; married, no family; accustomed to animals; demobilised from Navy.—LACEY, 30, Falkland Road, Kentish Town, London.

DISCHARGED SOLDIER requires situation as SINGLE-HANDED GARDENER; single; age 29; knowledge of Vines, Flowers, Vegetables, etc.; four years in last situation. Please state wages.—M. COLEBY, Honington, Grantham, Lincolnshire.

GARDENER seeks situation where help is given; 10 years experience Inside and Out in good places; age 26; married when suited; Sussex preferred.—R. BROWN, The Bridge Inn, Winchelsea, Sussex.

GARDENER, married (no family), age 31, requires situation immediately; nine years' experience, Inside and Out; or General Outside Work; demobilised; 3½ years' service; good references.—Please state wages, with cottage, Surrey or Sussex, to A. LEADBETTER, White House Farm, Binfield, Berks.

KITCHEN GARDENER or Pleasure Ground Foreman; good practical experience; good references; married; age 46, one child.—W. EMBERSON, Manor House Cottage, Effingham, Surrey.

GARDENER, just demobilised, seeks situation; life experience in all branches; two years last place previous to joining the colours; age 42.—W. LILLYWHITE, 9a, Trentham St., Southfields, S.W.18.

MR. E. ATKINS, Hargrave Park Gardens, will be pleased to recommend H. TITMUSS as SECOND Inside in good establishment; left here to do war work; age 36; married (no family).—Apply, H. TITMUSS, c.o. Mrs. J. Livermore, Great Chishill, Near Royston, Cambs.

LADY MARGARET RYDER wishes to very highly recommend F. DEANEY as GARDENER (Second), inside; demobilised; 11 years experience in Vines, Peaches, Melons, Cucumbers, and Plants under glass, also House and Table Decorations; previous to enlisting, August, 1914, 4½ years in His Majesty's Forces as Sergeant; age 30; married; good references.—Please apply, F. DEANEY, Croxton, St. Neots, Hunts.

GARDENER, good Second or Single-handed; age 34; single; good references previous joining the Army 1914.—J. ROGERS, Longcroft, Rotherfield, Sussex.

GARDENER (Second or good Single-handed); life experience, Inside and Out, in good establishments, excellent references; age 30; married when suited; just demobilised.—H. PITMAN, Wookey Hole, Wells, Somerset.

GARDENER (Second) seeks situation, Inside and Out; eight years experience; good references; age 27; married; just demobilised; please state wages with cottage.—JOHNSON, Cross House, North Creake, Fakenham, Norfolk.

GARDENER, just demobilised, seeks situation as SECOND in good establishment; experienced Inside and Out; age 37; married.—WILSHER, 28, Avondale Road, Wimbledon, S.W.19.

GARDENER (Second), Inside or Inside and Out; life experience in good establishments; excellent references; age 32; married when suited.—W. FISHER, Thirlestane, Althorpe Road, St. Alban's.

UNDER-GARDENER seeks situation, Inside and Out, to live in bothy; age 25; home counties preferred.—A. FARMER, Bentley, Redditch, Worcestershire.

UNDER-GARDENER, accustomed to Kitchen and general Outside work, also understand the management of bees; good character; age 40; married (no family).—SECKSTONE, 188, Dallow Road, Luton, Beds.

FOREMAN, Inside or General, seeks situation in a good place; age 30; single; first-class experience in known places; could also bring Inside Journeyman; age 24; both demobilised.—HYBRID, Box 6, 41, Wellington Street, Covent Garden, W.C.

FOREMAN (Inside or General) on good establishment; 11 years' experience; age 29; excellent testimonials; demobilised; please state wages.—L. GREEN, Holme Farm, Shanklin, I. of W.

FOREMAN seeks situation as above; eight years experience in good places; just been discharged from Army.—W. SYMONS, Mylor Bridge, near Penryn, Cornwall.

FOREMAN or SECOND; Inside; life experience gained in good establishment; excellent references; age 30; single.—Apply to above address, stating wages and particulars, J. VIGOR, High Street, Burwash, Sussex.

FOREMAN or SECOND (Inside); over eight years' experience inside and out, chiefly inside, previous to enlisting, 1914, now demobilised; excellent references; aged 27; married.—Please state wages, A. HURT, 3, Scott's Hills, Christchurch, Hants.

FOREMAN or UNDER-GARDENER; life experience Inside and Out; married; Midlands preferred; discharged.—Please state wages with house, B. MOWL, Viewlands Lodge, Wightwick, Wolverhampton.

GARDENER (demobilised) seeks situation as Kitchen Garden Foreman, or Outside Foreman; 12 years' experience, 4 years as Foreman, pre-war; good references; married when suited.—Apply, F. G. CARLICK, Hullavington, Chippenham, Wilts.

AS FOREMAN, Inside or General; first-class experience, gained in good establishments; excellent references; age 26; widower; demobilised.—A. GOLDSMITH, High Street, Ufford, Suffolk.

FOREMAN, Inside or General.—F. Daniel, Gardener, Birdingbury Hall, Rugby, can highly recommend H. ATTWOOD as good SECOND or FOREMAN; age 26; married (one child); life experience.—H. Attwood, Birdingbury, Rugby.

FOREMAN (INSIDE); good establishment; experienced in Vines, Peaches, Melons, Carnations, etc.; good Plantsman; excellent testimonials; age 28; state wages; demobilised.—S. BAKER, The Bushes, Gaddesby, Leicester.

FOREMAN (INSIDE or GENERAL) in good establishment; thoroughly experienced; age 31; married (one child); excellent references; demobilised.—A. BRUMBY, Elvedon, Thetford, Suffolk.

JOURNEYMAN as SECOND, Inside; age 22; good references; bothy preferred.—Wages, etc., to T. A. Smith, 4, Mill Road, Westerham, Kent.

R. BARTON, Sidbury Manor Gardens, will be pleased to recommend W. UNDERDOWN as Second Journeyman age 23.—Apply as above, or W. UNDERDOWN, Ryeerrish, Southleigh, Colyton, Devon.

JOURNEYMAN (Army discharge) seeks re-engagement; experience gained at first-class establishment; excellent references. — Apply, stating wages, with bothy, etc., to J. SIMS, 20, Chappell's Terrace, Lichfield, Staffs.

JOURNEYMAN (Inside) under Foreman; life experience, chiefly Inside; age 29; discharged soldier; Midlands preferred.—F. BAKER, 3, Burton Hill, Malmesbury, Wiltshire.

JOURNEYMAN (age 26) seeks situation, Inside or Inside and Out; now demobilieed; seven years previous experience; good references. — W. HEADINGTON, Peacock Road Cottages, Easthampstead Park, Wokingham, Berks.

JOURNEYMAN requires situation, Inside, under a foreman; seven years' experience; total abstainer and non-smoker; age 26.—T. WILTSHIRE, The Bothy, Nonsuch Park, Cheam, Surrey.

IMPROVER (19) seeks situation, inside and out, in large establishment (bothy); two years' experience in Penrhyn Castle, Bangor, Wales; will be demobilised when situation is found.—P. L., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

DEMOBILISED SOLDIER seeks situation in gardens; eight years' experience, Inside and Out; can be well recommended; single; age 26.—MORRIS, No. 3, Seifton, Craven Arms, Shropshire.

MAN and WIFE seek situation as GROUNDSMAN, Golf Links, Lawns, all Outside work, or Single-handed place; life experience; good reference.—G., 49, Monsell Road, Blackstock Road, Finsbury Park.

YOUNG MAN requires situation as leading hand on Pleasure Grounds, Kitchen Garden, or inside; life experience; please state wages with bothy. —A. NEWNHAM, Brown's Farm, Stubbington, Fareham, Hants.

YOUNG MAN, age 26, seeks situation, Inside; good references and experience; 4½ years Army, now demobilised.—R. HILL, The Mill, Caynham, Ludlow, Salop.

YOUNG MAN seeks situation, Inside and Out, in good establishment; four years' experience; good references, demobilised; please state wages with bothy.—P. SHOESMITH, Hilders Lane, Edenbridge, Kent.

G. HATCHER, late HEAD GARDENER, Hotfield Grange, Coggeshall, can with confidence recommend a Young Man, age 22, for the houses; state wages with bothy.—G. HATCHER, 76, Grenville Road, Braintree, Essex.

THE HEAD GARDENER, Melton Constable Park, Norfolk, wishes to highly recommend LADY GARDENER, who has been with him for over two years in charge of the Plant Houses; excellent grower of stove and greenhouse plants, and good decorator; previous experience in well-known establishments; willing to work under Foreman, Inside; sole reason for leaving, demobilised men reinstated.—Apply as above.

LADY GARDENER seeks situation, SINGLE-HANDED or under good Head (man); three years experience in Outdoor gardening; good references.—Miss ROSS, Newton Poppleford, Devon.

LADY GARDENER, trustworthy, recommended, desires work under good head; last two years charge fruit and plant houses; previously good general experience inside and outside; cottage or bothy. GILBERT, 10, Clyde Road, Croydon.

TWO LADY GARDENERS (one college trained) seek re-engagement; excellent references. —CARTER, Cottage, Claremont, Esher, Surrey.

TWO LADY GARDENERS, each with a year's College experience, chiefly in Vegetables and Fruit, desire post together.—MILLARD, 27, Rydal Road, Streatham, S.W.

TWO LADY GARDENERS desire post together; 5 years, 2½ years' experience Fruit, Flowers and Vegetables; highly recommended; Head Gardenership, Home counties preferred.—R. I., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER desires post under good head, where Carnations and Tomatos speciality; if possible with other Lady Gardeners, but not essential; college trained; good references.—Box 17, 41, Wellington Street, Covent Garden, W.C.2.

ESTATE ENGINEER seeks permanent post; electric light, bells, and pumping installations; oil, steam or gas engines; hot and cold water services; good at repairs, metal or wood; highest references; married (one in family).—M. J., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

TRADE.

SITUATION required as MANAGER or FOREMAN in small Nursery, in or near London; thoroughly experienced in all branches, including Landscape; life experience; age 38.—Apply, FRANCIS J. CROSBY, F.R.H.S., 84, Falkland Road, Hornsey, N.8.

SITUATION required as MANAGER of Nursery or Market Garden; well up in all branches, including Landscape; demobilised; age 45.—A. NICHOLLS, 21, St. James's Avenue, Brighton.

MANAGER or FOREMAN (WORKING); 38 years experience Vines, Peaches, Strawberries, Tomatos, Cucumbers, Mushrooms, Chrysanthemums, Pot and Bedding plants, Bulb Forcing, Vegetables, &c.; age 50; abstainer; married; excellent references; please state wages.—Manager, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER or FOREMAN seeks re-engagement; life experience in Cucumbers, Tomatoes, Grapes, Chrysanthemums, &c., and general market work under glass; highest references; please state wages.—C. F. SEEKINGS, 331, Hertford Road, Waltham Cross, Herts.

MANAGER or MANAGING FOREMAN (working); Life experience, Market and Retail, general culture under glass, also Fruit, Vegetables, Salads, etc. Married; age 46; abstainer; good references; state wages and particulars.—FROSTER, 56, South Street, Ponder's End, Middlesex.

NURSERY MANAGER or FOREMAN; life experience in the management of large quantities of glass, producing for up-to-date nurseries, markets, and shops.—LAWRENCE, 83, Warwick Avenue, Paddington.

SITUATION wanted as MANAGER of branch business; 25 years' experience under glass and outside.—Floral, Seed, Bulb and Fruit Dept., 109, Ramuz Drive, Westcliff-on-Sea.

WORKING FOREMAN, age 48, married, 26 years' experience in Chrysanthemums, Dahlias, Tomato, and general nursery stuff; good references.—C. W., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN, Landscape or Jobbing, working or supervising; used to estimating and interviewing; good grower of bedding and soft-wooded plants; good knowledge of Seeds, Bulbs and General Nursery Stock.—PETCH, Iver, Bucks.

FERN FOREMAN and RAISER, well up in Producing in quantity; would take entire management of place; state wages.—F., 40, St. Anne's Road, St. George, Bristol.

GROWER or CHARGE HAND seeks situation; married; age 34; Tomatoes, Cucumbers, Chrysanthemums, Grapes, Mushrooms, and general work; Inside and Out; knowledge stock; good references.—K., 18, Freshwater Road, Reading.

PROPAGATOR seeks situation; lifetime experience in London and Provincial nurseries; Roses, Clematis, and Hardy Plants a speciality.—HORTUS, Box 4, 41, Wellington Street, Covent Garden, W.C.2.

PALM GROWER (married man, age 33) seeks situation as above; seven years' experience in trade.—Please state wages, KING, 40, Elmhurst Road, Enfield Wash, Middlesex.

GROWER seeks situation in Cucumbers and Tomatos; life experience; good references.—Please state wages (married), A. E. HOBBS, 8, West Street, Wellingborough.

GROWER seeks situation; age 27; experience in Palm, Fern, and General Market stuff, or would take a place as Plant Decorator.—F. PURSLEY, Mile House, Appledram, Chichester.

ORCHID GROWER. — Messrs. E. H. DAVIDSON & CO. strongly recommend demobilised soldier as above; 17 years' experience in good establishments; good references.—Apply, S. P., 53, Kimberley Road, Nunhead, S.E.15.

ADVERTISER (age 37) just demobilised, desires ENGAGEMENT, General Nursery, Glass Department; 10 years' experience; state wages; house accommodation near essential; recommended by Manager, Harold Road Nurseries.—E. HARRIS, 127, Harold Road, Hastings.

DEMOBILISED Corporal (29), 4½ years' service prior; wide experienced Fruit Grower, Wholesale Salesman and Agent (self-employer), desires post; reliable and capable; experienced in routine work. —BURNAND, Moorlands, Belsize Road, Worthing.

DISCHARGED SOLDIER, 32, single, clerical certificate, formerly supervisor of boys on farm colony, some experience poultry, desires post in Nursery Office, Gardens, or Rural Council work; references supplied.—COURTENAY, Seale-Hayne, Newton Abbot, Devonshire.

TRAVELLER.—Advertiser (age 30), with splendid connection in Home Counties, seeks position as above, with a first-class firm of Nurserymen or Seedsmen.—Write MacGREGOR, Box 1, 41, Wellington Street, Covent Garden, W.C.2.

TRAVELLER in Farm and Garden Seed Trade; Advertiser, with long practical experience, desires engagement.—SEEDSMAN, 12a, Montpelier Road, Brighton.

SEED TRADE.—Advertiser seeks situation as CHARGE HAND or TRAVELLER; experienced in seeds, bulbs, and sundries; highest recommendations.—Apply, G. J., Box 5, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE. — Advertiser, disengaged, wishes progressive post in first-class house; 14 years' experience in Peas and Vegetable seeds; willing to assist with garden seed or agricultural seed orders.—Apply, W. W., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

Fig. 1.

Once Tried, Always Used.

The "PATTISSON" HORSE BOOTS

SIMPLEST! STRONGEST! MOST ECONOMICAL!

SOLES of best **English Sole Leather (Waterproofed)**, with Motor Tyre Rubber, Studs, or of Solid Rubber. Fig. 1 can be **Refitted repeatedly**, equal to New Boots. **Rubber Soles Strongly Recommended.**

USED FOR MANY YEARS IN THE ROYAL AND IN THOUSANDS OF THE PRINCIPAL GARDENS.

The "PATTISSON" BOOTS are the most durable on the market, outlasting several sets of ordinary boots, and when worn out can be many times refitted and are then *equal to new ones*, but this can only be satisfactorily done by us the makers.

SILVER MEDALS. Royal Horticultural Soc., 1904 & 1914. Royal International Exhibition, 1912.

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Illustrated Price Lists, from the Makers,

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4-6, Greyhound Lane, STREATHAM, S.W.
CONTRACTORS TO H.M. GOVERNMENT.

Fig. 2, A Quality.

Fig. 2, A or B Quality.

CORRY'S
CONCENTRATED
WINTER DRESSING
FOR
FRUIT and Other TREES
(NON-POISONOUS)

For the Destruction of all Insect Pests that shelter in the Bark during the Winter Months. This Preparation is highly valued by practical Growers throughout the Kingdom.

Directions for Use accompany each Package.

Sold by the Trade generally.

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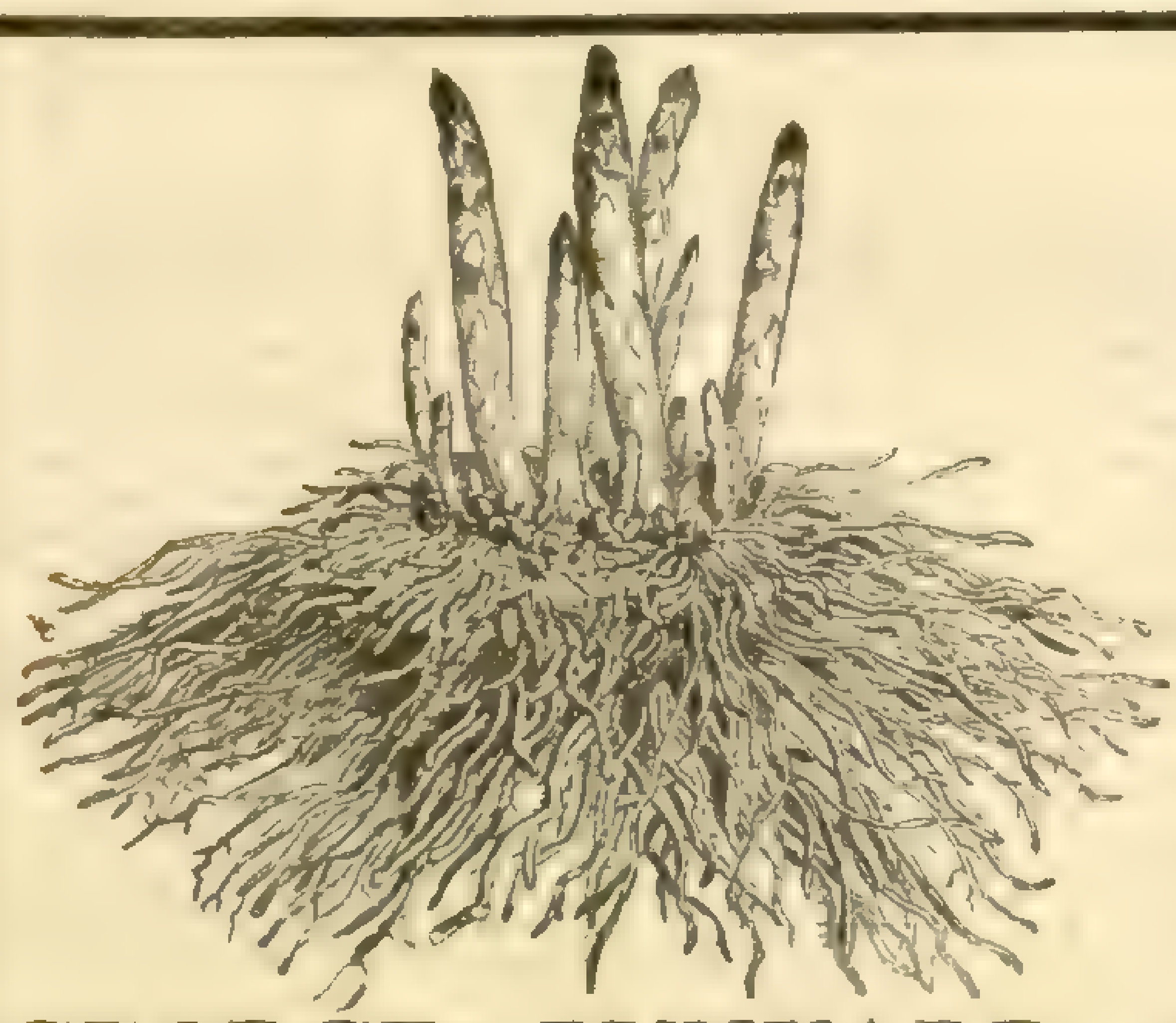
Manufactured by—

Corry & Co., Ltd., London.



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This esteemed Vegetable may now be safely planted. We can offer fine clean and fibrous rooted crowns grown on sandy Loam.

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Two Year Plants ... 10/- per 100.
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PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

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Continued on page viii.

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1919
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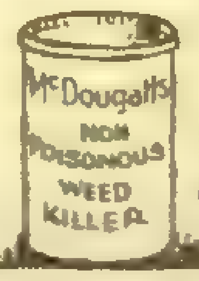

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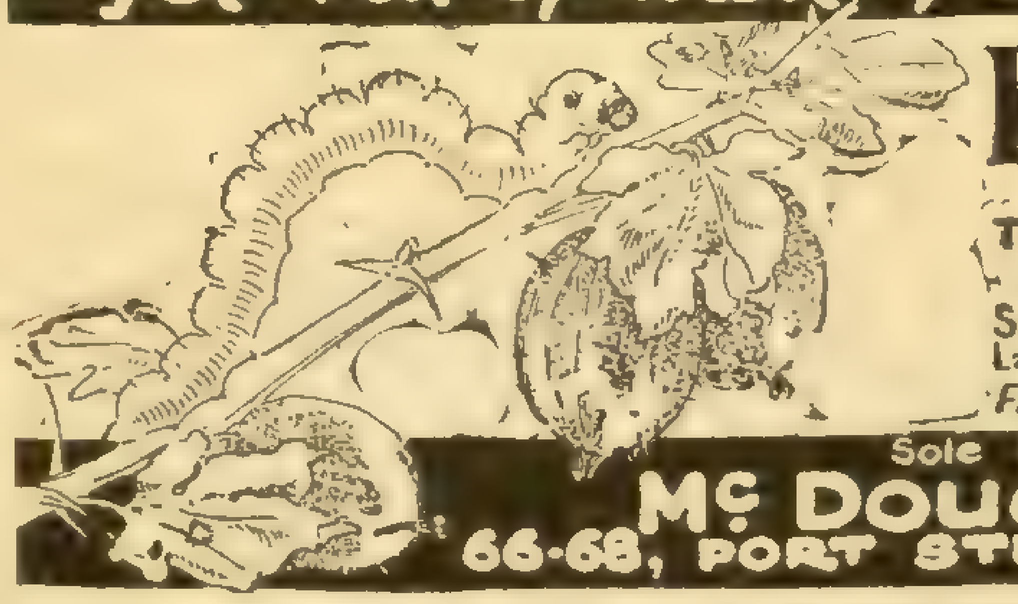

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The King's Seedsmen,

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THE

Gardeners' Chronicle

No. 1684.—*SATURDAY, APRIL* 5, 1919.

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CULINARY PEAS.

CULINARY Peas are amongst the most appreciated of vegetables at whatever season they are available, but good Peas are not the easiest crop to produce. During the summer and autumn, excessive heat, wet, and changeable weather affect them adversely, whilst mildew frequently appears with great suddenness, sometimes affecting the whole crop in a few days, even when precautionary measures are taken. The Pea crop repays good cultivation, and to obtain the best results abundant supplies of food in an easily assimilated form are necessary. The Pea resents, to an extraordinary degree, soil highly charged with farmyard or stable manure, and no plant dislikes rank manure, in any form, more than this vegetable.

The common plan of digging narrow trenches and filling them with manure, afterwards covering the dung with only a few inches of soil, in which the seeds are sown, cannot be commended, except for assisting the plants to withstand drought, and even for that purpose is of doubtful value. Manure retains moisture for a considerable period, yet the roots of Peas will not penetrate it until it is sufficiently decomposed to enable them to assimilate the food it contains. Experiment has proved that the roots will penetrate the soil to a great depth, whilst entirely avoiding the rank manure in the trenches.

The root system is extensive, and in well-prepared soil lateral roots are emitted, which penetrate to a great distance. It frequently happens that the sinking of the soil caused by the decomposition of the manure breaks the roots which enter the trench wall.

Moreover, in the case of heavy soils, during a continuance of rainy weather, the trench acts as a drain for the surrounding soil, and the excess of moisture causes disease and premature decay of the plants.

In many kitchen gardens, especially those that have been heavily manured for many years in succession, the soil contains much humus, often in an acid condition, which is fatal to the growth of Peas. Such soil, if well trenched without adding manure, but with the addition of a good dressing of lime, proves an ideal medium for the Pea crop. Poorer soils are improved by deep trenching and incorporating plenty of leaf soil, if this material is available, or a moderate amount of farmyard or stable dung distributed evenly and not deposited in the trenches in solid layers or masses. The soil should be prepared in autumn or early winter, and a light dressing of basic slag and Kainit, in the proportion of four parts of the former to one of the latter, is beneficial. A generous dressing of wood-ash, which should be well forked below the surface before the seeds are sown, is also beneficial.

For several years my best results with Peas were obtained on soil that had been well trenched and enriched with manure the previous year, and subsequently trenched, nothing but lime being added the second time. In both wet and dry seasons Peas grown in ground that had been treated in this manner were more productive and healthy than those grown in trenches by way of experiment, or those grown in land that had been recently manured.

Crowding the plants is frequently the cause of failure. Many of the most productive mid-season varieties are of spreading habit, and if sown thickly give a poorer return than inferior varieties sown thinly. Such sorts should be sown at least six inches apart, and preferably one foot. With ample space, each plant will develop into a perfect specimen and produce many lateral growths that will branch and re-branch, producing large pods in great quantity over a lengthened period.

I once saw a field of Peas of a well known mid-season variety grown for seed. The seed germinated badly and in many cases the plants were a yard apart. The farmer expected failure, but instead, each plant, having room for development, branched out in all directions, and eventually a record crop of seeds was produced.

Uniformity of moisture at the roots is desirable, but not always obtainable. Much maybe done by a weekly or bi-weekly stirring of the surface soil with a hoe or other suitable implement from early in spring onwards. Hoeing creates a dry mulch which, on well trenched land, prevents soil moisture from evaporating. Mulching with manure or litter is not generally desirable, as it tends to cool the soil excessively, but a mulch of light litter may be used on heavy clay soils, which are difficult to hoe after a spell of wet drought suddenly appear white with some light material, crack badly and lose much of their natural moisture through evaporation.

The advent of mildew may frequently be traced to the plants receiving a sudden check, such as is caused by a cold night following a warm day, or cold rains after a spell of drought. Plants which are apparently quite healthy during times of drought suddenly appear white with mildew after a soaking of water. The moral is obvious, withhold water, trusting instead to deep and thorough cultivation and to constant surface stirring to retain the soil moisture and maintain uniformity of temperature in the soil.

In selecting varieties, give preference to those that are known to suit the particular locality. Certain Peas will not succeed in some districts, although other varieties that may be very similar in habit succeed perfectly.

Seedling Peas may be transplanted with advantage for early and second early supplies. The seeds should be sown in boxes containing fine soil, and the seedlings grown in cool, light conditions. They may be transplanted when large enough for transference and the soil and weather conditions are suitable. Raising the plants in pots, squares of turf and long shallow troughs is generally unnecessary, the plants succeeding much better if the roots are shaken free from soil and extended to their full length. Transplanted Peas succeed better than those sown direct; why, it is difficult to say. Shaking the roots free from the soil is advisable, except where the land is a sticky clay in which the roots are difficult to establish. In such soils it is necessary to place fine soil round the roots when transplanting—a use of time which few gardeners can afford in these times of labour shortage. In such cases, rearing the plants in pots is advisable. Staking is an important detail, the stakes should be placed in position before the shoots have fallen on one side; small, twiggy branches should be used first, and larger stakes, suitable for the variety, at a later stage of growth. The stakes should lean outward from the rows and not meet at the top in an acute angle.

Retarding the crop may be accomplished by removing the blooms as many times as necessary. Removing the flowers also results in stronger haulm preparatory to cropping. *E. R. Janes.*

DRYAS.

All the members of the genus Dryas are prostrate shrubs with branches that grow closely pressed against the stones and soil of rocky banks. There are only three species, and these are spread over the whole of the North Temperate and Arctic regions, including the mountains of Yorkshire, Scotland and Wales. Here they form wide cushions of shining green foliage furnished during the summer with numerous flowers consisting usually of eight petals. They are all of easy cultivation except D. integrifolia: they should be planted in full sunshine on a rocky bank in soil consisting largely of decayed leaf soil with sand and loam. The plants may be increased freely by means of division or by layers, and may also be propagated from seeds.

D. octopetala (see Fig. 67).—This species is the most ornamental and the best for gardens. The plant forms mats of foliage consisting of shining, dark green toothed leaves that are silvery white beneath. During the summer the plants are studded with handsome, pure white flowers, in shape like a wild Rose, having in the centre a bunch of yellow stamens. The blooms are about 1½ inch in diameter and are produced singly on stems two or more inches in length. The flowers are succeeded by pretty feathery ornamental tufts like those of Pulsatilla. The species is a native of this country and is also found on most of the mountains of the northern hemisphere, preferring limestone, but it occasionally grows wild on granite up to a height of 9,000 feet. The variety lunata has sometimes been accorded specific rank. It is a Tyrolese form with a silvery pubescence on the upper sides of the leaves which in D. octopetala are always smooth and glabrous. In another form,

known as minor, the leaves are very small—only half an inch long, and the flowers also are smaller. As the species is found growing in such a variety of conditions it naturally varies to a great extent, and it is not surprising that names have been given to other forms such as D. vestita and D. Sundermannii.

D. DRUMMONDII.—This species is found on the mountains of Eastern Siberia and Northern and Arctic America. It is less attractive than our native species, forming low tufts of slightly pubescent leaves that are not so deeply toothed as in D. octopetala. The yellow flowers are nodding and borne on stems about four inches long, which elongate when the silky fruit heads are developed. The plant is a rampant grower when established, and soon covers a considerable area.

D. INTEGRIFOLIA.—This third species is a native of Greenland and the mountains of Arctic North America. Closely tufted in habit, with shining green leaves that are practically entire, it is the smallest member of the genus. The flowers are white, also eight petalled, and borne on stems about 2 inches long. It is the rarest of the three species in cultivation and not so easy to cultivate as the others, although it will flourish in rich, stony soil in open situations where there is plenty of moisture. *W. I.*

[*Photograph by W. Irving.*

FIG. 67.—DRYAS OCTOPETALA: FLOWERS WHITE.

THE ALPINE GARDEN.

AUBRIETIAS.

THE manifest progress which the Aubrietias have made during recent years is amply demonstrated by their increasing popularity.

Few flowers occupy such a dominant position in the spring garden as these, and certainly few lend themselves so effectively to the production of such wonderful colour effects as the Aubrietia.

To go back about twenty-five years, and note once again the typical Aubrietias, A. deltoidea and A. graeca, with their scant varieties (including the pink-flowered Leichtlinii), enables the progress that has marked the intervening years to be realised.

The possession of the fine varieties of the present day gives the garden-maker splendid material for decorative gardening. For the varied phases of spring bedding, for margining the sides of pathways, for carpeting Rose beds, and, above all, for making glorious drifts and masses of colour in the rock garden, the Aubrietia has no equal.

In making this statement I am considering "effect" pure and simple. The Rock Violas, especially the newer forms, and the finest Saxifrages are exceptionally noteworthy, but nothing else can provide those wonderful colour pictures, in which pink, red, blue, purple, violet, and lavender combine with their intermediate shades to make such a splendid riot of beauty upon the slopes and drifts of the rock-garden.

In tracing the varietal progress, one calls to mind that favourite red Fire King; Campbellii blue; Hendersonii, purple; and the ever useful rose-coloured Souvenir de W. Ingram.

Of Fire King, one can speak of its continuous run of popularity. For many years it held a sway all its own as "the red Aubrietia." The first to challenge its supremacy was Bonfire, more brilliant in colour and a little improvement in size and habit. Triumph, a deeper red of different tone, came later, and was an improvement in size and colour, but undoubtedly the finest red of the day is Vanguard, a highly meritorious variety with a very brilliant colour, and no one who loves Aubrietias can afford to miss Vanguard.

Dr. Mules, the popular blue-violet variety, is still a favourite standard variety, holding its own better than Pritchard's A1, Royal Purple and others of its period.

To name the best dark purple or violet Aubrietia would be a somewhat difficult task, but to my mind Rival will prove the finest violet, unless (as may well be) there is a better variety in the making, but for the present Rival is good enough, and certainly none can excel it in its floriferous display and neat habit.

The best variety of the ruby-purple tone, a very effective colouring, is undoubtedly Invicta. A mass of Invicta is an almost unforgettable picture when in its full beauty.

In the soft shades Lavender and Cinderella are both extremely beautiful, and quite distinct in every way.

An unusual colour is found in Lady Marjorie, a combination of red and mauve which is almost indescribable. This variety again is also neat and effective.

Pale pinkish shades such as Bridesmaid, Moerheimii, and Lilac Queen are not brilliant enough to be used alone, but in conjunction with reds, blues, and purples they may be used freely.

Violet Queen is a very useful deep-hued variety of recent date, while other useful new forms are Unity, blue, very neat; Felix, violet blue; and Perfection, a soft shade of red.

In selecting Aubrietias it is best to secure rich well-defined colours if they are to be planted separately. Vivid contrasts catch the eye at once, and should be carefully thought out. Intermixed they are charming, for Aubrietias do not clash even when many shades are used.

Planting should be done in autumn for preference, although they can be planted from pots at any time. An open sunny position is best. They have no prejudice against a heavy clay soil, and in a dry spring this condition assists the prolongation of flowering.—*P. S. Hayward.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM NAEVIUM.

THE elegant little specimen of this charming and rare Orchid in the group staged by Messrs. Sanders, St. Albans, at the Royal Horticultural Society, March 25, served to remind us of one of the many beautiful little Orchids which are steadily vanishing from our gardens before the wave of home-raised seedlings and the impossibility of replacing them by importation for some years at least. It was first discovered in the province of Pamplona in 1842, and later at Truxillo in Venezuela, but only small consignments ever reached this country, and of these, the plants being of small size, many failed to become established. Its slender spikes of closely-arranged, pretty, white flowers spotted with reddish-purple always command the attention of those who admire distinct and attractively arranged flowers.

Odontoglossum cirrhosum is another and larger species of the same class now becoming rare. A good show of it has brightened the Odontoglossum house at the Warren House, Stanmore (orchid grower Mr. W. H. Young), for the last two months, and the plants are still in good condition.

FOREIGN CORRESPONDENCE.

ELECTRIC POWER IN HORTICULTURE.

A CORRESPONDENT in Holland sends us the following note on a device used at Elst in heating the glasshouses in a large nursery establishment:—

After much experimenting the firm M. G. G. Goudriaan, Delft, Holland, has succeeded in constructing an installation which will be a very great advantage in the heating of glasshouses. It is an electro blowing apparatus, which, connected to the fireplaces, enables the fires, in spite of lack of coal and coke, to take full effect, and by means of coal dust, light ashes, brown coal and cinders, produce a temperature such as is ordinarily obtained by normal fuel. This installation, by which, with the aid of only a light electro-motor, the supply of air under the fire is regulated and divided in an ingenious and judicious way, is as yet only used in the hothouses of the "Geldersche Kweekerij" (nursery garden in Guelders), Elst, Holland, manager Mr. H. Weesjes, and has surpassed all expectations.

The invention is, in a large measure, practical and efficient, and can easily be applied to any heating apparatus used in our country. Moreover, the costs of installation are so trifling as to present no difficulties to any grower. The results obtained as yet warrant the supposition that this invention will prove of the greatest importance for horticulture, and the fuel question is therewith solved in the simplest manner possible.

ACACIA.

ACACIA retinodes (see Fig. 68) is one of a number of Acacias which are cultivated as decorative trees in the South of France, and of which the flower branches are used decoratively. The best known of these is A. dealbata, or, as it is now called, A. decurrens, whose elegant fern-like foliage and long racemes of bright yellow ball-like fragrant flowers have for many years been conspicuous in our flower shops in early spring. Next in importance comes A. Baileyana, which has smaller foliage not unlike that of the Sensitive plant, and flowers like those of A. dealbata. It is a better plant for cultivation in this country than either of those here mentioned, as it forms a shapely specimen and is very floriferous; moreover it is hardy in sheltered gardens in this country. This spring this Acacia has been more abundant in the flower shops than any of those sent from South Europe, except A. dealbata, and the dealers say it finds a ready sale for room decoration. A. retinodes is in cultivation under the names of A. fragrans, A. neriifolia and A. longifolia. It is a native of South Australia and Victoria and is now an established favourite in Riviera gardens, whence it is sent to this country for decorative purposes. The long, leafy branches are adorned with short racemes of yellow, ball-like, fragrant flowers. According to Sir E. Loder, this Acacia is hardy at Leonardslee, Sussex, but it is best known as a free-growing greenhouse shrub, large examples of it having been for years conspicuous objects in the Temperate House, Kew, in early spring. The leaves vary in length up to 6 inches. True A. longifolia is easily distinguished by its leaves being broader, more uniform in size, and having a pair of prominent ribs instead of a single midrib. The flowers are on tail-like spikes about 2 inches long, not ball-like as the others are. This also is sometimes among the spring flowers sent to this country in spring from the South of France.

The genus Acacia is one of the largest known and comprises some four hundred species, but only a few are in cultivation. They are found principally in Australia, many having their habitat in New South Wales. The Acacias are very floriferous and amongst the easiest cultivated of all greenhouse plants. In some species the flowers are very fragrant, and a large specimen of A. dealbata in bloom is a pleasing feature in a large conservatory or greenhouse. A. extensa is not common in cultivation, but it is worthy of the attention of growers. The foliage closely resembles that of a Rush. The habit of growth is rather straggling, the plants being inclined to go erect rather than branching, even after being severely cut back. The flowers are among the finest for colour and are a bright, clear, golden yellow. The foliage is very thin and narrow, being about one-eighth of an inch across and six inches long. The branches, when young, have a triangular, winged form, which they lose with age, the older branches retaining small winged pieces arranged at irregular intervals. The species is easily cultivated, very free flowering and grows equally well in pots or planted out.

Acacia urophylla is of an entirely different growth, having wide leaves, a drooping habit, and flowering freely all along the pendulous branches of the young growth. Flowers last on the plant a month or so, and are of a pale lemon yellow colour. The adult leaves are about one and a half inch across and four inches long. The young leaves whilst the plant is in flower, are smaller and more graceful, and of a light green colour, which contrasts very well with the flowers. The branches are slightly spiny. The growth requires to be cut back hard after flowering, and the wood ripens better if the plants are placed outdoors during summer. Plants in five-inch pots are very useful, and lend themselves very readily to decorative purposes. In large pots they make very useful plants for the greenhouse.

Another graceful and beautiful plant is Acacia pulchella. A large plant when in flower presents the appearance of small golden balls in a cloud or mist when viewed from a distance, as the foliage is so fine and thin that only the flowers are seen. The pendulous habit is an added attraction, but the branches are quite strong, and do not hang down unduly when covered with bloom. Either in pots or planted out it is well worth growing and one of the best of the Acacias. It should be cut back after flowering, when it quickly makes an abundance of fresh growth. Plants seem to flower equally freely whether stood out of doors during summer or not. A plant recently in flower in the Temperate House at Kew is ten feet high and was a mass of flower.

A. pubescens is a plant not so easily grown, and is often worked on some of the more freely growing stocks. It is a pretty, graceful plant, the small flowers, in racemes, hanging from the ends of the pendulous branches of feathery leaves.

FIG. 68.—ACACIA RETINODES.

THE BULB GARDEN.

SCILLAS, CHIONODOXAS AND CHIONOSCILLAS.

WHAT is the difference between a Scilla and a Chionodoxa? Most gardeners know these beautiful blue spring flowers by sight, but many would be puzzled to say which was which, or to decide to which of the two genera an unknown species belonged. An examination of the individual flowers shows, however, where the difference lies. In the Scilla the six segments of the flower are divided right down to the base, whereas in the Chionodoxa the six segments are united together for about one-third of their length, and form a kind of funnel in which the ovary is situated. In the Scilla the ovary is clearly to be seen surmounted by its long, slender style and surrounded by six erect and spreading stamens. The anther is lightly attached by its centre to the fine tip of the slender filament. In the Chionodoxa the broad, stiff stamens form a kind of conical roof to the funnel-shaped tube at the base of the flower, and the ovary is entirely hidden from sight at the bottom of this funnel and under this roof. The anthers, too, are curiously arranged, for they are attached by their upper end on the inner side of the filaments, so that they are all crowded close together, and face inwards in such a way as to hang immediately over the stigmatic surface at the tip of the style.

The Scilla which at first sight is most likely to be confused with the Chionodoxas is bifolia, which is not, apparently, altogether aptly named, for when well grown it often produces three leaves. The foliage is very similar to that of the Chionodoxas, but the flowers are arranged all round the stem, whereas those of a Chionodoxa all stand out on one side of the stem. Chionodoxa sardensis with bright-blue flowers, in the centre of which the white cone of the stamens stands out conspicuously, is usually the first to flower, and is almost as early as Scilla bifolia. Next comes the larger Chionodoxa Luciliae, in which the purple-blue of the tips of the petals fades to white at the centre, and this is followed closely by the vivid-blue of Scilla sibirica.

Hybrids between two genera are much less common than those between the species of either

genus, and it is seldom that bigeneric hybrids occur spontaneously in our gardens. On a recent visit to the Kew rock-garden, however, I noticed more than one example of what must have been a chance hybrid between a Scilla and a Chionodoxa. Mr. Irving told me he remembered that such a hybrid had been described by Nicholson under the name of Chionoscilla Alleni (see *Gard. Chron.*, 1897, p. 119).

The hybrid resembles a Chionodoxa in the arrangement of the flowers on the stem, and in the complete covering-in of the ovary beneath the cone of broad stamens. On the other hand, the anthers are attached at their centres, as in the Scilla, and therefore are more obvious than in the Chionodoxa. The shape of the individual flower is a compromise between the two parents, for the segments are divided almost—but not quite—to their base, so that a small funnel-shaped cup forms the base of the flower. Hybrids between widely-separated species are usually sterile; but this hybrid between two genera has every appearance of being fertile, for the pollen is abundant, and the arrangement of anthers and stigma is as well adapted for self-fertilisation as in Chionodoxa. In colour, the hybrids that I have seen closely resemble Chionodoxa sardensis; indeed, they can only be distinguished from that plant by the greater prominence of the anthers, and by the fact that the segments form hardly any tube at the base of the flowers.

The accompanying sketch (Fig. 69) represents Chionodoxa Luciliae above, and below, on the left, Scilla bifolia, with the hybrid Chionoscilla on the right. *W. R. Dykes, Charterhouse, Godalming.*

Fig. 69.—Chionoscilla and its parents.
Scilla bifolia. Chionodoxa Luciliae. Chionoscilla.

LILIUM SUPERBUM.

In its native habitats Lilium superbum is generally found in swamps and moist hollows, so that we should naturally expect it to call for a good supply of moisture in gardens. It is, however, often forgotten that the conditions in which plants grow wild differ greatly from those they experience in gardens. It is, therefore, not surprising that L. superbum does quite well in the mixed border without any special supply of moisture. Much, however, in this connection depends upon the climatic conditions of each locality, and there are places in the United Kingdom, where the rainfall in summer is small, in which Lilium superbum should have more water than in wetter districts. In the former it may be desirable to plant L. superbum by the side of a pond or stream, or in an artificial bog or bed supplied with underground moisture. In the latter this is unnecessary. L. superbum is now so well known that little description is necessary. Mr. A. Grove speaks of its resemblance to L. pardalinum, to which it has a considerable likeness. Its later flowering marks it as distinct, apart from the difference in the bulbs, and the more pointed segments constitute a distinction apparent to the more than casual observer. The colour of the flower varies from yellow to orange-red, the height is from 4 to 8 feet, and the spike produces a large number of flowers—from 20 to 30, or even more, in well-grown plants.

From four to five inches is generally recognised as a suitable depth at which to plant, but in light soil this may be exceeded with advantage, and I prefer six inches in such soil. Even that depth may be exceeded with no disadvantage to the Lily. *A.*

The Week's Work.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford Wrotham Park, Barnet, Hertfordshire.

Roses.—The pruning of Roses may now be undertaken. Very early pruning is not good practice, as it encourages early basal growth that may be damaged by late frosts. Prune the H.P.'s rather closely, and keep the heads open, as overcrowding is detrimental to the production of large, shapely flowers. In some cases, the strong, healthy growths of dwarf plants may be pegged down to fill up space, and then will yield a good supply of flowers, as well as giving the beds a neat appearance. Prune weak side-shoots back to one or two eyes, and allow stronger growths from three to six eyes, according to the height of the plants. Tea Roses should have the inner shoots cut back to two buds, have weak sprays removed, and the strong, flowering wood shortened, but not so severely as in the case of H.P.s. As soon as the plants have been pruned and all suckers removed, give the beds a good dressing of loam and decayed manure, and see that the labels are in order.

Standard Roses.—The heads of all standard Roses should be well thinned, and the shoots pruned, always cutting to an outside bud, using a keen-edged knife for the work. Make the stakes and fastenings secure.

Water Lilies.—From now and onwards Water Lilies may be planted. There are many good varieties of Nymphaeas deserving of special attention, and which, when planted, quickly spread and become effective. If the water is two or three feet deep, with a little mud at the bottom, no difficulty will be experienced in planting. Set the plants in shallow baskets filled with loam and leaf soil, cover the surface with a little moss and flat stones, and gradually sink them. The very choice kinds may be grown in suitable tubs and sunk in the water just where they are required to flower.

Violets.—As soon as Violets have finished flowering, the plants should be divided and replanted on good ground that has been enriched with suitable manure, deeply dug and made moderately firm. Plant single crowns with roots attached, and set them ten inches apart. If the weather should be dry before they are well established, supply the plants with water and apply a mulch of decayed manure or leaf mould.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Globe Artichokes.—The strong suckers that were taken up during the autumn, potted, and wintered in frames, should now be planted out. Plant them in well-manured ground. These Artichokes flourish if given liberal manurial waterings during the summer. Set the plants 3 feet apart, and allow a distance of 4 feet between the rows. If old plants have withstood the trying winter they should be uncovered entirely now, and have the ground forked up around them, adding burnt garden refuse when performing this operation.

Main Crop Carrots.—Too much care cannot possibly be taken in the preparation of the ground for Carrots. The plot should have been deeply tilled previously. Apply a large dressing of wood-ash and burnt garden refuse, then harrow it well in; remove large stones, level the plot, and draw drills an inch in depth and 1 foot apart. Sow the seeds thinly, cover them lightly, and then rake the ground parallel with the drills. In shallow soils rely on Standard, Favourite, and Early Gem varieties, and use the Intermediate types in deeper soils.

Cucumbers.—With the advent of sunshine and longer days, Cucumbers are growing and fruiting freely. Do not over-crop, and cut the fruits when they are large enough for use to prevent undue strain on the plants. Give top-dressings regularly, using two parts loam and one part old mushroom-bed manure, or dry horse-manure that has been passed through an inch-mesh sieve. Stop the growths at every second leaf, but remove weak growths entirely. Always use tepid water for watering and syringing, and maintain at all times a humid, warm atmosphere. An application of artificial manure every ten days will be advantageous.

Broad Beans.—Plants of Broad Beans raised in boxes will now be ready for planting out. Set them in lines 3 feet apart, and if cold weather prevails afford protection by placing evergreen boughs on the north side of the lines.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Canker in Apples and Pears.—Canker is a very serious trouble among Apples and Pears, and some varieties are more subject to it than others; indeed, in some districts it renders certain varieties useless. It is not easy at all times to know what is the real cause of the disease. Some conditions favour it more than others, and it is very often to be seen in neglected and over-crowded orchards on heavy soils, which hold the water, and also in low-lying land. As soon as the disease is detected steps should be taken to discover the cause and find means for checking it. It often starts with the cracking of the bark. Trees growing in very rich soil often make late growths which, not being properly ripened, are susceptible to damage by hail storms and hard frosts and predisposed to canker. In such cases the trees should be lifted and planted in early autumn and all wounds, from whatever cause, should be dressed, cleaned and paitned over lightly with shellac. The best preventive of all is to keep the trees clean, especially the stems and bark, and have the soil drained.

Newly-Planted Strawberries.—Plantations of Strawberries made last autumn should be examined, and the plants made firm in the soil, as they often become loose through the action of frost. Plantations of older plants which have not already been dealt with should be lightly forked over between the rows, taking care not to break the surface roots. Give a top-dressing of manure containing a large proportion of straw, as this provides protection against drought, and is subsequently useful in keeping the fruits clean. Sloppy manures should not be used, as they exclude air and warmth. When suitable manure is not available a dressing of bone meal and kainit in equal prooprtions, applied at the rate of 2 lb. per rod on light soils, and 1 lb. per rod on heavy soils, is desirable.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to C. H. Berners, Esq., Wolverstone Park Gardens, Ipswich.

Melons.—When grown on the cordon system, the points of the Melon plants should be pinched out when they reach the limit of the trellis. This will induce the development of fruiting shoots. Laterals which show fruit should be stopped at the first or second leaf beyond the fruit, according to the space available for leaf development. Laterals which do not fruit should be pinched back to two or three leaves. All lateral growths below the trellis should be rubbed off as soon as they appear, but care should be taken to preserve healthy leaves from the base upwards. Daily attention must be given to the pollination of the flowers. During the flowering period the atmosphere of the house should be kept fairly dry, admitting air freely on all favourable occasions. Allow only three to four fruits to swell on each plant, removing all others as soon as it can be seen which are swelling freely. After the setting period is safely over, growth should be encouraged by regular top-dressings of soil as soon as the roots show through each application of compost. So long as it is possible to apply top-dressings the plants will require no liquid manure until the fruits have grown to half their size. The plants should not lack water at the roots until ripening of the fruits commences. Maintain a temperature of 65° to 70° by night, and 10° higher by day. Close the house early in the afternoons of sunny days, at the same time syringing the plants and thoroughly damping the paths and walls to create a moist atmosphere. Very little air should be admitted when cold winds prevail and the weather is changeable. Sow seeds in small pots filled with loam passed through a fine mesh sieve, and place the pots in a propagating box or plunge them in a mild hot-bed. Provided the soil is moist, no water will be needed until the young seedlings appear.

Second Early Vinery.—Where the Vines have been tied down to ensure an even "break," they should be returned to their proper positions. When this is accomplished, commence to disbud directly the best growths can be determined; no advantage is gained by allowing the shoots to remain crowded before proceeding with this operation. Maintain a night temperature of about 60°, with a temperature of 70° in the daytime, allowing a rise of 10° with sun-heat. Supply water to the roots, if necessary, and create a humid atmosphere by damping the paths and walls several times a day. Spray the rods lightly, close the house early in the afternoon to conserve the sun-heat as much as possible, and ventilate freely during the early part of the lay when the weather is favourable.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Deciduous Calanthes.—The vestita and Veitchii groups of the genus Calanthe are most useful flowering stove plants, and generally, where numerous varieties are grown, a succession of flowers may be had throughout the winter. The necessary cultural conditions are few. A moist, warm atmosphere during the time the plants are making their growth is necessary. A temperature which ranges from 65° to 70° by night, with a rise of 15° by day, accompanied with shade during the hottest part of the day, and a position near to the roof glass, are the salient points in their culture. When growing in a moist atmosphere the foliage is susceptible to scalding if exposed to strong sunshine; therefore, the latter should be permitted to reach the plants only when the new bulbs begin to form, and then only in a very gradual manner, so that full exposure may be allowed by the time the pseudo-bulbs have fully developed. As the plants become gradually inured to sunshine, more air should be afforded correspondingly.

Repotting.—Deciduous Calanthes should be repotted soon after growth commences and before new roots begin to push out from the base. Turn the plants out of the pots, and carefully shake all the old soil from the roots; cut the dead roots to about 1 inch in length, as their stumps will help to keep the pseudo-bulbs firm in the new soil until the new roots become firmly established. Strong pseudo-bulbs should be potted separately in 5-inch and 6-inch pots, this being the best plan when the plants are to be utilised for decorative purposes. The smaller bulbs may be placed several together in 7-inch or 8-inch pots. The pots should be quite clean, and they should be half-filled with clean crocks, with some Sphagnum-moss placed on top, or in place of this some fibrous loam, or a layer of thin turf. If the latter is used, place the grass side downwards. The drainage is a very important point, as Calanthes require much water during active growth. The compost is important, and it is on the preparation of this that success largely depends. The soil should be of a firm, retentive nature, yet of such texture that the roots can enter it readily, or it will become sour in a short time. Good turfy, yellow loam answers the purpose best, using three parts of this to one part consisting of partly-decayed Oak leaves and chopped Sphagnum-moss, with a free addition of sharp silver sand and crushed charcoal, the whole being well mixed together. Place the pseudo-bulbs just sufficiently deep in the soil to enable them to stand erect and no more, and make the soil moderately firm around them to within a half-inch of the rim of the pot, thus leaving sufficient space for watering, and for subsequent top-dressings of fibrous loam when the plants are in active growth. If the soil is moist, as it should be, give no water for two or three weeks. By that time the new growths will have advanced a little, and then an occasional light sprinkling will be beneficial; syringe between the pots several times a day, according to the state of the weather. Watering, during the early stages of growth, should be done with much discretion; if the soil is made too wet the tips of the young roots decay, the tips of the new leaves turn brown, and the health of the plant is seriously affected. When roots are numerous, have a firm hold of the compost, and cling to the sides of the pots, water may be given more freely, and when thoroughly well established in abundance, with weak liquid cow manure at every alternate watering. In the summer, when the bulbs are swelling freely, and new roots appear on the surface of the soil, apply a top-dressing of fresh, turfy loam; this will be the means of adding luxuriance to the foliage and strength to the future flower-spikes. Previous to repotting, it is advisable to carefully examine each pseudo-bulb for scale, for if the pest is not removed at this period, endless trouble may be caused all through the growing season. These insects may now be eradicated easily by means of a stiff brush and an insecticide, but when cleaning the bulbs care must be taken not to injure the buds.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Plants in Flower.—Cinerarias, Primulas, Marguerites, Genistas, Mignonette and various spring flowering bulbs are now making the flowering house and conservatory gay. They will need very little fire heat except during cold nights, and if given an abundance of air in fine weather the period of flowering will be prolonged. Water the plants frequently with weak liquid manure, and guard against insect pests by lightly fumigating the house occasionally.

Raising Cinerarias and Primulas.—Sow seeds of Cinerarias for providing plants to flower next winter. Sow seeds of Primula malacoides and P. obconica, and also make a small sowing of P. sinensis varieties. Shallow, well-drained pans filled with finely-sifted, light soil, should be used. Soak the soil thoroughly with water before sowing, cover the seeds with a sprinkling of light soil, and place a sheet of glass (covered with brown paper) over each pan until the seeds germinate, when they should be exposed to light and air.

Chrysanthemums.—Rooted cuttings of the latest decorative Chrysanthemums should be potted into 4½- or 5-inch pots, three in a pot. For this potting use a compost of loam, leaf-mould, sand and a little artificial manure. Pot firmly and place the plants near the roof glass. Keep the atmosphere close for a few days, and then remove them to a cold frame. The more forward plants should now be placed in a cold frame and have their shoots pinched when 4 to 5 inches long. Syringe them occasionally with an insecticide to keep them clean. Plants intended to produce large blooms should now be potted into 6-inch pots, and grown near the roof glass in a cool atmosphere. Cuttings of outdoor, autumn-flowering varieties, may now be struck in boxes placed on a shelf in a cool greenhouse. At first shade them from strong sunshine, and when rooted some may be potted, two or three in a 7-inch pot, to flower in the greenhouse before the indoor decorative varieties.

Deutzias.—Deutzias that have finished flowering should not be cast aside; cut back the old growths, repot the plants if necessary and place them in a warm house, syringing them daily and giving liquid manure to those not repotted, in order to develop strong, healthy growth.

APPOINTMENTS FOR APRIL.

TUESDAY, APRIL 8—
Royal Hort. Soc. Coms. Meet.: Special Daffodil Show. Lecture by Rev. J. Jacob at 3 p.m. on "Freesias and Lachenalias."

WEDNESDAY, APRIL 9—
Wargrave Gard. Soc. meet.

MONDAY, APRIL 14—
United Hort. Ben. and Prov. Soc. Com. meet. Bath Gard. Soc. meet.

THURSDAY, APRIL 17—
Manchester and North of England Orchid Society meet.

FRIDAY, APRIL 18—
Good Friday.

MONDAY, APRIL 21—
Bank Holiday.

WEDNESDAY, APRIL 23—
Wargrave Gard. Soc. meet.

TUESDAY, APRIL 29—
Royal Hort. Soc. Coms. meet. and Nat. Auricula and Primula Society (Southern Section) Combined Show. Nat. Rose Society Spring Meeting. Lecture by Dr. F. W. Keeble, F.R.S., at 3 p.m., on "Horticultural Education and Research."

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 46.0°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, April 2, 10 a.m.: Bar. 30.11; temp., 43°. Weather—Fine.

Land Settlement. The Land Settlement and Land Acquisition Bills, which will be under the consideration of Parliament in the immediate future, describe the machinery whereby it is proposed to effect the long-promised settlement of ex-service men on the land. The latter Bill makes provision for the speedier acquisition of land, and enables County Councils, who will be the statutory authority for land settlement, to acquire and enter on the possession of land more speedily than was possible under the Act which it supersedes. It is a manifest fact that the present time presents peculiar difficulties which have to be overcome if land settlement is to be accomplished. Land has increased in price, and building and all kinds of equipment cost double, or more than double, than they did before the war. Hence, since land settlement is a National and not solely a local affair, it is essential that the State should assume responsibility for what may be called the difference in necessary cost of land settlement in pre-war and present times. This is provided for in the Land Settlement Bill, in accordance with the provisions of which the Board of Agriculture will for a period of seven years make good annually the difference between receipts in the way of rent and expenditure by way of interests on loans raised by County Councils for the purchase of holdings. At the end of seven years the small holdings of each County Council will be valued, and the difference between original cost and present value written off; thenceforth the holdings will be administered by the Councils without further financial assistance from the State.

Under the Bill the dimensions of a holding will be more elastic than heretofore, and what may be called full-time and part-time holdings will be provided. In the case of the latter, the holding will consist of a piece of land of half-an-acre up to an acre, attached to a cottage, and will be available for occupation and use by a man employed in a wage-earning trade—the object being to enable labourers and others engaged in rural occupations to add to their means of subsistence, and also to their interest in life, by the spare or part-time cultivation of the land and the rearing of small stock, poultry, &c.

In this connection it is of interest to know that an enquiry recently made by the Board of Agriculture of the men of one army corps in France elicited the information that a very large proportion something like 75 per cent. of the men who contemplated taking small holdings—desire part-time holdings.

For the use of whole-time small-holders, holdings up to 50 acres—the size varying according to the nature of the cultivation to be practised—are to be provided. For holdings of this type applicants must of necessity be possessed both of practical experience and of some capital. To encourage inexperienced men to start without training to cultivate a holding would be to court disaster both for the men and for the scheme. Given adequate experience, the possession of insufficient capital will not bar a man from a holding, although he may have to begin in a small way, for the Bill proposes to empower County Councils to make loans—probably on a pound-for-pound basis—to small holders to enable them to purchase seeds, tools and stock. In the case of the would-be settler who has no practical experience, we understand that the Board of Agriculture proposes to establish short courses of training sufficient to enable the men who undertake them to become wage earners on farms and market gardens. There, as well as in the part-time holdings which they will be able to obtain, they will gain the practical experience which should equip them later on for a whole-time holding.

This end it is proposed also to provide for in another way, namely by the establishment of settlements, of which already four have been founded. A land settlement will be of one of two types. In one case the settlers will work for wages on a central farm and will thereby have an opportunity of gaining experience. As soon as they have obtained the necessary practical knowledge they will be enabled to take up a holding the size of which will naturally be determined by the amount of capital they have at their disposal. Thus, in course of time, a group of settlement holdings will be established around the central farm, and the holder will be able, according to the size of his holding, either to devote all his time to its cultivation or to spend part of his time on his own holding and part working for wages on the central farm. The holders will enjoy the advantage of the advice of the director of the farm, and by association in a settlement should also be in a position to buy and sell co-operatively. In the other type of settlement skilled men will enter at once in the occupation of a holding, which will be one of a large group of—so far as may be—holdings of a fairly uniform type.

So far as machinery and method go it is difficult to see how the scheme of Land Settlement worked out by the Board of Agriculture could be improved upon. It makes provision for men of very different categories and provides the means whereby it should prove possible to satisfy all reasonable expectations. It is evident, of course, that settlement must be a slow process and that both waiting and waiting lists are bound to be long. Good land must be obtained, and yet good farmers must be interfered with as little as possible. Even under the accelerated powers of land acquisition provided by the Bills delay must occur in obtaining land, and probably yet more delay in providing housing and equipment. Yet, if those who want holdings are able to utilise their time of waiting by increasing their experience this inevitable delay will not be without its advantages. Finally, it is to be noted that whereas ex-service men will have priority, others—so far as the land which becomes available will allow—will also become entitled to take small holdings. A number of holdings will also be available for women of the Land Army, and provision will be made whereby holders may purchase their holdings.

In as much as it is our present purpose only to describe the scheme of land settlement, we do not propose now to enter into the consideration of the difficulties which must be overcome if the small holdings, when established, are to prove remunerative to those who cultivate them. That difficulties exist, and must be faced, is within the knowledge of the cultivators; but a discussion of these difficulties may be left to another occasion.

British Gardeners' Association.—The Annual General Conference of the British Gardeners' Association will be held at Birmingham on Monday, May 12.

Changes at Richmond Park.—Mr. S. Pullman, Superintendent for 22½ years of the Royal Park, Richmond, Surrey, has just resigned his appointment. Richmond Park is one of the famous beauty spots of England, and, we may say, the world. The views of the "silver winding Thames" from its higher boundaries have long inspired poets and painters. Sheen Lodge, close by, was a favourite retreat of our monarchs from the time of King Henry VIII., who made full use of the park. It includes over 2,350 acres, and usually contains a herd of 1,000 head of deer. Feathered game is preserved in the enclosures, and here King Edward VII. loved to shoot several times a year. The park is well wooded, and in the "covers" the immense clumps of Rhododendron, even though principally of R. ponticum, and Bluebells, present a memorable spectacle during their flowering season. Mr. Pullman took charge when the Royal Park ceased to be under the Rangers' Department, and thus succeeded the Duke of Cambridge. Mr. Pullman is a native of Evershot, Dorset: he managed an important estate in Scotland before returning south. He is succeeded by Mr. Wells, Superintendent of Bushey Park, who in turn is succeeded by Mr. J. S. McGregor, for many years Assistant Superintendent at Richmond.

Reorganisation of the Board of Agriculture and Department of Horticulture.—On March 26, in the House of Commons, Mr. H. Hope moved and Mr. Leslie Scott seconded a resolution, "That, as a necessary and immediate preliminary to agricultural reconstruction, it is essential to reorganise the Board of Agriculture, and to accord the Department the status, staff and accommodation of a first-grade Ministry." The Government accepted the motion and expressed the hope that it would be carried into effect at the earliest possible moment. The Government policy in connection with this proposal was briefly outlined by Sir A. Griffith-Boscawen, Secretary to the Board of Agriculture. He stated that the Board of Agriculture must no longer be a negative department, merely carrying out certain Acts of Parliament. The proposed Ministry should investigate all matters connected with agriculture and horticulture and promote the welfare of rural life. It was proposed to establish an agricultural authority in

each county and an Agricultural Council for England and for Wales, with statutory authority. By this means an advisory body would be created, fully able to suggest and discuss improvements and new methods of cultivation and thus be able to supply the Government with the best advice available for the needs of any particular part of the country. Matters to which special attention would be given included small holdings, cultivation of lands, drainage, agricultural education, land reclamation, diseases of animals, diseases and pests of plants, and weeds, as well as such matters as the supply of raw materials, lime, marketing, seeds and seed testing. It might be possible to develop Sugar Beet, Hemp and Tobacco cultivation in this country. It was also proposed to develop largely the horticultural work of the Ministry, especially in connection with the extension of small holdings and allotments, market gardening, fruit cultivation and vegetable production, and introduce intensive cultivation on the lines of the "petite culture," practised so successfully in French rural districts.

The Study of Economic Botany.—At the lecture delivered by Mr. Edward White, on the subject of "The Study of Economic Botany and the Professional Openings it Offers," at the meeting of the Royal Horticultural Society on the 25th ult., Lt.-Col. Sir Albert Rollit, D.C.L., Member of the Council of the Society and Chairman of the Horticultural Education Committee of the Senate of the University of London, in the chair, it was proposed by the Chairman, and carried unanimously, that the President and Council of the Society be requested to send the following Memorandum on the Study of Economic Botany to the Editors of the London and Provincial Press :—

"(1) A very large proportion of the essential wealth of the world is derived, directly or indirectly, from the vegetable kingdom—as, for example, food, clothing, building material, medicines, rubber, oils, dyes, resin, etc. (2) It is to the development of such sources of wealth as these that we must in great measure look to repair the devastation and impoverishment caused by the war. (3) When peace arrives there will be an immense demand for that skilled knowledge which alone can efficiently employ the known, and investigate the vast potential but as yet unknown, resources of our Great Empire. (4) We are afraid that it is true that the chief positions all the world over in promoting and directing the growth and utilisation of known economic plants, and investigating the properties and capabilities of hitherto unused ones, have to a very large extent, and out of all due proportion, been filled by men of alien nationality. And if, now the war is over, these positions are not to fall back into the same hands again, but are to be filled by men of our own race and Empire, it can only be by the attention of our younger men being at once directed to the study of that science which is at the base of all knowledge and experience necessary for operations connected with economic botany. (5) Praiseworthy efforts are being made in many quarters to make good the defects in the scientific equipment of our Universities and Public Schools which the strain of war has revealed. And it is not out of place to mention that quite recently, at the instance of our Society, the University of London has instituted a Degree in Horticulture for the express purpose of encouraging this particular study. (6) The Council of the Royal Horticultural Society accordingly wishes to rouse the younger men of this country to appreciate the importance of the Science of Botany in its economic aspect. It is foolish to say: "We will employ no more aliens in cultivating the plants and testing their produce," unless we have skilled men of our own ready to fill the gaps. (7) The Council also wishes to direct the attention of all educational authorities and of parents who are looking for new careers for their sons, to the issues referred to above. And the Council does this the more earnestly because there is not a moment of time to be spared; and they fear that the study of Natural Science does not generally receive such attention in Public Schools and other centres of education as its national importance deserves. (8) It is not necessary at the moment to consider the causes of this neglect of a most useful, engrossing and remunerative subject. The Council's immediate purpose is to indicate the pressing importance of it if British brains are in future to direct the development of the vegetable wealth of the Empire. (9) It is a matter which intimately concerns the great corporations, companies and merchant houses, and those whose staple industries are derived from the raw materials produced from the soil in the many quarters of the Empire. The Council ventures to suggest that it is of the utmost and immediate interest of all such bodies to encourage in a practical manner the study of science, upon the national efficiency in which such predominant issues depend. (10) The Council of the Society will be happy to assist by any means in its power in the consideration of this most important subject. *W. Wilks, Secretary, R.H.S.*"

The President of the Royal Horticultural Society.—All who have experienced the unfailing kindness and courtesy which characterises Lord Grenfell will learn with sincere regret that his many public duties have compelled him to resign the presidency of the Royal Horticultural Society. During the years which he has occupied this office Lord Grenfell has endeared himself to all members of the Council and has devoted himself enthusiastically to promoting the interests of horticulture. We are informed that his successor as President is Lord Lambourne, whose interest in and knowledge of horticulture, are universally known and appreciated. The Society has always been fortunate in its Presidents, and its good fortune is enhanced by Lord Lambourne's acceptance of the office.

[*Photo by A. Hands.*

Fig. 70.—Lord Lambourne, C.V.O., the new President of the Royal Horticultural Society.

A Valuable Plant for the Rock Garden.—A new variety of Epilobium chloraefolium, named by Dr. Cockayne kaikourense, should prove, according to the description* of the author, a valuable acquisition for the rock garden. The variety is distinguished by its exceedingly robust habit and its large white flowers which, when fully opened, are over one inch in diameter, and long lasting. The stems are smooth, shining, and purple in colour, and the somewhat thick coriaceous leaves are bright or yellowish green above and often reddish beneath. In New Zealand the plant continues in bloom for more than six months. The variety is limited in its distribution, being confined to the North-Eastern Botanical District, where it occurs growing in rock beneath shrubs, from sea level up to nearly 3,000 feet; so whilst the species is widely distributed, the variety is limited to a restricted area. Dr. Cockayne gives the assurance necessary before we risk the planting of an Epilobium in the rock garden that there is no fear of this plant becoming a weed.

* *Notes on N.Z. Floristic Botany.* By L. Cockayne. *Trans. N.Z. Institute*, XLIX, 1916.

Newcastle Flower Show.—The Botanical and Horticultural Society of Durham, Northumberland and Newcastle-on-Tyne will hold a flower show in the Leazes Park, Newcastle-on-Tyne, on Tuesday, Wednesday and Thursday, September 2, 3, 4, 1919. Particulars may be obtained from the Secretary, Mr. R. H. Newton, 90, Pilgrim Street, Newcastle-on-Tyne.

The Influence of Nitrates on Nitrogen-fixing Organisms.—The Bulletin of the International Institute of Agriculture contains an interesting summary of observations on the effect of nitrates on the numbers and efficiency of nitrogen-fixing soil organisms. These observations show that small quantities of potassium, of sodium, or calcium nitrate lead to a great increase in the numbers of Azotobacter—one of the chief of the nitrogen fixing soil-organisms—in previously sterilized soil. It is curious, however, to learn that wherever small quantities of potassium or sodium nitrate also cause Azotobacter to fix more nitrogen, calcium nitrate reduces the rate of nitrogen fixations. All three nitrates appear to cause an increase in numbers of the nodule organism Bacillus radicicola. Noteworthy, also, is the fact that large amounts of potassium, sodium, or calcium nitrate, prevent the formation of nodules by Alfalfa, an indication of the truth of the suggestion already made that the origin of the symbiotic association between the nodule organism and the roots of Legumes is to be sought in the general nitrogen hunger which prevails throughout much of the world of living plants.

Leptospermum scoparium with Double Flowers. — Two records of double-flowered Leptospermum scoparium Forst, occurring in Nature, have been published already: to one reference is made in Dr. Cockayne's volume on New Zealand Plants and their Story (p. 149). This form was discovered by Mr. E. Phillips Turner in the Volcanic Plateau Botanical District. A second double-flowered plant was found about four years ago at Torrent Bay, Nelson, and of this find Dr. Cockayne was informed by Messrs. Nairn and Sons, nurserymen, of Christchurch. Dr. Cockayne has now recorded* a third form, which was found by Mr. L. H. Wilson in his property at Port Levy, Bank's Peninsula. An excellent photograph shows that the double form is an admirably decorative plant. It should be widely distributed from cuttings which have been struck, for a vigorous specimen is now growing in the Christchurch Botanical Gardens. Dr. Cockayne proposes for it the garden name of L. scoparium Leonard Wilson.

Revision of Pritzel.—By a slip of the pen, the volume entitled *Iconum botanicarum Index* was, on page 154, twice referred to as *Icones plantarum*.

Publications Received. — ***Seed Mixtures for Land affected by Clover Sickness.*** Board of Agriculture and Fisheries. Food Production Leaflet, No. 61. ***Rabbit Diseases.*** Board of Agriculture and Fisheries. Leaflet No. 327. ***Growing Fruit for Home Use.*** Farmers' Bulletin 1,001. United States Department of Agriculture. ***Brown Canker of Roses, caused by Diaporthe umbrina.*** By Anna E. Jenkins. Reprinted from Journal of Agricultural Research, Vol. XV., No. 11. Washington: Government Printing Office. ***Experiments on the Value of Greensand as a Source of Potassium for Plant Culture.*** By R. H. True and Fred W. Geise. Reprinted from Journal of Agricultural Research. Vol. XV., No. 9. Washington: Government Printing Office, 1918.

* *Notes on N.Z. Floristic Botany.* *Trans. N.Z. Institute*, L., 1917.

ODONTOGLOSSUM AJAX.

THE beautiful seedling Odontoglossum Ajax, illustrated in Fig. 71, was shown by Messrs. Armstrong and Brown at the meeting of the Royal Horticultural Society on the 25th ult. The variety was one of two examples of this handsome cross between O. amabile (crispo-Harryanum × crispum) and O. Promerens (crispum × eximium) with their first flowers, which at first sight seemed very dissimiliar, the variety Armstrongiae having more of the characters of the blotched O. crispum, the markings being fewer, darker reddish claret colour, and with a clear white ground, while the form illustrated in Fig. 71 was cream-white with a pale yellow tinge, showing less of O. crispum, which had played the leading part in its production, and in the markings and tint gave distinct traces of O. Harryanum, its remote ancestor, passed on through O. crispo-Harryanum. A close examination of the flowers of both varieties, however, proved very interesting, for the pattern, if it may be so called, though varying in colour and breadth, was exactly similar in every detail in each flower.

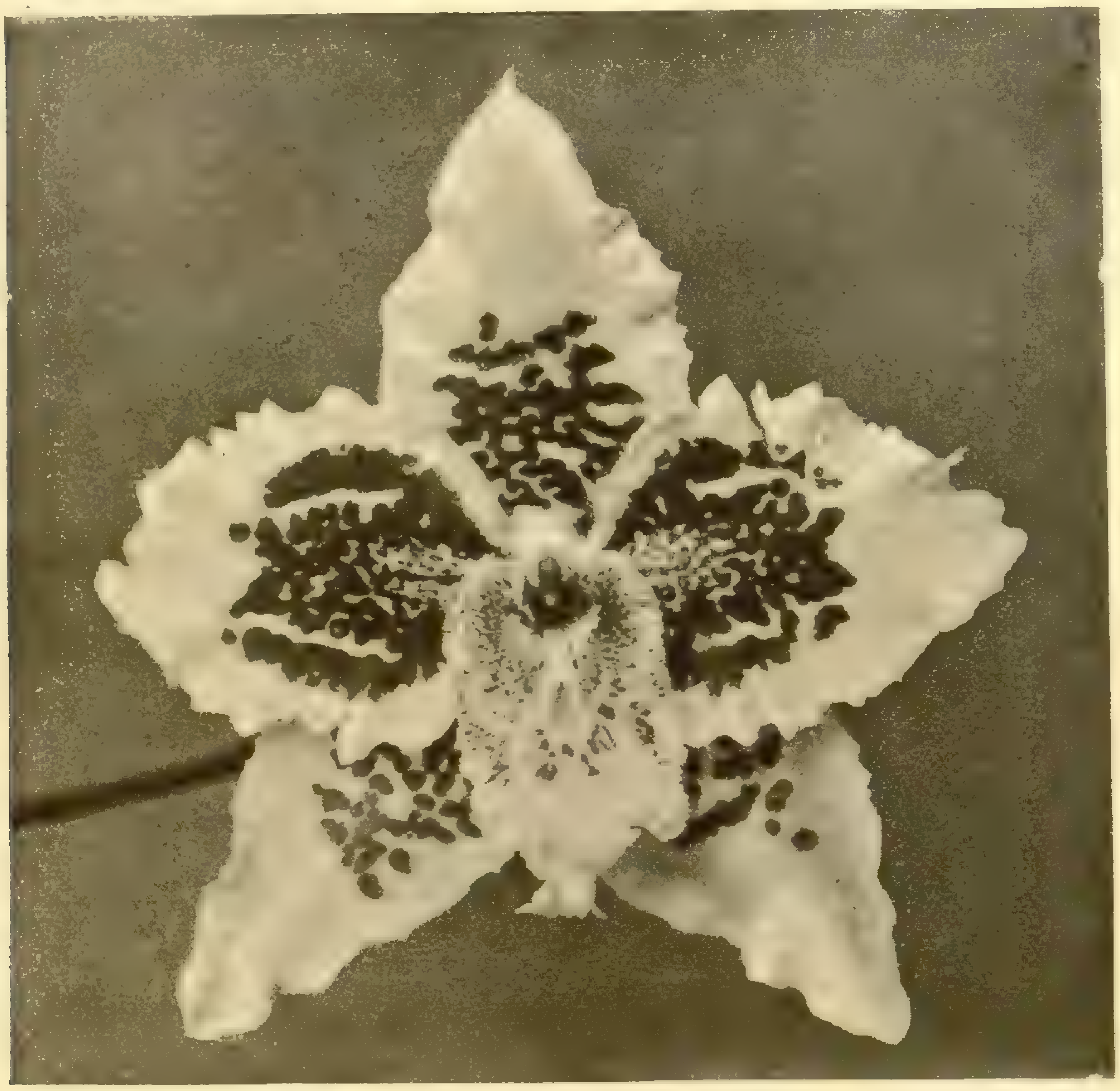

FIG. 71.—ODONTOGLOSSUM AJAX.

EMPLOYMENT IN AGRICULTURE DURING THE WAR.

Soon after the establishment of the Agricultural Wages Board, in the autumn of 1917, the Board of Agriculture and Fisheries instituted an "Inquiry into Wages and Conditions of Employment in Agriculture." A survey of wages and conditions of employment was conducted in each administrative county in England and Wales, and the results of these county surveys have now been published,* together with a general report on the inquiry, prepared by Mr. Geoffrey Drage and his investigation staff. We take the following interesting summary of the report from the *Wages Board Gazette*, March 15, 1919:—

The subject of wages and conditions of employment in agriculture is one which has aroused much public interest in recent times, but no public inquiry on the general subject had been made for over twenty years. The most recent inquiry was that made by the Board of Trade on Wages and Earnings in Agriculture in 1907, but this dealt with wages and earnings only, and the most recent information of a public character on other conditions was that obtained by Mr. Wilson Fox in 1899 and 1902. To find a parallel inquiry to that conducted for the Board of Agriculture in 1918 it is necessary to go back to the Royal Commission on Labour, 1892-4. It is interesting to note that the secretary of that Commission, Mr. Geoffrey Drage, was director of the investigations carried on by the Board of Agriculture in 1918.

In the general report, the subject of wages and conditions of labour is approached through an introductory survey of the general aspects of the agricultural industry. Here the types of agricultural production prevailing in different districts are indicated, and the relation of the prevailing type of production to the number of persons employed and general conditions of employment is discussed. Attention has also been given to some specialities in farming, such as market gardening, fruit growing, seed growing, etc., and to the existence of woodland, and to their influence on conditions of employment. In this connection an interesting summary of information on existing rural industries is given, with some discussion as to the possible success of schemes for developing such industries. The existence of other industrial enterprises and their effect on the supply of labour and conditions of employment is also dealt with. It is impossible to summarise this section of the report, but it provides a necessary and valuable introduction to details of conditions of employment which appear in later sections.

A section dealing with the supply of labour contains all the recent statistics of the numbers of persons employed on farms, market gardens and woodlands. Some figures showing the number of workers on groups of farms, or on farms in certain localities, in 1914 and 1918, collected in the course of the inquiry, are also given. It was found that on groups of farms in Oxfordshire, Buckinghamshire, and Northamptonshire the supply of labour had fallen 7, 20, and 25 per cent. respectively since 1914. It is also pointed out that the general shortage of labour has not been equally distributed, for more labour is now employed on some farms than in 1914. "Although the average shortage is known the variations in distribution are of more than ordinary importance, because the present supply of labour is not by any means always below that of normal times. It appears that an acute shortage brings out sharp distinctions between those employers who are keen to maintain their businesses at the highest level . . . and those who are more or less negligent and are unwilling to meet the changing demands of the moment." The subjects of juvenile labour, and the supply of women labour, with the prospects for the future, are also discussed. An interesting part of this section deals with the efficiency of farm labour. The human qualities and capacities necessary for efficiency are discussed, both in relation to the farmer and the workman. The comparative physical basis of efficiency in farm workers and those in other industries is treated statistically, and it is shown, amongst other items, that the age level of agricultural workers is not so conducive to efficiency as that prevailing amongst certain groups of industrial workers. It is eventually stated, however, that the productive capacity of farm workers is now higher than it was in 1871, a time at which the supply of farm labour is sometimes said to have reached its highest quality. Some local variations in productive capacity are also indicated, and reasons for local variations in the standard of efficiency are discussed.

The section dealing with the conditions of employment provides much detailed information of a kind not hitherto available. The conditions of employment of shepherds, cattlemen, horsemen, and other workers, including women, are treated separately. The relative advantages and disadvantages of various conditions of employment, and the effect of the labour position arising out of war conditions, are also discussed.

The subject of wages and earnings is treated separately, and tables are given showing rates of cash wages for men of each class in each county for the summer and winter of 1914 and 1917 and the winter of 1918. Some interesting details indicate the comparative increase in cash wages in counties which are predominately arable and others which are predominately pasture, and it is shown that the increase since 1900 has been more rapid in arable than in pastoral counties. It is also shown that wages have not risen as rapidly in counties in which comparatively small farms prevail as in those in which farms are larger. Ample details are given of the nature and amounts of allowances in kind, and also of extra earnings of workers in each locality.

Other sections of the general report deal with cottage accommodation and rents, the relations between employers and employed, gardens, allotments, and small holdings. Amongst the suggestions made in the conclusion drawn from the evidence relating to cottage accommodation and rents are these—that a serious effort be made to cheapen the cost of cottages, that the labourer should be put in a position to pay a reasonable rent, and to pay the rates on it. The relation of the landowner and local authorities to the rural housing problem is also discussed. As regards the relations between employers and employees, it is stated that "on the whole, labourers and farmers have realised the national importance of their work, and the extent to which harmony between them is needed, and have in most cases pulled together." The economic and social values of cottage gardens and small allotments is discussed at length, and, after a statement of the advantages and disadvantages of small holdings in relation to varying types of agricultural production, it is suggested that "there are advantages in the small holding and the small farm which, looked at from the point of view of the benefit of the country at large, and of agriculture in particular, probably outweigh the cash gains of the organisation of larger farms." As regards the economic position of

* *Wages and Conditions of Employment in Agriculture*, Vol. I. General Report, Cd. 24, 1919. Vol. II. Reports of Investigators, Cd. 25, 1919.

the farmer and labourer, it is stated that "incidental circumstances seem to show that if farming profits have not been greatly increased on the whole, they have at least, so far, been well maintained," and that "it may probably be concluded with safety that, taking wages and prices together, those agricultural labourers who are left on the land (in the spring of 1918) have never been so well off as they are now," but that to say this "is not, of course, the same thing as saying they are as well off as they ought to be."

The summary of the reports on Wales is given separately, and will be found to contain a large amount of interesting materials, especially when a comparison of conditions of employment in Wales and England is made. The second volume of the reports contains the reports of individual investigators on conditions of employment in the counties which were assigned to them. These reports deal in great detail with wages and conditions of employment, and also throw illuminating sidelights on many aspects of rural life in England and Wales. They provide an interesting record of some conditions prevailing in the agricultural industry during the war, indicating many changes which have occurred; but they also contain much information on some features of the organisation of the industry which have endured, and will endure, for a considerable length of time.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Women in Horticulture. — Being another woman-gardener, I should like to add a few words to those of "*A Possible B.E.*" The women have certainly been judged far more harshly than the men. It is quite permissible for a man gardener to straighten his back and lean on his spade for periods varying from ten minutes to three-quarters of an hour, several times in a day. Also to smoke a pipe in some quiet corner, and never be missed. What happens if a woman gardener is seen taking a breathing space of five minutes? Does "*Dubious*" realise how the women have roughed it? The fearful bothies, lack of all conveniences and sanitation? Almost invariably where three men have been kept inside, two girls have been expected to do the same amount of work, and obtain the same results on old stock (economy forbidding the purchase of new stuff), insufficient heat (fuel being expensive and hard to obtain), and they have sustained the effort for at least four years. What about stoking?—surely a hard task for any woman. Yet the women have been expected to turn out at all hours during winter nights to stoke three, four, or even five fires, and have done the work for several winters. There have been no excuses if "temperatures" have been down in the morning, yet one hears of men who, in pursuit of pleasure, have allowed fires to go out and the plants to be ruined. Few of the despised women gardeners have done that. What is the reward for their efforts to carry on in the absence of the men? They are receiving their notices, unjustly in most cases; are being given no references, and have no chance of continuing the work, which most of them love, and which, to not a few, is their only means of livelihood. Men will come back to better and cleaner bothies, clean plant-houses, and more consideration, while the women-gardeners, who kept on at times when "there was nothing left except the will to 'hold on,'" are being "sacked," and are left wondering why they have been such fools. *(Miss) A. Parker.*

The late Mr. G. Neve (see p. 146):—May I add a word of tribute to the late Mr. G. Neve, as an old friend and neighbour: Mr. Neve was a hard and constant worker both for the welfare of the village, the institute, the school, and the flower show; and on two occasions he and Mrs. Neve received presentations in recognition of his good work. He did his best to leave the world better than he found it. The late Mr. G. Harman, his employer, treated him as a friend. Besides lecturing and adjudicating at various flower shows, Mr. Neve was for two successive years chairman of the Reading Gardeners' Association and a prominent member of the Reading Flower Show Committee. *J. Prince.*

Gardeners' Victory Memorial.—The suggestion of Mr. Beckett (p. 129) to place the names of the fallen members of the garden staff on a tablet fixed to the garden wall in establishments where the heroes spent part of their career, is one which most gardeners will fully approve of. Two most promising young gardeners who passed through Mr. Beckett's hands, and whom I had the pleasure of knowing, were Mr. Gardiner and Mr. Scrivener. Both gave their life for their country. *Cymru.*

——At present there are three proposals for a Gardeners' "Victory" Memorial. (1) A tablet in the hall of the Royal Horticultural Society and Memorial Funds for the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund; (2) A tablet on the wall of each garden where the men worked before joining the services; (3) A colony of Rest Houses for aged gardeners who are unable to work. All three are good suggestions, but number two appears to be one for individual gardens only, and not suited for a national memorial, as no committee could ensure its being carried out. Many who have assisted me in years gone by have made the supreme sacrifice, and I shall be glad to give any assistance in my power to any scheme that is decided upon. A committee should be appointed to consider the above suggestions with any others that may be made, and recommend the adoption of the most suitable scheme. Out of 600 members of the United Horticultural Benefit and Provident Society who joined the services, 100 lost their lives; these men and a large number of other gardeners who were not members, nobly gave their all in order to shield us from dangers worse than death; the least we can do in return is to perpetuate their memory. *W. H. Divers, V.M.H., Westdean, Hook, nr. Surbiton.*

The Recent Severe Frost.—With reference to readings of temperatures below zero recorded by your Aldenham correspondent during the month of February, I may state that the lowest temperature registered here this winter by my thermometer, on the grass, facing N.E., was 14° Fahrenheit, or 16° above your correspondent's figure, a difference which, at a distance of only 8 miles, appears quite unaccountable. The lowest temperature I registered during the winter of 1917, was 12° Fahrenheit on three occasions. *M. T. Allen, Ravenswood, Northwood, Middlesex.*

Field Mice and Voles (see p. 134).—It was on the Amazon that I learnt the use and technique of carbon di-sulphide in dealing with the Saüba ("Sahoovah") or "umbrella ant," perhaps one of the most rapidly destructive pests that is known. The method was to pour or squirt down the liquid into the holes of the "ant-warren," a short time for diffusion was allowed, and then a burning bunch of oily tow was applied on a long stick. Various explosions and rumbling followed, and I saw no saüba for some 3 or 4 weeks, and then only a scattered few. Some 12 years ago a friend's garden was being cleared by mice, which had established a warren in a grass bank. We got petrol, a funnel and the kitchen bellows, and so got the petrol vapours well into the burrows. On applying the light, spurts of flame occurred out of the bank over an area of many yards; thereafter the mice ceased their depredations. I have often thought that a cylinder of compressed coal gas might be used where suitable burrows exist, but, of course, too, one could use an ordinary acetylene generator. As a mere poison gas, without the aid of explosion, I have used arsine, or arseniuretted hydrogen; in a room this is a dangerous gas, but in the open air in responsible hands there is probably no risk. It has the advantage of being very much heavier than air (2.7 times), so that it tends to fall and fill depressed holes. A small, wide-mouthed bottle is provided with a bored cork and bent tube, to which is attached a piece of rubber tube; a few pieces of zinc and some suitable arsenic compound (*e.g.*, white arsenic) and water are put in the bottle, the end of the rubber tube is introduced into a hole and earthed up around in the case of a mole run (which are often used, I believe, by the mice). I invert a small flower-pot over the tunnel so that thoroughfare is not impeded; the pot is earthed up around and the tube inserted through the hole and clayed in, thus the gas passes in both directions (the mole ceased further working). A teaspoonful or two of strong hydrochloric acid is rapidly poured into the bottle, which is immediately re-corked; the gas goes into the holes, and if the burrows have been well designed by the mice, any that are therein are certain to die; the last mole I had in the garden ceased signs of activity after one gassing. Deterrents such as Dippel's oil are of limited use, as destruction is the main object for success. Some of the poison gases employed in the war might be useful. Two neighbours recently reported to me that young Apple trees heeled in have had the bark and small roots eaten off, and Rhubarb crowns hollowed out, the latter by voles. With regard to seeds, it appears that the mice (I use a general term as I am not sure of what species they are) do not eat them directly, but carry them off to hoard. Thus on lifting some Seakale pots some years ago, I found the whole of a sowing of Peas germinating in a pile, intervened with a trowel, put them in place again and had a crop from them after all; another hoard occurred of frame-sown Radish, so now with these sowings I put a rag soaked with Dippel on a piece of wire in the frames, and this seems successful, as another frame without Dippel only shows some half-dozen seedlings appearing. Lettuce seed is eagerly sought, and I think directly eaten. One of the most curious hoards I have met with was with some Maize cobs ripened for seed lying in my fruit-room. To my horror one day I found that mice had been there and stripped nearly all the seeds off; later in the year I went to a box full of a special Carrot seed that I had saved, and to my surprise the Maize seeds were there buried in the Carrot seed. This winter there was some Buckwheat lying loose and a piece of sacking on the staging above: nearly all the Buckwheat had been transported within a fold of the sacking. Lastly, a word as to "natural enemies," there are several cats around and plenty of owls fly about hooting but neither does anything, apparently, to the mice, which continue to increase. *H. E. Durham.*

Gardeners' Hours and Wages.—Mr. Chivers' argument that because a boy joins the Army at 18 he is therefore entitled to all the privileges of manhood, including full wages, is utterly beside the mark. The two things have no connection whatever. The fact that thousands of boys have taken their place with the men and done their duty nobly would be ample reason for rewarding them, but it is no justification for the attempt to secure for others a remuneration they cannot earn. I am, of course, referring only to commercial horticulture, with which I am concerned, and not to gardening, to which the Act does not apply. I repeat that the clause referred to is based on utter fallacy and is resulting in injury to all concerned. In commerce, wages must depend upon output. Mr. Chivers appears to share the all too common delusion that they fall like the rain from heaven, whether earned or not, and are not subject to economic laws. It does not need much argument to show that no man can long continue to draw more money for his labour than what he produces will fetch on the market. If he does not produce enough to pay wages (and some margin beyond) his employment will soon cease. Under present conditions boys of 18 cannot, excepting in rare cases, earn men's wages, so that we are faced with the prospect of doing without boys, or, as an alternative, the Government must act consistently, and, in classing nursery and all other land work as "agriculture," treat the employers as they have done the farmers, and, by maintaining prices, supply the means to pay an artificial rate of remuneration to the workers. Of course in this case the public will pay, and probably grumble,

but there is no other reasonable way out of the difficulty, unless they acknowledge that a mistake has been made, and repair it. *Chas. E. Pearson.*

——The anomalies and difficulties calling for discussion cluster around the three heads: wages, hours, and overtime pay. The *Wages Board Gazette* has expressed the opinion that the 30s. minimum does not apply to labourers gardening for purely private ends. The B.G.A. is asking from 2s. 6d. to 30s., according to experience and status, *above* the agricultural minimum. Leaving this standard for the moment, of what use is it for a head gardener to offer capable labourers *less* than the minimum which is being paid on the farms around him? He cannot get, much less retain, men worth retaining for anything under 30s., because of the impossibility of supporting their families on less. Applied to hours, the same argument holds good. How many garden workmen will work longer hours than a workman on a farm? These are practical points some of us have had to consider. The argument holds good again when dealing with overtime and Sunday work. Of what use is it, to-day, to expect anyone engaged in a garden—from the boy upwards—to work gratis on Sunday and in the evening (as some of us older folks had to do), when the employer has to pay for such work on the farm? Since the passing of the Agricultural minimum, I have noticed gardeners offering 3s. for Sunday duty; and yet farm work on Sunday is remunerated at 10d. to 11d. per hour, according to the county rate. From the foregoing comparison it looks as if gardening, from the financial point, is on the downward grade. Happily, however, there are a few places where Sunday labour receives just recompense: two such I have in mind now, one paying 9s. for Sunday duty, the other 6s.—these sums being halved for half-day work. Some such authoritative voice as the Royal Horticultural Society is needed to plead for and give support to the just claims of all workers in private gardening for a more liberal monetary reward for their services. It may be asserted, surely, that no art or profession has more enriched our land than gardening. None has a more educative and uplifting influence. Should not those engaged in it be better compensated, from the humblest to the highest?—*C. Turner, Ampthill Park Gardens.*

——Mr. Elwes (see p. 144) puts the case for employers of gardeners, who, like other employers, pay no more than they are forced to. My appeal was made to gardeners to combine for the purpose of exacting reasonable conditions of employment. Without combination, betterment is impossible. If one of the results of the war will be the application of the skill of the trained gardener to the cultivation of plants of economic importance instead of so many things which, as Mr. Elwes says, we should be just as happy without, the country will benefit. Owners of large gardens and parks must make better use of them. Clap-trap is no doubt served out in Glasgow and South Wales as it was formerly in Birmingham and Limehouse, and it is surprising how it sometimes serves the purpose intended. But Mr. Elwes knows quite well that the feeling against the waste of land in this country is strong and genuine. Sir Thomas Middleton, Assistant Secretary, Board of Agriculture, recently stated, in a paper on "Food Production," that land is a prime instrument of production, and must be put to its fullest uses. "If the British public once give their attention to the products of the land they will insist on an increase in the quantity of food: there will be but little sympathy for the man who comes forward with the excuse: 'Knowing that thou art a hard taskmaster, my one talent lies buried beneath the grass'; the grass and the talent will both come up and will pass to the man prepared to multiply production tenfold." Large private parks and gardens are certainly not put to the fullest use; they are, in fact, largely ornamental, and it does not require much imagination to enable one to see what might be done with these enclosures in the way of production. As to the expense, rent, rather than the cost of labour, is likely to be the serious obstacle, judging by the demands made when land is required. Farm land ought not to be interfered with until such places have been released and put under cultivation. Whilst it is to be deplored that gardening has become a luxury, and that the gardeners' efforts are wasted in growing things of no real use, that is no reason why gardeners should be cheap. On the contrary, luxuries are usually extravagant in price. Those who waste labour should, in my opinion, be taxed for it. Land in this country should not be left idle; labour should not be used in vain. If, as Mr. Lloyd George has stated, "the vital needs of the country are to be produced from our own soil and factories," cultivators, be they farmers or gardeners or foresters, will become as necessary as miners, engineers and factory workers, and they must not, therefore, be overlooked with respect to wages, hours and other conditions. I object to the argument that gardeners must take what they are offered and be satisfied. They should hasten to follow the example of other workers by combining and insisting on fair terms. Farm-workers are advancing. They are now agitating, through their Union, for a minimum wage of 50s. and an eight hours day. It has been decided that gardeners occupied in the cultivation of useful crops, such as fruit and vegetables, are entitled to the terms awarded by Government to farm-workers. Generally they are worth more, and it is to be hoped that their claims will not be overlooked by the Chamber of Horticulture, otherwise there may be trouble. The great need now is a Union of Gardeners, to act independently of societies and employers, for the purpose of creating for the workers in the great field of horticulture a status among the important industries of this country. *W. W.*

——I read with interest the correspondence in your columns on the above subject, and especially the letters from Mr. Chivers, with whom I cordially agree on most points. I must, however, take strong exception to his statement in your last issue that gardeners should join other unions than a Gardeners' Union. Mr. Chivers is apparently not aware of the progress of the British Gardeners' Association since the conclusion of the war, and of what has been done in connection with improvements in conditions and wages. If Mr. Chivers will let me have his address I shall be pleased to give him some interesting information. With regard to the suggestions of Mr. H. J. Elwes that the gardener is a luxury, I thought that myth had been exploded years ago. A gentleman of my acquaintance at Croydon who formerly held this opinion until his gardener joined the Army, has now changed his mind, chiefly owing to the fact that his greengrocer's account comes to over £5 every week. Even where no vegetables are produced the market value of the house is determined very largely by the amenities which surround it. Last, but not least, even if one admits that a gardener is a luxury, that does not justify employers in paying sweated wages. I know of many cases, and can give the necessary proof, where wages have advanced not more than 2s. since July, 1914, and this notwithstanding that according to the Board of Trade official figures, the cost of the necessaries of life is 120 per cent. higher than it was in July, 1914. If Mr. Elwes would visit some of the gardeners' homes and some of the bothies he would appreciate the humour of "The Glory of the Garden." With regard to Mr. C. Pearson's alarming picture of the boys of 18 adrift, I shall be pleased to hear of any cases of this sort, and can guarantee to find these lads employment where they can obtain wages according to the minimum laid down by District Wages Committees. Mr. Pearson calls the Corn Production Act clause idiotic. It might be from an employer's point of view, but when one remembers how the labour of school children and young people has been used for the purpose of keeping down wage bills, one will realise the necessity for this clause. *Cyril Harding, General Secretary, British Gardeners' Association.*

CROPS AND STOCK ON THE HOME FARM.

Cabbage.

Seed of both early and late Drumhead cabbages should be sown about the middle of April. The early variety will be ready for use in September at a time when grass may be scarce and the maize crop a failure as it sometimes is from various causes. In those circumstances cabbages are invaluable for producing huge crops of valuable food and especially for dairy cows. Thirty tons per acre is not an extravagant estimate of a good cabbage crop: 1 lb. of seed will provide enough plants for six acres provided they are well grown and carefully put out.

The seed bed should be in an open situation, the soil deeply dug and well manured; a fine tilth is necessary to ensure even germination. Previous to sowing the seed, scatter superphosphate freely over the ground to give the seedlings a fillip in their early growth. Sow the seed thinly in drills made one foot apart, which distance enables the soil to be frequently stirred, as hoeing hastens the growth of the plants and keeps down weeds. When the plants are large enough to handle they should be put out; it is a mistake to defer transplanting until they become leggy, as large plants receive a considerable check in transference. In stiff soil I prefer to plant cabbages during dry weather as they start into growth much better than when planted during a continuance of wet weather. The early variety I plant in the second plough furrow; the later sort is given more space in the third furrow. Before planting, dip the roots in a thick solution of soil and superphosphate or soot and water, which may assist in warding off an attack of club. If there is any suspicion of this disease, the soil should be dressed with gas lime at the rate of two tons per acre in the autumn before ploughing.

The Wheat Prospect.

Where this cereal was sown in October, enabling the seedlings to get a good start, the plant has a promising appearance, being thick, deep green in colour, with a good promise of tillering. The month of November was fairly dry in South Hants, but 3½ inches of rain fell, which enabled the early sown wheats to make good progress.

That sown later had much worse weather to contend with, as but ten dry days were recorded in December. January was even worse, although eleven dry days were experienced, for as much as 6.46 inches of rain fell during the month, which was detrimental to the growth of wheat.

Many fields of late sown wheat are not looking promising; some are so bad they should be ploughed and the land re-sown with oats, which would be better than risking half a wheat crop. The previous preparation will be all in favour of a good yield of oats or barley. Some thin wheat plants often surprise the farmer by their quick alteration in appearance after a spell of dry weather at the end of March and early April after the surface has been harrowed and dressed with some quick acting fertilizer; therefore do not be in too great a hurry to plough up the wheat. Even if too late for oats or barley, before a decision to plough is taken, an early crop of rape, vetches or turnips could be sown to provide sheep-food, and this would improve the ground for an early sown wheat crop.

Although sulphate of ammonia will quickly alter the appearance of the wheat plant, I think it is too late to apply this fertiliser now; a special wheat fertiliser or superphosphate would be preferable sown at the rate of 4 cwt. of the former and 3 cwt. of the latter, per acre, before harrowing.

Mangold.

Another season has proved the value of mangolds as food for cows, and especially for sheep, when the crops of turnips and swedes were but poor in either number or quality. Mangold will give the heaviest yield of all root crops on the farm. With ordinary good cultivation

30 tons of roots per acre is a reasonable crop, and by special cultivation and superior varieties, 60 tons per acre is not a maximum crop. This season mangolds have sold freely at £2 per ton, which, apart from their value for home food, cannot be other than a very remunerative crop. The third week in April is a good time to sow the seed, therefore the land should be thoroughly prepared to obtain a suitable tilth. The seed germinates much more evenly in fine soil than it does in rough or cloddy ground, owing to the escape of soil moisture from the latter.

Where the soil is stiff, was well manured and was ploughed in the autumn, with a promising tilth it should not be ploughed again. Owing to the risk of the lower soil being in a wet condition, this would come to the surface in an uncongenial condition, and with the drying winds and sun we can reasonably expect would be rendered difficult to work to secure the necessary tilth. Therefore such soils should be cultivated on the surface to destroy weeds and make them level.

Where the soil is light in texture and not liable to give trouble by ploughing it should be finally turned over, burying any surface weeds and providing a good tilth. Although a dressing of farmyard manure, at the rate of 20 tons per acre, is invaluable for the mangold crop, those who have not that commodity need not despair of a full crop, as with 4 cwt. per acre of some specially prepared fertiliser or superphosphate success may reasonably be expected. Sulphate of ammonia renders most valuable aid in the growth of this crop after the plants are hoed out. My recent experience with this crop justifies my saying that 1 cwt. of sulphate of ammonia per acre sown broadcast at the time of drilling the seed gives a fillip to the growth of the plants directly the seed germinates, bringing them on more quickly for "setting out," and ensuring a more regular "plant."

I sow the artificial manure broadcast when preparing the soil by harrowing previously to sowing the seed, in preference to sowing it from the drill with the seed, as I think the manure retards the germination of the seed somewhat. Since adopting this plan of broadcasting the artificial manures and the use of sulphate of ammonia at sowing time, I have had better results, especially in a more even, regular "plant." *E. Molyneux.*

Feeding of Livestock.

It is announced that no further certificates will be issued by the Food Controller for the purchase of oil cakes and meals, and these may now be purchased freely wherever they are available, but whenever supplies are not equal to all the demands, purchasers requiring them for milch cows will be given a preference. Except as regards the manufacture of malt, there is no longer any restriction on the use of barley, and no licence is required for the feeding of damaged grain. Dredge corn may be fed for any purpose, and horses are not now restricted in the quantity of Oats, Maize, Beans, and of the other cereal foodstuffs (practically everything except Wheat) that may legally be fed to them. Millers' offals are now available in greater quantity and of better quality, and may be obtained from the London mills in lots of not less than 4 tons at £14 for fine and £13 per ton for coarse offals, including delivery to buyer's nearest railway station. Sacks are charged for. Early application should be made to the Feeding Stuffs Section, Ministry of Food, New County Hall, London, S.E.1.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

Scientific Committee.

March 25.—*Present:* Mr. E. A. Bowles, M.A. (in the chair); Messrs. W. Hales, W. C. Worsdell, F. J. Chittenden (hon. sec.), and Rev. J. Jacob (visitor).

"Breaking" of Freesias.—Rev. J. Jacob showed examples of Freesia flowers exhibiting the same kind of phenomenon, so well-known in Tulips, of concentration of colour in certain areas, whereas the colour in flowers of the (vegetative) parent corm had been diffused. The example shown was in the variety "Whitewell," where the delicate tint of the parent had become intensified within a smaller area, and was not nearly so pleasing. He was unable to account for the change by any differences in cultivation or other causes.

Fruiting of Hedychium Gardnerianum.—Mr. J. Fitt, Frythe Gardens, Welwyn, Hertfordshire, sent a shoot of Hedychium Gardnerianum bearing fruit. At ripening, the fruit (which has been enclosed till then within the valves of the spathe) is exposed and its bright red valves burst apart, showing the black seeds on a red column within. The fruit is about 1 inch in length.

Obituary.

Jesse Willard.—We announce with deep regret the death of Mr. Jesse Willard, for 45 years gardener at Holly Lodge, Highgate. Mr. Willard died on the 27th ultimo, aged 85 years, at Reigate, where he had lived since his retirement from service some ten years ago. He was born at Hawkhurst, Kent, and at the early age of twelve years commenced his career as a gardener. After a little

THE LATE JESSE WILLARD.

experience he obtained employment at Hunton Court Gardens, Maidstone, where he made good progress, and in time became foreman of the glass department. During this period he was keen on improving his education and general knowledge, and his abilities attracted the notice of a local nurseryman, who recommended him for a post at Holly Lodge, Highgate, the residence of the late Baroness Burdett Coutts. He had only been at Holly Lodge about a year when he was offered the post of head gardener, and after a time was given the management of the farm attached to Holly Lodge, so that he became bailiff of the whole of the Holly Lodge gardens and estate. It was no mean task to undertake the management of such gardens as those at Holly Lodge, which were famous throughout Great Britain on account of the gatherings there of famous men and women of the times. Not only was it necessary to maintain the gardens as a show place, but exotic fruits and flowers were required in abundance, as well as other things the garden is required to furnish for garden parties and other similar functions. At that time Pelargoniums, Fuchsias, and Heliotropes were fashionable bedding plants, and these and similar flowers were grown in large numbers to furnish beds and borders in summer time. Mr. Willard was as capable a farm bailiff as he was a gardener, and he had a high reputation amongst societies concerned with stock breeding, for the Baroness's herd of pedigree goats and Guernsey cows were amongst the finest in the country; indeed, the herd of Nubian goats at Highgate was the largest in Great Britain. Mr. Willard was well known to those attending the Royal Horticultural Society's meetings, and he had served as a member of the Fruit Committee for a great number of years. He was also a member of the Committee of the Gardeners' Royal Benevolent Institution for twenty years, and after 1888 he acted for many years as one of the auditors of the Institution. Mr. Willard was a man of outstanding integrity, and during his long service at Holly Lodge he endeared himself to a host of friends, for in addition to striking ability he had a charming manner and kindly disposition. It may be fitting to conclude this brief notice of a worthy man with the remarks made by his employer, Mr. Burdett-Coutts, at a dinner given in his honour on the occasion of his retirement from Holly Lodge: "I need not say anything about Mr. Willard's personal qualities. I shall miss him greatly. He has been a familiar figure to me in these grounds through all these years, and it will be a real loss not to see him here habitually, as in the past. I wish to add a small memento of my own in this inkstand. There is one word I have inscribed on it—'Friendship'—which perhaps illustrates better than anything else what I feel for you." The funeral took place on April 1st, at Highgate Cemetery.

Edmund Rochford.—We much regret to learn of the death of Mr. Edmund Rochford, of Holmehurst, Loughton, Essex, which occurred on March 28, at Forest Hospital, Buckhurst Hill, following an operation. Mr. E. Rochford was a member of a family that has become famous in commercial horticulture; he was a skilful cultivator of Grapes, Tomatos and Cucumbers, and grew these crops in very large quantities for the London markets. He was a liberal supporter of the Gardeners' Royal Benevolent Institution for thirty years. The funeral took place on Wednesday, April 2, at Loughton.

TRADE NOTES.

It is to be feared that many nurserymen have suffered so much financially during the war that their profits have been negligible. In a few instances, however, the temporary use of portions of their land for the purpose of food production has helped to alleviate the position, and those who have been fortunate enough to make a profit in excess of what they made during the pre-war period might find it worth while to bear in mind the decision of Mr. Justice Sankey in a case reported not long ago.

It will be remembered that the Finance Act of 1915 imposed extra taxation on the profits of every trade and business over and above what was made in that trade or business before the war. (At the moment of writing the Excess Profits Duty is 80 per cent., that is to say, for every £100 profit which is made in excess of what was made before hostilities commenced, the State takes £80 and the trader keeps the remaining £20 as his share.) The Act, however, allowed certain exceptions, and one of these was in favour of "husbandry." Consequently, the Excess Profits Duty is not payable in respect of profits arising from the business of husbandry.

In the case referred to above, the facts were that a limited company carried on the business of manufacturing chemists and growers of medicinal and other herbs. This company was the owner of a freehold factory in which the manufacture and distillation of herbs was carried on. With a view to maintaining a supply of herbs to the factory the company also held on lease a farm of about 40 acres. The company, for the purpose of their accounts, treated the factory and the farm as one concern, so that no attempt was made to distinguish between the profits arising from the growing of herbs on the farm and the distillation and sale which was subsequently made at the company's factory and offices. As a matter of fact, however, one of the directors made certain notes as to the value of the farm produce which was taken to the factory

and of the profits arising from the sale to the public of the incidental crops grown on the farm, as well as of the expenses of the farming operations. It was therefore possible to trace precisely what profits were attributable to the farming branch of the company's operations and what profits were made from the factory branch.

In due course the Inland Revenue authorities demanded Excess Profits Duty on the total profits made by the company. This claim was resisted by the company, who contended that the profits made at the farm were profits arising from the business of husbandry, which, accordingly, ought to be excluded from the claim.

On the matter coming before the General Commissioners for Income Tax it was held that the company were right in their contention and that, accordingly, the Crown could not claim Excess Profits Duty on that portion of the profits which was derived from the farming operations. The Inland Revenue Authorities appealed to the High Court, and Mr. Justice Sankey held that the Commissioners were right; he was of opinion that the evidence showed that the company was engaged in husbandry, and that as it was possible to separate the profits arising therefrom from the profits made by the factory, there was no reason why they should not do so. It would therefore seem clear by analogy that all businesses which carry on market gardening or farming can claim to be exempt from Excess Profits Duty in respect of those operations. Some London salesmen, for instance, sell on commission for country growers, and so far as that branch of their business is concerned they would presumably be liable to pay the Excess Profits Duty. On the other hand, they very frequently cultivate market garden land as an accessory to their business, selling the produce on their own behalf when it is ready for market. In this respect it would appear that they are not liable to pay the duty in question, and if the expenses of the business can be apportioned it would seem possible for them to allocate to their market gardens a reasonable proportion of the expense of conducting their London premises, as if the goods were not sold there they would have to be sent to some other salesman, who would, of course, charge the usual commission. Whether the Crown will consent to more being deducted for expenses than would be equivalent to the commission which would be payable if the produce were sold by another salesman would, however, seem open to question. In this connection it would be interesting to know whether seedsmen are being called upon to pay the duty in respect of the profits made at their urban offices, and if so, whether they are being allowed to deduct the profit resulting from the carrying on of their seed farms and trial grounds. *H. M. V.*

MR. D. W. SIMMONS has resigned his position as Superintendent of Parks and Allotments to the St. Albans City Council, and has taken up an important post on the technical staff of Messrs. Ryder and Son, Ltd., St. Albans.

At the works of Messrs. White and Poppe, Ltd., Holbrook Lane, Coventry, on the 31st ult., Mr. Robert Greenfield, land steward of Food Production Scheme, N.F.F. 21, was presented with a gold watch as a token of esteem and friendship from the members of the firm and staff on the eve of his departure to rejoin his old firm, Messrs. John Peed and Sons, seedsmen, West Norwood, as their Midland and Northern representative.

Mr. Greenfield has held the position of land steward for 2 years, and during that time has turned some hundred acres of waste ground into highly cultivated land, supplying three large canteens with their full daily requirements to feed upwards of 12,000 employees. Apart from this remarkable achievement, Mr. Greenfield, in the 2 years, made over 50,000 separate sales of vegetables to employees, supervised 16 acres of allotments and 200 munition girls' garden plots in the hostel grounds. He also managed a large piggery and poultry section, supplying canteens and employees with pork and eggs.

Mr. Greenfield organised and supervised three other Food Production Schemes at Barras Heath, Coventry; Lickey, Birmingham; and Blackheath, Stafford.

MARKETS.

COVENT GARDEN, April 2.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	10 0–12 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentias ...	18 0–24 0
		—— 60's ...	15 0–18 0
Cinerarias. 48's. per doz. ...	24 0–27 0	—Cocos	24 0–36 0

REMARKS.—Despite the cold weather the supplies are increasing, and there is a good show of flowering plants consisting of White Hydrangas, Acacias, Genistas, Marguerites, Cinerarias, Cyclamens, Primulas, Daffodils, Boronias, Azaleas, a few Rambler and Polyanthus Roses. Ferns are now in better condition and more plentiful, but the supply of Palms is limited.

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum— cuneatum, 48's, per doz. ...	10 0–12 0	Nephrolepis, in variety, 48's	12 0–18 0
		—32's	24 0–36 0
—elegans ...	9 0–10 0	Pteris, in variety, 48's	9 0–12 0
Asplenium, 48's per doz.	10 0–15 0	—large 60's ...	4 0–5 0
— 32's	21 0–24 0	—small 60's ...	3 0–3 6
— nidus, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6
Cyrtomium, 48's ...	10 0–12 0		

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d		s. d. s. d.
Arums— — (Richardias), per doz. bl'ms.	12 0–15 0	Lily-of-the-Valley, per bun. ...	5 0– 7 0
Azalea, white, per doz. bunches	10 0–12 0	Narcissus ornatus per doz. blooms	8 0–12 0
Camellias, 12's-18's per box ...	7 0– 9 0	Orchids, per doz :— —Cattleyas ...	24 0–30 0
		—Cypripediums,	6 0– 8 0
Carnations, per doz. blooms, best American var.	3 6– 6 0	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
Daffodils, single, per doz bun.		— white, per doz. bunches ...	10 0–12 0
— Emperor ...	8 0–12 0	Roses, per dozen blooms—	
— Golden Spur ...	6 0– 8 0		
— Victoria ...	8 0–12 0	— Richmond, var.	8 0–12 0
— Princess ...	5 0– 6 0	Tulips, per doz. blooms—	
Freesia, white, per doz. bunches	4 0– 6 0	— mauve	6 0– 8 0
		— white	6 0– 8 0
Heather, white, per doz. bun.	6 0–10 0	— yellow... ...	5 0– 6 0
Lilac, white, per bunch, 6's ...	4 0– 6 0	Violets, single, per doz. bun. ...	3 0– 6 0

REMARKS.—The supplies of cut flowers were not quite so plentiful during past week owing to the severe weather. This morning (April 2), there appeared to be a plentiful supply of home grown Daffodils and prices had a tendency to fall. Carnations are also increasing in quantity, and a few boxes of good Roses were left over at the close of the market this morning; some excellent blooms of Richmond, Prince de Bulgarie and Lady Clive are now offered. The best Pheasant-Eye Narcissus keep firm in price owing to the limited supply. Foliage, such as Maidenhair Fern, Asparagus plumosus and Sprengeri is a better supply and, prices are again normal. Guernsey flowers are still in short supply; the arrivals are very uncertain, and sometimes reach London so late they have to be held over for the next morning. In French flowers the best lines are White Ranunculus, white Stock, Allium, Anemones and Parma Violets, Mimosa is practically over for this season.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Jerusalem per bus...	4 0– 5 0	Lettuce Cabbage and Cos per doz.	2 0– 3 6
—Globe, per doz.	6 0 7 0	Mint, per doz bun.	10 0–12 0
Asparagus, Devonshire, per bun.	20 0–25 0	Mushrooms per lb.	4 6– 5 6
		Mustard and Cress, per doz. punnets	1 0– 1 3
— Cavilion, per bundle ...	4 6– 5 6	Parsley, per ½ bus.	6 0– 7 0
— Lauris... ...	5 0– 8 0	Parsnips, per bag	6 0– 8 0
		Peas, per pad ...	10 6–12 0
— Paris Green, per bundle ..	12 0–14 0	Potatos new, per lb.	1 3– 1 6
— — Sprue per bundle ..	2 2 —	Radishes, per doz. bunches ..	3 0– 4 0
Beans, French, per lb.	2 9– 4 6	Rhubarb, forced, per doz. ..	3 0– 4 0
— Broad, per pad	5 0– 6 0	— Natural, per doz.	9 0–10 0
Dwarf (French) per packet ...	1 0– 1 3	Savoys, per bag ..	16 0 —
Beetroot, per bus.	5 0– 6 0	Seakale, in boxes (6-8 lbs.) per lb.	1 9 —
Brussels Sprouts, per ½ bag ..	8 0–10 0	Shallots, per lb. ..	0 6– 0 8
Cabbage per tally	10 0–15 0	Spinach per bus.	18 0 —
Carrots, per bag ..	10 0–12 0		
— New, per bun.	1 0– 1 3	Spring Onions, per doz ...	4 0– 6 0
Cauliflowers, per doz	6 0–10 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box.. ..	Controlled
Celery, per doz. ..	36 0–50 0		
Chicory, Belgian, per lb. ..	1 0– 1 2		
Cucumbers, per doz	12 0–15 0		
Endive, per doz. ..	5 0– 7 0	Turnips, per bag	4 0– 5 0
Garlic, per lb. ..	0 5– 0 7	Turnip Tops, per bag	7 6–10 0
Greens, per bag ..	6 0–10 0		
Herbs, per doz. bun.	4 0– 6 0	Vegetable Marrows, each	2 0– 2 6
Horseradish, per bun	4 0– 6 0		
Leeks, per doz. bun.	4 0– 5 0	Watercress, per doz.	1 0– 1 3

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Grapes :— — Almerias, per barrel (about 3½ doz. lbs.)	70 0–100 0	Nuts, con.— —Cobnuts per lb.	1 2– 1 4
		Walnuts, kiln dried, per cwt.	90 0–200 0
— Gros Colmar, per lb. ...	8 0–11 0	Pears, Californian (Easter Beurré), cases containing 8 to 10 doz. per case	55 0 60 0
— Belgian per lb.	4 0– 8 0		
Grape Fruit, pr. cse.	60 0–65 0		
Nuts— — Almonds, per cwt.	110 0–112 0	—Winter Nelis, per case	75 0–80 0
— Barcelona, per cwt. ...	110 0 —	Strawberries, per lb.	20 0–35 0
— Brazils (new). per cwt. ...	90 0–95 0	Pineapples. each	3 0– 6 0

REMARKS.—English Grapes are a gradually diminishing quantity. Bunches of the new crops are expected to arrive in Covent Garden about the middle of the present month when the earliest Peaches are due. Almeria (Spanish Grapes continue to be available. Strawberries are obtainable daily. Californian Pears consist of the varieties Easter Beurré and Winter Nelis. Supplies of English and Continental Asparagus are increasing daily. Other forced vegetables obtainable include Mushrooms, Dwarf Beans Vegetable Marrows, Potatos, Rhubarb, Seakale, Cucumbers, Peas and Tomatos. All outdoor vegetables are scarce. New season's Brazil Nuts are on offer.

ANSWERS TO CORRESPONDENTS.

A GARDENER'S NOTICE: *J. B.* The facts which you mention are too complicated for us to give advice upon without further investigation on certain points, and you had better be guided by the advice of the solicitor whom you have consulted.

COMMON BROOM SEEDS: *C. H.* The seeds of the common Broom should germinate in from 14 to 30 days, and do not require soaking or special treatment beforehand. They should be sown in Spring; if under glass, in March, and outdoors, in April. Your seeds are probably useless now, but if you place them over gentle bottom heat they would germinate within a month if they are not already dead. We have always found that the seeds of all the hardy Brooms germinate readily if sown in Spring in bottom-heat and kept fairly moist.

EMPLOYMENT AS A GARDENER: *E. N.* Seeing that you had experience in garden work before joining the army, and that you have been engaged in growing vegetables for the past eighteen months, you should have no difficulty in obtaining a post as under-gardener. Your best plan is to insert an advertisement in a gardening paper, stating your previous experience, age, and a few other particulars. A knowledge of botany is not essential, but you would find it helpful, as it would not only widen your knowledge, but would also enable you to understand some of the requirements of the plants you would be called upon to cultivate.

NAMES OF PLANTS: *W. J. M.* Phaius Norman (Sanderianus × tuberculosus). *A. W. W.* Haemanthus puniceus. *M. C.* Cornus Mas. *W. S.* Eucalyptus globulus.

POTATOS: *Interested.* If the seed tubers average 1 to 2 oz. weight, 14 cwt. is required to plant one acre. A dressing of 5 cwt. of superphosphate (30 per cent.), 2 cwt. of sulphate of ammonia, and 1 cwt. of potash per acre, forms a suitable fertiliser for Potatos and may be sprinkled on the sets when they are planted. Powdered quick lime is beneficial to all soils —even those on a chalk sub-soil; the lime should be applied in occasional seasons, at the rate of 2 tons per acre.

SUGAR FOR BEES: *W. U.* If you apply to your local county committee for sugar for feeding your bees you will be given a voucher enabling you to obtain the sugar locally, or, if you wish to procure candy, it may be obtained from Messrs. Pascalls, Ltd., confectioners, Blackfriars Road, London, S.E., on forwarding the voucher.

Communications Received.—G. W. B.—R. J. H. R.—S. A.—G. L.—T. T.—J. P.—W. W.—A. H. W. B.—O. T.—H. H.—E. H. W.—M. W.—E. N.—E. W.—J. W. C.—C. C. R.—E. B.

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makes just the difference and is distinctive because it also feeds the soil, providing it bountifully with that indispensable organic nutriment so essential to the vigorous production of all Plant life, rendering the poorest rich and abundantly prolific, hence its magic power in the soil, trebling the yield of Fruit and Vegetables.

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Special Quotations for large quantities. 710h
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Our selection 7/6 to 30/- per doz. (carr. paid).
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SITUATIONS VACANT.

PRIVATE.

Continued from page iii.

WANTED, experienced MAN for Pleasure Grounds; also one for houses; take duties; 1 o'clock Saturdays.—Please reply, with fullest particulars of experience, age and wages required, with bothy, etc., to W. KENT, The Gardens, Bookham Grove, Surrey.

WANTED, experienced MEN for Pleasure Grounds; wages 35s. and 6s. alternate week for duty.—Apply, J. Metcalfe, 20, Avenue Road, Regent's Park, N.W.8.

WANTED, JOURNEYMAN for Fruit and Plant Houses, under foreman; 30s per week, bothy, vegetables; duty extra; 1 o'clock Saturdays.—W. LLOYD, Rushton Hall Gardens, Kettering.

JOURNEYMAN wanted (Inside); bothy and Vegetables.—Wages and particulars, to c.c. CLARKE, The Gardens, Chiddingstone Castle, Edenbridge, Kent.

WANTED, JOURNEYMAN for the Pleasure Grounds; able to drive a Motor Mower and take duty; good bothy, etc. State wages expected.—C. JONES, Digswell House Gardens, Welwyn, Herts.

WANTED, JOURNEYMAN (Inside) for Plant and Fruit Houses; wages 30s.; bothy, milk, and Vegetables; state age, experience.—W. KINGSWOOD, The Gardens, Norman Court, Salisbury.

WANTED, good JOURNEYMAN for Fruit and Plant Houses; also to help in garden; 1 o'clock Saturdays; state wages, with bothy; age and experience.—THE AGENT, Thornhaugh Estate, Wansford, Peterborough.

WANTED, good JOURNEYMAN for Fruit and Plant Houses. Wages 30/-; bothy, etc.; Sunday duty paid; 1 o'clock Saturday.—State age, with copies of reference, to J. HOWARD, Benham Gardens, Newbury.

WANTED, JOURNEYMAN for Pleasure Grounds, well-up to this work; good wages with bothy; 1 o'clock Saturday.—Apply, HEAD GARDENER, Notell Priory, Wakefield.

WANTED, several JOURNEYMEN and IMPROVERS for Pleasure Grounds; good wages, bothy, etc., duty and overtime paid; 1 o'clock Saturdays.—Apply, with particulars to A. J. COBB, Duffryn Gardens, near Cardiff.

WANTED, experienced Inside JOURNEYMAN; 32s. weekly, bothy, etc., and attendance; duty paid 6s. extra. — Full particulars to R. G. PRINGLE, Hall Place Gardens, Tonbridge, Kent.

WANTED, good JOURNEYMAN, chiefly for Fruit, 32s. per week, bothy, vegetables and attendance; 10s. extra for duty.—E., GUILE, Shortgrove, Newport, Essex.

WANTED, JOURNEYMAN for Fruit Houses; good wages, bothy, vegetables and attendance; Sunday duty paid.—LEWIS GUILE, Sulby Gardens, Welford, Rugby.

WANTED, JOURNEYMAN for the Houses, who understands Vines, Peaches and Plants. Also a good MAN for Alpines and Herbaceous Borders and grounds under Foreman; good references required; modern bothy and good wages to suitable men. Sunday duty paid extra.—Apply, with full particulars, to GARDENER, Warren House, Hayes, Kent.

WANTED, good JOURNEYMAN for Stove and Greenhouse Plants; age 24. Also strong, active IMPROVER, age 16. Wages 30s. and 20s. respectively, with bothy, vegetables, etc. Sunday duty and overtime paid. — W. PHILLIPS, The Gardens, Derry Ormond, Llangybie, Cardiganshire.

JOURNEYMEN required at once, one for the Houses, one Kitchen Garden, also one for Lawns, used to mowing machines and scythe.—Apply, stating age, experience, wages required (with bothy, etc.), M. NICHOLLS, The Gardens, "St. Clere," Kemsing, near Sevenoaks, Kent.

WANTED, JOURNEYMEN, Inside and Out; wages 32s. per week, bothy, etc., found.—Apply, with copies of references, to H. WHEELER, Wenvoe Castle Gardens, near Cardiff.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; wages 35s., bothy, etc.; 1 o'clock Saturdays.—A. FALCONER, The Gardens, Poulton Priory, Fairford, Glos.

WANTED, two JOURNEYMEN; one Inside and out, one Kitchen Garden and Pleasure Grounds; 28s., good bothy, milk and vegetables; duty and overtime extra.—R. RYE, Woodlands, Uxbridge.

WANTED, JOURNEYMEN, Inside and Out, age 20 to 23, for Fruit and Plant range.—State wages (with bothy, etc.) and experience to W. MOLES, Heathlands, Wokingham, Berks.

WANTED, JOURNEYMAN for Fruit and Plant Houses; good bothy, milk, vegetables. State experience and wages required (1 o'clock Saturdays), G. W. WHYMAN, The Gardens, Busbridge Hall, Godalming, Surrey.

WANTED, IMPROVER, chiefly for Inside, 17-18, interested in his work; duty and overtime paid; bothy, milk, vegetables, attendance; 1 o'clock Saturdays.—State wages and experience, C. RUSE, Folly Farm Gardens, Sulhamstead, nr. Reading.

WANTED at once, two MEN for Pleasure Grounds; wages 45s.; permanency to suitable applicant.—L. HANCHANT, Hotel Majestic, Harrogate.

WANTED, MAN for Inside and Out, able to take duty; help with mowing and Kitchen Garden; two rooms, furnished or unfurnished, with light found.—Apply with full particulars, to E. SMITH, Falcon Wood, Shooters Hill, S.E.18.

WANTED, Strong SINGLE MAN for Kitchen Garden and Pleasure Grounds.—State wages, etc., H. PARRISH, The Gardens, Oakover, Ticehurst, Sussex.

WANTED, two YOUNG MEN for Inside and Out.—Please state age, experience, and wages required, with good bothy, &c., to WALKER, The Gardens, Locks Park, Derby.

WANTED, three YOUNG MEN about 17, Inside and Out; state full particulars and wages required; with bothy, milk, Vegetables, and attendance; duty paid; 1 o'clock Saturdays. MR. R. STUART, The Gardens, Stoneleigh Abbey, Kenilworth, Warw.

WANTED, YOUNG MAN, about 18, Inside and Out; state wages expected with bothy, &c.; alternate duty.—WHITLOCK, Hanmerwood Gardens, East Grinstead.

WANTED, good, active YOUNG MAN for Lawns and Pleasure Grounds, able to use Scythe; wages 35s. per week, no bothy; 1 o'clock Saturdays.—Apply, W. ROLLETT, Head Gardener, Priory Ford, Bourne End, Bucks.

WANTED, good, active YOUNG MAN, experienced for Kitchen Garden and Pleasure Grounds; wages 35s. per week, no bothy, 1 o'clock Saturdays.—Apply W. ROLLETT, Head Gardener, Priory Ford, Bourne End, Bucks.

WANTED, YOUNG MAN for Pleasure Grounds, about 21 years of age; demobilised; also one for work in woods; elderly man might suit; must be single; good bothy.—Apply, GARDENER, Pebble Coombe, Walton-on-the-Hill, Surrey.

WANTED, YOUNG MAN for Vines, Peaches etc.; wages 38s.; no bothy; 1 o'clock Saturday.—Particulars to CAIRNS, Southill Gardens, Biggleswade, Beds.

WANTED, strong LAD for Outside.—State wages required, with bothy, to J. W. WOODCOCK, Buckland Gardens, Bwlch S.O., Breconshire.

EXPERIENCED LADY GARDENER wanted, near Belfast; non-resident; Protestant; man to help; 45s. weekly.—G. M. E., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

EXPERIENCED LADY GARDENER wanted at once. State wages required and where to apply for references; comfortable rooms.—G., Box 4, 41, Wellington Street.

HANDYMAN wanted for Garden and Estate Work, Painting, etc.; single; bothy.—Wages and particulars to LOWE, Grendon Hall, Aylesbury.

WANTED, a GARDEN LABOURER; 30s. per week, with good cottage and garden; no Sunday duty; 1 o'clock Saturdays.—State age, family and experience to W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, two GARDEN LABOURERS for outside work; 30s. a week and bothy.—Mr. GOSLING, The Gardens, Heddon Court, New Barnet.

TRADE.

THE NORTHAMPTONSHIRE FRUIT AND VEGETABLE SOCIETY, LIMITED, require the services of a business Manager; experienced in marketing essential; salary offered, £250 and expenses.—For form of application and further particulars apply at once, enclosing stamped addressed envelope, to the HON. SECRETARY, County Education Offices, Northampton.

WANTED for the staff of a public Parks Department, a DRAUGHTSMAN used to planning and setting out Parks and Gardens. One with a knowledge of Trees and Shrubs and landscape values preferred.—Applications, stating experience and salary required, together with copies (which will not be returned) of three recent testimonials, to be addressed to "MIDLANDS," Box 25, 41, Wellington Street, Covent Garden, London, W.C.2.

WANTED, WORKING MANAGER to take charge of three acres of Glass; Cucumbers, Tomatos; must be good manager of labour; good references essential. — State wages required and experience.—H. S. W., Box 22, 41, Wellington Street Covent Garden, W.C.2.

GARDENER for Jobbing and Landscape work; permanency; good wages paid.—P., 15, Chinchilla Road, Southend-on-Sea.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village N.6.

MANAGING FOREMAN (WORKING), immediately; thoroughly expert at Tomatos, Chrysanthemums, Cucumbers, Ferns, etc.; good organiser, capable of complete charge; full particulars, wages expected, age, and copies of references.—EWART COOK, Park Nurseries, Hutton, Essex.

WORKING FOREMAN for Branch Nursery, Cheshunt.—PAUL & SON (Cheshunt), Limited require a practical Working Foreman for branch Hardy Nursery; a good Budder and Grafter and Knifesman; used to pruning Fruit Trees, both young trees and fruiting orchard of 7 acres; some knowledge of Farm desirable.—The Old Nurseries, Cheshunt.

WANTED, thoroughly capable WORKING FOREMAN for Nursery where Carnations are made a speciality; only good, trustworthy man need apply.—State wages, giving references, etc., to J. E. LOWE, Hatton, Warwick.

WANTED, active, energetic Man as FOREMAN, to grow Cucumbers, Tomatos, Vines and general run of stuff in Florist's business. Houses are modern and contain about 14,000 superficial feet. Give full particulars as to age, experience wages, etc. G. W. SMITH, Vine Gardens, Dovercourt, near Harwich.

WANTED, MEN, with experience, as follows:—GENERAL FOREMAN, for 20 acres Outdoor Nursery; a good all-round man. PROPAGATOR, for a choice collection of Trees, Shrubs, Conifers, &c., new Chinese Plants, Alpines, &c.; also to take charge of Rock and Water Garden; ROSE GROWER (Outdoor) majority single men, as houses are limited.—Please state wages for permanency, age, references, to HILLIER & SONS, Nurserymen and Seedsmen, Winchester.

PROPAGATOR wanted; good wages to competent man; used to raising Spring Bedding and Herbaceous Plants.—Apply, Toogood and Sons, The King's Seedsmen, Southampton.

GROWER wanted for Chrysanthemums, Roses, Tomatos, Ferns, Bedding Stuff, etc.—State wages and experience, JOHN PIGG, The Nurseries, Royston, Herts.

GROWER wanted, take charge small range Glass in General Nursery; pot-plant trade and supplies for Flower shop.—Replies must state wage experience, age, W. W., Box 3, 41, Wellington Street Covent Garden, W.C.2.

WANTED, GROWER for Grapes, Cucumbers, Tomatos, Chrysanthemums; cottage and garden found.—State experience and wages required, with references, J. W. LAWSON, Harby, Lincoln.

WANTED, experienced Cucumber and Tomato Hands; good wages given; good references essential.—H. S. W., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, smart SECOND MAN (single preferred) for general Nursery work; must be quick and willing; a good place for the right man.—State wages and full particulars, WRIGHT, Nurseries, Pangbourne, Berks.

EXPERIENCED MAN (single preferred) for General Nursery Work (Outside and In), for Nursery near London (16 miles south).—Write in first place, with references, experience and wages expected to F. G. WOOD, 161, Walworth Road, London, S.E.17.

WANTED, experienced NURSERY HAND for Dahlias, Chrysanthemums, Tomatos, Herbaceous Plants and general work; Cheshire.—Furnish particulars of age, experience, and wages required, to A. O., Box 28, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, NURSERY HANDS; single-men; hours, 52½; wages 43s. 9d. and share of profits.—Detailed applications to J. B. SLATER, The Nurseries, Skipton.

WANTED, YOUNG MAN in small Market Nursery; Inside and Out; 8½d hour, 48 hours to week.—INGLE, Hextable, Swanley, Kent.

WANTED, a YOUNG MAN or WOMAN as IMPROVER, interested in Alpines.—Particulars with testimonials, W. H. STANSFIELD, Brantwood, Kew, Southport.

WANTED, YOUNG MAN well up in Fruit Growing; must be good at Budding, Grafting, Training, etc.—Apply, with particulars of experience and wages required, to MACK AND MILN, Nurseries, Catterick Bridge, Yorks.

WANTED, SINGLE MEN for Inside and Out (chiefly Out), to take turn on duty. Wages 35s. weekly, good lodgings near.—MANAGER, Thatcham Fruit and Flower Farm, Newbury, Berks.

WANTED at once, REPRESENTATIVE to Travel for a leading Wholesale House in the Seed Trade. Apply K., Box No. 15, 41, Wellington Street, Covent Garden, W.C.2, with fullest particulars as to experience, references, salary required, etc.

WANTED, ASSISTANT SHOPMAN for Retail Seed Nursery and Florist's Shop.—LAXTON BROTHERS, High Street, Bedford.

ADVERTISEMENT representative wanted for leading Horticultural Weekly; must be acquainted with the principal firms in the Trade, have a general knowledge of Horticulture, and able to deal with correspondence; give previous experience and salary required; applications will be treated in confidence.—"Z," Box 593, Judd's, 97, Gresham Street, E.C.2.

WANTED, expert FLORIST, experienced Seeds, Bulbs, Sundries; Male or Female; single.—Apply, J. SLATER, Seedsman, etc., Skipton.

WANTED at once, HANDY MAN for Carpentering chiefly, also painting, glazing, etc.—State age, experience, and wages expected, W. A. SHERWOOD, The Nurseries, Hampton Hill, Middlesex.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

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PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

THE DUKE OF DEVONSHIRE, K.G., wishes to highly recommend A. L. CARTER as Head Gardener—of three or four; has been for several years foreman at Compton Place, Eastbourne.—Reference to ROLAND BURKE, Esq., Compton Estate Office, Eastbourne, or MR. J. J. THOMPSON, Head Gardener, Compton Place, Eastbourne.

J. C. POTTER highly recommends his HEAD GARDENER; thoroughly efficient all branches; highest references; 4 years present, 9 previous; age 48; disengaged; leaving through establishment being broken up.—ELBOURN, 8, Bryanston Square, London, W.

THE HON. A. J. MULHOLLAND, who is leaving Worlingham, will be pleased to recommend his Head Gardener as a thorough practical man in every branch, hard-working, economical and good manager; estate work, also bees.—Address to above, or MORRIS, Worlingham Gardens, Beccles.

THE Hon. H. B. Money-Coutts highly recommends W. ABRAHAMS as HEAD GARDENER, where several are kept; has been with him 7½ years; 30 years' experience, gained in large establishments; excellent testimonials from previous employers; married; age 44 years; leaving owing to estate being sold.—WM. ABRAHAMS, Stoodleigh Court Gardens, Tiverton, Devon.

L. OPPENHEIMER, Esq., of Waltham Place, White Waltham, Berks, highly recommends W. RENNIE as Head Gardener where several are kept; has been with him 5½ years as Head; excellent Testimonials from previous employers; 2½ years Coldstream Guards; demobilised A1, character V.G.; age 37; married, no family.—W. RENNIE, Hill View, Handcross, Crawley, Sussex.

MAJOR THURBURN, Cransby Hall, Kettering, highly recommends CHARLES FORD, his late Head Gardener for 16 years; life experience in all branches; energetic, good organiser; age 44; married.—Apply CHARLES FORD, Cransby.

VISCOUNTESS KNUTSFORD wishes to recommend her Head Gardener, H. SYMONDS, to any lady or gentleman requiring the services of a thorough good all-round man; 28 years' experience in all branches; married; age 43.—The Priory, Royston, Herts.

MRS. PALMER, Marlston House, near Newbury, wishes to very highly recommend her Head Gardener, now demobilised; thoroughly trustworthy, energetic, capable manager for large establishment; life experience in all branches; excellent references; age 41; married, no family; abstainer.—F. WESTRON, address as above.

GARDENER (HEAD), — The Marquis of Breadalbane, K.G., strongly recommends JOHN DICK, who has been his Head Gardener for 8½ years; married; 39 years of age; over 25 years' all-round experience in well-known gardens in Scotland and England; satisfactory reasons for leaving; disengaged when suited.—JOHN DICK, Taymouth Castle Gardens, Kenmore, Perthshire.

C. TURNOR, Esq., Stoke Rochford, Grantham, can very highly recommend his late HEAD GARDENER, who has a thorough and practical knowledge in all branches of Horticulture; nine years in these gardens; age 39.—S. ARBURY, Buckminster, Grantham.

LADY VAUX, of Harrowden, wishes to recommend her late HEAD GARDENER as a first-class Man; life experience in all branches; experienced in management of large establishment; excellent testimonials; thoroughly energetic; disengaged; recently demobilised; age 37; married (one child aged 8 years).—WM. WARREN, Model Farm, Shirburn, near Watlington, Oxon.

THE HONBLE. MRS. GUY FEILDEN highly recommends her late HEAD GARDENER; recently demobilised; life experience in all branches; charge of electric light plant if required; married (two children, age 13 and 9); please state wages.—CHARLES HARVEY, 54, Lea Road, Southall, Middlesex.

MRS. GUTHRIE, East Hadden Hall, Northampton, most highly recommends her late HEAD GARDENER, where several are kept; a thoroughly competent and qualified man in all branches; demobilised.—TURNER, 18, Blomfield Street, Bury St. Edmunds.

LADY BARKER confidently recommends her present HEAD GARDENER, married, no family, age 48, as a thoroughly practical, energetic and trustworthy man; Stove and Greenhouse Plants, Vines; Peaches, Melons, Cucumbers, Tomatos, etc.; understands electric plant and batteries.—JAS. MANSON, The Gardens, Burnt Stub, Chessington, Surrey.

GARDENER (HEAD).—A. G. SOAMES, Esq., will be pleased to recommend W. EDWORTHY (recently demobilised), for over eight years Head Gardener at Sheffield Park, Uckfield, Sussex, to anyone requiring first-class Man for good establishment; thoroughly efficient in all branches; age 43; married (two children, 8 and 4).—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

HEAD GARDENER or ESTATE MANAGER; life experience all branches; Pedigree Stock, Milk Records, Accounts; well recommended; age 46; married.—W. R. WRIGHT, Chapel Farm, Barby, Rugby.

GARDENER (HEAD); practical experience Fruits, Plants, Kitchen Garden, Pleasure Grounds, house and table decorations, gained in first-class establishments; previously Head; married (two children); age 36; recently demobilised.—Apply. T. LARKBEY, Battlefields, Wrotham, Kent.

GARDENER (HEAD of three or more); lady recommends; life experience all branches; demobilised; married (no family); southern counties preferred; age 37.—Apply, GARDENER, c/o Butts, Kirdford, Billingshurst, Sussex.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches, Inside and Out; Six years present place; age 46; married, two children, ages 16 and 14; good references; Isle of Wight preferred.—S. C. TROWBRIDGE, The Cottage, Normans, Rusper, West Sussex.

GARDENER (HEAD), demobilised, seeks re-engagement; life experience gained in large establishments, including Aston Clinton Park and Royal Gardens Windsor,; age 36; married, no family; four years as Head previous to enlistment; excellent references.—W. GROOM, Woodside Cottage, Mugswell, Merstham, Surrey.

GARDENER (HEAD), thoroughly competent and reliable in all branches; long, excellent references; married (no family).—J. EARLE, Littlecote, Hungerford.

GARDENER, (HEAD) requires situation; life experience in all branches of Horticulture, in first-class places; demobilised; age 38; married (one child).—BERRILL, Withyham, Sussex.

GARDENER (HEAD); age 45; home or Abroad; thoroughly conversant with the upkeep and demands of a first-class Garden; life experience in large establishments; highest references; disengaged.—H., 11, High Street, Leamington Spa.

GARDENER (HEAD) seeks re-engagement; life experience in all branches Inside and Out; special on Vines, Peaches, Hardy Fruit, Kitchen Garden, Chrysanthemums and Sweet Peas for Exhibition or House Decoration; also Roses, Carnations and Violets; 9 years in present situation.—B., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD) where others are kept; life experience in all branches; over 8 years previous as Head; age 42; married, one child; demobilised.—WHEELER, Glengarriff, Queen's Road, Crowborough.

GARDENER (HEAD); life experience in all branches in good establishments; nine years as Head; excellent references; age 40; married, 2 children.—LIMMER, London Road, Bracknell, Berks.

GARDENER (HEAD) where four or more are kept; life experience in all branches in large establishments; good references; age 33; married (one child); demobilised.—S. BAKER, High Strет, Shoreham, Kent.

HEAD GARDENER.—J. Annan Bryce, Esq., M.P., strongly recommends V. GAMMON, who has served him excellently in Ireland, during the past seven years, in the making and maintenance of extensive grounds and gardens.—Apply, V. G., c.o. Mr. T. LEWIS, 45, Uxbridge Road, Hanwell, W.7.

GARDENER (HEAD). – Advertiser, offers his services to any lady or gentleman who requires a fully competent man for producing choice flowers, fruit and vegetables, &c.; methodical and good organiser; just demobilised; four years sergt., R.E.; married; age 31; excellent references from Eastnor Castle, Harewood House, &c.—BOOTH, 2, Orchard Road, Bishopston, Bristol.

GARDENER (HEAD) where four or more kept; life experience in leading gardens; age 33; good references; 4½ years in Army.—ALLAN LARKING, M.M., Thorpe Audlin, Pontefract, Yorks.

GARDENER (HEAD) where four or more are kept; experienced in all branches; a good practical experience of Kitchen Garden; 13 years last place; demobilised; age 39; married (no family); good reference.—Apply, T. W. HINE, 11, New Road, South Street, Ponders End.

GARDENER (HEAD) or GARDENER-BAILIFF, highly-qualified man, with first-rate experience and testimonials as to character, ability and management, seeks re-engagement where choice Fruit, Flowers, Orchids, &c., are required: Carnations a speciality; 16 years last place; Understands landscape and estate work, and the management of a large establishment; age 48, married (no family).—J. L. MARWOOD, c/o Mr. Cooper, Bromonds, Chertsey, Surrey.

GARDENER-BAILIFF (WORKING); good all-round experience fruit, flowers, vegetables, and usual estate work, also growing in quantity for institution; life references; three years present place; married, no family.—W. WILSON, East Dene Gardens, Bonchurch, Ventnor.

GARDENER-BAILIFF. — H. ROBINSON offers his services as above to any Lady or Gentleman requiring a thoroughly experienced man in all branches of Gardening and Estate Work, repairs, etc.; nine years present place; age 42.—ROBINSON Kingston Park, Dorchester, Dorset.

GARDENER (HEAD), with first-class qualifications, from nobleman's Garden, seeks re-engagement; energetic worker and skilful grower of Fruits, Vegetables, and Plants, both under Glass and Outside, and the upkeep of a good Garden; highly recommended as a thoroughly efficient and capable man; age 46; Home Counties preferred.—W. F., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD) seeks situation with lady or gentleman who requires a practical and thoroughly competent man in all branches; previous to Army Service six years Head Gardener at Pyt House, Tisbury, Wilts; highest references; age 39; married (no family).—H. MARTIN, Lodge Farm, Colne Engaini, Essex

GARDENER (HEAD), life experience in all branches, seeks re-engagement where a good man is required for first-class establishment; ten years HEAD at Rockingham Castle; highly recommended; age 40; married; demobilised.—G. BIGGS, Rockingham, Uppingham, Northants.

WANTED by a discharged soldier, HEAD GARDENER'S position, where two or three are kept; thorough knowledge both Inside and Out; good references; married.—F. H., The Lodge, Belmont Grove, Lee S.E.13.

HEAD GARDENER, highly skilled and practical man with Fruits, Flowers, Vegetables Inside and Out, and management of Gardens; life experience in good places; 5 years Head of six; highly recommended (Silver Badge).—E., c/o. A. F. Harrod & Co., Hingham, Attleboro', Norfolk.

HEAD GARDENER and CHAUFFEUR, thoroughly experienced all-round in both; married; age 34; excellent references; please state wages. —A. L., Wick House Lodge, Bushey, Herts.

ADVERTISER seeks engagement as GARDENER (Head) or STEWARD and GARDENER, in good establishment; experienced in the management and development of large Gardens, Home Farm and Estate Work; can be highly recommended as to character and ability; married; age 45. — Particulars to STEWARD, c/o Mr. T. Lewis, 45, Uxbridge Road, Hanwell, London, W.7.

GARDENER (HEAD) where three or four kept; life experience all branches; good references; abstainer; demobilised Navy; aged 30; married.—WELLS, 16, Barnsdale Road, Paddington, W.9.

GARDENER (HEAD); life experience in all branches, seeks re-engagement where fully competent man is required for first-class establishment; eight years at Paxhill; highly recommended; age 41; married; disengaged. — H. MANTON, Paxhill Park, Lindfield, Sussex.

HEAD GARDENER disengaged; 30 years' experience all branches; good experience with Orchids, etc.; no family; good references.—JAS. SMITH, Springlock, Blenheim Park, Woodstock, Oxon.

GARDENER (HEAD) where two or more are kept; life experience in all branches; excellent references; age 37; married (one girl); five years as Head previous to joining the Service, now demobilised.—D. REYNOLDS, High Street, Hopton, Thetford, Norfolk.

T. BUCKLEY, Esq., recommends W. PAPWORTH as HEAD WORKING GARDENER, or SINGLE-HANDED with help; Surrey, Kent or Sussex.—PAPWORTH, Sunny Hill Lodge, Crawley Down, Sussex.

COLONEL A. S. BARHAM, Hole Park, Rolvenden, Kent, highly recommends his HEAD WORKING GARDENER; 8 years head; life practical experience all branches; good reason for leaving; good references; married; age 37; abstainer.—Apply, CRADWICK, address above.

COLONEL LESLIE WILSON, M.P., highly recommends HEAD WORKING GARDENER; life experience; age 42; married (3 children, 11, 9 and 4); demobilised.—HALL, 35, Milton Road, Wokingham, Berks.

OXLEY PARKER, Esq., of Sharpham, Totnes, S. Devon, wishes to highly recommend G. R. HORROCKS as Head Working Gardener; thoroughly experienced Inside and Out; Foreman previous to enlistment; married when suited; age 29; demobilised.—G. R. HORROCKS, Record Road, Emsworth, Hants.

GENTLEMAN highly recommends HEAD Working Gardener, thorough good all-round; life experience all branches; thoroughly reliable, hard-working; age 43; married, one son, 19; excellent character; please state wages.—GARDENER, c/o. Mr. Backshall, Green Park, Pentrecagel, Newcastle Emlyn, Carmarthenshire.

GARDENER (HEAD WORKING).—H. RAMSBOTHAM, Esq., wishes to highly recommend his late Head Gardener where more are kept; life experience, Inside and Out; excellent reference; demobilised; age 39; abstainer; married (one child).—C. BOORMAN, Garthmyl, Beeches Rd., Crowborough, Sussex.

GARDENER (HEAD WORKING).—Mr. E. H. M. DENNY wishes to recommend most highly T. CORNISH as above; age 48, married, 1 child; thoroughly trustworthy and reliable; life experience in all branches; excellent previous references.—Please state wages and particulars to T. CORNISH, Staplefield Place, Staplefield, Sussex.

GARDENER (HEAD WORKING) life experience in all branches; age 36; married (one boy $9\frac{1}{2}$); well recommended; please state wages with cottage.—BATEMAN, 100, Lower Road, Kenley, Surrey.

GARDENER (HEAD WORKING) where three or more are kept; first-class experience in all branches Inside and Out; married (one boy age 8); age 42; just demobilised; excellent reference.—Apply COOK, Lamport Station, Northampton.

A PRACTICAL HEAD WORKING GARDENER, with excellent references for ability, seeks re-engagement; life's experience all branches, including Orchids; age 45; disengaged when suited.—GARDENER, The Gables Cottage, Surbiton.

GARDENER (HEAD WORKING); married; age 34; four to six under; life experience all branches; Carnations a speciality; Forcing Fruit, Flowers, Vegetables, and general upkeep of Garden; good manager, energetic, well recommended; over three years France (demobilised).—E. ODDY, Charts Grove, Bolney, Haywards Heath, Sussex.

GARDENER (HEAD WORKING) where three or four kept; life experience; age 35; married (one girl of 10); personal recommendations; disengaged.—TURNER, Buckingham Road, Holmwood, Dorking, Surrey.

GARDENER (HEAD WORKING), others kept. Recommended by G. BRODIE, ESQ., "Woodbury," Farley Hill, Reading; age 34; married.—Apply, JONES, Stanley Cottage, Ravenswood Avenue, Wellington College, Berks.

GARDENER (HEAD WORKING or SINGLE-HANDED with help); life experience Inside and Out; good references; married when suited; age 36; well recommended; discharged soldier; state wages.—W. MILLER, Assist. Hort. Instruc., Barnardiston Hall, Haverhill, Suffolk.

ENERGETIC HEAD WORKING GARDENER, thorough practical experience of gentlemen's establishment, seeks re-engagement; demobilised; excellent credentials; married (two boys); age 40.—DEAL, 2, Dewhurst Road, Cheshunt, Herts.

GARDENER (HEAD WORKING) practical life experience all branches, Inside and Out; land and stock; married (no family); age 35; excellent references.—HOLDEN, Brock Hall, Weedon, Northampton.

GARDENER (HEAD WORKING) seeks re-engagement in large establishment; life experience; well up in Fruit, Roses, Kitchen Garden and Glass work; last ten years as Head; very highly recommended.—EVENDEN, c/o Mr. COURT, Bowhill Farm, Yalding, Kent.

GARDENER (HEAD WORKING) where three or four are kept; life experience in all branches, both Inside and Out; 16 years as head; age 47; married (no family).—F. BUSSON, Nonsuch Park Gardens, Cheam, Surrey.

GARDENER (HEAD WORKING); demobilised; A1; life experience gained in first-class establishments; 15 years Head; skilled grower of choice Fruits, Vegetables, Plants, Carnations, Roses, Orchids, and well-kept grounds; age 44 years; married (one daughter, 10 years).—Apply PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (HEAD WORKING) just demobilised, seeks post where several are kept; life practical experience in all branches gained in first-class establishments; 3 years and 8 months Head to Lord Bishop of Peterborough; age 36.—A. MORPHETT, The Common, Cranbrook, Kent.

GARDENER (HEAD WORKING), age 46, disengaged; life practical experience good establishments; 18 years Head, first-class reference; skilled cultivator of Vegetables, Salads, choice and hardy Fruits, Plants, Orchids, Carnations, Roses Pleasure Grounds, etc.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD WORKING), life experience, seeks situation with lady or gentleman who requires a practical and thoroughly competent man in all branches; skilful cultivator of choice Fruits, Vegetables and Plants; leaving through death of employer and estate being sold. Can be highly recommended by a lady and a gentleman; married.—WILLIAM COLE, The Gardens, Clewer Manor, Windsor, Berks.

HEAD GARDENER (WORKING); life experience in all branches, Inside and Out; 15 years as Head; age 42, married.—SNELL, Buckwood Cottages, Notley Road, Braintree, Essex.

GARDENER (HEAD WORKING); demobilised; three or more kept; life experience in first-class establishments; excellent references; age 36, married, one child age 3 years.—Apply GARDENER, 14, Crystal Square, South Street, St. Leonards-on-Sea.

GARDENER (HEAD WORKING) or good Single-handed; life experience Inside and Out; married, one child; disengaged; age 30.—DRAGE, 21, Russell Street, St. Neots, Hunts.

GARDENER (HEAD WORKING); thorough experience in all branches; 5 years last situation; disengaged when suited; married (no family); age 36.—Apply EDWARDS, Eastwick Park, Bookham, Surrey.

GARDENER (HEAD WORKING), life experience gained in large establishments under Glass; Kitchen Garden, Pleasure Grounds, Herbaceous Borders, etc.; excellent references; married; eight years Head in last place.—Apply, GARDENER, c/o E. Guildford, Newsagent, Northholt Road, South Harrow.

GARDENER (HEAD WORKING); age 43; life experience in all branches gained in the gardens of Lord North, Lord Brougham, Lord Portman, Sir Archibald Edmonstone, and for the past twelve years HEAD GARDENER to JOSEPH SHAW, Esq., K.C., seeks re-engagement where a thorough practical man is required; excellent references; good organiser.—FISHER, Osborne House, Southbourne, Emsworth, Hants.

GARDENER (HEAD WORKING) two or more kept; life experience; previous to enlistment, two years Head; age 34; married (one child); excellent references; demobilised; Home Counties preferred.—TAYLOR, 167, Victoria Street, S.W.1.

GARDENER (HEAD WORKING) (Scotch).—W. S. Davidson, Esq., 23, Eglinton Crescent, Edinburgh, has pleasure in recommending JAMES FISHER, just demobilised from the Army, as a most reliable, efficient, Gardener, to any lady or gentleman requiring such.

GARDENER (HEAD WORKING) where four or more are kept; life experience in all branches of Gardening, Inside and Out; age 45; married (no family).—A. EVERITT, Knott Park Gardens, Oxshott, Surrey.

GARDENER (HEAD WORKING); age 37; demobilised; disengaged; life experienced, all branches of Private Gardens; reference $4\frac{1}{2}$ years previous as Head; married.—E. FULLUCK, Bricket Wood, Watford.

GARDENER (HEAD WORKING), demobilised; life experience in all branches, Inside and Out, in good establishments; four years as Head last situation; age 38; married (one child); excellent references.—Address, P. BUTLER, 2, Berkeley Terrace, Norwood Road, Southall.

GARDENER (single, HEAD WORKING), recently demobilised A.1.; first-class references as to abilities, &c.; gained in well-kept gardens.—Please state wages, J. W. c.o. HEAD GARDENER, Newland Park, Chalfont St. Giles, Gerrards Cross.

GARDENER (SINGLE-HANDED); life experience, Inside and Out; good references; married (one child, $7\frac{1}{2}$ years); cottage; state wages.—JACKMAN, Gardeners' Cottage, Hascombe Grange, Godalming, Surrey.

GARDENER (SINGLE - HANDED) or good KITCHEN GARDENER; practical experience; age 35; married (one child); good references; demobilised; Apply, G. TURNER, 35, Cowper Street, Olney, Bucks.

GARDENER, demobilised, as good SINGLE-HANDED with help; well recommended; 11 years good general experience; age 30; married.—MARTIN, 170, Hamilton Road, West Norwood, Surrey.

GARDENER (SINGLE-HANDED or otherwise) seeks situation; just demobilised; age 27; married (one child); good reference.—F. SIMMONS, 6, Halleigh's Cottages, Cuckfield, Sussex.

GARDENER (SINGLE-HANDED or otherwise); 25 years' experience; age 42; married (one child); Churchman; abstainer. — Apply to PARKER, Bishopstone, Shrivenham, Berks.

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GARDENER (SINGLE-HANDED or with help); life experience, Inside and Out; good references; 10 years last place; used to gas engine; married, age 39.—PADGHAM, 7, Acacia Road, Stone, Greenhithe, Kent.

GARDENER (SINGLE-HANDED preferred); life experience Inside and Out; excellent references as regards character and ability; total abstainer; age 29; married (no family); demobilised.—B. A., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (demobilised) seeks situation as Single-handed; age 27; married, no family; experience in general; state full particulars and wages; North preferred; good references.—J. E. HATTON, Kilverstone Green, Thetford, Norfolk.

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GARDENER, married (no family), age 31, requires situation immediately; 9 years experience Inside and Out, or general Outside work; demobilised; 3½ years service; good references.—Please state wages with cottage, Surrey or Sussex, to A. LEADBETTER, White House Farm, Binfield, Berks.

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GARDENER requires situation in Kitchen Garden or Pleasure Grounds; 10 years' experience; aged 26; married, no children.—JOY, Edith's Cottages, School Walk, Sunbury-on-Thames, Middlesex.

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KITCHEN GARDENER or Pleasure Ground Foreman; good practical experience; good references; married, age 46, one child.—W. EMBERSON, Manor House Cottage, Effingham, Surrey.

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JOURNEYMAN (SECOND) seeks situation Inside or Inside and Out; age 18; good refs.—Apply, S. CHENNELL, 18, Great Enton, Withy, Godalming, Surrey.

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MARRIED MAN seeks situation in Kitchen Gardens; is well recommended; age 29.—Apply, to E. DEWYE, Rapley Farm, Bagshot Park, Surrey.

YOUNG MAN, age 26, demobilised, seeks situation UNDER-GARDENER, Inside and Out; life experience; good refs; bothy preferred.—L. HANKS, 3, Elm Avenue, Bletchley, Bucks.

YOUNG MAN, age 29, requires situation as LEADING HAND on Pleasure Grounds, Kitchen Garden or Inside; life experience. Please state wages, with bothy.—A. NEWNHAM, Brown's Farm, Stubbington, Fareham, Hants.

J. AVERY, Head Gardener, Plashwood, Haughley, Suffolk, can with confidence recommend C. SORE, age 18, for Kitchen Garden and Pleasure Grounds.—Apply as above.

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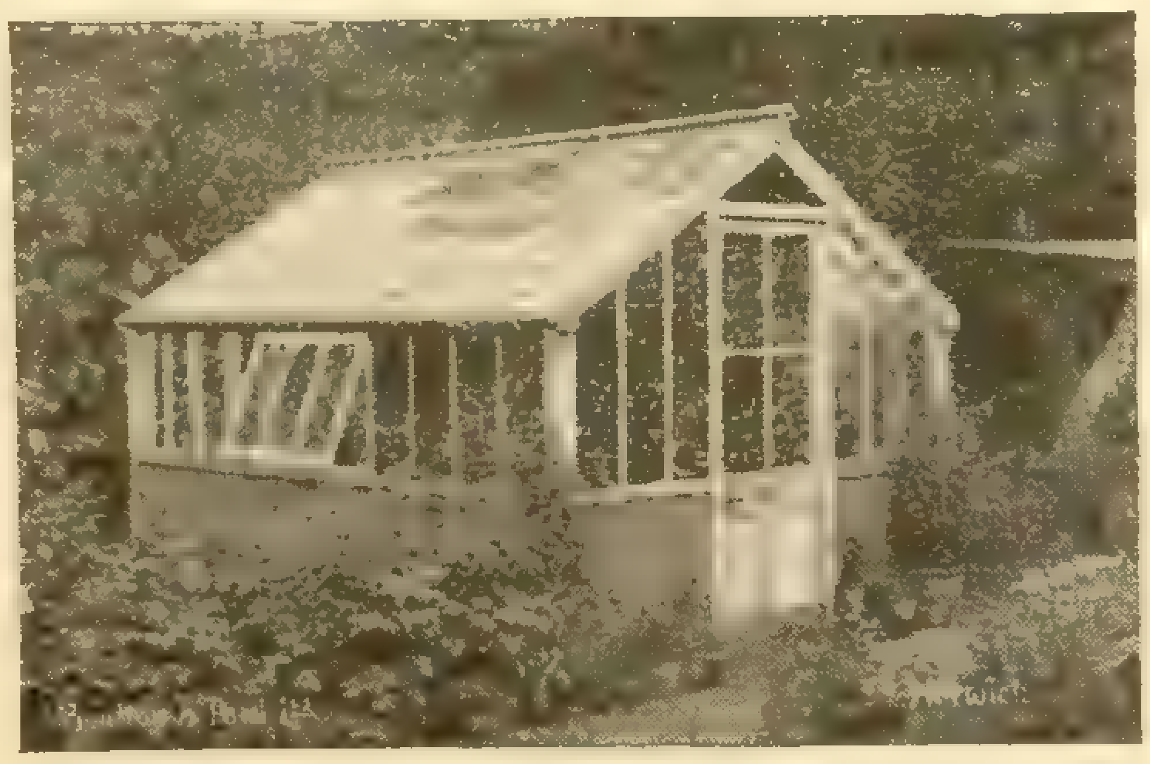

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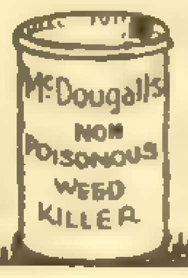

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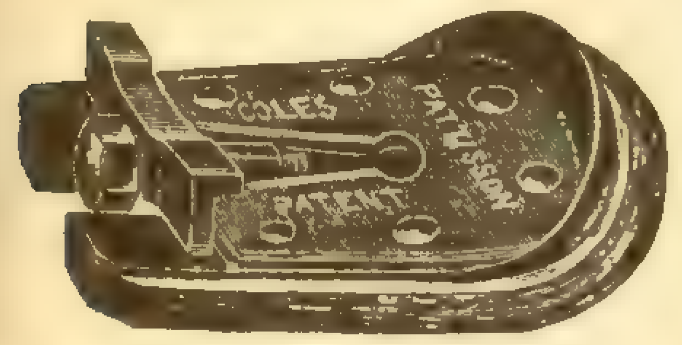

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THE
Gardeners' Chronicle
No. 1683.—SATURDAY, APRIL 12, 1919.

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THE MARKET FRUIT GARDEN.

MARCH was another wild, wet month, which afforded few opportunities of overtaking arrears of land cultivation. Rain or snow fell on twenty-one days, the total fall at my station being [illegible] inches, which is not far off double the average for the month, and a great contrast to last year, when only [illegible] inches fell on eight days in March. The only thing that can be said in favour of the weather is that it was cold enough to keep fruit blossom in check. The thermometer four feet from the ground fell to freezing point or below it on fourteen occasions, the most frost being [illegible] on the [illegible]. On the night of the [illegible], there was a heavy fall of snow, which had not entirely disappeared by the close of the month, and cold north winds prevailed during the last fortnight. As a result, vegetation, which at one time looked dangerously forward, is now rather backward than otherwise. Peaches and Black Diamond and Monarch Plums have often been in bloom here soon after the middle of March, but this year not a single blossom showed white by the end of the month, though they were on the point of bursting and must open in a few days. I consider this lateness, coupled with the fact that we have had so much cold, wet weather, as being all in favour of a good set of fruit, for there should be all the more chance of favourable weather at blooming time. It is probably too much to hope that any insect pests have succumbed to the frost. Aphides might have been killed had they been about, but the search for mother green aphides on Plums, which are said to hatch out before the bloom buds open, has proved fruitless as in previous years, although the trees will doubtless be infested later. Moths can certainly stand frost, for I found a female March moth quite lively on a tree after a night when 10° of frost were registered.

CULTIVATION IN ARREARS.

The past winter was the worst in my experience for digging operation in fruit plantations. The women, who do most of this work, were not able to proceed for eleven weeks after Christmas, and did not resume work until after the middle of March, the land being too wet. A few men managed to dig at intervals during that time, but there was much of the work to be done by the end of the month. Hoeing should have started before then, but this must wait until the digging is finished. It is urgently required, for grassy weeds have grown practically all through the winter, and some of the plantations are green with them.

NO DAMAGE BY BIRDS.

There is no doubt that the bird population of the district has by no means got back to normal since its severe thinning by the hard winter of 1916. Never since then has much damage been done to fruit buds. This year there has been no trouble with birds, either amongst Plums or Gooseberries, and scarcely any bullfinches have been seen. I am not at all sure that this is a matter for congratulation. Damage to buds, and ripe fruit is very annoying, but birds are easier to fight than hosts of caterpillars, which appear to be the alternative.

TOP-GRAFTED TREES.

It is generally agreed that a free-growing variety of fruit tree should be chosen as the scion for top-grafting old or unsatisfactory trees, but success also depends very much upon the variety used as the stock. The best result I have had was with Bramley's Seedling on Irish Peach, and the worst with several varieties (including Bramley's Seedling) on Gascoyne's Scarlet. The Irish Peach trees were headed down because they did not crop very well, whilst the fruit was very scabby and did not sell freely even when healthy. The trees were not very vigorous, the stem and branches being slender, but they were practically free from canker. The re-grafting was done in [illegible], and the trees carried a light crop of very fine fruit last year, and look like bearing freely this season, for they are now fine specimens, well studded with fruit spurs. I am inclined to think that moderate vigour and freedom from canker in the stock are the most important factors for success in top-grafting. Exactly the opposite characteristics are found in Gascoyne's Scarlet, which with me makes rank growth and cankers hopelessly. There is no difficulty about the actual grafting. The scions start well, but die off as the season advances. Examination shows that the trouble is in the stock, the bark rupturing and subsequently turning brown and rotten. I have seen this result attributed to the excessive sappiness and vigour of the stock, the scion being unable to take all the sap; and I think there is truth in the theory. At any rate, there was scarcely any of this trouble in trees top-grafted last spring when one branch was left intact (not headed down for grafting) with the idea that it might utilise any excess of sap and relieve the pressure on the scions. These branches have now been sawn off, and I shall be interested to see how the trees behave this year. In pruning them, I found a great deal of canker about the stocks, and in some cases at the junction of stock and scion, particularly where the scion is Cox's Orange Pippin. Although there is often no actual canker wound, the little red perithecia of the fungus can be seen, showing that the disease has entered in the soft tissue about the junction. I am trying to prevent this from developing by brushing in a solution of sulphate of copper.

Top-grafting is an excellent way of dealing with varieties that prove unsatisfactory, because it gives a fruiting tree sooner than grubbing and replanting; but I doubt if it can be recommended where the stock is of a variety very liable to canker. The junction forms just the kind of wound through which the fungus can enter easily. In future I shall endeavour to prevent this by the use of some protective dressing. By this means, and by avoiding the heading down of all the branches in one year, perhaps more uniform success will be obtained.

CHANGE IN HABIT OF APPLES.

It is astonishing how long any variety of Apple must be grown in a certain district before it is safe to give it a thoroughly good character. A change for the worse may come after many years. Blenheim Pippin is a case in point. This variety has been grown here for the past eighteen years, and always found to be one of the healthiest sorts, being almost entirely free from canker. Only one row was planted at first, but, as these remained healthy, Blenheim Pippin was planted fairly extensively nine years later. These younger trees have grown well, and were quite sound up till last year. Now I find that they are badly cankered, on young branches as well as old, and many limbs had to be sacrificed when pruning. Last season, it must be admitted, was particularly favourable to canker attack on young wood, and it is possible that this is only a temporary lapse on the part of Blenheim Pippin; but from present appearances the trees seem to be going to the bad. James Grieve, in most places apparently a very healthy variety, has given a similar experience here. The first batch of trees introduced made an exceptionally good start and came into bearing early. On the strength of this, many more trees were planted. Now, for several years it has cankered persistently, and it is very doubtful whether the trees will ever recover. This kind of thing means much to the grower. Trees that canker badly, even if they eventually recover, absorb an enormous amount of labour; and, if they finally go entirely to the bad, several years are lost in bringing the land into profit. One of the most valuable lessons a grower can learn is which varieties will remain healthy and crop regularly on his land and this he can learn only by many years of experience in one place, unless he starts in a district where there are extensive orchards established to serve as an object lesson. If the Board of Agriculture should plant experimental orchards in many districts, largely with a view to testing the suitability of

different varieties to local conditions, great service would be done to fruit growers.

SPRING SPRAYING PROGRAMME.

Winter spraying was not finished until the middle of March, but, there will now be a welcome interval of several weeks before the machine is again brought out for the busy spring spraying campaign. This will start as soon as the bloom buds of Apples have separated out in the trusses, but before they burst and show the petals. It is safe to predict that there will be plenty of aphis, psylla and caterpillars to attack then, for these enemies are with us every spring. Soft soap and nicotine will be used for this first spraying, because, whilst it is an excellent wash for aphis, psylla and other sucking insects, it will also control caterpillars in their young stage. After the petals have fallen, it will probably be necessary to spray again for caterpillars, as these hatch out over a considerable period, and some are sure to survive the first application. On that occasion, arsenate of lead will be used, as some of the caterpillars will have grown too large to succumb to nicotine; but the latter will be added if aphis is still troublesome. For such varieties of Apples as are liable to scab, and Plums that suffered from brown rot in the past season, lime sulphur will also be added, and a second spraying with lime-sulphur given about a fortnight later, if materials hold out. Present prospects are for a good fruit crop and satisfactory prices, so that a big outlay on spraying will probably be justified, notwithstanding the very high price of materials. Not having quite enough nicotine to go with the supply of soap, I recently thought to buy a little quassia extract, which used to be very cheap, only to find that it has risen to nearly £1 per gallon. *Market Grower.*

NARCISSUS GOLDEN CYCLE.

THE name of this new Narcissus is a happy combination of portions of the parental names, as its progenitors were the popular N. Golden Spur and N. cyclamineus. N. Golden Cycle (see fig. 72) is a robust hybrid, and the flowers have such distinct characters that it is not at all difficult to name the parents from them. N. Golden Spur has given robustness and size, while N. cyclamineus has greatly influenced the form of the flower. The latter has more or less reflexed perianth segments, and a straight trumpet, with frilled mouth—characters which carry the impress of N. cyclamineus. The stems are from 12 to 15 inches high and the flowers are somewhat similar in size to those of N. Queen of Spain. For cultivation in pots for early flowering, and for moist places in the rock garden, N. Golden Cycle should prove valuable, as it possesses grace of form and a brilliant golden yellow colouring. The hybrid was shown at Westminster on March 25 by Capt. H. Hawker, Strode, Ermington, Devon.

FIG. 72.—NARCISSUS GOLDEN CYCLE: A HYBRID OF N. CYCLAMINEUS. (R.H.S. Award of Merit, March 25, 1919.)

THE CULTIVATION OF THE PEAR IN FRANCE.

The question of fruit growing is just now occupying considerable attention, and is one of the items in the programme drawn up by the authorities for men settling on the land. The subject requires serious thought, and must be handled in a businesslike and capable manner.

The technical inspectors to be appointed by the Department for the purpose of advising and organising fruit growing should have impressed upon them the fact that fruit growing is a subject that concerns not only the commercial grower, but also the general public.

We can improve the quality and greatly increase the quantity of Pears over the greater part of England, but we must be prepared to adopt some of the methods of French growers to attain these results.

There are varieties of Pear which, when worked upon the Pear stock, lend themselves to standard culture. Varieties such as Williams Bon Chrêtien, Conference, Pitmaston Duchess, and many others produce enormous crops of medium sized fruit, good enough for a second-class trade, and sufficient to meet the demands of the commercial centres where large numbers of Pears are disposed of from stalls and barrows to the industrial classes.

In suitable localities where no strong winds prevail the practice of planting fruit trees in the hedgerows might be strongly advocated, for many Pears would grow healthfully from among the lower brushwood, serving also the purpose of improving the countryside. One cannot fail to notice the foresight and tact used by our forefathers in utilising the hedgerows when gazing upon those well-grown handsome specimens of Perry Pear trees so often met with in Herefordshire and the adjoining county of Worcestershire. They stand as lasting monuments to an age of fruit growers whom the planters of to-day might profitably imitate.

Another way in which we might bring about an improvement in the cultivation of the Pear is to pay more attention to the bush or pyramid tree grown upon the Quince stock, by practising the system of French pruning. In France the ordinary garden labourers frequently possess a knowledge of pruning and training trees which we might look for in vain in this country.

The writer, being on military service during 1916, was quartered for a period in a French château near Arras, and through the kindness of the Officer Commanding had been given permission to visit the fruit garden at any time. In this very striking garden were to be seen some bush Pears worked upon the Quince stock, many of them of great size and perfect symmetry being interesting examples of good pruning. Much pleasure and valuable information was gained by daily visits to the fruit garden, also in conversing with the old gardener, whose aim and ambition was to maintain and keep those beautifully grown trees in perfect condition, till the day came when the owner of the château could return to look once again upon the fruit trees of which he was justly proud.

The system of pruning practised by this old French horticulturist at first sight impressed me as being far from correct, but after many interesting conversations bearing on the matter, coupled with the subsequent yield of magnificent fruit, I perceived that the old gardener understood the practice and principles of pruning.

There are many districts in England where situation and climatic conditions are suitable to the culture of the Pear, comparing favourably with those around Arras, for there, as in this country, the winter and spring prove without exception most trying to the fruit grower. It is a mistake to suppose that the climate of France is entirely responsible for the production of those fine fruits we have been so accustomed to see in our markets; climate one admits is a great factor, but it must not be overlooked that in France the cultivator pays thorough and constant attention to his trees, with which a life-long experience has made him familiar. There pruning is an orderly procedure and well carried out, whilst manuring and general treatment is undertaken in the same skilful manner.

A third way of improving the culture of the Pear, and one that has been to a large degree neglected, is by utilising walls for growing trees in the various forms seen in France. Private gardeners in large establishments know the value of these walls, and without them they could never obtain certain varieties of choice winter Pears. Many of the dividing walls in cottage and villa gardens, also outhouses in certain parts of the farm, might, with advantage, be used in this way to increase the fruit supply. *J. Coombes.*

DRY-WALL GARDENS.

Alpine-gardening provides great scope for the exercise of technical skill, and it also offers a ready means for pictorial display. In the construction of the rock-garden, however, one is often sensibly impressed by the scenic effort expended upon the rocks that, in numerous instances, appear placed so as to attract great attention to themselves; meagre plants hug the all but naked ridges, or project from capacious fissures, yielding sparse and patchy greenery barely sufficient to suggest the mission to which the rock-garden aspires. Between vegetation and natural rock there is always direct harmony, and when interpreted with sympathy and displayed intelligently, as seen in all good rock-gardening, the interest and attraction of such a harmony increases with the years.

This affinity between plant growth and weathered stone is excellently portrayed in dry-wall gardening, where pictorial effect is studiously aimed at, and the idea of including plants merely because they are "rare" is discountenanced; compared with the rock-garden, a successful dry-wall should convey a definite note of mildness, the floral display being suggestive of a riot of blossom, broadly planned, with the masses of colour proportionate to the extent of wall treated. This phase of gardening cannot be considered as new, for many picturesque old wall gardens, built on the dry-wall principle, are occasionally to be met with in various parts of this country, and the idea has probably been borrowed direct from Nature, as she has an inimitable way of clothing old masonry that has become neglected, with a drapery of living plants.

The arguments for introducing dry-walls into gardens are, briefly, that they occupy much less room than an elaborate rock-garden, and can often be accommodated where space is limited. Grass banks, once common in gardens, are always difficult to maintain in good order and are of no great interest; the dry-wall displaces these, adding a fresh feature to the garden while broadening its interest. Even where a rock-garden exists, the dry-wall may still be represented, surrendering to it those plants of free and vigorous growth that can readily be dispensed with on the more ornate structure, while to the rock-garden proper we entrust such plants as call for close attention to maintain them in ordinary health. The purpose of a dry-wall is best expressed by way of a retaining wall; it should act as a support to the mass of soil behind, while the latter affords a deep, moist, root run for the plants at all seasons. The work of building a dry-wall is not difficult and is well within the power of all who take pleasure in laying out and arranging their own gardens. Stone is the best material for building the wall, and if it can be procured in pieces of fairly uniform thickness the labour of bedding and adjusting the courses will be greatly lessened. A good stone should be neither too hard nor too soft; if the latter it will most likely disintegrate rapidly under the action of frost. Stone has this further advantage in that it permits of copious ledges and joints. The end of each stone embedded in the wall should be slightly lower than the exposed edge, to admit of watering the plants, if needed, in dry weather, and if each succeeding course is set back an inch or more behind the one beneath, the ledges thus formed will readily catch the rains. A wall built on the ledge system will recede sharply from the ground level, with an incline or slope that may be as much as six inches in every foot of height obtained. Dry-walls of this nature may generally be recommended for hot, dry situations. In an upright wall the incline or "batter" need only be two inches to every foot of height, and such a wall most readily meets the conditions of moist districts. Whatever type of wall is adopted, embed the stones firmly and fill all joints and vacant spaces behind them with soil, making the wall thoroughly rigid as the building proceeds. In laying the second and subsequent courses, arrange the stones, so far as is possible, to cross the joints of the lower course, while the layer of soil between the courses should be sufficient to bed the stones securely.

The soil used in dry-walls should be good loam, mixed with a liberal amount of grit and old mortar rubble or crushed chalk. It is best to arrange the plants in position as the wall is built, and in this way large plants can be introduced and their roots spread out to their fullest extent. In every case, the crown of the plant should be kept just within the face of the wall. Small, rooted cuttings and seedlings give the best results; plants that have become root-bound in pots do not become established so readily. A dry-wall may be made and planted at any time during autumn, winter or spring when the soil is in a moderately dry condition; when it is very wet or pasty the work should be suspended, as wet earth shrinks when dry, and leaves air passages that are harmful to the roots.

During their first season, the plants should be sprayed over morning and evening in dry weather with clear water. In times of drought give the soil a thorough watering through a fine sprinkler, and in such a way that the earth is not washed from the joints and courses. After the first season watering is rarely necessary, as the roots will then be firmly established,

Fig. 73.—A fine clump of Dianthus suavis growing in a dry wall.

and will usually find an abundance of moisture in the cool recesses of the wall.

The grouping and blending of the various subjects offers a wide field to those of artistic tastes. In order to obtain varied effects, both from leaf and flower, it is advisable to make, in advance, a rough plan on paper of the main groupings. This can be followed as the work of erecting the wall proceeds, and it will enable the main colour groups to be estimated correctly, and also the habit of each plant. In this way large, bushy subjects will not get mixed up with plants of smaller, finer growth that in any haphazard planting would certainly occur. The following is a list of plants suitable for a dry wall exposed to sunshine:—Acantholimons, Androsace lanuginosa, A. sarmentosa, Arenaria montana, Alyssums in variety, Asperula hirta, Armerias of all varieties, Cheiranthus Allionii, Campanulas (dwarf sorts), Calamintha alpina, Dianthus graniticus, D. microlepis, D. caesius, D. neglectus, D. suavis (see fig 73), D. plumarius, D. petraeus, D. deltoides, Draba aizoides, D. Dedeana, Erysimum pulchellum, Geum montanum, Gypsophila repens, Hypericum Coris, H. fragile, H. repens, H. reptans, Hutchinsia alpina, Iberis in variety, Iris stylosa, Linum narbonense, L. arboreum, Lithospermums (all kinds, prostratum and its variety should be planted in soil free from lime), Lychnis Viscaria splendens, Morisia hypogaea, Oenothera riparia, Onosma tauricum, Phyteuma orbiculare, Papaver alpinum, P. nudicaule, Plumbago Larpentae, Saponaria ocymoides splendens, Saxifraga Aizoon, S. Cotyledon, S. lingulata, S. longifolia, S. marginata, Sedum brevifolium, S. dasyphyllum, S. rupestre, S. spurium, S. pulchellum, Sempervivums in variety, Silene alpestris, S. Schafta, Thymus Serpyllum in variety, Tunica Saxifraga and its double form, Veronica Bidwillii, V. incana, V. rupestris, Viola gracilis and Zauschneria californica.

Plants for dry walls in the shade:—Adonis vernalis, Anemone narcissiflora, A. blanda, A. angulosa, A. Hepatica, Arenaria balearica, A. caespitosa, Asarum europaeum, Cardamime trifolia, Campanula carpatica, C. muralis, C. pusilla, Cyclamens in variety, Dicentra formosa, Epimediums, Erinus alpinus, Haberlea rhodopensis, Mazus pumilio, Myosotis in variety, Mentha Requienii, Nierembergia rivularis, Omphalodes verna, Oxalis enneaphylla, Polygala Chamaebuxus purpurea, Primula farinosa, P. frondosa, P. cashmiriana, P. latifolia, P. nivalis, P. rosea, Ramondias in variety, and Saxifragas (all mossy kinds).

Shrubby plants for sunny dry walls:—Cistus in variety, Helianthemums, Lavender, Cytisus kewensis (see fig. 75), C. schipkaensis, C. Beanii, Cydonia Simonii, Cotoneaster adpressa, C. congesta, and C. rupestris. *Thos. Smith.*

VEGETABLES.

POTATOS.

In gardens where the soil is rich or is overladen with humus owing to many years of manuring, Potatos of many varieties are liable to grow too rank, and by August the hauln falls down, one line overlapping another. Some varieties seem to be naturally of this habit, including The Schoolmaster and Snowball, the hauln of which is upright at first, but as the season advances it falls down. Kerr's Pink grew over 2½ft. high last year with me and elsewhere, yet the stout stems stood perfectly upright to the last, both during drought and the heavy rains that followed. Golden Wonder and The Templar were similar in habit and, notwithstanding their height and vigour, did not fall down and smother dwarfer sorts growing on each side of them. Kerr's Pink gave me the heaviest crop of any, and I calculated it at 29 tons, 19 cwt., 67 lbs. to the acre. It is also blight-resisting and immune to wart disease. The number of excellent varieties of Potatos now determined to be immune to wart disease is considerable, as *R. P. B.* states on p. 108; but in looking over the lists of non-immune varieties I find that some 28 varieties of the Up-to-Date type would have to drop out of cultivation, including such high quality and heavy cropping sorts as Up-to-Date, Duchess of Cornwall, Dobbie's Prolific, Stourbridge Glory, Superlative, The Factor, The Chapman, and The Warrior. Amongst others, we cannot overlook the popularity of British Queen, Sharpe's Express, Epicure, Arran Chief, Tremendous, Duke of York, Goldfinder, Sir John Llewelyn, King Edward and many others, which have their numerous adherents. Early varieties that are immune are still few. The most popular variety is Edzell Blue, which is not a success in all soils. It was the only real failure amongst 18 varieties I grew last year in a shallow, sandy soil. Even if seed of immune varieties were procured from an infected district, it would carry the disease amongst soil on the tubers, but I understand this is now being controlled. The crux of the question lies in the fact that hundreds of people prefer or adhere to certain varieties because they succeed well in their soil and they like the particular qualities of those varieties. The danger of importing wart disease to their gardens or fields has not yet been brought home to a great many people. In Aberdeenshire the practice of cutting all seed Potatos is very general; but uncut sets are also used on large farms where they save time in cutting, which is generally done by women. The clamps are simply laid open when planting is about to commence, and the tubers taken as they come, the large ones being cut. No lime has ever been used to my knowledge for cut or uncut sets. *J. F.*

FORESTRY.

THE SITKA SPRUCE

AMONGST the exotic trees that are likely to secure a prominent position in any scheme of forestry operations that may be undertaken in the British Isles, the Sitka or Tideland Spruce (Picea sitchensis) will be one of the most important, as it produces timber of good quality, gives excellent results in many parts of the country, and is suitable for planting at sea-level in the mildest places, and in exposed situations at a considerable elevation in the Scottish Highlands, where the soil is poor, cold and wet.

Inhabiting an extensive area of land in Western North America, the Sitka Spruce is found from a northerly point in Alaska to Mendocino County in California, being most common in Western Oregon and Washington, where in rich, moist soil it attains its largest size, *i.e.*, 200 feet high, with a diameter of 15 or 16 feet. Its average height is about 100 feet, and in some places it occurs as pure forests on swampy ground about the mouths of rivers, little, if at all, above high-water mark; elsewhere it may be pure or mixed with other trees such as Douglas Fir, species of Abies, Thuya plicata and other kinds. In its most northerly limits it is reduced to a bush.

This species may be distinguished amongst other Spruces by its stiff, flat, needle-pointed leaves, which vary from ½ inch to 1¼ inch in length, and are green above and glaucous beneath. They surround the branches, but are denser on the upper than on the lower surface. The mature cones are bright brown, cylindrical, 2½ inches to 4 inches long, with rather prominent scales with an undulated or toothed margin to the upper parts. The seeds are small with a rather long wing.

From a timber point of view the wood is light, soft and strong, usually straight-grained, compact, and often yellowish in colour, with a satiny lustre when worked. It has been used for many years for general carpentry, including house-building, fencing and boat-building, and also for pulpwood. Soon after the outbreak of war attention was directed to this wood as suitable for aeroplanes, and for the last three or four years it has been one of the most eagerly sought after woods for the purpose, all the best quality wood being ear-marked for the business. Manufacturers in this country usually refer to it as Silver Spruce.

The tree was originally discovered by Menzies in 1792, but it was left for Douglas to send the first fertile seeds home in 1831. Its value for decorative planting was soon appreciated, and some of the earlier trees are now over 100 feet high, with a diameter of 2 to 3 feet. A few years ago I measured a tree growing at Achnacarry which was known to have been planted in 1865; it was 98 feet high and had a girth of 8 feet 8 inches at 5 feet above the ground. Near by, a Douglas Fir planted at the same time was the same height but rather larger in girth. The best plantations in Great Britain are probably at Durris, in Kincardineshire. There are two in which the trees are now about 40 years old. One is at an elevation of 700 feet and the other at 900 feet above sea level. In both cases the land is poor, wet and exposed; in fact, in one plantation there is a considerable depth of peat, and in order to remove the superfluous moisture it was necessary to open deep drains at frequent intervals. The trees are, however, in perfect health and growing rapidly.

On the western side of Scotland experiments are being carried out under the worst possible conditions with this and a few other trees. At Corrour, on the banks of Loch Ossian, at an elevation of 1,269 feet above sea level, Sir John Stirling Maxwell is experimenting with this tree in very poor, wet and sour peaty soil, in a district where the growing season is short, severe frosts being frequent in May and October, and frosts often occur in the summer months also; moreover, heavy winter snows and biting winds are common. Every attempt to establish trees by ordinary methods of planting failed, but on adopting the plan of opening drains at frequent intervals and planting trees on raised turves several species are growing well, one of the most satisfactory being the Sitka Spruce, the young trees adding from 12 to 18 inches to their height each year.

As a contrast to these conditions Sitka Spruce has been planted on light land composed largely of disintegrated granite in the neighbourhood of Penzance, and the young trees, when about six years old, added rather more than 5 feet to their height in a single season. Later on these particular trees were injured by wind, many of them having their tops broken. The fault apparently lay in the plantation being too narrow to act as a good wind-break. Elsewhere the tree has been noted growing well near the sea, where the plantations are deep enough for the centre trees to profit by the shelter afforded by the outer belts. It is extremely doubtful, however, whether such rapid growth as that mentioned above is an advantage, for the timber from such trees is usually weaker than that of normal growth.

The Sitka Spruce is liable to attacks from the Spruce-gall Aphis (Chermes abietis), especially when growing in unsatisfactory conditions such as a very dry soil or dry or impure atmosphere. On small trees it is possible to destroy this pest by spraying the branches once every twelve days during May and early June with a paraffin wash, but it is more satisfactory to avoid attacks by only planting the tree where the atmosphere is fairly free from impurities and the climatic and soil conditions are moist.

When planting under forest conditions the young plants should be placed in permanent places when from 9 to 15 inches high. *W. D.*

FIG. 74.—AUBRIETIA, HELIANTHEMUM, SAPONARIA AND OTHER PLANTS GROWING ON A DRY WALL. (*See p.* 175.)

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM HUMEANUM AND O. ASPERSUM.

Mr. J. O'Brien (page 136) remarks that my statement of the parentage of Odontoglossum Humeanum is based only on conjecture. This is not so. It was based on an examination of all the facts available, including flowers from two different plants sent to Kew by Mr. O'Brien himself in April, 1889, with the name O. Humeanum (carefully recorded in inverted commas at the time), and two more received from him three years later. Those flowers agree with the seedling raised artificially from O. maculatum × O. Rossii, as also do others recently attributed to O. Humeanum. There has never been any doubt about the parentage of O. aspersum, which was as clearly stated in Reichenbach's original note as in my own recent one, which therefore "tends to confuse" nothing. It is no new idea that the recorded parentage of O. Humeanum is erroneous. When the plant was figured in *Reichenbachia*, soon after Reichenbach's death (ser. i. t. 82), it was remarked by Messrs. Sanders, "O. Humeanum is universally considered to be a natural hybrid between O. Rossii and O. cordatum, but a comparison of the shape and structure of the flower leads us to think that there is less of O. cordatum and more of O. maculatum in it, the characters of the latter being also observable in habit of growth." The fact is, only one (rather variable) natural hybrid is known, which is found where O. Rossii and O. maculatum grow together, this hybrid combining the characters of the two species from which it has now been raised artificially. O. cordatum is not known to grow wild with O. Rossii, and the rather scanty evidence on the subject indicates both a lower elevation and a station further south. *R. A. Rolfe.*

THE BULB GARDEN.

GALANTHUS IMPERATI.

IN my note on page 107 I expressed a doubt as to whether the plant that is known in gardens as Galanthus Imperati has any real claim to that name. Since writing that note I have had an opportunity of looking up some of the literature on the subject, and, as frequently happens in dealing with garden plants, I have come so the conclusion that the claim of the plant illustrated to the name of Imperati is by no means beyond question.

G. Imperati was first described by Bertoloni in his *Flora Italica*, vol. iv., p. 5, which was published about 1833. Bertoloni refers to Clusius' *Rariorum Plantarum Historia*, which was published at Antwerp in 1601. At first sight it would appear as though Bertoloni identified his Italian Snowdrop from the neighbourhood of Naples with the bulb that Clusius describes and figures on page 169 as Leucoium bulbosum praecox Byzantinum, but a careful perusal of the accompanying text shows that Clusius knew two Snowdrops besides nivalis, one of which "began to arrive at Vienna from Byzantium (Constantinople), mixed with Narcissus bulbs, after the year 1582," while the other, which was "almost identical," was sent to him by Imperatus, an Italian pharmacist, from Naples in the autumn

of 1592, as having been dug up on Mons Virgineus. If anyone can identify this Mons Virgineus, on which Imperatus dug up the bulbs he sent to Clusius, we may be able to obtain authentic specimens of the real Galanthus Imperati.

With his usual accuracy in describing the actual flower, which shows that he was intimately acquainted with the living plant, Clusius draws attention to the fact that the inside of the inner segments of his second Galanthus (the first being nivalis) was either largely blotched with green or marked with eight longitudinal veins of green running from the base to the tip.* Now these eight veins on each inner segment are a characteristic of the Crimean G. plicatus, which has broad foliage with a longitudinally folded edge from which it obtains its name.† and Clusius' woodcut certainly represents a plant with remarkably broad leaves. His figure also has two stems of unequal length, and it would be interesting to know whether this is also a characteristic of G. plicatus. It is unfortunately too late now to discover this year whether my so-called Imperati has eight veins on its inner segments or only the six of nivalis, but it certainly differs in more ways than one from Bertoloni's plant as he describes it. We must obviously suppose him to mean by the latter not Clusius' Byzantine plant, but that other that was sent to him by Imperatus, which he did not describe.

Bertoloni insists that Imperati differs from nivalis in having a globose bulb twice as large as that of nivalis and a larger spathe, which is much longer than the peduncle supporting the flowers. He also lays stress on two further points of difference. Firstly, the outer segments of the flower of Imperati, instead of being twice, or more than twice, as long as the inner segments, as they are in G. nivalis, are only about one-third longer; and, secondly, Imperati flowers later than nivalis.

Now, the plant which was illustrated on page 106 has not got the comparatively long inner segments of the true Imperati, and it certainly flowers earlier, and not later, than nivalis. Although its flowers are no larger than those of some G. nivalis—which Sir Herbert Maxwell very kindly sent me from Monreith for comparison—they are certainly nearly twice the size attained by those of nivalis in this dry soil. Its identity is, therefore, uncertain, and I shall be very grateful to anyone who can throw any light upon it. It is, without doubt, a fine Snowdrop, even in the poor, light soil of my garden, and it is certainly valuable for its early-flowering habits. *W. R. Dykes.*

* Interius vero aut magna ex parte viridia sunt aut octo radiis ab imis unguibus secundum longitudinem ductis prædita.

† Marschall von Bieberstein. *Flora Taurico-Caucasica.* III. p. 255 (1819). G. plicatus differt a nivale foliis latioribus utrinque prope marginem plica longitudinali insigni instructis.

WARM HOUSE RHODODENDRONS.

THE plant lover has many reasons to regret the dispersal of Messrs. James Veitch and Sons' collections of plants, as many of them are now scattered, and no one seems to have taken up their special cultivation. Among them are the various forms of warm-house Rhododendrons, to which the titles of Javanese, Malayan, and Perpetual-flowering have at various times been applied. The different garden varieties have resulted from the crossing and inter-crossing of some half a dozen species and their progeny. The original species are all natives of different islands of the Malayan Archipelago, and occur there principally as epiphytes, finding a rooting medium in the vegetable débris collected in the forks of tree branches and other places.

Practically all the garden varieties in cultivation originated with Messrs. Veitch, the first to make its appearance being Princess Royal, obtained by crossing the orange coloured R. javanicum with the white R. jasminiflorum. Strange as it might appear, the flowers of the hybrid were pink, the orange tint being totally eliminated. A parallel case may, however, be found in Begonia weltoniensis, raised 50 years or so ago by the late Colonel Trevor Clarke, of Daventry. The parents of this were the coppery orange Begonia Sutherlandii and the pure white B. Dregei, both natives of South Africa. As in the case of the Rhododendron, the flowers of B. weltoniensis are pink.

After the advent of Rhododendron Princess Royal new varieties were continually put into commerce, with flowers varying from white to deep crimson, through various intermediate shades of yellow, orange, pink, and carmine. Many of the more recent varieties were great improvements on the older ones, which they in time superseded. A notable feature of these Rhododendrons is that, unlike the other members of the genus, they grow and flower all the year round. From this circumstance their name of Perpetual-flowering is derived. At whatever season one visited the nursery at Chelsea the house devoted to these Rhododendrons was sure to be well supplied with blossoms.

Despite their many desirable qualities there is no doubt that within recent years these Rhododendrons have declined in popularity. This is probably owing to the circumstance that however beautiful they may be when on the plant the flowers are not well adapted for decorative purposes as cut blooms, hence they have been superseded by such subjects as the Perpetual-flowering Carnations. This is a pity, as they cannot well be spared where flowers are always in demand.

The original species from whence these garden Rhododendrons have sprung are all natives of tropical regions, hence all the forms of this section require more heat than the Himalayan hybrids. They are sometimes called greenhouse Rhododendrons, but this is a decidedly misleading term, as for their successful culture they require a minimum winter temperature of about 55°.

Cuttings of the half-ripened shoots will, if dibbled into pots of sandy peat and placed in a close propagating case in a warm structure, soon make roots. I find that roots are produced more freely from the base of the young shoot, where it is somewhat swollen, than from any other part. If the shoot is too long to be used in its entirety (say over 3 inches), the base of the cutting is best finished off with a long, sloping cut.

A suitable compost for these Rhododendrons consists of fibrous peat with a liberal admixture of silver sand. In potting them their epiphytal character should be borne in mind; if the roots are surrounded by a dense mass of soil success cannot be hoped for. The pots should not be too large. They should be clean and effectually drained, for these Rhododendrons need liberal supplies of water during warm weather, while frequent syringing is very beneficial. For large specimens mix charcoal with the potting compost. *W. T.*

FIG. 75.—CYTISUS KEWENSIS FLOWERING ON A DRY WALL.
(*See p. 175.*)

NOTICES OF BOOKS.

HOOKER'S ICONES PLANTARUM.

THE Bentham Trustees have issued from Kew a complete index to the plates and names of plants figured in the thirty volumes of this comparatively little-known publication, the first volume of which, dedicated to Bentham, is dated 1837. This illustrated work was founded by Sir William Jackson Hooker while he was still Professor of Botany at Glasgow. In this undertaking he was assisted by his friend, George Bentham, who, on Sir William being appointed the first Director of Kew on its becoming a public institution, associated himself with Sir William in founding the Kew Herbarium and Botanical Library. Bentham also provided for the continuation of the *Icones* and botanical work generally by a legacy. From the first the parts of this work were issued at very irregular intervals, with several breaks of sometimes a number of years. The full title, of the later volumes at least, is *Hooker's Icones Plantarum, or Figures, with descriptive characters and remarks, of new and rare plants selected from the Kew Herbarium.* Taken as a whole, the figures are of a miscellaneous character, yet interesting in a high degree to the botanist and horticulturist of botanical taste. The earliest volumes illustrate selections from the collections of the Drummonds, Douglas, and other noted botanical travellers, and also include mosses and other of the lower cryptogams. Several volumes are restricted to one family, at least three are devoted to Ferns, three to Orchids, mainly to such as are termed of botanical interest only, and volumes XXIX and XXX illustrate species of Impatiens representing Sir Joseph Hooker's last contributions to botanical science. Prominent among the subjects figured in late volumes are several of the novelties of relatively recent discovery in Central and Western China, many of them of general interest and represented in British gardens. Plants of economic value have also found a place in the Icones: thus, Sapium of many species, Hevea and other rubber plants. This index will be very welcome, and will open up a source of illustrative botany hitherto almost closed to workers. Each volume contains one hundred plates. *W. B. H.*

LETTERS FROM SOLDIER GARDENERS.

THE BOTANIC GARDEN AT BONN.

HAVING read with great interest several articles which have appeared from time to time in your valuable paper (of which I have been a reader for ten years) on horticulture in the various countries in which members of our armies have found themselves, I thought your readers might be interested in a short description of the Botanical Gardens at Bonn, on the Rhine, in which city, as one of the Army of Occupation, I was stationed for two months, viz., December-January. The garden is managed by the University for their students in botany and allied subjects, and is not open to the public. Although not so large in extent or so impressive as the Botanic Gardens, Brussels, which I also visited, the gardens at Bonn are nevertheless very complete.

The palm house contains several varieties of the Date Palm, all of which were in bloom, but not much more of interest.

The Cacti, exotic and temperate houses consist of one lean-to building, about 200 feet long, divided into four compartments by glass partitions.

The collection of Cacti, consisting of more than 300 varieties and species was very interesting.

The two Orchid houses were well stocked with healthy plants, but there were very few in bloom, a large white Brasso-Cattleya being the only one of note.

In the propagating house several hundred seeds of Victoria Regia were germinating.

All the available space out-of-doors was taken up by beds devoted to drug-yielding plants, and the cultivation of these plants was, no doubt, the most important work being done there; I found, in talking with the men engaged on the work that, without exception, they had all been released from the army for that especial purpose, and I have no doubt that the results of their experiments would make very interesting reading to English readers, as I see there has been much correspondence in your columns lately about growing drug-yielding plants at home. The two climates are fairly similar, and I see no reason why drug plants should not be cultivated successfully in Great Britain.

The garden authorities were also carrying out experiments with Mistleto on different varieties of Quercus, raising the Oaks from acorns for the purpose.

The arboretum contains nearly every tree grown in the temperate zone that is not a native of the country. There are notable specimens of Picea Douglasii, Cedar of Lebanon, and Fagus purpurea, also a very interesting specimen of Ginkgo biloba, about 20 feet high and divided about six feet from the ground by a crotch; one half of the tree is male, the other female, the latter half being weighted down with fruit. My conductor stated that the monoecious character was entirely natural and not the result of either budding or grafting, and I failed to see any indications of either. *Corporal J. Platts, late Horticultural Experimental Sta., Canada.*

FRENCH *versus* ENGLISH GARDENING.

Many with whom I have come in contact have expressed their admiration for the close cropping done in French small gardens; but usually that applies only to the summer, when there are many salads, Beans, and similar small crops grown. These give an air and idea of abundance which I have never seen in the winter. Then the French gardens are bare, except for Leeks, which are grown in great quantities in every garden. Seldom have I seen such winter vegetables as Brussels Sprouts, Kale, or Broccoli; and never once have I seen the Sprouting Broccoli or a bed of spring Cabbages. In the provision of fresh vegetables for winter the French gardens are certainly far behind those of our country.

In the summer we find large patches of Haricot Beans, to the almost entire exclusion of other forms. Runner Beans are seldom grown, and Peas are usually limited to the dwarf varieties. I was surprised to find so few Cauliflowers grown, and remember on one occasion in early September finding that a Cauliflower in a shop cost a franc and a-half—and this was in a district where there were many houses with fair-sized plots attached.

Nor can I say that the garden produce equalled in quality that to be found in similar gardens in England. At no time did I see any vegetables to equal those shown at any English village show.

The larger gardens give one the same feeling of inferiority when compared with gardens at home, but it must be said that they are more generally used for food production. Flower gardening is secondary, as it should be here in England for some time to come. One missed, also, the flowers in rural gardens, to which we are accustomed in England.

I repeat again that my remarks only apply to my own personal and limited observation, and I cannot be sure that I am right in drawing general conclusions from them. *W. F. Rowles.*

FIG. 76.—AUBRIETIA DR. MULES FLOWERING ON A DRY WALL.
(*See p.* 175.)

The Week's Work.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Cyclamen.—As Cyclamens pass out of flower those required for flowering another season should be placed in a cold frame and kept rather dry for some weeks. The corms may then be shaken from the soil, repotted in a compost of loam, peat, leaf-mould and sharp sand and placed in a moderately warm, moist house until well rooted, when they can be removed to cooler quarters. Now is a suitable time to sow seeds of Cyclamen.

Begonia Gloire de Lorraine and B. Gloire de Sceaux.—For success in raising Begonia Gloire de Lorraine and B. Gloire de Sceaux it is essential the stock plants be kept free from Begonia mite. Dip the plants in a safe insecticide such as quassia, place them in a moist, warm house, and when the new growths are 2 inches to 3 inches long, cut them off and insert them in well-drained pans or pots filled with loam mixed with leaf-mould and sand. Place the pots or pans of cuttings on a stage near the roof glass as the shoots will root more successfully there than in a close propagating case. Shade the cuttings from bright light.

Tuberous-rooted Begonias.—For greenhouse or conservatory decoration the tuberous Begonias started some time ago in boxes should now be potted singly in 6-inch or 7-inch pots. Pot firmly and keep the crown of each tuber above the soil. A mixture of good loam, leaf-mould, sharp sand, and concentrated fertiliser forms a good potting compost. Seedlings of this year's sowing should be grown in a warm house and be potted singly when large enough.

Euphorbia jacquiniæflora and E. pulcherrima.—Stock plants of Euphorbias and Poinsettias that have been kept dry for some time should now be placed in a warm house, syringed daily, and kept well watered at the roots. In these conditions they soon produce new growths, and when these are 3 inches to 4 inches long, remove them with a heel of the old wood, insert them singly in small pots filled with equal parts of fine soil and sand, and place them in a propagating frame over bottom heat. When sufficiently rooted, shift them into 4-inch pots in a mixture of loam, leaf-mould and sand, and grow them on a shelf in a warm house until finally potting them into 6-inch pots.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Seasonable Remarks.—Most Orchids show by their activity that they appreciate the increase of sunlight, and this should be allowed to reach them as freely as possible so long as risk of injury to the foliage is prevented. Foliage is more susceptible to injury at this season than in the summer or autumn, and if the leaves of some Orchids become scorched they carry the marks for years. Scorching most often occurs when the air is clear and cold and one fears to give much ventilation because of cold draughts. At such times the sun may appear for a short period after it has been hidden an hour or so behind light clouds, and through the day there may be alternations of bright sunshine and shade. It is at these times the cultivator must be watchful and rather err on the side of too much rather than too little shade. During times of dry scorching winds ventilating demands great attention, and constant watch must be exercised, because when the sun shines brightly the temperature in the houses rises rapidly, even with the blinds down; on the contrary, when the weather is dull the temperature falls even more rapidly. The paths and benches should be frequently damped, for the wind dries up the moisture quickly. In dry conditions yellow thrips

will breed fast, and, if left unchecked, they not only make the foliage unsightly, but the injury they cause to the young growth has a very injurious effect upon the strength of the plant, as growth so damaged in its young state does not retain its vitality for the proper length of time. With Orchids, as with all other plants, any premature loss of leaf has a weakening effect proportionate to the extent of the injury.

Bifrenaria Harrisoniae.—This very old and beautiful Orchid is a free-blooming and easily grown plant. The flowers last long in full beauty and give a most delicious perfume. Equal parts of peat and loam fibre, a little chopped Sphagnum-moss, with crushed crocks and charcoal make a suitable compost for the plant, and this should be used in a rough and open condition, as the roots are large and easily injured if the material is too close. Good drainage is required, as a considerable amount of water is needed during the growing season. This species is best grown in a shady position at the cooler end of the Cattleya house, and succeeds best in pans suspended near the roof glass. Atmospheric moisture must be ample, or the foliage soon becomes over-run with insects; and the syringe may be used freely about the plants in summer. If any plants are in need of fresh rooting material they should receive attention soon after the flowers are over, and before they commence growing again.

Temperature.—The temperature in the various compartments may now be allowed to rise a little above the figures given in January. On bright days a rise in the warmer divisions of 10° to 15° will prove beneficial to the plants, provided the fires are kept in check as much as the weather will allow. If any attempt be made to keep up a high temperature on dull days by means of fire heat, weakness in growths and foliage will result.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Figs in Borders.—Fig trees which were started in the early part of January will now be making vigorous growth. Thin out the weakest shoots, and at the same time reduce the number of fruits on over-burdened trees. Stop the remaining shoots at the fifth or sixth leaf in order to assist them to develop a good second crop. Admit a little air in the early morning on sunny days, increasing the amount of ventilation as the sun gains power. Close the house early to conserve the sun heat, syringe the trees and damp their surroundings. Trees which are heavily cropped and have their borders well filled with roots will require, apart from manurial mulchings, liberal supplies of liquid manure, and occasional top-dressings of artificial compounds.

Tomatos.—Tomato plants from the earlier sowings will require constant attention. Secure the stems to the stakes or trellis, as the case may be, remove all lateral growth and pollinate the flowers by means of a soft, feather brush. When the plants have produced seven or eight trusses of flowers, pinch out the point of the leading growth in order to divert the whole energy of the plant into fruit production. Plants which have set one or more trusses of fruit will be benefited by frequent applications of weak liquid manure or soot water, with an occasional application of a suitable artificial manure. Air should be admitted freely whenever the weather is favourable, and a somewhat dry atmosphere should be maintained, more particularly during the flowering period.

Peaches and Nectarines.—It will be inadvisable to attempt undue forcing by means of fire heat until the fruits of Peaches and Nectarines have completed their stoning process, then growth may be hastened with comparative safety. The trees should have a thorough syringing at least once a day when the weather is favourable. When the stoning period is past the fruits should be fully exposed to sunshine, but it is not a good plan to tuck the leaves behind trellis-work fixed close to a wall, as red spider finds good harbourage on leaves so placed. During the stoning period, trees carrying heavy crops are subjected to a severe strain and should receive liberal treatment; the borders must not be allowed to approach a condition of drought, and stimulants should be given at each watering. An occasional light dressing of soot forms an excellent stimulant to the roots and at the same time gives off a certain amount of ammonia, which tends to ward off the attacks of pests. A mulching of half-decayed manure over the root area will preserve the moisture in the soil and attract the roots to the surface. Admit air early in the morning and gradually increase the amount of ventilation as required. Maintain a day temperature of 70° to 75° with sun heat, allowing a night temperature of about 60°, slightly more or less, according to the weather.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Edging Plants.—Cerastium tomentosum and other hardy plants may be planted at once for edgings round the flower beds. These will serve to reduce the number of tender subjects needed to fill the beds, and will give a good effect during the summer months.

Herbaceous Lobelia.—The herbaceous Lobelias are fine border plants and, when planted in masses, they make a brilliant display during the summer and autumn months. L. cardinalis and its variety Victoria that have been wintered in frames may be divided, planted a few inches apart in shallow boxes filled with rich soil and grown for some time in a warm greenhouse. The stock may also be increased from seeds sown at once in gentle heat.

Hollyhock.—Young Hollyhock plants raised from seeds sown this spring should be kept growing sturdily. Transfer them to larger pots as soon as they require more root room. Plants raised from cuttings, or from seeds sown last autumn, may now be planted where they are required to bloom. The soil should be deeply dug and well enriched with decayed manure.

Vases.—In most gardens numbers of vases have to be filled with subjects that will produce a good effect during the summer time. Tastes differ, and some people prefer a blaze of one colour in each vase; others prefer mixed colours such as Fuchsias, Heliotropes, Pelargoniums, Petunias, Marguerites and Lobelias provide, but whatever style is adopted the plants should be hastened under glass and in the meantime the vases should be well cleaned out and filled with a sweet, rich compost.

Flower Beds and Borders.—Beds and plots that have not been occupied by plants for some time past should be manured and dug deeply in readiness for their summer occupants. The work should be taken in hand as soon as possible in order that the soil may have settled to its former level by planting time.

Lawn and Paths.—Roll lawns in favourable weather, and cut the edges with a keen-edged turf knife. Have paths and drives thoroughly cleared of weeds and well rolled.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Fig Trees.—Fig trees may now be planted from pots; they will succeed in any light garden soil provided it is well drained. The best position in the garden should be allotted to Fig trees: many of the failures are caused by choosing unsuitable sites. Fig trees planted in the open should have their root space restricted or they will grow excessively and fruit poorly. The roots may be confined in chambers of brickwork or concrete, 4 feet wide and 2 feet deep, with the natural soil at the bottom. These chambers should be filled with good loam to which plenty of mortar rubble and roadside scrapings are added; the whole being made firm. Cultivated in such restricted rooting spaces, the trees make short-jointed growth and produce fruit freely. If this method were practised generally there would be fewer barren Fig trees. After turning the plants out of the pots the roots should be disentangled, and all suckers removed, as well as all buds which are below the ground level. Spread the roots evenly, work the soil amongst them, and make it firm, taking care not to plant too deeply. The uppermost roots should not be more than 2 inches deep. If the weather is dry, give a thorough watering. Against a garden wall the trees should be planted 12 feet apart.

Training.—Fig trees should be trained at the base to a single stem. A fan-trained tree is the best for walls. A good central growth should be trained upright and the best-placed shoots on each side retained, leaving a space of 1 foot between each branch.

Established Figs.—Where protecting material was placed around old Fig trees it should be removed and the trees pruned, but the knife should be used only to thin out the wood where it is overcrowded, and to remove any exhausted growth. Where there is plenty of room for extension the leading shoots should not be cut. The Fig tree produces its first crop of fruits on the previous year's wood: it is therefore necessary to save as much of this as possible.

Mulching.—A good dressing of farmyard manure should be placed over the root area, as the dung supplies food and checks evaporation. Where red spider or mealy bug are present the Fig trees should be syringed with a mixture of soft soap and paraffin, at the rate of 2 ounces of soap and half a wineglass of paraffin to a gallon of water, but if trees are syringed with clear water night and morning from the end of April onwards they are seldom troubled with insect pests.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Asparagus.—The main crop beds will need attention, after the recent heavy rains and snow. To promote warmth the beds should be raked down and the surface carefully pricked over with a fork to allow sun-heat to penetrate the soil. Follow this with a dressing of soot or wood-ash. A quick-acting artificial manure will also be very beneficial. Sow Asparagus seeds on a warm border, in shallow drills drawn 1 foot apart, to raise plants for making new beds twelve months hence.

Maincrop Potato.—From the middle of April onwards, whenever weather permits, maincrop Potatos should be planted. If the plots have been treated as already advised, and the surface harrowed, there need be little delay. The sets should be well sprouted by this time, and carrying two or three sturdy shoots. Draw drills five inches in depth, and place the tubers in them from 15 to 20 inches apart, according to variety. Cover the tubers carefully with the finer soil, and do not damage the young shoots. The distance between the lines will vary from 2 ft. to 3 ft., as extremes, while 2 ft. 6 ins. will be a good average. For the purpose of producing exhibition specimens, take out a trench six inches in depth, and fill it with a mixture of three parts loam, two parts clay soil and one part finely-sifted burnt garden refuse; place the sets as previously advised, and finish planting by drawing the surrounding soil over the prepared compost.

Seakale.—The thong-cuttings of Seakale, if properly hardened off, may be planted in their permanent quarters. Choose well-prepared ground and plant the roots one foot apart in rows 18 inches wide. Dibble the cuttings in firmly, and scatter fine cinder ashes round the crowns to prevent trouble from slugs. If lime is lacking in the soil, apply a light dressing of this material.

Parsley.—The early batch of Parsley raised in boxes will now be ready for planting on strong ground that has been well manured. Apply a dressing of soot, rake the surface soil fine, and plant the Parsley in rows, one foot apart. Remove the plants carefully, each with a ball of earth on the roots, and, if necessary, give water after planting. Afterwards use the hoe freely to promote quick growth, and give the crop an occasional dusting of soot overhead.

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APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, APRIL 14—
United Hort. Ben. and Prov. Soc. Com. meet. Bath Gard. Soc. meet.

THURSDAY, APRIL 17—
Manchester and North of England Orchid Society meet.

FRIDAY, APRIL 18—
Good Friday.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 47.2°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, April 9, 10 a.m.: Bar. 29.75; temp., 50°. Weather—Fine.

Cultivation and Fertility. It is a very generally held opinion that high cultivation results in decreased fertility, and the well-known fact of the seedlessness of certain cultivated fruits, such as Bananas and Grapes, is pointed to in support of this opinion. Such cultivators as Darwin and Lindley have lent their support to this view, the former author stating that "when the seeds in our fruits become atrophied, the fruit itself grows largely in size and quality."

Nevertheless, in spite of the prevalence of this opinion, there is no very great weight of evidence in its support. It is easy to see that the examples of seedless fruits are not necessarily examples of loss of fertility in consequence of increased size. If from any other cause a variety valuable in itself become seedless, it would no doubt be perpetuated by artificial means and come in time to be regarded as an example of a fruit which owed its size to its seedlessness.

With the object of ascertaining by observation what truth is in the commonly accepted view that lessened fertility is associated with hypertrophy of fruits, Mr. C. S. Crandall* has made comparisons between the number of seeds in different cultivated varieties of Apple and in various wild species of Crab.

To this end he removed and counted the seeds in some 28,000 Apples and in upwards of 6,000 fruits of 25 species and varieties of the genus Malus.

The Apples were divided into two groups large-sized and small-sized fruits. The enumeration of the seeds leads to the conclusion that cultivated Apples develop seeds in greater numbers than do wild Crabs, and, further, that the number of seeds in large-sized Apples is greater than it is in fruits of smaller size.

Thus the average number of seeds in the fruit of 12,912 Apples of large size (32 varieties) was found to be 8.27, the average in 8,500 Apples of small size, 7.21, and the average in 6,642 fruits of Crab Apples was 4.22. Needless to say, there is among cultivated Apples a large variation in the number of seeds, ranging from 4.09 seeds in a fruit of the variety Collins to 15.04 in Shockley.

Among Apples which may be seedless, the author enumerates McMahon, Twenty Ounce, Collins, Wealthy, Jonathan, and several others. Seedless fruits were found to occur more frequently in small than in large fruits. Hence, so far at all events as the Apple is concerned, the commonly held view that decreased fertility is associated with increased size of fruit is erroneous; and seedlessness would appear to be a contretemps which arose independently of increase of size, and once having arisen it was perpetuated by artificial means.

* *Seed Production in Apples.* By C. S. Crandall. Bull. 203, Univ. of Illinois Agric. Exp. Station, 1917.

Sir William Crookes, O.M. It matters not how much scientific knowledge may be piled on scientific knowledge, nor how the accumulated mass of scientific facts may weigh upon and oppress the minds of ordinary scientific workers—vexing them with the worry of finding out where to fit themselves into the ranks of the army of discoverers, and so aid in the ordered advance of the line in which they are units—there will always be, at all events among British men of science, pioneers. Pioneering is in the blood of the race; it is part of its intellectual equipment. Ineradicable amateurishness, shocking to the trained conventionalised mind; naïveté, which to the merely clever seems only puerility, but which is the chrysalis out of which genius may take its flight; above all an instinctive ensuing of liberty; these are the characteristics of the pioneers, and it is because of them that they break new paths. "Titans not Olympians, hewers of rocks not shapers." Would that some poet could seize the quality of mind of these pioneers and depict it for our instruction; show that with this love of liberty goes love of labour too—that their amateurishness is a quality and not a defect of mind, that from it springs the courage to attack old problems in new ways—to lead forlorn hopes against fortresses, impregnable if assaulted in accordance with the conventional methods of scientific warfare.

Of that glorious band of pioneers of an older generation, Sir William Crookes was the last; though surely others will succeed him—unchartered libertines of science, and like him straying from the beaten paths and macadamised roads of knowledge, will blaze new trails into the unknown.

Of Sir William Crookes' contributions to chemical and physical knowledge it is not necessary to speak here. His imagination led him to conceive of new elements, his skill enabled him to find them. By biologists he will always be remembered by his startling incursion into their domain and his fluttering of their dovecotes by the prophecy that unless use were made of atmospheric nitrogen as a food for plants the Wheat supply would prove inadequate for the feeding of the western world. So quick is the advance of technical science that though the warning was uttered little more than twenty years ago—at the meeting of the British Association at Bristol in 1898—the danger it announced is warded off; and, thanks to the chemists' discoveries of means of combining atmospheric nitrogen, there is in the world to-day, and likely to be for a long time to come, rather a glut than a shortage of nitrogenous food for plants.

Sir William Crookes died on April 4, at the age of 86. Born in London, on June 17, 1832, he spent nearly the whole of his long life there; but his mind was voyaging always throughout the remote regions of the universe in the quest of the unknown and the curiosity of his genius would not be sufficed with the discovery of the nature of this material world. It urged him to seek knowledge also of that which lies beyond.

Liverpool Flower Show.—The Liverpool Horticultural Association will hold a small Show of vegetables and flowers in the Corn Market, Liverpool, on August 13, 14, 1919.

Royal Horticultural Society War Relief Fund.—The matinée at the Palladium on Friday, the 4th inst., in aid of the Serbian section of the Horticultural Relief Fund was a great success, and as a result £1,000 will be allocated to Serbia. The Palladium was filled with a distinguished and appreciative audience, which included Lord Grenfell, Lady Northcote, Lady Bective, Lady Clementine Walsh, and Miss Balfour. Gifts auctioned by Mr. Charles F. Higham, M.P., realised over 100 guineas.

Bee-keeping.—Mr. W. Herrod-Hempsall, of the British Bee-keepers' Association, one of the Board of Agriculture experts in bee-culture, is at present in Holland arranging for the transport of stocks to be supplied on easy terms to the county horticultural organisations and there used as the basis of large restocking enterprises. Every attention is being given to the necessary details with a view to ensuring the success of this effort to rehabilitate an interesting and profitable rural industry.

Dr. John MacWatt.—Dr. John MacWatt, of Morelands, Duns, Berwickshire, has been appointed a Justice of the Peace for that county. To gardeners Dr. MacWatt is best known as an authority on Primulas, of which he cultivates a large and representative collection in his interesting garden at Duns.

Retirement of Mr. James Hudson, V.M.H.—After a period of forty-three years' service as gardener at Gunnersbury House, Acton, Mr James Hudson is retiring in May next. During this long period he was for thirteen years gardener to Mr. Henry John Atkinson, and for thirty years with the late Mr. Leopold de Rothschild and his family. Mr. A. Bedford, for many years general foreman under Mr. Hudson, will succeed him in the charge of the gardens at Gunnersbury House.

British Gardeners' Association.—A reunion of members of the British Gardeners' Association resident in or near London is to be held at Anderton's Hotel, Fleet Street, on Wednesday evening next. Demobilised soldiers and sailors and the friends of members are invited to attend.

Land for Ex-Soldiers.—In the week ending April 5 the Board of Agriculture approved of purchases of land by County Councils under the Small-holdings and Allotments Act, 1908, amounting in all to about 1,400 acres, the counties concerned being Bedford, Norfolk, Lincoln, Somerset, Suffolk, Monmouth, Anglesey and the county borough of Walsall. Since the commencement of the year the Board has approved the purchase of about ten thousand acres in England and Wales, and proposals are now before the Board for the acquisition of about 60,000 acres, the greater part of this land being intended to provide small-holdings for ex-Service men. Although the arrangements for acquiring land for small-holdings are being carried out for the most part on a voluntary basis and in the friendliest spirit, difficulties have arisen in a few places

Here the county councils propose to utilise the compulsory powers of the Board. It will be of interest to the general public to learn that in response to Lord Ernle's recent appeal to landowners for land suitable for small-holdings, 120 offers, representing 18,500 acres, have been received.

Flowers in Season.—Mr. E. Knight has sent us from Mamhead Park Gardens, Kenton, near Exeter, a new Violet named Mamhead Queen. The petals are white, slightly tinged with mauve at the tips. The novelty has the delightful fragrance which makes the Violet such a favourite flower.

American Gooseberry Mildew.—In view of the prevalence of American Gooseberry Mildew last season in the Tamar Valley and other districts in the south-west of England, the Board of Agriculture wishes to impress on growers the importance of spraying their Gooseberry plantations with lime sulphur this season in time to prevent a recurrence of this disease on the berries. In plantations which suffered badly last year an attack this summer is certain, even where tipping has been carefully carried out, as some of the winter spores of the mildew are almost sure to have been overlooked. A thorough application of lime sulphur effectually prevents the spread of the mildew for two or three weeks, or longer, according to weather conditions. If the season is a normal one, the first spraying in an early district like the Tamar Valley should be completed before the 19th April, and should be followed by a second spraying about three weeks later, if any mildew appears on the young, growing tips. This second spraying should not be applied until after the early berries are picked (as otherwise they will be marked with lime sulphur), unless a very bad attack is foreshadowed by the rapid spread of the disease on the young tips and to the smallest berries. It should be thoroughly understood that lime sulphur is a preventive of the disease and not a cure. On this account it is essential that the first application should be made before the white stage of the disease has appeared. Lime sulphur spray fluid is prepared by mixing one gallon of concentrated lime sulphur (sp. gr. 1.3) with 30 gallons of water. On certain varieties, i.e., Keepsake, Lancashire Lad, Crown Bob, and Freedom, the spray fluid at this strength is liable to cause leaf scorching, and in consequence the fluid should then be applied at half strength, namely, one gallon of concentrated lime sulphur (sp. gr. 1.3) to 60 gallons of water. Attacks of Gooseberry Saw-fly are also to be expected, and should be dealt with at the first signs of attack and not two or three weeks later, when partial defoliation has taken place. This pest may be kept in check by adding 6 lbs. of Hellebore Powder to every 30 gallons of the dilute lime sulphur solution.

Special Fruit Exhibitions at the R.H.S. Meeting.—The Council of the Royal Horticultural Society has adopted the recommendation of the Fruit and Vegetable Committee to hold special exhibitions of fruits at certain fortnightly meetings in 1920, to which reference was made in *Gard. Chron.*, March 15 last, page 130. An exhibition of late home-grown Apples will be held at a meeting in March, 1920, at which American and Canadian Apples will be staged for comparison as to quality and weight, and an exhibition of early Apples, bush fruits, and stone fruits will be held at one of the meetings in August, 1920. The Fruit Committee has been asked to co-operate in the compilation of the schedules for these special competitive exhibitions.

Sale of Orchids.—The collection of Orchids formed by the late F. M. Ogilvie, The Shrubbery, Oxford, was sold by auction on April 1, 2 and 3 by Messrs. Protheroe and Morris. Although a comparatively small collection the sale realised £5,597. The best plants, although obtaining fairly good prices, were relatively cheaper than some of the good forms of more ordinary things. Two plants of Brasso-Cattleya Cliftonii Fowler's variety, realised 50 guineas and 40 guineas respectively; B.-C. Cliftonii magnifica, 27, 24, 20, 17, 14, and 10 guineas respectively. Odontioda Armstrongiae var. Peerless sold for 45 guineas; Oda. Memoria F. M. Ogilvie, 45 guineas; Oda. Florence, 18 guineas; Oda. Bradshawiae Perfection, 14 and 13 guineas; Oda. Brewii cupreum, 14 guineas; and Oda. Zenobia, 35 guineas. Odontoglossums maintained their reputation for realising high prices; Odm. Mirabeau var. Mastiff, found a purchaser at 100 guineas; Odm. Harwoodii, Shrubbery var., realised 50 guineas; O. crispum The Britisher, 32 guineas; O. crispum Magnum Bonum, 22 guineas; O. crispum Ronald, 21 guineas; O. illustrissimum splendens Shrubbery var., 44 guineas. Cattleyas, Laelio-Cattleyas, and other Orchids found ready purchasers.

War Items.—The many friends of Mr. James O'Brien will be interested to learn that his son, James has been gazetted Brigade-Major, to date from October 1st, 1918, since when he has been doing duties on the Staff in the Salonika area. Mr. O'Brien's other son, Captain John O'Brien, is still serving with the King's African Rifles in East Africa: he took part in the arduous campaign in German and Portuguese East Africa. Major James O'Brien is only twenty-five, and his brother, John, twenty-four years of age.

This plant has stems one to two feet high, well clothed with shining green leaves and axileary, greenish-coloured flowers in April. Another more attractive species is F. bucharica, which grows about one foot tall and bears racemes of pure white flowers. Unlike F. Sewerzowii, the plant illustrated appears to be short-lived in many places, the bulbs tending to disappear after a time. But a stock may be maintained by raising seedlings periodically.

Plants for Dry, Shady Places.—"Gardener," writing in *Irish Gardening*, March, 1919, recommends the following plants for planting in dry, shady places:—Aucuba, Mahonia (Berberis Aquifolium), which should be well watered when planted; Ruscus aculeatus, which, with Periwinkle and Ivy, will thrive even under old Yews; Euphorbia amygdaloides; and if light is not too deficient, Hypericum calycinum, which, though flourishing in sun, is not intolerant of shade, and will grow in the poorest soil. Euonymus japonicus, with attention, will establish itself in dry, shady places, and so will Euonymus radicans. Aquilegias will sometimes become naturalised under trees, but seedlings generally revert to the purple, short-spurred type.

FIG. 77.—FRITILLARIA GIBBOSA: FLOWERS, ROSE PINK TO WHITE.

Fritillaria gibbosa.—The charming little plant illustrated in fig. 77 under the name Fritillaria gibbosa is sometimes known in gardens as Rhinopetalum Karelinii. It has been in cultivation in this country at various times since the year 1836, when it was received at Chelsea from Petrograd. The specimen illustrated is small compared to some of the wildlings, which often grow to a height of 6 inches to 9 inches, and bear up to twelve flowers in a loose raceme. The blossoms vary in colour from rose pink to almost white, with deeper-coloured spots on the segments, and with a green and purple-coloured base. The bulbs are always found very deeply buried, and in most wild specimens the greater length of stem is shown to have been under the soil. The stem is furnished with two broadly lanceolate leaves near the base and others that become narrower near the inflorescence. F. gibbosa is found in Persia, Turkestan, and on the borders of Afghanistan, and belongs to a small, distinct section of the genus which includes amongst others the well-known F. Sewerzowii, also known as Korolkowia Sewerzowii.

On a dry shady bank, beneath trees, Claytonia perfoliata seeds and comes up well annually. Campanula Trachelium, if given a fair start, may succeed.

Publications Received.—***The Cultivation of Basket Willows.*** Board of Agriculture and Fisheries. Leaflet No. 36. ***Faggot Draining—Bush Draining—Wood Ditching.*** Board of Agriculture and Fisheries. Leaflet No. 62. ***Fourth Annual Report of the Nursery and Market Garden Industries Development Society's Experimental and Research Station.*** Cheshunt: C. Bunce, Printer, 73, Turner's Hill. ***Histological Studies on Potato Leafroll.*** By Ernst E. Artschwager. Reprinted from Journal of Agricultural Research, Vol. XV., No. 10. Washington: Government Printing Office. ***Parasitism, Morphology, and Cytology of Cronartium ribicola.*** By Reginald H. Colley. Reprinted from Journal of Agricultural Research, Vol. XV., No. 12. Washington: Government Printing Office.

AGRICULTURAL EDUCATION OF THE SOLDIER.

MUCH has been written of the arrangements for giving educational facilities to the soldier during the process of demobilisation, in order to fit him for a future career.

Perhaps in no case of education in France has greater care been taken, than in the case of agriculture, to provide schools and educational centres where the soldier might receive a training which would enable him to appreciate the necessity of greater production from the land in the future.

While demobilisation has been in progress, agricultural educational centres have been set up under the combined efforts of the Training Branch of the General Staff and the Directorate of Agricultural Production throughout France and Belgium and even in Germany.

The Director of Agricultural Production, the Earl of Radnor, has insisted on practical instruction being given, and the schools have, for the most part, been so constituted as to give this training.

A typical agricultural school is hereafter described, and the particulars may be found interesting, especially as the students attending the classes are all given a certificate as to their capabilities and as to the instruction they have received. The First Army school at Etrun, near Arras, was one of the first schools to be inaugurated (see fig. 78), as it was recognised from the time the great advance commenced, that it was probable, even if victory did not come as early as eventually it did, that a time was fast approaching when the education of the soldier would have to be undertaken.

With a view, therefore, of finding a suitable centre, early in August, 1918, Colonel J. H. Forrester Addie, Deputy Director of Agriculture in France, and Captain J. D. Davidson, Agricultural Officer, First Army, made a tour of inspection, with a view of selecting a site for the foundation of an agricultural school. It was desired to obtain a site which, while giving facilities for the accommodation of the intending pupils, should not interfere with the natural requirements of the returning French inhabitants. Such a site was found at Etrun, which village is just outside the border of the devastated area around the town of Arras. In this village a farm of some 300 acres in extent was selected, the owner of which was a widow who had lost all male relatives in the war, and who had not labour to carry on the work of the farm. Although the village has suffered somewhat from shell fire, sufficient houses and buildings were intact to ensure accommodation for men and animals.

The owner of the farm welcomed the establishment of the school, and readily placed at the disposal of the Directorate the buildings, land, implements and animals—in return for the labour and feeding of the cattle afforded to her.

Close by, camps which had held troops were available for the accommodation of the pupils, and a staff of instructors was selected to carry out the work of instruction. Education was given both by practical demonstration and by means of lectures in the following subjects, and the instructors in these subjects were as follows:—Agriculture, Capt. J. D. Davidson and Lieut. P. McKenzie; Soils and Manures, Botany and Horticulture, Lieut. Weir, M.C.; Dairying, Lieut. Robson; Horse Management and Veterinary Hygiene, Lieut. Kent; Management of Piggeries, Capt. Emmett; Surveying, Lieut. Miller; Plant Diseases, Capt. B. T. Dickson; Agricultural Organisation, Lieut. P. McKenzie.

Classes under selected N.C.O.'s were also held in the following subjects:—Farriery, Saddlery, Woodwork, and Ironwork.

Lieut. Robson took over the small dairy herd belonging to the owner of the farm, consisting of ten Normandy milch cows. Under his instruction a small building was converted, with the help of prisoners of war, into a practical and hygienic dairy. The wooden vessels, hands and bowls, were made by prisoners of war, and the products of the dairy were sold to the officers messes of the surrounding units.

The piggeries were also taken over, repaired and modernised; the pigs of the farm were purchased, and these sufficed as material for a practical demonstration in the management of a piggery.

FIG. 78.—ARMY SCHOOL OF AGRICULTURE AT ETRUN, NEAR ARRAS, FRANCE.

The lecture hall was fitted up and lighted with electricity, providing a comfortable recreation room for the long winter evenings, and lantern lectures were given there weekly on agricultural subjects.

Each month since November, twelve officers and forty men have been passed through this school, and it is noticeable that there has been a great demand and competition to obtain an allotment of vacancies for the courses which were held.

The school, under the progress of demobilisation is drawing its activities to a close, but good work has been done there, and few of the students who have attended the courses will look back with regret on the days which they passed at Etrun. The photograph reproduced in fig. 78 shows the instructors and some of the students attending the second course.

Magnesium Carbonate Injurious to Plants.—Owing to its insolubility in water, magnesium carbonate is commonly supposed to be harmless to plants. Mr. H. Coupin, however, finds that except in some special cases, for example the Stone Pine, the presence of magnesium carbonate is harmful to the germination of seeds, the growth of the root and rootlets is checked and the stems are also in most cases dwarfed. The action is probably due to magnesium carbonate passing into solution in water containing an excess of carbonic acid.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Gardeners' "Victory" Memorial (see pp. 129, 169).—I thank Mr. Beckett for regarding my question as worthy of notice and support; and it only remains for the committees of the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund to formulate a scheme and method of appeal. I see more in the Tablet scheme as it develops, especially as a local tribute to the fallen gardener, and I shall endeavour to adopt it here. *A. Cranstone.*

Revision of Pritzel.—Pritzel's index to figures of plants is purely botanical in intention and interest. It is, therefore, not of much practical value to horticulturists; certainly not sufficient to warrant the spending of a large sum of money on its revision by the Royal Horticultural Society, or any other horticultural body. The names used for the figures in Pritzel are not reliable, many of them being inaccurate, and they will continue to be so in the new edition. To set them right would entail more labour than either Kew or the Natural History Museum could afford to give. Pictures of garden plants with botanical names might be indicated in Pritzel, but even that would not be of much practical value. What constitutes a garden plant? There are hosts of plants in cultivation which are not of the slightest horticultural interest. Are plants grown in tropical countries to be admitted? When we get down to varieties, kinds, and sorts of garden plants, are all the pictures of Roses, Carnations, Daffodils, Tulips, Pelargoniums, Auriculas, and Dahlias, of Apples, Pears, Grapes, Plums, and Strawberries; of Cabbages, Peas, Turnips, Onions, and Potatos; and of the hundreds of other garden things to be included? Is not the whole thing rather ridiculous? If the leading horticultural papers would each issue a complete index of subjects and pictures of plants published in their pages, from the commencement, to save the trouble of wading through the indexes for each volume, that would be something, but the proprietors would probably find the game hardly worth the expense. Why waste labour and money over matters of little account? If botanists desire to have Pritzel brought up to date, let them pay for it. *Practical.*

Potato Spraying.—I was interested in the remarks on Spraying made by *Market Grower* in your issue of March 8. There is no doubt that the Knapsack Sprayer is a very cumbersome machine, and, in the hands of the unskilled, often ineffective. In my Potato Spraying trials in Dorset, I used a Drake and Fletcher 12-gallon manual with great success, as in the report on my trials, published in *The Board of Agriculture Journal* for January 19. In one trial I worked the machine with four schoolboys under 14 years of age even up a considerable gradient. I also tried four land girls for three days (their first experience in spraying), and they were able to work the machine without fatigue and enjoyed the work. In the hands of expert sprayers, four men or women should be able to cover four acres of Potatos on a working day—two spraying, one pumping, and one mixing and supplying the machine. The machine was tested with a gauge, and gave a working pressure of 50 lbs. with both branches working. From my experience, I am convinced that nearly every failure of Potato spraying to prevent late blight could be attributed to the bad work done by the knapsack in the hands of inexperienced workers, who simply "dribbled" the solution on the upper surface of the leaves. If the various County Councils had invested in a manual machine, instead of in two or three knapsacks, the work would have been done much more cheaply and have been more effective. The machine is suitable for fruit and other spraying, with the addition of lances for taller trees. As these machines are somewhat costly, County Councils and other bodies should be able to lease them at a small charge per day. There are many people who would be glad to use such a machine if it were available at a reasonable cost. Others, seeing the benefit of such work, would be encouraged to follow suit, to the great benefit of the nation Until a proper system of spraying is instituted there is little

hope of remunerative fruit growing in this country. The same may be said of late blight in Potatos. The Potatos nearest the control plot (i.e., those unsprayed) in my trials were much more diseased than those further away, showing that the spores of the disease from the control had contaminated them. I consider the demobilisation by the Board of Agriculture of the Potato spraying organisers is to be regretted; they were doing good work. Spraying as a preventive of disease, both in fruit and vegetables, is not appreciated enough. Most of the fungous diseases that at present worry us could be prevented by the timely use of fungicides. Another drawback to spraying in the case of late blight in Potatos is the cumbersome preparation of Burgundy mixture in barrels and the time it takes to prepare. There are many proprietary mixtures on the market, some practically useless, but a few very good, and better in their effect than the home-made mixture. One of these has been introduced by the Mond Nickel Company, known as "Blighty" Burgundy Mixture. It immediately dissolves in water, and remains in suspension for a long time, does not clog the nozzles, and is most effective in warding off blight, as it remains on the foliage longer than most sprays. The makers advertise it as 2 per cent. solution, and at that strength (if properly applied and on the underside of the leaf) gives complete immunity to the Potato from late blight. From reports I have received, Onions sprayed with 1 per cent. "Blighty" Burgundy Mixture were immune from mildew, and it should be effective for Strawberry mildew and leaf spot. Possibly a ½ per cent. mixture of "Blighty" on Cox's Orange Apples would not affect them adversely, and probably would be effective against scab. *J. E. Mackenzie, 38, Strathearne Road, Wimbledon, S.W.19.*

Spraying for Big Bud Mite (see pp. 141, 156). In reply to your correspondent Mr. Geo. M. Taylor, I may point out that most of his points have been raised because he has evidently not seen the original report. I am sending him a copy, which I hope will clear up the points at issue. For the sake of other readers, however, I should like to explain that the attempt was being made to kill the big buds and therefore the enclosed mites during the dormant season. A ten per cent. solution of soft soap has considerable penetrative powers into big buds, and it was hoped, by adding carbolic acid, to kill them. It succeeded in the more open big buds at the base of the shoots, but not in the more tightly closed buds at the apex of the shoot. Enough material was thus left unkilled even after three separate sprayings to provide infection in the following year. The method, therefore, failed as a practical proposition. Mr. Taylor's remarks on spraying are interesting, showing that he has succeeded in completely controlling the pest. He has, however, apparently to do at least ten—possibly eleven—sprayings. That would, I feel sure, cost more than the fruit is worth, and therefore will not be likely to appeal to the commercial grower. What is wanted is a method applicable to commercial growing, and that I consider has not yet been discovered. *A. H. Lees, Agricultural and Horticultural Research Station, Long Ashton, Bristol.*

Tomato Seedlings Damping Off.—With reference to Mr. Wm. Taylor's letter on the above subject, in your issue of March 29, p. 157, I should like to call attention to some facts which are given in my original paper on this disease,* but which do not appear in the short note on p. 142 of *The Gardeners' Chronicle*. Batches of "damped-off" Tomatos from several different sources have been found to be infected with a form of Phytophthora, and though this does not prove that the fungus is the cause of the damping-off, it certainly indicates the probability of it, for Phytophthora is almost unknown except as a parasite. It was evident that the fungus was not Phytophthora infestans or any other well-known species of Phytophthora, and for some time the species was not identified. But I have also direct experimental proof that the Phytophthora causes damping-off. A large proportion of seedling Tomatos growing in soil in which plants in a previous year had been diseased, damped-off, and were found to contain Phytophthora. Clean soil inoculated with infected soil or with pieces of infected plants produced the same effect, while inoculation of healthy seedlings with small portions of stem containing Phytophthora also caused the typical symptoms of damping-off. Seedlings grown at the same time in exactly similar conditions and receiving identical treatment, except that no infected material was allowed to come into contact with them, never developed the disease. These facts appear to prove conclusively that damping-off of Tomato seedlings is often due directly to the attacks of this form of Phytophthora. This does not exclude the possibility of other cases of damping-off being caused, as suggested by Mr. Taylor, by unsuitable temperature and humidity when seedlings are transplanted. As regards other points raised by Mr. Taylor, I may say that I have seen damping-off in the seed-pan when the seeds have been sown in infected soil. The same Phytophthora also attacks much older Tomato plants, causing what I described in my paper as "Collar-rot," though in this case I do not know at what stage of its growth the plant is infected. I am, however, more familiar with the damping-off form of the disease. Dr. G. H. Pethybridge and Mr. H. A. Lafferty have recently published,† as the result of quite independent work, an account of a Tomato disease which they have named "foot-rot," and which is caused by a Phytophthora. This disease is evidently identical with my "collar-rot," and is caused by the same fungus. Dr. Pethybridge and Mr. Lafferty have proved by inoculation experiments with pure cultures of the Phytophthora that it is the cause of the disease. They have also succeeded in obtaining the sexual form of the fungus and, finding that it had never before been completely described, they have named it Phytophthora cryptogea. *G. T. Spinks.*

* *Annual Report*, Agricultural and Horticultural Research Station, Long Ashton, 1917.

Gardeners' Hours and Wages.—The letters appearing under this heading (pages 144 and 157) must have been read with interest by many gardeners, and I feel that we owe a debt of gratitude to the editors of this paper for opening their columns for the discussion of this important subject. Many employers of gardeners either cannot or will not read the signs of the times. I do not think that gardeners as a class are more avaricious than other people, yet in many instances no sooner does the gardener put forward a plea for a reconsideration of his financial position than the stale old arguments are trotted out which are nothing but thinly-veiled threats. I cordially agree with *H. Chivers* that if employers cannot pay gardeners a living wage it would be far better if so-called "luxury gardening" were dropped. Personally, I believe that one of the greatest difficulties we have to contend with is the lack of an authorised standard of hours to be worked in gardens and a standard minimum wage to be paid for such work. The best proof of "the friendly spirit of consideration," to which Mr. Elwes refers on page 157, would be for all employers who have not already raised the wages of their employees in the garden to the level of equal purchasing power with that of his wages in 1914, to do so at once, paying up all arrears and apologising for their previous tardiness. Cases have repeatedly come to my notice in which a man who has been fighting for his country has been offered a wage of 24s. per week. On the other hand, to be perfectly fair, I know of employers who on their own initiative have advanced their gardeners' wages from 5s. to 20s. per week. Many, however, are paying less than the minimum fixed for the agricultural labourer. Would it not be possible for the Royal Horticultural Society to form a committee of employers and practical gardeners to consider this question and to formulate some scheme of gardeners' wages, hours, duty, and overtime, which should be recognised by its Fellows, and would in time be taken as the standard to apply to gardeners generally? *Reconstruction.*

† *Scientific Proceedings of the Royal Dublin Society*, Vol. XV, No. 36. (Feb., 1918).

SOCIETIES.

ROYAL HORTICULTURAL.

APRIL 8.—Notwithstanding light showers of rain during the day, there was a remarkably good attendance at the meeting of the R.H.S. held at the London Scottish Drill Hall, Buckingham Gate, on Tuesday last. The exhibition was of moderate size, bright, and interesting, the principal subjects being Daffodils, Orchids, Carnations, Saxifrages, and Azaleas. The Floral Committee had a busy time, and granted four Awards of Merit (three to Freesias) and twelve medals to groups. The awards made by the Narcissus and Tulip Committee were four Medals, one First-Class Certificate, and two Awards of Merit. The Fruit and Vegetable Committee granted one Medal, and the Orchid Committee recommended three Awards of Merit to novelties and awarded four medals for collections.

Floral Committee.

Present: Messrs. Henry B. May (in the chair), W. J. Bean, S. Morris, J. W. Barr, John Green, C. R. Fielder, John Heal, Geo. Harrow, W. Howe, H. R. Darlington, Chas. E. Pearson, George Paul, J. W. Moorman, C. Dixon, John Dickson, W. P. Thomson, Jas. Hudson, E. H. Jenkins, G. Reuthe, W. B. Cranfield, W. H. Page, J. Jennings, and J. W. Blakey.

From many points of view the series of seventeen varieties of variously-coloured Freesias shown by Mr. R. DALRYMPLE, Bartley, Hampshire, was the most interesting display, as it demonstrated in remarkable fashion the colour progress already made in these flowers; there were mauve, rose, yellow, golden, brown, soft red, and lilac shades among the flowers, and in many cases the blooms are widely expanded and have lines of colour in the tube, as in the case of many Streptocarpuses. Mrs. EDWARDS showed seedling Saxifragas, and Miss C. WARNER, Hawkhurst, was awarded a Cultural Commendation for large spathes of Richardia africana (Arum Lilies).

AWARDS OF MERIT.

Freesia Bartley Mauve.—A lovely, sweetly-scented variety of neat shape. The flowers are widely expanded and the colour is light mauve, with darker stripes running down into the whitish tube.

Freesia Bartley Rose.—This charming Freesia has widely open flowers of a soft rose shade, with deeper lines of colour running down into the white tube, and a little yellow colouring about half way down the lower segment. This variety appears to have little or no fragrance, but it carries numerous flowers on each spike.

Freesia Bartley Goldfinch.—A bright yellow variety, with light orange shading on the lower segment. The flowers are of fair size and well open. Goldfinch is the finest yellow Freesia we have seen, and a notable advance in the yellow shades. The above-named Freesias were shown by Mr. R. DALRYMPLE, Bartley, Hampshire.

Primula Wanda.—A handsome hybrid obtained by crossing Primula Juliae with a crimson form of P. acaulis. The plant is of neat and robust habit, with rounder and shorter leaves than in P. acaulis. The flowers are so freely borne that they almost hide the foliage; the individual pips are slightly larger in diameter than half-a-crown, and their colour is deep, dark purple blue, with a golden eye, or velvety purple, with ruby flushing and an orange-yellow eye. Shown by Messrs. BAKERS.

GROUPS.

From the R.H.S. Gardens, Wisley, was brought a collection of Alpine plants in large pans. Some of the best subjects, splendidly flowered, were: Saxifraga oppositifolia splendens, S. apiculata, S. Lindsayii, S. Petrachii, S. scardica obtusa, S. Bissolettii, Anemone ranunculoides and Soldanella montana (Bronze Flora Medal). Messrs. R. TUCKER AND SONS showed Saxifragas in great variety, in small pots, all beautifully flowered—S. marginata, S. Burseriana Gloria, S. Paulinae, S. Sundermannii, S. Elizabethae, and S. Griesbachii were all in fine

form (Silver Flora Medal). Ramondia Nataliæ and Bridgesia spicata were notable plants, with Viburnum Carlesii in a group staged by Messrs. J. Piper and Sons (Bronze Flora Medal), Mr. E. Reuthe (Bronze Flora Medal), Messrs. J. Cheal and Sons (Bronze Flora Medal), Mr. G. W. Miller (Silver Banksian Medal), and Messrs. W. Cutbush and Son all showed hardy plants, and the latter added Carnations to their display.

The Roses shown by Mr. Elisha Hicks were delightful, and there was no lack of admirers for the sheaves of Mrs. Charles E. Shea, Joanna Bridge, the new white, scented Mrs. Elisha Hicks, Madame Edouard Herriot, and Climbing Lady Hillingdon (Silver-Gilt Banksian Medal). Under arching branches of the Yellow Banksian Roses, Mr. G. Prince showed specimem blooms of popular varieties of H. T. Roses (Silver Banksian Medal).

Acacia longiflora, A. pendula, A. armata, A. diffusa and A. Riceana were charming in the group staged by Messrs. Stuart Low; these with Chorizemas, Grevilleas and Epacris flanked a bright exhibit of Carnations (Silver Banksian Medal). Messrs. H. B. May and Sons showed Boronia megastigma, Genistas and Cinerarias (Silver Banksian Medal). Messrs. Allwood Brothers brought up a handsome set of Carnations and showed their Mary Allwood in excellent colour (Silver Flora Medal). Splendidly flowered specimens of Azaleas Petrick, Hexe, and Pink Pearl were shown by Mr. L. R. Russell, who also exhibited Erica mediterranea hybrida, and E. herbacea carnea, in pots. (Silver Banksian Medal.)

Fig. 79.— A PORTION OF MESSRS. SUTTON AND SONS' EXHIBIT OF EARLY VEGETABLES.

Orchid Committee Societies.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. secretary), W. H. White, W. J. Kaye, W. Bolton, C. J. Lucas, Walter Cobb, W. H. Hatcher, T. Armstrong, J. E. Shill, Arthur Dye, S. W. Flory, A. McBean, E. R. Ashton, Pantia Ralli, R. G. Thwaites, R. Brooman White, Stuart Low, R. A. Rolfe, Frederick J. Hanbury, and Gurney Wilson.

Awards of Merit.

Odontioda Margaret Gatton Park variety (Odm. ardentissimum × Oda. Bradshawiae), from Sir Jeremiah Colman, Bart. Gatton Park (gr.. Mr J. Collier). A remarkable and beautiful variety, differing in colour and form from any previously shown. The finely-formed flower is bright mahogany-red, with a clear violet shade: the lip has a bright yellow crest. It is one of the best of the dark-coloured varieties. The formation of a practically self-coloured hybrid out of the variously-coloured parents is very singular, and only to be accounted for by the influence of Cochlioda Noezliana in Oda. Bradshawiæ.

Odontioda Gladys superba (Odm. Pescatorei × Oda. Bradshawiæ), from Dr. Craven Moore, Victoria Park, Manchester. An exceedingly pretty hybrid, shown in fine condition, with two spikes bearing together fifty-four flowers. The margins of the segments are light mauve, and the inner two-thirds white, with attractive red spotting. The front of the lip is bluish-white.

Miltonia Venus Orchidhurst variety (vexillaria × Phalaenopsis). A great advance on former varieties, approaching closely to M. vexillaria in size and form. The sepals and petals are white, tinged with pale mauve; the lip is white, with strong dotted lines of ruby-red, extending from the yellow base.

Groups.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr., Mr. J. Collier), staged a selection of fine Lycastes, the best of which were Lycaste Skinneri Ernest Ashworth (a large form with bluish-white sepals and ruby markings on the lip), L. S rosea, and the showy hybrid L. Mary Gratrix, with reddish-claret flowers.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), was awarded a Silver Flora Medal for a group of Cattleyas, Laelio-Cattleyas, Odontiodas, and Odontoglossums, with a selection of Cymbidiums. Cymbidium Lady Colman, variety auriferum, of a clear gold shade with reddish lines, and C. Alexanderi roseum were especially good. Sophro-Laelio-Cattleya Pittiæ (S.-L.-C. Marathon × C. Maggie, Raphael alba), with Cattleya-like flowers, white with purple lip; and Cattleya Empress Frederick Rosslyn variety, with bright rose-coloured sepals and petals and dark purple lip veined with orange colour, were also noteworthy.

Messrs. Armstrong and Brown, Orchidhurst, Tunbridge Wells, were awarded a Silver Flora Medal for an excellent group of finely grown Odontiodas, Odontoglossums, Miltonias, and Cattleyas, with Cymbidiums at the back. Among other fine novelties was Odontoglossum Violet Queen (illustrissimum × Doris), a large flower of bright violet-mauve colour, with a white margin; the lip has a bright yellow crest, with a red blotch in front. Odontioda Gloss, Orchidhurst variety (Odm. triumphans × Oda. Charlesworthii), another novelty, is a large flower with the firm texture of O. triumphans, the lip being abnormally developed and forming the chief feature. The colour is scarlet with an orange shade, the lip being of a lighter tone. Odontioda Orion (Oda. Coronation × Odm. percultum) is Odontoglossum-like in form, and in colour white, beautifully blotched with purplish-red.

Messrs. Charlesworth and Co., Hayward's Heath, were awarded a Silver Flora Medal for an effective group, principally of handsome hybrid Odontoglossums and Odontiodas, with a selection of their strain of hybrid Miltonias. Among other novelties were Odontioda Nada (Odontioda Red Cross × Odm. eximium), a model flower, bright claret red with white margin and tips); and Oda. lutescens (Oda. Schröderiana × Odm. crispum xanthotes), a charming flower with the inner parts of the segments cinnamon red, the margin being clear yellow. Cattleya Enid var. Queen of Roumania, Odontoglossum Radiant, and Odontioda Hilda (Odm. Dora × Oda. Royal Gem) were also shown.

Messrs. J. and A. McBean, Cooksbridge, were awarded a Silver Banksian Medal for a group in which fine hybrid Odontoglossums, and large typical white and xanthotes forms of O. crispum, were prominent. Some finely-grown Cymbidiums staged at the back, and a selection of Laelio-Cattleyas of good quality were also noted.

C. J. Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan), showed excellent examples of the richly coloured Laelio Cattleya Lucasiana (C. labiata × L. tenebrosa), the golden-orange L.-C. Pattii (Adelina × luminosa), Odontioda Margaret, Odontoglossum Doris, and the large lavender-tinted O. crispum Rosy Morn.

Colonel Stephenson R. Clarke, C.B., Borde Hill, Cuckfield. Sussex, showed a very interesting new combination to which the title Clarkeara Paul was given. It resulted from a cross between Sophro-Laelia Psyche (Laelia cinnabarina × Sophronitis grandiflora) and Brasso-Laelia × Mrs. M. Gratrix (Brassavola Digbyana × Laelia cinnabarina). In size, form, and colour it resembles B.-L. Mrs. M. Gratrix the large size of B. Digbyana, which only shows in the fringing of the lip, being suppressed, and the form of the narrow-petalled L. cinnabarina accentuated. The lanceolate sepals and petals are copper-orange in colour; the lip is of lighter tint.

Narcissus and Tulip Committee.

Present: Messrs. E. A. Bowles (in the chair), F. Herbert Chapman, W. B. Cranfield, G. Reuthe, W. Poupart, A. R. Goodwin, C. Lemesle Adams, W. F. M. Copeland, and Herbert Smith; Rev. J. Jacob, Miss Willmott, and C. H. Curtis (hon. sec.).

A few new Daffodils were forthcoming and several interesting groups of the flowers were staged, but there was nothing like the pre-war displays at April meetings. The Peter Barr Memorial Cup was awarded for the year 1919-1920 to the Rev. Joseph Jacob "for good work among Daffodils," and the Engleheart Cup, for a dozen seedling and new Daffodils, went to Messrs. Herbert Chapman, who were the only exhibitors in the class.

First-Class Certificate.

Narcissus White Knight. This beautiful white Trumpet Daffodil is already well known to enthusiasts because of its purity and its exquisite form, the rolled frill of the mouth of the trumpet being a striking feature. An Award of Merit was granted to this Narcissus on May 2, 1916, and it now gains the higher and rarely-given honour. Shown by Messrs. R. H. Bath, Ltd.

Awards of Merit.

Narcissus Phineas.—A Jonquil hybrid of large size and incomparabilis form. The substantial perianth segments lack something of the best form and are light yellow, while the cup is of a deeper yellow shade and has a crimped and slightly frilled rim.

Narcissus Yellow Standard.—This is a very free flowering, large-sized incomparabilis Daffodil, with yellow perianth segments, often lightly mottled with very pale yellow, and a deeper yellow cup which has a goffered rim. Two 32-sized pots of this Daffodil were shown, and one had fifteen and the other eighteen flowers. These two Narcissi were shown by Messrs. Barr and Sons.

Fruit and Vegetable Committee.

Present: Messrs. Nix (in the chair), J. Cheal. G. F. Tinley, Owen Thomas, W. Bates. W. H. Divers. A. W. Metcalfe, E. Beckett. A. E. Vidler, E. M. Roach, G. P. Berry, and F. Jordan.

The only exhibit before this committee was a most interesting display of early vegetables from Messrs. Sutton and Sons (see fig. 79). The collection included Snow-White Broccoli (grown in Kent), Radishes, Sutton's Market Cucumbers, Golden Ball Lettuce, Sutton's Rhubarb, Chicory, Seakale, Mushrooms, Perpetual Spinach, and Harbinger Cabbages. Few exhibits attracted so much attention as this one. (Silver-Gilt Banksian Medal.)

CROPS AND STOCK ON THE HOME FARM.

TURKEYS.

Before the war I reared 200 turkeys yearly; last year my number was one dozen! With a more plentiful supply of food the rearing of turkeys will doubtless be increased during the present season. Many think that these birds are difficult to rear, and are thus deterred from the attempt. Yet this is not my experience, provided a few simple details are carried out. A lady once complained to me of the difficulties she found: in fact, she was so disheartened at the result that she determined to give up further attempts. She was successful in obtaining young birds, but they mostly died at three or four weeks old. I asked her how often during the day she moved the coops? She looked astonished at the question, saying: "Why, I only move them twice a week!" I replied that they should be moved twice daily, and if shifted three times, all the better. A hen and ten poults confined within a space of 4 square feet quickly taint the ground, and cleanliness is one of the most important details in the successful rearing of any poultry, and especially turkeys. Damp is another evil to be guarded against; a continuation of damp quarters is a sure cause of diarrhœa, one of the worst evils that can befall young turkeys.

A sunny situation, sheltered from north and east winds in a dry grass field, provide conditions favourable to success. For the first week it is well to have a board inside the coop of the same width and length as the floor of the coop. On this, spread a dry bag, which is more easy to change twice daily than cleaning the board. The removal of the droppings is important. With this arrangement the poults are living in warm, dry, sweet conditions. After the first week or ten days the board may be removed from the coop, allowing the hen to be upon the grass, which she enjoys, scratching and finding food for the poults.

Although turkey eggs will hatch equally well in an incubator, I prefer to use hens, because the poults grow better with the attention of the foster-mother. Ten eggs are sufficient for one good-sized hen to cover. With these large eggs, if more are added there is a risk of those on the outside not being well covered, and consequently not hatching well. Allow the hen to sit on false eggs for two or three days to ensure her being thoroughly broody before giving her the turkey eggs. At the end of ten days test the eggs to note their fertility. If one or more should be useless it is better to remove them, giving the hen the opportunity of covering the remainder more securely. As hatching proceeds remove the empty shells, as they may be the means of smothering the hatching poults by accidentally covering the end of an egg just chipped, thus excluding air and causing suffocation. Allow the poults to remain in the nest for twenty-four hours to become thoroughly dry and strong. No food is required by the poults during that period, as sufficient is absorbed into the system during hatching to last over that stage. The first feed should consist of soaked biscuit meal, a small portion of fine oatmeal, hard-boiled eggs and chopped onion, or "cliders." It will be noticed that the first food they take will be the onion; at all times for the first two months, in any case, onions should be used freely. For the first fortnight continue this feed three times daily, a little at a time. Should diarrhoea attack the poults discontinue the egg diet and add a little powdered chalk until the bowel slackness ceases. Give no water for the first six weeks; the soft and green food contains sufficient moisture. The hen should have water daily put in front of the coop, to be removed directly she has taken some. If pans of water are left standing about, the poults are sure to wade through them when passing in and out of the coop. In this way they get wet and cold and develop cramp and diarrhœa. A wire run in front of the coop is useful in curtailing their perambulations during showery weather, when they should be kept as dry as possible. When the grass is wet with heavy dews in the morning it is not wise to let young turkeys out of the coop too early.

Young turkeys revel in warm, dry conditions—a Jubilee summer suits them admirably, provided shade is given them with boughs, hurdles, or boards during the hottest part of the day.

WORK IN WOODS.

Where a regular annual rotation of cutting underwood is practised, the work should be completed by the third week in March, as the sap in the various kinds of shrubs and trees, and of hazel especially, is on the move by that date. In this country, where sheep are largely penned on arable land, wattle hurdles made from the various underwoods are largely in demand. This kind of hurdle affords much more protection to sheep than those made from split Ash with the rails placed some nine inches apart. For protection from the weather, wattle hurdles are much superior to the wide-mesh wire hurdles employed on some farms. Wattle hurdles are made 6 feet long, 3 feet wide, by splitting the bulk of the various woods, as hazel, ash, Euonymus and maple, the first-named principally, all interwoven together, which is quite a skilled art, and unfortunately likely to become extinct, as the younger generation do not care to learn. An experienced worker can make from ten to a dozen hurdles daily when the weather is favourable, and the present rate of pay is 9s. 6d. per dozen. The wood is cut down for them and laid in breadths suitable for handling (see fig. 80), thus facilitating the selection of the suitable "rods," as they are termed. About 3,500 rods are required for one "pile" of hurdles, consisting of ten dozen.

FIG. 80.—WATTLE HURDLE MAKING.

The hurdles are fixed in the field by stakes 5 feet long, commonly known as "shores"; these are held together by shackles made of wyths of galvanised wire, the whole then being made taut and firm.

In cutting breadths of underwood, which is done every nine or ten years according to the growth made, much other material is obtained beyond that for hurdles, all of which is useful on an estate or for sale. The larger wood, such as that of Ash, Ulmus campestris, so often confused with Wych Elm, and many other sorts are useful for fencing and other requirements on an estate, the rougher portions for firewood, which this winter has been a boon. *E. Molyneux.*

TRADE NOTES.

TWENTY-SIX years ago the growers of Morpeth and the district decided on forming a small association to protect themselves from trespass. After a while the need for this small society lapsed. Now the times demand something of wider scope. Morpeth is an important market-growing centre, and has been one of the first in that part of the Kingdom to recognise the necessity for organisation.

Mr. R. Wynne, Secretary of the Chamber of Horticulture, was invited to meet the Committee of the Morpeth Market Gardeners, Fruit Growers and Nurserymen's Association, at their headquarters recently, for the purpose of conferring with them as to the extension of their activities. After discussion it was decided to invite the neighbouring districts in Northumberland and Durham to unite with them in forming a centralised body for the two counties. The head office would be situate either in Newcastle or in Morpeth, and meetings of the joint associations could take place in the former city. All intensive cultivators are asked to communicate their views, and willingness to join in the movement, to W. Y. Price, Esq., Morpeth, or to the Secretary, Chamber of Horticulture, 11, Adam Street, Adelphi, London, W.C.2.

The Chamber of Horticulture has been requested to obtain statistics in relation to dumping, which term is understood to mean selling at prices not relative to the costs of production. Continental growers, who have more favourable conditions for growing in regard to wages, etc., are enabled to compete with British growers on other than equitable lines, and the time has now arrived when, in place of vague reports of dumping having taken place all over the country, chapter and verse should be supplied. Members of the trade are therefore cordially invited to send to the Statistical Assistant Secretary, Chamber of Horticulture, 11, Adam Street, Adelphi, London, W.C.2, full information regarding specific cases which have come under their notice.

Although not one of the few lucky nurserymen liable to excess profits duty, I was interested in the article on this subject in regard to husbandry on p. 172. Your correspondents' remarks remind me of the opinion I once heard expressed by an Income Tax recovery agent to the effect that it is doubtful if nurseries are properly subject to assessment under Schedule D (earnings),

but should only come under Schedule B (occupation of land) in the same way as farmers. I wish *H. M. V.* would express an opinion; it is a subject of importance to all nurserymen. I know that in some cases nurserymen have been foolish enough to pay Income Tax under both schedules. But the point I wish specially to know is, what distinction is made between nurserymen and farmers in the Finance Acts, and what is the legal definition of husbandry? In other words, under which schedule are nurserymen legally liable to assessment? Small city nurseries, chiefly glass, with a shop attached, are just like any other shop or business which is assessed upon its profits under Schedule D, but in the case of country nurseries using a large area of farm land for, say, the production of young fruit trees, is there any legal distinction between such husbandry and that practised by farmers, especially if the fruit trees are sold chiefly to farmers who grow fruit for market? It seems to me that a nursery of this kind, even when cultivating general nursery stock, should be assessed only under Schedule B in the same way as farmers. In conclusion, I should like to express appreciation of the space now devoted to Trade Notes in *The Gardeners' Chronicle*, and of the value to the trade of such articles as that of *H. M. V. Nurseryman.*

The Holt Seed Co., Salt Lake City, Utah, has provided their branch office at Caldwell, Idaho, with a flying machine equipped with a 360 horse-power engine. Urgent business at a distance of 150 miles can be covered in an hour's time, whereas the same distance for travelling by rail or motor requires a day's time. *The Seed World.*

Obituary.

Robert Johnson.—We much regret to announce the death of Mr. R. Johnson which occurred suddenly following an attack of paralysis at his home at Southport, where he has lived in retirement since the death of his last employer, Mr. Holden, in 1914. Mr. Johnson, who was aged seventy seven years, was a capable gardener and especially skilful in the cultivation of Orchids. During the time when he was gardener to the late Thomas Statter, of Stand Hall, Whitefield, Manchester, and afterwards to Mr. T. Statter, junior, he was a frequent exhibitor at the meetings of the Royal Horticultural Society and the Manchester and North of England Society. He grew Cattleyas very successfully and especially C. Dowiana aurea, C. Warscewiczii and hybrids. He gained several first-class certificates for Orchids, including C. Dowiana aurea Johnsoni, C. D. aurea Statteriana, C. Hardyana Statteriana, and C. H. Countess of Derby. His method of cultivation was as unusual as it was successful, and his plants were grown in a lofty intermediate house where little top ventilation was admitted but a general and restricted use made of the bottom ventilators. The plants were grown in cylinders and were suspended from the roof. They were kept dry during the resting season, watered liberally when the roots became active, and finally made aërial-roots several feet in length. A plant of Cattleya Lord Rothschild, with exceptionally long roots, was illustrated in *The Gardeners' Chronicle*, October 24, 1896, page 489.

John Mirrey.—The death is announced on March 27th of Mr. John Mirrey, stationmaster at Lochanhead, on the Glasgow and South-Western Railway. Mr. Mirrey was an ardent flower-lover, and his station was almost invariably in the first prize section in the awards for the best kept gardens on the system.

B. Wise.—We learn with regret of the death, on April 1, of Mr. B. Wise, for twenty-five years gardener to Sir Richard Harrison, Ashton Manor, near Exeter. Previously to his entering Ashton Manor he was for twenty-eight years gardener to the late W. H. Toomer, Grove Hall, Twyford, Berkshire. Mr. Wise leaves a widow and two sons—Frederick, gardener to Mrs. Molyneux, Loseley Park, Guildford, and Edward, gardener to F. G. Stewart, Esq., Oakwood House, Otterbourne, near Winchester.

THE APIARY.

By Chloris.

Hive-making.—In Fig. 81 is given a sketch of the exterior of the W.B.C. hive. **A A** show the slides of the entrance drawn a little way apart, as they would appear in the spring,

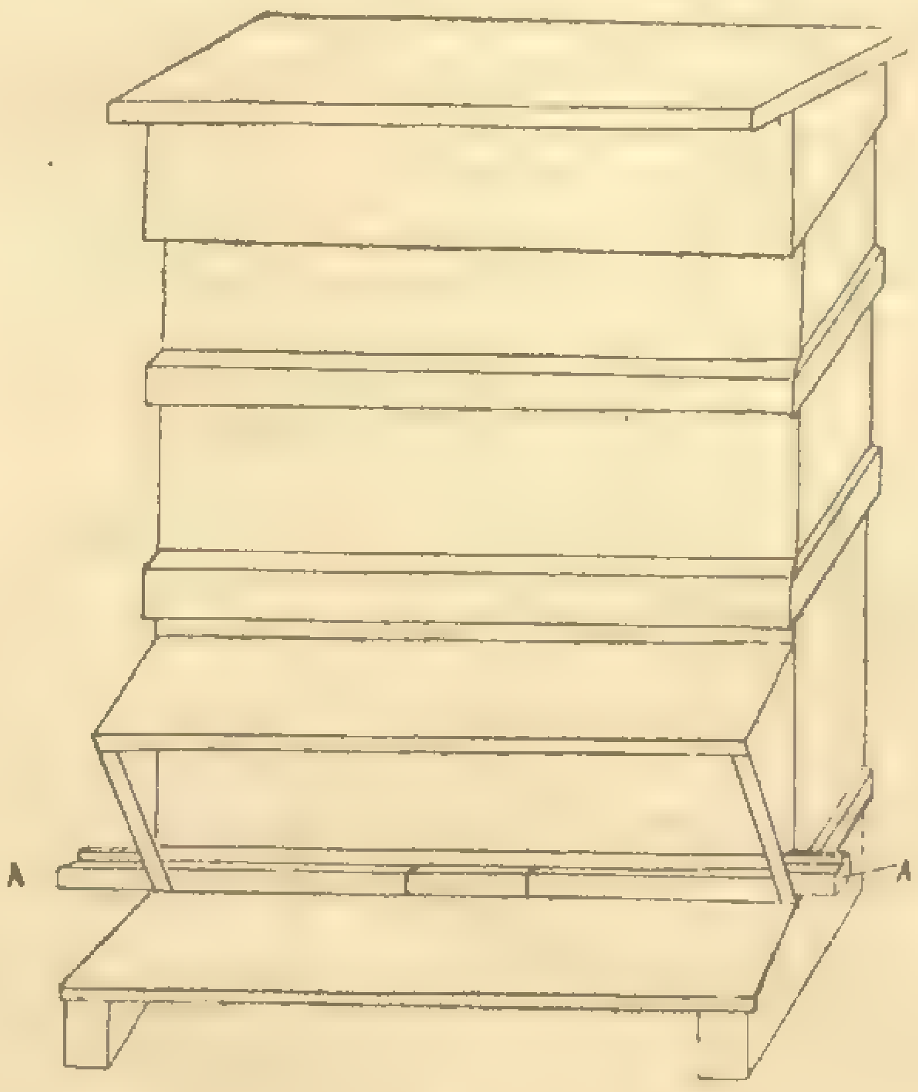

Fig. 81.—The "W.B.C." hive.

during April. From the section of the hive the floor-board is a little difficult to understand, but the sketch given in Fig. 82 will help to make it quite clear.

The frames are usually purchased in the flat.

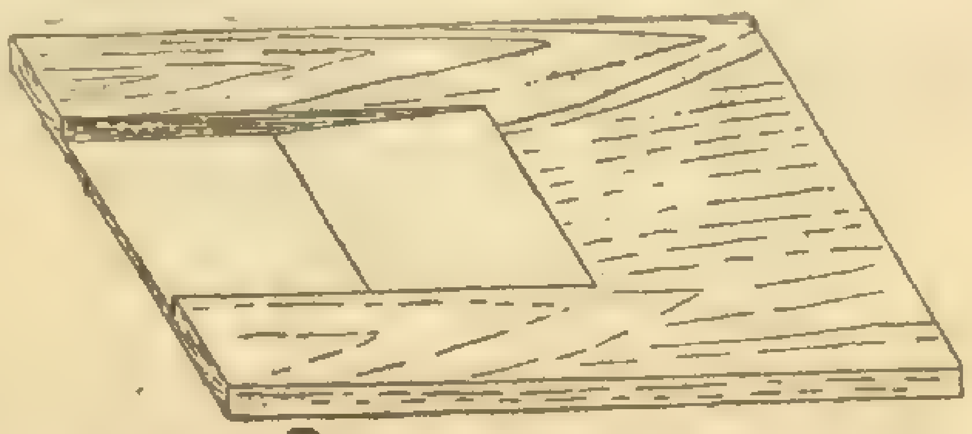

Fig. 82.—Floor board of "W.B.C." hive.

The illustration in Fig. 83 shows a brood-frame—shallow frames are much the same, only (as their name implies) they are not so deep, being $5\frac{1}{2}$ inches deep instead of $8\frac{1}{2}$ inches. The founda-

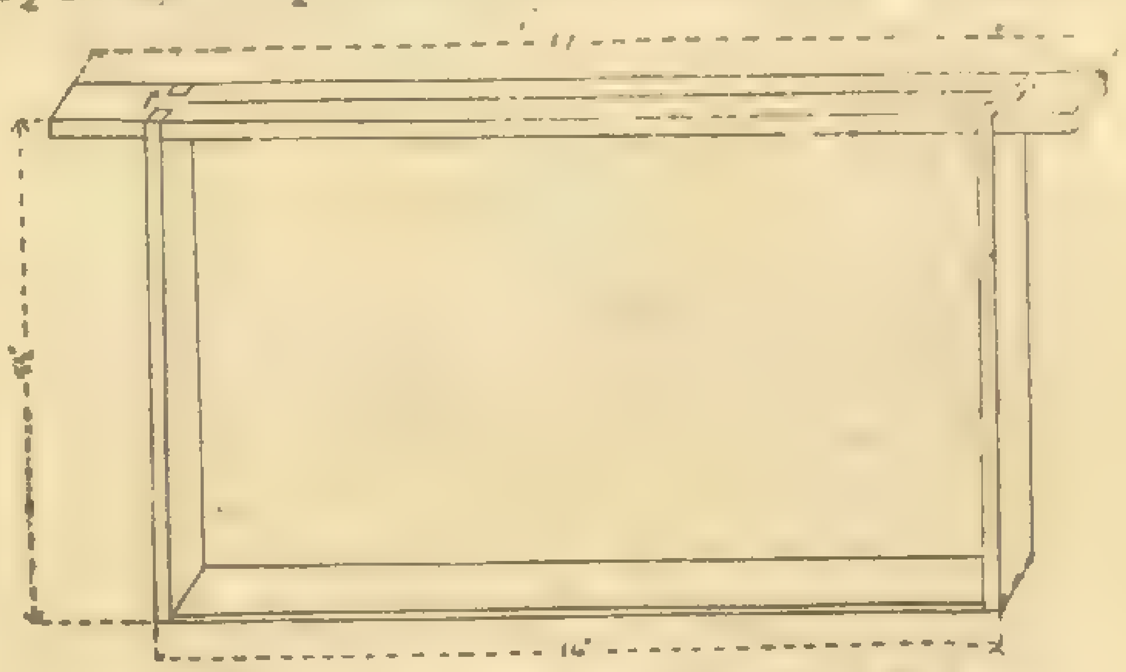

Fig. 83.—Bar frame for "W.B.C." hive.

tion, which is a sheet of wax impressed with the bases of cells on both sides, is fitted into the saw-cut $l^1 l^1$ and made secure by leaving a small portion of the foundation above the

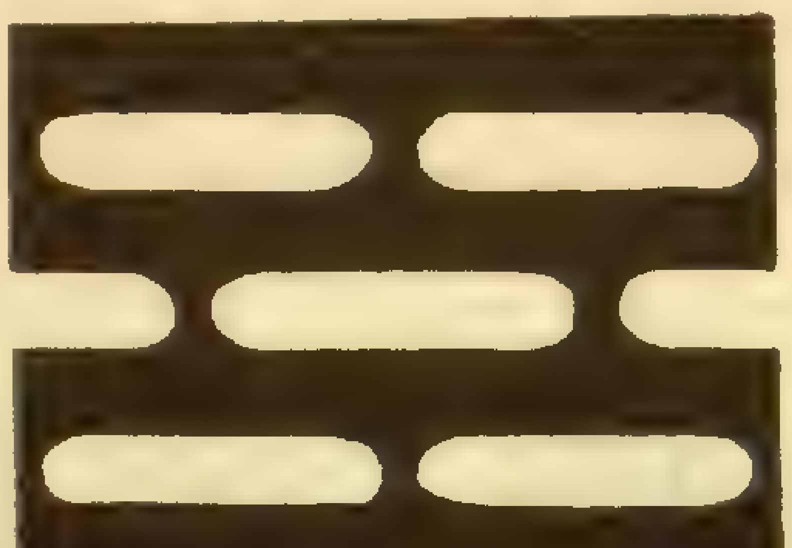

Fig. 84.—Queen excluder zinc.

saw-cut and then melting the part above with a hot poker. It is essential that the queen should be restricted to the brood-chamber, and in order to confine her to this portion of the hive a sheet of "queen excluder" zinc is used: a portion of a queen excluder is illustrated in Fig. 84. This allows workers to pass freely to any part of the hive, but will not permit the queen to do so.

The frames should be spaced correctly, and in order to do this easily, metal ends may be purchased to slip on, so that the distance from centre to centre of the combs is $1\frac{1}{2}$ inch. For the shallow frames, which are utilised for storing surplus honey, wide metal ends should be utilised.

ANSWERS TO CORRESPONDENTS.

Amount of Rain Contained in One Inch of Snow: *W. B.* An inch of snow contains one-tenth of an inch of rain.

Insect: *A.* The insect is a carabid larva; the grub of a ground beetle. These insects are beneficial, as they feed on slugs and similar pests in the soil.

Names of Plants: *W. M. M.* Coelogyne lactea, native of Burmah; described in *Gard. Chron.* of 1885, vol. xxiii., p. 692.—*O. B. S.* Boronia megastigma.—*C. D. J.* 1, Erica hyemalis; 2, Pteris scaberula; 3, Trichomanes reniforme; 4, Narcissus cyclamineus.

Pampas Grass: *M. T.* The clumps of Pampas Grass should be dug up, the dead parts removed, and the outside of the clumps divided into small healthy pieces. If required to be planted again on the same side, the ground should be dug deeply and enriched with decayed manure and leaf soil. If a large clump is desired in the shortest possible time, plant the small live pieces in a circle, allowing a space of 2 feet between each portion. These will form a clump quickly, and may be thinned, if preferred, after a season or two. Burning the old foliage is often recommended, and should be done early in March: but in this particular case it would not be so beneficial as dividing. When burning is done it is assumed that the plants are in a normal, healthy condition: it is simply a method of dealing with the dead foliage. Another method is that of clipping the plants severely with a pair of hedging shears, just before new growth commences in the spring. If you decide to divide the plants, do the work forthwith. The clumps should be watered during dry weather in their first season, and the surrounding soil mulched with short grass (such as lawn mowings) or leaf soil, to conserve the soil moisture at the roots.

Parents of Hybrid Plants: *E. H. W.* When the parentage of a hybrid is given it is usual to place the name of the seed-bearing parent first and the pollen-bearing parent second. But this is not invariably the case, and to make the matter perfectly plain the signs ♂ (male) and ♀ (female) should be used.

Plants from Jamaica: *J. H.* The Board of Trade informs us that the Customs have received a general licence permitting the import of all articles on the list of prohibited imports, excepting gold, spirits (other than brandy and rum), and hops, when they are exported from and are the produce or manufacture of His Majesty's Dominions.

Standard Apple and Plum Trees: *E. H. W.* We recommend you to prune your recently planted four to five-year-old Apple and Plum trees immediately. In lifting the trees for transplantation the roots will receive a certain amount of check, and in addition to the need for regulating top and bottom growth, pruning is especially necessary in the case of standards to lay the foundation for well-balanced heads.

Communications Received.—G. W.—E. C.—D. R.—J. H. McF.—A. H.—G. L.—G. F. M.—A. H. L.—S. A.—T. P. E.—S. A.—Sir E. L.—M. F. W.—W. C.—S. A.—Sir J. C.—A. H. R.—J. P.—C. N.—W. I.—W. C.—W. H.—W. T.—B. G.—T. S.—H. E. D.—T. G. W.—H. M. B.—W. H. D.—A. D. W.—A. W.—J. L.—J. H.—M. T.—A. S.—J. P.—B. J. H.—J. N.—A. H. L.—E. K.—E. B. W.

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HAND-PICKED SAMPLES.

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READY FOR IMMEDIATE DESPATCH.

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	14lb.	28lb.	56lb.	112lb.
Duke of York ...	4/9	9/3	18/-	35/6
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EPICURE	3/3	6/3	12/3	24/-
Sir John Llewelyn ...	4/6	8/6	16/6	32/-

SECOND EARLY AND MAIN CROP VARIETIES.

Arran Chief	3/-	6/-	12/-	23/-
British Queen ...	3/-	6/-	12/-	23/-
Factor	3/-	6/-	12/-	23/-
*Great Scot ...	3/-	6/-	12/-	23/-
King Edward VII. ...	3/-	6/-	12/-	23/-
*Kerr's Pink ...	4/9	9/3	18/-	35/-
*Tinwald Perfection	6/-	12/-	23/6	46/-
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Up-to-Date	3/3	6/3	12/-	23/-

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TOOGOOD & SONS,
The King's Seedsmen and Growers of "Better Crops" Seeds,
SOUTHAMPTON.

MARKETS.

COVENT GARDEN, April 9.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	10 0–12 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentias ...	18 0–24 0
Cinerarias. 48's. per doz. ...	24 0–27 0	—— 60's ...	15 0–18 0
		—Cocos	24 0–36 0

REMARKS.—Business is now improving in this department and flowering plants are in good demand notwithstanding the high prices. Red, white and pink Stocks are on sale this week. Hydrangeas are also receiving much attention from buyers. Ferns and Palms are improving in quality, and a brisk trade in them is expected during the next fortnight.

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum—cuneatum, 48's, per doz. ...	10 0–12 0	Nephrolepis, in variety, 48's	12 0–18 0
—elegans ...	9 0–10 0	—32's	24 0–36 0
Asplenium, 48's per doz.	10 0–15 0	Pteris, in variety, 48's	9 0–12 0
— 32's	21 0–24 0	—large 60's ...	4 0–5 0
— nidus, 48's ...	10 0–12 0	—small 60's ...	3 0–3 6
Cyrtomium, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d		s. d. s. d.
Arums— — (Richardias), per doz. bl'ms.	12 0–15 0	Orchids, per doz:— —Cattleyas ...	24 0–30 0
Azalea, white, per doz. bunches	10 0–12 0	—Cypripediums,	6 0– 8 0
Camellias, 12's-18's per box ...	6 0– 7 0	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
Carnations, per doz. blooms, best American var.	3 6– 6 0	— white, per doz. bunches ...	10 0–12 0
Daffodils, single, per doz bun.		Roses, per dozen blooms—	
— Emperor ...	8 0–12 0	—Lady Hillingdon	4 0– 6 0
— Golden Spur ...	6 0– 8 0	—Liberty ...	8 0–19 0
— Victoria ...	8 0–12 0	—Mme. Abel Chatenay ...	8 0–12 0
— Princess ...	5 0– 6 0	—Ophelia ...	12 0–18 0
Freesia, white, per doz. bunches	4 0– 6 0	— Richmond, var.	8 0–12 0
Heather, white, per doz. bun.	6 0–10 0	—Sunburst ...	9 0–12 0
		—White Crawford	6 0– 8 0
Lilac, white, per bunch, 6's ...	4 0– 6 0	Tulips, per doz. blooms—	
Lily-of-the-Valley, per bun. ...	4 0– 6 0	—Darwins, in var.	3 0– 5 0
Myosotis (Forget-Me-Not), per doz. bun. ...	6 0–12 0	— mauve ...	6 0– 8 0
		— white	6 0– 8 0
		— yellow... ...	5 0– 6 0
Narcissus ornatus per doz. blooms	8 0–12 0	Violets, single, per doz. bun. ...	3 0– 6 0

REMARKS.—The increased supplies most noticeable this morning were of Carnations and Roses: the newest arrivals of the latter are Mme. Abel Chatenay and Molly Sharman-Crawford. The blooms are excellent in size and colour, and are selling freely. In most other subjects the conditions are the same as last week. The advent of warmer weather will doubtless cause the prices of many coloured flowers to fall, but there is no anticipated drop in price of white flowers, owing to the demand this week for the Welsh festivals, whilst next week will see a further demand for Easter. A few boxes of Sweet Peas are being sent from Guernsey, also a few boxes of Darwin Tulips, but Daffodils and White Narcissus are the chief supplies.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Jerusalem per bus...	4 6– 5 0	Lettuce Cabbage and Cos per doz.	3 0– 3 6
—Globe, per doz.	6 0 7 0	Leeks, per doz. bun.	6 0– 8 0
Asparagus—		Mint, per doz. bun.	6 0 —
		Mushrooms per lb.	5 6– 6 6
— Cavillion, per bundle ...	3 6– 4 0	Mustard and Cress, per doz. punnets	1 0– 1 3
— Lauris... ...	3 6– 5 6	Parsley, per ½ bus.	6 0– 7 0
— Paris Green, per bundle ..	10 0–12 0	Parsnips, per bag	3 0– 6 0
		Potatos new, per lb.	1 3– 1 6
— — Sprue per bundle ..	2 0 —	Radishes, per doz. bunches ..	3 6– 4 0
Beans, French, per lb.	1 6– 2 6	Rhubarb, forced, per doz. ..	4 0– 4 3
Beetroot, per bus.	5 0– 6 0		
Cabbage per doz.	5 0 —	— Natural, per doz.	12 0–14 0
Carrots, per bag..	14 0–15 0	Savoys, per tally ..	21 0 —
— New, per bun.	1 0 —	Seakale. in boxes	
Cauliflowers, per doz	12 0–18 0	(6-8 lbs.) per lb.	2 0 —
Celery, per doz. ..	36 0–48 0	Shallots, per lb. ..	0 6– 0 8
Chicory, Belgian, per lb. ..	1 3– 1 4	Spinach per bus.	10 0 —
Cucumbers, per flat	27 0–30 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box.. ..	Controlled
Endive, per doz...	5 0– 6 0		
Garlic, per lb. ..	0 5– 0 7		
Greens, per bag ..	11 0–15 0		
Herbs, per doz. bun.	4 0– 6 0	Turnips, per bag	5 0– 6 0
Horseradish, per bun	3 6– 4 6	Watercress, per doz.	1 0– 1 3

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Grapes:— — Almerias, per barrel (about 3½ doz. lbs.)	70 0–90 0	Nuts, con.— —Cobnuts per lb.	1 3– 1 4
— Gros Colmar, per lb. ...	8 0–12 6	Walnuts, kiln dried, per cwt.	130 0–200 0
Nuts— — Almonds, per cwt.	120 0–130 0	Pears, Californian (Easter Beurré), ½ case	32 0 —
— Barcelona. per cwt. ...	130 0–140 0	—Winter Nelis, per ½ case	32 0 —
— Brazils (new). per cwt.	100 0 —	Strawberries, per lb.	25 0–40 0
		Pineapples. each	4 0– 7 0

REMARKS.—English Gros Colmar Grapes continue to be available and there are also Belgian and Almeria (Spanish) Grapes on sale. A consignment of Cape Fruit is due to arrive, including Grapes, Pears, and Melons, to be followed with a shipment of Oranges. Winter Nelis and Easter Beurré Pears are still obtainable. Morning gathered Strawberries are obtainable daily in half pound punnets. New Brazil Nuts are fairly plentiful. Supplies of Cucumbers are increasing daily, but Mushrooms are a short supply. The consignment of Dwarf Beans shows an increase. Seakale is a limited quantity. French vegetables on offer consist of the following: Asparagus, Globe Artichokes, Lettuce, Endive, Broad Beans, and Carrots. Rhubarb is a shorter supply. The commoner outdoor vegetables are still scarce.

GARDENING APPOINTMENTS.

Mr. D. Sutton, after serving for nearly 3 years with His Majesty's Forces in France and Belgium, has resumed his duties as Gardener to Miss L. ANTROBUS, Charles Hill Court, Farnham, Surrey.

Mr. J. H. Simpson, for 5½ years Gardener at Croft Castle, Herefordshire, as Gardener to Mrs. HEYWORTH, Biddlesden Park, Brackley, Northants.

Mr. A. C. Adlam, after serving for nearly 3 years in his Majesty's Forces, and previously for 4½ years Gardener to F. P. OSMASTON Esq., Stoneshill, Limpsfield, Surrey. as Gardener to WICKHAM NOAKES, Esq., Selsdon Park, Croydon, Surrey. [Thanks for 2s. 6d. for R.G.O.F. Box.—EDS.]

Mr. W. Kent, for the past 10½ years Gardener to the late J. W. LARNACH, Brambletye, East Grinstead, Sussex, and previously for many years with the late A. C. Drummond, Cadland, Southampton, as Gardener to Victor Hayward, Esq., Bookham Grove Surrey.

Mr. J. Cooper, recently Gardener to Dr. G. F. ASSINDER, Poyle Manor, Colnbrook, Bucks, as Gardener to Col. the Honble. C. H. WILLOUGHBY, Holly Grove, Windsor Great Park, Berkshire. (Thanks for 1s. 6d. for R.G.O.F. Box.—EDS.)

Mr. H. Wells, for more than 5 years Gardener to A. S. BROWNE, Esq., Buckland-Filleigh, North Devon, as Head Gardener to Lieut.-Col. TABOR, Gifford's Hall, Stoke-by-Nayland, Colchester.

Mr. P. Down, late of the Grenadier Guards, has resumed his duties as Gardener to the Honble. Mrs. CHARLES BRAND, Little Dene, Nr. Lewes, Sussex.

Mr. T. Jones, after serving for more than 4 years with the R.F.A., has resumed his duties as Gardener to de F. PENNEFATHER, Esq., M.P., Kinnersley Castle, Herefordshire.

Mr. W. T. Smith, formerly Gardener to Mr. HAYWARD, Bookham Grove, Bookham, as Gardener to N. G. L. BEVAN, Esq., Littlecote, Wiltshire. (Thanks for 2s. for R.G.O.F. Box.—EDS.)

Mr. C. Jones, for the past two years Gardener to H. MARTIN GIBBS, Esq., Barrow Court, Flax Bourton, Somersetshire, and previously for 11½ years Gardener at Pusey House, Faringdon, as Gardener and Estate Baliff to LIEUT.-COL. A. D. ACLAND, Digswell House, Welwyn, Hertfordshire.

Mr. E. Ball, formerly for seven years Gardener to JAMES GROVES, ESQ., Browning's Manor, Blackboys, Sussex, as Gardener to MRS. DONALD MCNIELE, The Lodge, Oakham, Rutland.

Mr. Henry Tull, for nearly three years Gardener to EDMUND DAVIS, Esq., Belwethers, Cranleigh, as Gardener to the same gentleman at Chilham Castle, Chilham, Kent.

Mr. Allan Falconer has resumed his duties as Gardener to Major JOICEY, Poulton Priory, Fairford, after serving in His Majesty's Forces.

Mr. J. Mackay, as Gardener to JAMES J. JOICEY, Esq., The Hill, Witley.

Mr. R. Scott, after serving for the past two years and eight months in His Majesty's Forces, has resumed his duties as Gardener to the Right Hon. The Earl BATHURST, C.M.G., "Franks," Horton Kirby, Kent.

Mr. L. F. Bragg, for the past 2½ years temporary Gardener to F. S. Phillips, O.B.E., Sunnyside, Holmwood, as Gardener to E. R. WHITWELL, Esq., The Friarage, Yarm-on-Tees, Yorkshire.

Mr. John Nibbs, for two years previous to joining H.M. Forces Gardener to AUSTIN TAYLOR, Esq., The Croft, Henley-on-Thames, Oxfordshire, as Gardener to V. L. OLIVER, Esq., Whitmore Lodge, Sunninghill, Ascot, Berkshire.

THE WEATHER.

THE WEATHER IN SCOTLAND.

March was a cold month, with frequent night frost Snow fell on six days, and lay continuously for four days, from the 20th to the 23rd. There was a moderate amount of sunshine, fairly evenly distributed throughout the month. The rain gauge yielded a total of 1.70 inch, the greatest yield for one day being 0.55 inch for the 19th. There were eighteen days of precipitation and eleven official rain days. Of sunshine we had 110.7 hours, being an average of 3.6 hours and a percentage of 30.2. The brightest days were the 4th, 17th and 28th, with nine hours each. On six days there was no record. The barometer, with a mean of 29.78 inches, varied between a highest of 30.52 inches on the 16th and a lowest of 28.78 inches on the 27th. For the month the mean temperature was 35.5°, with a mean range of 13° and an absolute range of 30°. The highest maximum was 49° on the 2nd, and the lowest minimum was 19° on the 4th, while the lowest maximum and highest minimum were each 36°, on the 21st and 2nd respectively. The mean maximum was 42° and mean minimum 29°. On the grass a mean minimum of 25° was obtained, with a lowest of 14°, on the 4th. There were 25 nights of ground frost The relative humidity of the air was 79 per cent At one foot deep the soil temperature rose from 34° to 36°, and then fell to 35°. The prevailing winds were from the north and west, with a gale on the 26th-27th.—*James Malloch, Director of Studies, Training College, Kirkton-on-Mains, near Dundee.*

SCHEDULES RECEIVED.

Brighton, Hove and Sussex Horticultural and Food Production Society's autumn exhibition, to be held in the Royal Aquarium, Brighton, on November 4 and 5, 1919. Secretary: Mr. A. J. Gaston, 170, Springfield Road, Brighton.

National Potato Exhibition, to be held under the auspices of the Scottish Horticultural Association, in the Waverley Market, Edinburgh, on Wednesday and Thursday, October 22 and 23, 1919. Secretary: A. D Richardson, 34, St. Andrew Square, Edinburgh.

Bridgend Allotment Association's third annual Show, to be held at the Town Hall, Bridgend, on Saturday, August 30, 1919. Secretary: Mr. John Snow, 24, Sunnyside Road, Bridgend.

CATALOGUES RECEIVED.

JAMES H. DUNN, Dunseed Chambers, Salisbury.—Farm Seeds.

E. and A. GILBERT, 7a, Bath Street, Birmingham—Patent weatherproof Labels; "Gilbert" Grave Tablets and Memorials for the Home.

ALLWOOD BROS., Wivelsfield Nurseries, Haywards Heath. Sussex.—Perpetual-flowering Carnations.

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Price 3/- post free.

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12/6 per cwt., 7/- half-cwt., 4/- 28 lbs., 2/6 14 lbs.

£11 10s. per ton, carriage paid.

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PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

WELLINGBOROUGH URBAN DISTRICT COUNCIL.
APPOINTMENT OF GARDENER.

THE ABOVE COUNCIL is prepared to receive applications from experienced Gardeners to take charge of the Swanspool Grounds, and to live in part of the house, coal and gas being found. Knowledge of Greenhouse work is essential, and preference will be given to one having had previous experience in public gardens.

Applications, stating age, experience, wages required, and accompanied by copies of two testimonials, endorsed "GARDENER," to be sent to the undersigned not later than 12 noon on Wednesday, the 16th inst.

R. STEVENSON HENSHAW,
Engineer and Surveyor.

Council Offices, Wellingborough.
April 2, 1919.

CITY OF SHEFFIELD.—EDUCATION COMMITTEE.

WANTED, for the Sheffield Industrial School at Hollow Meadows, near Sheffield, two GARDEN LABOURERS; must be single; salary £45 per annum, plus £10 war bonus, with the addition of lodgings and rations.—Applications, stating age and past experience, and enclosing copies of three testimonials should be sent to H. S. NEWTON, Secretary to the Education Committee.

HEAD WORKING GARDENER wanted; Under-Gardener and boy kept; small Greenhouse and Stove; must be active and willing; good house and garden. Wages 35s.—Apply, STANLEY WATSON, Park View, Towcester.

GARDENER, who understands Roses and Carnations, to take second place in bothy at Shrubland Park. Wages 30s.—Apply, PERCY DUDDING, Shrubland Park Estate Office, Coddenham, Ipswich.

WANTED, thoroughly experienced GARDENER, Vegetables, Flowers, some glass (vines); no help given except with mowing; cottage provided.—Write, stating references, age, etc., and wages required, to W. E. SWINNERTON, Manor House, Over Whitacre, Coleshill, nr. Birmingham.

GARDENER wanted; single man preferred; must be first-class Outdoor man, knowledge of cows desirable, but not expected to milk except in emergency; help given in garden.—State wages, and send copies references, ROBINSON, Oldfallings Hall, Wolverhampton.

GARDENER required immediately for London for four to six weeks; wages £2 per week; no meals.—Answer, L. D., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, good WORKING GARDENER, immediately; nice cottage if required.—Apply BRIGHT, The Grange, Northaw, Potters Bar.

COWMAN-GARDENER wanted; good worker; wages 40s.; four-room cottage and coal; good references required.—Apply, HEAD GARDENER, Farwell, The Lea, Esher.

WANTED, good SECOND GARDENER, experienced Inside and Out; take duty; married, live in lodge.—Apply, with full particulars and wages, to AVERY, Gaddesden Place, Hemel Hempstead, Herts.

WANTED, good SECOND GARDENER, Inside and Out; good wages and bothy.—Apply, with full particulars, to W. ANDERSON, Close House, Wylam-on-Tyne.

WANTED, SECOND GARDENER, Inside and Out; bothy, &c.—Apply, stating age, wages, and experience, to THE GARDENER, Heath End House, nr. Basingstoke.

WANTED, good SECOND for Orchids, Fruit Store and Greenhouse; 45s.; owing to lack of housing Single preferred.—GARDENER, Feltham Lodge, Feltham.

WANTED, good SECOND GARDENER for Fruit and Plant Houses; also a YOUNG MAN, 18 to 20; Inside and out; bothy, 1 o'clock Saturday.—State wages, experience, to W. R. TAYLOR, Shendish Gardens, Kings Langley, Herts.

WANTED, UNDER-GARDENER, experienced in growing Orchids. Wages 30/- weekly, with comfortable cottage and free coal. Apply stating experience, etc., and when free.—W. J., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (UNDER) wanted, single man, for Lawn and Kitchen Garden work, &c.—State age, wages required, to HARRIS, Avisford Park, Arundel.

WANTED, an UNDER-GARDENER, good all-round man.—J. T. MOORE, Drake Court, Brooklands Road, Blackheath Park, S.E.

UNDER-GARDENER-CHAUFFEUR wanted. Six-room cottage.—Address full particulars, qualifications, references, wages, etc., to CHARBONNEL, Great Woodcote House, Purley, Surrey.

UNDER-GARDENER, experienced Inside and Outside; five others kept; good wages, standard hours, bothy (without attendance) and vegetables.—Apply, with copy of references, wages required, F. COPEMAN, Cliveden, Shenfield, Essex. Also JUNIOR wanted for Outside.

WANTED, FOREMAN for Fruit and Plant Houses; wages 37s. per week; good bothy; milk Vegetables, and attendance; also a JOURNEYMAN for the Houses; wages 31s. per week, and bothy, &c; 1 o'clock Saturdays.—Apply, stating age and experience in each case, to G. E. WEEKES, Penoyre Gardens, Brecon.

WANTED, FOREMAN for Fruit and Plant Houses.—State experience, wages, with bothy, &c., to J. HOWARD, Bentham Gardens, Newbury.

WANTED, FOREMAN, Inside; wages 36s., good bothy and attendance.—Send copies of testimonials to E. HARRISS, Lockinge Gardens, Wantage, Berks.

REQUIRED, experienced OUTSIDE FOREMAN, for Fruit and Vegetable Garden, in Isles of Scilly. State wages required.—Write, giving full particulars, to A.A.D.S., 56, Lowndes Square, S.W.1.

WANTED, LEADING HAND for Pleasure Grounds; knowledge of Rockery, Roses, Herbaceous. State experience, age, wages expected, with bothy, vegetables, attendance; 1 o'clock Saturdays.—J. HOAD, Colworth Gardens, Sharnbrook, Beds.

WANTED, JOURNEYMAN for Pleasure Grounds, well-up to this work; good wages with bothy; 1 o'clock Saturday.—Apply, HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, good JOURNEYMAN for Stove and Greenhouse Plants; age 24. Also strong, active IMPROVER, age 16. Wages 30s. and 20s. respectively, with bothy, vegetables, etc. Sunday duty and overtime paid. — W. PHILLIPS, The Gardens, Derry Ormond, Llangybie, Cardiganshire.

WANTED, FIRST JOURNEYMAN for Fruit and Plant Houses, also KITCHEN GARDENERS. State wages and experience, with bothy, vegetables and attendance.—Apply, L. YOUNG, Gopsall Gardens, Atherstone, Leics.

WANTED, JOURNEYMAN, chiefly Inside work; duty alternate weeks; hours 7 till 5.30, 12.30 Saturdays; 28s. per week, bothy and vegetables.—F. G. CLARKE, Barrow Court Gardens, Flax Bourton, Bristol.

WANTED, strong JOURNEYMAN, chiefly outside; Lawn mowing, Herbaceous Borders, etc.; duty; bothy, milk, vegetables.—State age, wages, experience (good references), T. HERBERT, Tilstone, Tarporley, Ches.

WANTED, JOURNEYMAN for Pleasure grounds; take duty.—Apply with particulars of experience and wages required with bothy, &c., to H. G. KING, The Gardens, Charters, Ascot.

WANTED, JOURNEYMAN for Outside, able to take duty; wages 30s. per week with bothy, &c.—Apply with particulars, to C. H. WHEELER, Swinton Gardens, Masham, Ripon.

WANTED, JOURNEYMAN, Inside and Out, about 24.—State wages, without bothy; 1 o'clock Saturdays.—E. HERRINGTON, The Gore, Harlington, Middlesex.

WANTED, JOURNEYMAN for Inside, age about 26 years.—Apply, stating wages required with bothy and Veg., to J. PEPLOW, Compton Verney Gardens, Warwick.

WANTED, two good JOURNEYMEN (single) for Outside. Apply, stating wages required, to HEAD GARDENER, Houghton Hall, King's Lynn.

WANTED, JOURNEYMAN (Inside) for Plant and Fruit Houses; wages 30s, bothy, milk, and vegetables; state age, experience.—J. THISTLETHWAITE, Aske Gardens, Richmond, Yorks.

WANTED, two JOURNEYMEN, one Inside, and one Outside; good wages, with bothy.—Apply, J. TANNOCK, Bridge Hill Gardens, Belper, Derbyshire.

WANTED, good JOURNEYMAN for Vineries and Plant Houses; state wages, experience, age, with bothy.—SIMS, Grove Gardens, Stanmore, Middlesex.

WANTED, JOURNEYMAN for Fruit and Plant Houses. under foreman; 32s. per week, bothy, vegetables; duty extra; 1 o'clock Saturdays.—W. LLOYD, Rushton Hall Gardens, Kettering.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; wages 33s. per week, bothy, milk and vegetables; 1 o'clock on Saturdays.—State age, with copies of references, to G. HUNT, Ashtead Park Gardens, Epsom.

WANTED, IMPROVER (Inside); wages 25s. per week, bothy, vegetables and attendance. 1 o'clock Saturdays.—Particulars to WM. PILGRIM, Bodorgan Gardens, Anglesey.

WANTED, MAN for Fruit Orchard; must be well up in Pruning and Spraying, etc.; also SECOND GARDENER, experienced, for Inside and Out; single energetic men, to take duty when required; bothy and attendance; 1 o'clock Saturdays. Please state wages required, with copies of references, etc.—Mr. HARRISON, Estate Office, Swynnerton, Stone, Staffs.

WANTED, two MEN, one for Pleasure grounds; one for Inside and Out; duty alternate weeks; bothy, milk and potatoes.—Please state wages and experience, to J. AXFORD, Denham Mount Gardens, Denham, Bucks.

WANTED, MAN (married or single) for Pleasure Grounds, and assist in Kitchen Garden.—Send full particulars and wages required to T. W. BRISCOE, The Gardens, Castleford, Chepstow.

WANTED, experienced MAN (single) for lead in Kitchen Garden; 38s. per week; no bothy.—W. MASSEY, Woodthorpe Grange Gardens, Notts.

WANTED, SINGLE MAN for Garden work; attend pony and trap; bothy, fire, light provided.—Apply, with reference and wages, to A. ADAM, Gardener, Hindleap, Forest Row, Sussex.

WANTED, strong SINGLE MAN for Pleasure Grounds; wages 35s. weekly; no bothy; 1 o'clock Saturdays.—State age and experience to F. J. ROSE, South Stoneham Gardens, Swaythling, Southampton.

WANTED, a MAN to help with Pleasure Grounds. Wages 32s. per week, with good cottage and garden.—Apply, H. CHARMAN, Stanford Hall Gardens, Loughborough.

WANTED, YOUNG MAN for Pleasure Grounds, to take duty; state wages, with bothy.—G. A. FUNNELL, Lanwades, Newmarket.

WANTED, a YOUNG MAN, experienced in Kitchen Garden and Pleasure Grounds; take duty; bothy and Vegetables; 1 o'clock Saturdays.—Particulars and wages to I. A. MULFORD, Merevale Hall Gardens, Atherstone, Warwicks.

WANTED, YOUNG MAN, chiefly Inside; take duty. Also strong YOUTH for general Garden Work; take duty; good bothy.—Apply, stating age, experience and wages, BLAKE, Clandon Park, Guildford.

WANTED, two YOUNG MEN for Inside and Out. Please apply stating age, experience, and wages required with comfortable bothy, to WALKER, The Gardens, Locks Park, Derby.

WANTED, single YOUNG MAN for Lawns and Borders; willing to take turn with Sunday duty; lodgings provided. State wages and experience.—ROBERTS, Llysdinam Gardens, Newbridge-on-Wye, Rads.

WANTED, YOUNG MAN for Pleasure Grounds, about 21 years of age; demobilised; also ONE for work in Woods; elderly man might suit; must be single; good bothy.—Apply, GARDENER, Pebble Coombe, Walton-on-the-Hill, Surrey.

WANTED for the Houses, two or three YOUNG MEN; good wages, bothy, etc.—E. W. PULL, Petworth, Sussex.

WANTED, three YOUNG MEN for Kitchen Garden and Pleasure Grounds. State wages, with bothy, etc.—Apply, HEAD GARDENER, Chiswick House, Chiswick, London, W.4.

WANTED, two YOUNG MEN for Inside and Out; duty paid; 1 o'clock Saturdays.—Apply, stating wages required, with bothy and vegetables, to W. MILES, Caversham Park Gardens, Reading.

WANTED, YOUNG MAN for Herbaceous and Kitchen Garden Work; not much glass.—State wages, with bothy, P. RIMMER, Chetwode Manor, Buckingham.

WANTED, MARRIED COUPLE, man to work in garden, wife to cook and clean; bothy for single men; good house adjoins bothy.—Full particulars, with copies of references, H. C. DURNFORD, Broadhanger Gardens, Petersfield.

WANTED, WOMAN GARDENER, under thirty, Public or High School girl, not necessarily trained; 20 miles London; good wages, board and lodging found; woman Head. — Apply, GREGORY, Great Fosters, Egham, Surrey.

WANTED, in the Midlands, two LADY GARDENERS as Improvers, and two Workmen, where Fruit and Vegetables are chiefly grown; no Glass except frames and cloches.—Apply with all particulars, HORTIC, Box 21, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, GARDENER'S LABOURER for private garden; must live within easy distance of job; wages 10d. per hour.—F. BROWN, The Cottage, Old Malden Lane, Worcester Park, Surrey.

TRADE.

SEEDSMAN required by the Government of the East Africa Protectorate for the Forestry Department for a tour of from 20 to 30 months, with possible extension. Salary £150—£10—£250. Free passages and quarters. A war bonus is at present in force amounting to £35 a year. Candidates, unmarried, age between 23 and 35, who have served apprenticeship with firm of reputable seed merchants and nurserymen, and understanding collecting, testing, and storing seeds, and preferably with experience Salesman and keeping cash books, should apply at once by letter, stating age and experience, to the Crown Agents for the Colonies, 4, Millbank, S.W.1.

WANTED, WORKING MANAGER to take charge of three acres of Glass; Cucumbers, Tomatos; must be good manager of labour; good references essential. — State wages required and experience.—H. S. W., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village N.6.

MANAGING FOREMAN (Working), immediately; thoroughly expert at Tomatos, Chrysanthemums, Cucumbers, Ferns, etc.; good organiser, capable of complete charge; full particulars, wages expected, age, and copies of references. EWART COOK, Park Nurseries, Hutton, Essex.

FOREMAN (Alpine and Herbaceous Dept.).—Wanted at once, a thoroughly experienced and energetic MAN as above.—Apply, with details of experience, wages wanted, etc., to JAMES BACKHOUSE & SON, LTD., The Nurseries, York.

WANTED, FOREMAN for 20-acre Nursery where a large and varied stock of Conifers, Ornamental Trees and Shrubs, first-class Fruit Trees, Roses, etc., are grown. A permanent position for an active, capable man who would take a keen interest in growing good stock as well as in new Conifers, Trees, Fruits, etc.—References, wages, and all particulars to HILLIER & SONS, 95, High Street, Winchester.

A WORKING FOREMAN who is thoroughly up-to-date in Hardy Fruit Culture and able to instruct students, for a Fruit Farm in the South of England; age not over 50.—ORCHARDIST, Box 24, 41, Wellington Street, W.C.2.

WANTED, WORKING FOREMAN; also experienced KNIFESMAN for Fruit Trees and Roses.—BRINKMAN BROS., Wraysbury, Bucks.

WANTED, experienced LANDSCAPE FOREMAN.—Apply, with particulars, to WM. WOOD and SON, LTD., Wood Green, London.

GROWER wanted for Chrysanthemums, Roses, Tomatos, Ferns, Bedding Stuff, etc.—State wages and experience, JOHN PIGG, The Nurseries, Royston, Herts.

WANTED, experienced GROWER for Tomatos, Cucumbers, Chrysanths, Violets and Carnations for Market. State wages and references. Single man preferred.—Apply, C. MILLICAN, Kinson, near Bournemouth.

BULB GROWER.—Wanted, capable MAN to take charge of branch Nursery, chiefly Bulbs.—Apply, stating wages required and when at liberty, to WALSHAW & SON, Bulb Growers, Scarborough.

WANTED, PROPAGATOR for a choice Collection of Trees, Shrubs, Conifers, etc., new Chinese Plants, Alpines, etc.; also to take charge of a specimen Rock and Water Garden, Herbaceous Borders, etc. A permanent situation for a keen, capable man.—References, wages and all particulars to HILLIER & SONS, 95, High Street, Winchester.

PROPAGATOR wanted; good wages to competent man; used to raising Spring Bedding and Herbaceous Plants.—Apply, Toogood and Sons, The King's Seedsmen, Southampton.

WANTED, experienced Cucumber and Tomato Hands; good wages given; good references essential.—H. S. W., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

MEN wanted for Landscape work, experience not necessary; 11d. per hour.—Apply by letter, JENSEN AND MILNE, Finchley Lane, Hendon, N.W.4.

WANTED, capable MAN for Tomatos and Cucumbers. State age, experience, and wages required, C. J., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, experienced FERN RAISER and GROWER, quick at potting. for Market Nursery.—JAMES WHITAKER & SONS (Nurserymen), LTD., Prescot, Lancs.

WANTED, YOUNG MAN in small Market Nursery; Inside and Out; 8½d hour, 48 hours to week.—INGLE, Hextable, Swanley, Kent.

WANTED, two YOUNG MEN with experience under Glass, one for Bedding Stuff, and one for Palms and Greenhouse Plants.—State particulars and wages to W. FROMOW & SONS, Sutton Court Nurseries, Chiswick, W.4.

WANTED, three or four SINGLE MEN for Jobbing Garden, Kitchen Garden, and Greenhouse work. Regular work to suitable men.—M. DELL, The Nurseries, Norbury.

WANTED, MAN for General Nursery.—State experience and wages required, C. H. EVANS & SON, Nurserymen, Mumbles, Swansea.

WANTED, single YOUNG MAN with some knowledge of Tomato, Cucumber and General Nursery work; hours 54; wages 35s.—R. F., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, SINGLE MEN for General Nursery work, 50 hours per week.—State wages and full particulars, MANAGER, Laverstock Nurseries, Salisbury.

WANTED, experienced SINGLE MAN for local jobbing work. State wages required.—COULSON, 5, New Road, Crouch End, N.8.

WANTED for Cucumbers, Tying, etc., YOUTH OR YOUNG WOMAN with some experience. Good wages, regular work; good chance to learn. Give age and experience.—MANAGER, Clifton Fruit Growers' Co., York.

WANTED at once, REPRESENTATIVE to Travel for a leading Wholesale House in the Seed Trade. Apply K., Box No. 15, 41, Wellington Street, Covent Garden, W.C.2, with fullest particulars as to experience, references, salary required, etc.

FLORIST'S MANAGERESS wanted; good Saleswoman; good home.—State age and salary, S. A., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

MR. ARTHUR FRANKLIN, of Chartridge, Chesham, Bucks, can highly recommend William Hancock as Head Gardener; has been in his employ 16 years, three as Head; all round experience; reliable and trustworthy; abstainer; very capable wife (formerly parlourmaid), 2 young children; age 34; at liberty when suited.—Apply W. HANCOCK, Chartridge Lodge Gardens, Chesham.

GARDENER-BAILIFF. — H. ROBINSON offers his services as above, to any Lady or Gentleman requiring a thoroughly experienced man in all branches of Gardening and estate work, repairs, stock, &c.; nine years present place; age 42.—ROBINSON, Kingston Park, Dorchester, Dorset.

HEAD GARDENER.—J. Annan Bryce, Esq., M.P., strongly recommends V. GAMMON, who has served him excellently in Ireland, during the past seven years, in the making and maintenance of extensive grounds and gardens.—Apply, V. G., c.o. Mr. T. LEWIS, 45, Uxbridge Road, Hanwell, W.7.

C. TURNOR, Esq., Stoke Rochford, Grantham, can very highly recommend his late HEAD GARDENER, who has a thorough and practical knowledge in all branches of Horticulture; nine years in these gardens; age 39.—S. ARBURY, Buckminster, Grantham.

THE HON. A. J. MULHOLLAND, who is leaving Worlingham, will be pleased to recommend his Head Gardener as a thorough practical man in every branch; hard-working, economical and good manager; estate work, also bees.—Address to above, or MORRIS, Worlingham Gardens, Beccles.

SIR OSBORN HOLMDEN recommends his HEAD GARDENER; thoroughly practical expert in all branches of Horticulture; excellent references.—T. JOHNSON, 4, Lynn Villas, Linfield, Haywards Heath.

LADY VAUX, of Harrowden, wishes to recommend her late Head Gardener as a first-class man; life experience in all branches; experienced in management of large establishments; excellent testimonials; thoroughly energetic; disengaged; recently demobilised; age 37; married (one child aged 8 years).—WM. WARREN, Model Farm, Shirburn, Nr. Watlington, Oxon.

TO ADVERTISERS.

In consequence of the Easter vacation, advertisements intended for the issue of the 19th inst. MUST reach us on Monday, the 14th inst., or they will be held over until the next week.

GARDENER (HEAD).—A. G. SOAMES, Esq., will be pleased to recommend W. EDWORTHY (recently demobilised), for over eight years Head Gardener at Sheffield Park, Uckfield, Sussex, to anyone requiring first-class Man for good establishment; thoroughly efficient in all branches; age 43; married (two children, 8 and 4).—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

VISCOUNTESS KNUTSFORD wishes to recommend her HEAD GARDENER, H. SYMONDS, to any lady or gentleman requiring the services of a thorough good all-round man; 28 years' experience in all branches; married; age 43.—The Priory, Royston, Herts.

GARDENER (HEAD) where two or more are kept; life experience in all branches; excellent references; age 37; married (one girl); five years as Head previous to joining the Service, now demobilised.—D. REYNOLDS, High Street, Hopton, Thetford, Norfolk.

GARDENER (HEAD); thoroughly competent in the management of all branches of Gardening under Glass and Outside; good decorator; age 31; married; good references.—CRICK, Marchwood, Southampton.

HEAD GARDENER where four or more are kept; life experience; good references; age 39; married; when suited; demobilised.—J. BUMSTEAD, 18, Sedlescombe Road North, St. Leonards-on-Sea.

ORCHID GROWER or HEAD GARDENER where Orchids are one of the leading features; expert in raising and growing Orchids; 15 years' experience in first-class places; highly recommended; 4½ years' Army service; last place sold while on active service; age 34; married (one child).—C. RUSHTON, Bremhill, Calne, Wilts.

GARDENER (HEAD); life experience in all branches, both Inside and Out; Carnations a speciality; excellent references; age 33; married when suited; just demobilised.—F. RABBETS, 3, Howe Green, Chipstead, Surrey.

HEAD GARDENER or ESTATE MANAGER life experience all branches; Pedigree Stock, Milk Records, Accounts; well recommended; age 46; married.—W. R. WRIGHT, Chapel Farm, Barby, Rugby.

HEAD GARDENER, disengaged, life experience all branches of Horticulture, desires engagement where energetic, efficient and competent man is required; 18 years' Head; first-class reference; holder of Cups and Medals for Vegetables, Fruits, etc.; age 46; married.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

HEAD GARDENER, where four or more are kept; experienced in all branches, and good practical experience of Kitchen Garden; 18 years last place; demobilised; age 39; married (no family); good reference.—Apply, T. W. HINE, 11, New Road, South Street, Ponders End.

GARDENER (HEAD), life experience in all branches, seeks re-engagement where a good man is required for first-class establishment; ten years HEAD at Rockingham Castle; highly recommended; age 40; married; demobilised.—G. BIGGS, Garnstone, Weobley, Herefordshire.

GARDENER (HEAD or good SINGLE-HANDED); life experience Inside and Out; two years last place, previous to joining the Colours; demobilised; age 42.—W. LILLYWHITE, 9a, Trentham Street, Southfields, S.W.

GARDENER (HEAD); practical experience Fruits, Plants, Kitchen Garden, Pleasure Grounds, house and table decorations, gained in first-class establishments; previously Head; married (two children); age 36; recently demobilised.—Apply T. LARKBEY, Battlefields, Wrotham, Kent.

GARDENER (HEAD of two or three); life experience (Inside and Out); age 35; two in family; good references.—CARTER, 19, Windsor Road, Hailsham, Sussex.

GARDENER (HEAD) seeks re-engagement; life experience in all branches, Inside and Out; six years Head in present place; age 44; single; disengaged when suited.—C. BERRYMAN, 7, Lansdowne Terrace, Gt. Malvern, Worcestershire

GARDENER (HEAD) where others are kept; life experience in all branches; 8 years previous as Head; age 42; married (1 child); demobilised.—WHEELER, Glengarriff, Queen's Road, Crowborough.

MR. DUVALL, Agent to T. E. Brooke, Esq., Ponfield, Hertford, highly recommends F. GARRETT as HEAD WORKING GARDENER; life experience in large establishments; married; age 52; excellent testimonials from previous employers. — Mr. DUVALL, 60, Fore Street, Hertford.

OXLEY PARKER, Esq., of Sharpham, Totnes, S. Devon, wishes to highly recommend G. R. HORROCKS as Head Working Gardener; thoroughly experienced Inside and Out; Foreman previous to enlistment; married when suited; age 29; demobilised. G. R. HORROCKS, Record Road, Emsworth, Hants.

MRS. LAMBERT highly recommends G. HAMMOND as HEAD WORKING GARDENER where two or three are kept; has been with her 11 years, six as Head; life experience; age 36; married (one child, age 3).—The Gardens, Dane's Hill, Oxshott, Surrey.

LORD ASHCOMBE, Denbies, Dorking, Surrey, wishes to recommend G. ALLAN as HEAD WORKING GARDENER; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

GENTLEMAN highly recommends his HEAD WORKING GARDENER; thoroughly practical in all branches; excellent refs.—H. GARDENER, 24, Horsford Road, Brixton Hill, S.W.2.

GARDENER (HEAD WORKING), age 32, married (one child) seeks situation Institution; over six years' reference from ladies' college; West country preferred.—CLIFFORD, 8, Temple Street, Oxford.

GARDENER (HEAD WORKING); married; total abstainer; 27 years' experience; high-class Gardening, Inside and Out; highest reference from present employer. — CARTER, The Hall, Burnham Market.

GARDENER (HEAD WORKING); life experience, seeks situation with lady or gentleman who require a practical and thoroughly competent Man in all branches; previous to Army service, 6 years Head Gardener at Pyt House, Tisbury, Wilts; age 39; married (no family); highest references. — H. MARTIN, Lodge Farm, Colne Engaine, Essex.

GARDENER (HEAD WORKING); life experience in all branches, requires situation; excellent references.—B., 33, Park Road, Henley-on-Thames.

GARDENER-CHAUFFEUR (HEAD WORKING); thoroughly experienced all round; married; age 34; excellent references.—Please state wages, A. L., Wick House Lodge, Bushey, Herts.

GARDENER (HEAD WORKING), where several are kept; 23 years' first-class practical experience with choice Fruits, Plants; Inside and Out; Kitchen Garden; highly recommended; age 38; married (no family).—WREN, Rawplatt Lane, Felbridge, East Grinstead.

GARDENER (HEAD WORKING); life experience all branches; age 30; married (1 child); disengaged ;wife useful.—State wages, F. DRAGE, 21, Russell Street, St. Neots, Hunts.

GARDENER (HEAD WORKING) seeks situation where 2 or 3 are kept; life experience in all branches; age 45.—S. R. SEXTON, 13, Thurstan Road, Wimbledon, S.W.19.

GARDENER (HEAD WORKING); life experience in all branches gained in large establishments; age 30; demobilised; married (no. family); good manager; very energetic; enthusiastic, efficient cultivator of choice products Inside and Out; excellent references.—E. BROWN, 4, Sunny Side, Earls Barton, Northampton.

GARDENER (HEAD WORKING), life experience, seeks situation with lady or gentleman who requires a practical and thoroughly competent man in all branches; skilful cultivator of choice Fruits, Vegetables and Plants; leaving through death of employer and estate being sold. Can be highly recommended by a lady and a gentleman; married.—WILLIAM COLE, The Gardens, Clewer Manor, Windsor, Berks.

GARDENER (HEAD WORKING), life experience gained in first-class establishments; thorough knowledge Fruit, Plant Culture under glass, Hardy Fruit, Vegetables; good organiser; energetic; age 35; married (one child); good references.—N. DAVEY, Danesfield, Marlow, Bucks.

GARDENER (HEAD WORKING); good all-round Private and Nursery experience, Inside and Out; no objection to Stock; disengaged when suited; good references; age 37; married (one child, age seven).—A. PAGET, 42, Windsor Road, Richmond, Surrey.

GARDENER (HEAD WORKING) where two or three are kept; Carnations and Fruit a speciality; married (no family); age 49; can be well recommended; disengaged.—ELLIS, near Earley Station, near Reading.

GARDENER (HEAD WORKING), age 37, demobilised, seeks engagement; life experience all branches of private gardens; reference, 4½ years previous as Head.—E. FULLUCK, Bricket Wood, Watford.

GARDENER (HEAD WORKING); a thorough practical, energetic man, with lifetime experience in large gardens; first-class Fruit, Vegetable and Flower grower; Inside and Out, and the upkeep of a good garden; good organiser, with excellent references as to abilities and character. Home counties preferred.—W. A., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING); thorough practical knowledge, Fruit, Flowers and Vegetables (Inside and Out); three years here; 15 previous as Head; excellent references present, previous employers; age 44; married (no family).—COTTERELL, Plowhatch Hall, Sharpthorne, Sussex.

GARDENER (HEAD WORKING).—Mr. Fisher, Head Gardener to the Right Honble. The Earl of Cawdor, Stackpole Court, Pembroke, can with confidence recommend his late FOREMAN GEORGE RUBYTHON, as above; age 35; married (no family); demobilised.—G. RUBYTHON, 4, Priory Terrace, Monkton, Pembroke.

GARDENER (HEAD WORKING), just demobilised, seeks post where several are kept; life practical experience in all branches, gained in first-class establishments; three years and eight months Head Gardener to Lord Bishop of Peterborough; age 36. —A. MORPHETT, The Common, Cranbrook, Kent.

GARDENER (HEAD WORKING), just demobilised, seeks situation; life experience in all branches; good references; married; electric light if necessary.—EVANS, Stable Cottage, Oakhill, Bath.

GARDENER (HEAD WORKING); life experience in all branches, Inside and Out; Midlands preferred; experience in Vines, Peaches, Stove and Greenhouse Plants, Carnations, Chrysanthemums, etc.; married; age 49; one child, age 11; excellent references. —Apply, D. J., c/o Dickson's Nurseries, Chester.

GARDENER (HEAD WORKING) or SINGLE-handed with help; life experience; ten years present place; married (no family); good personal references.—EARP, The Grange Cottage, Highgate, N.6.

GARDENER (HEAD WORKING), where others are kept, seeks re-engagement; life experience, Inside and Out; married; no family; age 36; good references.—D., West View, Henfield, Sussex.

GARDENER (HEAD WORKING) where three or more are kept; life experience gained in first-class establishments; age 32; married (no family); excellent references.—CAMBRAY, 32a, Church Street, Dorking, Surrey.

A PRACTICAL HEAD WORKING GARDENER, with excellent references for ability, seeks re-engagement; life's experience all branches, including Orchids; disengaged when suited; age 45.—GARDENER, The Gables Cottage, Surbiton.

GARDENER (HEAD WORKING) life experience in all branches; age 36; married (one boy 9½); well recommended; please state wages with cottage.—BATEMAN, 100, Lower Road, Kenley, Surrey.

ENERGETIC HEAD WORKING GARDENER, thorough practical experience of gentlemen's establishment, seeks re-engagement; demobilised; excellent credentials; married (two boys); age 40.—DEAL, 2, Dewhurst Road, Cheshunt, Herts.

GARDENER (HEAD WORKING) seeks re-engagement in large establishment; life experience; well up in Fruit, Roses, Kitchen Garden and Glass work; last ten years as Head; very highly recommended.—EVENDEN, c/o Mr. COURT, Bowhill Farm, Yalding, Kent.

GARDENER (HEAD WORKING), or good SINGLE-HANDED; five years last situation; good references; age 36; married (no family).—EDWARDS, Eastwick Park Gardens, Great Bookham, Surrey.

GARDENER (HEAD WORKING) where three or more are kept; first-class experience in all branches, Inside and Out; married (one boy, age 8); age 42; just demobilised; excellent reference.—Apply, COOK, Lamport Station, Northampton.

GARDENER (HEAD WORKING); life experience; good all-round, Fruit, Flowers, Vegetables; Inside and Out 14 years Head; age 41; married (one child).—LUCKHURST, 174, Sunnyhill Road, Streatham, S.W.16.

GARDENER, SINGLE-HANDED or where help given; life experience, Inside and out; excellent references; age 28; married; no family; accustomed to animals; demobilised from Navy.—LACEY, 30, Falkland Road, Kentish Town, London, N.W.

GARDENER, SINGLE-HANDED or UNDER; ten years' experience; demobilised; age 27; married (one child); good reference.—F. SIMMONS, 6, Halleighs Cottages, Cuckfield, Sussex.

SINGLE-HANDED or otherwise; 25 years' experience; age 42; married (one girl, 9 years); abstainer; churchman.—PARKER, Bishopstone, Shrivenham, Berks.

GARDENER (SINGLE-HANDED or with help); seven years present situation; excellent references; married (with grown-up daughter).—Please state wages, GARDENER, c.o. Brookes Station, Oxted, Surrey.

GARDENER seeks situation, SINGLE-HANDED or KITCHEN GARDENER; married (with no small family); cottage required; good references.—A. W. PHILLIPS, The Cottage, Crowndale, Chorley Wood, Herts.

GARDENER (SINGLE-HANDED or with help); practical experience; age 35; married (one child); good references; demobilised; disengaged.—G. TURNER, 35, Cowper Street, Olney, Bucks.

GARDENER (SINGLE-HANDED), demobilised; 11 years' general experience; age 27; married when suited. State wages.—W. WALKER, Woodrow, Amersham, Bucks.

GARDENER (SINGLE-HANDED or otherwise); 25 years' experience; age 42; married (one child); Churchman; abstainer. — Apply to PARKER, Bishopstone, Shrivenham, Berks.

GARDENER, good SINGLE-HANDED or otherwise; age 38; life experience in all branches; demobilised; married, one child; good references.—J. BAKER, 3, George Street, Worthing, Sussex.

GARDENER seeks situation, SINGLE-HANDED or good Kitchen Gardener; life experience; good references; age 36; married, one child.—Apply W. SHRIMPTON, 165, Ingram Street, Battersea, S.W.11.

GARDENER (SINGLE-HANDED or with help); life experience, Inside and Out, Fruit, Flowers and Vegetables; 10 years last place; excellent references, disengaged; age 39; married (no family).—PADGHAM, 7, Acacia Road, Stone, Greenhithe, Kent.

GARDENER (SINGLE-HANDED or otherwise); life experience Inside and Out; age 37; married (one child).—Please state wages, J. VAUGHAN, 4, Aylesbury Road Cottages, Wing, Bucks.

GARDENER, demobilised, desires situation where several are kept; 20 years' experience Inside and Out; knowledge of electric if necessary.—E. YOUNG, Whitsbury, Briamore, Salisbury.

GARDENER or GENERAL FOREMAN, age 37, married, 20 years' experience Inside and Out. —Please state wages and particulars, COTTINGHAM, Gardens, Llantrisant House, Llantrisant, Glamorgan

GARDENER, fully experienced, competent, reliable, In and Outdoors; Fruit, Vegetables, Stove and Greenhouse Plants; good knowledge of land and livestock.—T. A. G., 85, St. Dunstan's Road, Baron's Court, Hammersmith, London.

GARDENER (married, demobilised) seeks situation, single-handed or with help; all-round experience; good references.—Address T. BIRCH, Amport, Andover, Hants.

SITUATION required as GARDENER; SINGLE-HANDED or with help; life experience in good establishments; highest references; age 37; married (no family). — CROSS, 104, Ferndale Road, Clapham, S.W.

GOOD all-round GARDENER; active, abstainer; can drive car; 10 years' excellent refs.; 42; married; cottage required.—BUTTLE, 44, Eastbrook Road, Waltham Abbey.

GARDENER where help is given or Second of three or four; experienced Inside and Out; good references; married (two children).—HOGSTON, Oak Lodge Cottage, Totteridge, Herts.

KITCHEN GARDENER or Pleasure Ground Foreman; good practical experience; good references; age 46; married (one child).—W. EMBERSON, Manor House Cottage, Effingham, Surrey.

KITCHEN GARDEN or Pleasure Grounds; eleven years' experience; good references; age 29; just demobilised Navy, 2½ years' service. — H. HERITAGE, Yew Tree, Sanderstead, Croydon, Surrey.

KITCHEN GARDEN or Pleasure Grounds FOREMAN; good practical experience; good references; age 28; married; demobilised. Please state wage, with cottage.—T. H. WRIGHT, 7, Silverdale Road, Tunbridge Wells, Kent.

MR. E. ATKINS, Hargrave Park Gardens, will be pleased to recommend H. TITMUSS as SECOND, Inside and Out, in good establishment; left here owing to war; age 36; married (no family).—Apply, H. TITMUSS, c/o Mrs. J. Livermore, Great Chishill, near Royston, Cambs.

GARDENER, demobilised, as good SECOND or SINGLE HANDED with help; well recommended. good general experience; age 30; married.—MARTIN, 170, Hamilton Road, West Norwood, London, S.E.

GARDENER (Second or good Single-handed); life experience in all branches; excellent references; married (no children); age 30; demobilised.—G. CHANDLER, 58, Queen's Road, Alton, Hants.

GARDENER (Second or good Single-handed); life experience, Inside and Out, in good establishments, excellent references; age 30; married when suited; just demobilised.—H. PITMAN, Wookey Hole, Wells, Somerset.

GARDENER (Second) or OUTSIDE FOREMAN, has held same positions in good establishments; good references; two girls, age 10 and 8.—P. CHAPLIN, Ferry Road, Medmenham, Marlow, Bucks.

GARDENER (Second), take lead Kitchen Garden, or good Single-handed where Greenhouses are; age 34; single; good references previous joining Army, 1914. — J. ROGERS, Longcroft, Rotherfield, Sussex.

GARDENER (Second or Single-handed); life experience, Inside and Out; last situation in charge of Houses; good references; age 29; married when suited; demobilised.—C. WILTON, St. Cleer, Liskeard, Cornwall.

GARDENER (demobilised) seeks situation as Second; Inside or Inside and out; at liberty beginning of May; good reference.—D. BOUGHTWOOD, Mountnessing Road, Billericay, Essex.

EX-NURSERYMAN, age 33 (married, one child, age 4), desires position as PRIVATE GARDENER; fully qualified; 18 years' experience, both under Glass and Outside; specialities, Roses, Carnations, Bedding Plants, Chrysanthemums, Tomatos, all kinds of Flowers and Vegetables, and the raising of all classes of stock; cottage if possible.—M. G., Box 22, 41 Wellington Street, Covent Garden, W.C.2.

MR. G. REUTHE, Nurseries, Keston, Kent, can thoroughly recommend a GARDENER well up in Flowers and Vegetables; has been 36 years in one situation, and is now 50 years of age; wages required, £2 per week, and house and Vegetables; has three boys, one of whom could work with him if required—and one daughter; would want railway fare paid to destination. —Apply to above address.

GARDENER seeks situation; ten years' experience Inside and Out, in good places; age 26; married when suited.—Please state wages, Home Counties preferred, R. BROWN, The Bridge Inn, Winchelsea, Sussex.

GARDENER (married, no family, age 31), seeks situation immediately; nine years experience, all-round Gardening; Outside General work preferred; Poultry no objection; good references; demobilised; 3½ years service.—Please state wages, with cottage, to A. LEADBETTER, Whitehouse Farm, Binfield, Berks.

GARDENER or HANDYMAN; understands Gardening or Cows, Poultry, etc.; wife good butter maker, or help in house; one girl, 13½ years; good references.—IRELAND, 11, Sunny Side, Broadbridge Heath, Horsham, Sussex.

FOREMAN (General).—Mr. A. Nobbs, Head Gardener to Lord Arthur Butler, "Gennings," Maidstone, can well recommend P. NEWMAN, as above; married (demobilised Corporal).—Apply NEWMAN, Horringer, Bury St. Edmunds.

FOREMAN (General); life experience, Inside and Out; good references; age 30; married; demobilised Sergt.—P. J., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

ADVERTISER seeks situation as FOREMAN (Inside); 11 years' experience; good refs.; age 28; married; just demobilised. OAKS, G. A., c/o Mrs. M. T. W., Shalstone, near Buckingham, Bucks.

FOREMAN, General or Inside; life experience (pre-war); demobilised; age 36; married (two children).—Please state wages, OAIN, Sutton Common, Bishopstow, Warminster, Wilts.

FOREMAN (Inside) seeks situation in well-kept establishment; age 29; single; life experience; excellent references.—E. BILLINGS, Ashdown Park, Shrivenham, Berks.

OUTSIDE FOREMAN; life experience; can be well recommended; age 39; married when suited; demobilised.—Apply J. BUMSTEAD, 18, Sedlescombe Road North, St. Leonards-on-Sea.

JOURNEYMAN, age 21, seeks situation, Inside or Inside and Out; good reference.—A LANGRIDGE, 2, Fern Cottage, West Hoathly, Sussex

JOURNEYMAN seeks situation, Inside; seven years' experience; good references; age 22.—Please state wages with bothy, C. MILES, Colesbourne, Cheltenham, Glos.

JOURNEYMAN (Second), Fruit and Plant Houses; three years' experience; age 18; bothy preferred.—T. H., c/o Dickson's Nurseries, Chester.

IMPROVER (Inside). — Mr. Arnold, Hestercombe Gardens, strongly recommends C. FOYLE; age 16; 3½ years' experience; chiefly Inside; very interested worker.

DISCHARGED SOLDIER, age 24, married, seeks situation in Pleasure Grounds or Kitchen Garden; seven years' experience; well used to horse machines and scythe; highest references obtainable.—Apply, stating particulars, to ALLIBONE, The Valley, Marley Hill, Swalwell, Co. Durham.

DISCHARGED SOLDIER seeks re-engagement, Inside and Out; previous experience in first-class gardens.—Please state wages and particulars to E. SHELDRAKE, Station Road, Docking, Kings Lynn, Norfolk.

YOUNG MAN seeks situation, Inside or Inside and Out; 8 years experience; demobilised; age 28; single.—H. SMITH, 85, High Street, Upper Weston, Bath.

YOUNG A1 MAN (21), single, seeks situation as JOURNEYMAN where several are kept; experience R.H.S. Gardens, Wisley.—G. E., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

TO ADVERTISERS.

In consequence of the Easter Vacation, advertisements intended for the issue of the 19th inst. MUST reach us on Monday, the 14th inst., or they will be held over until the next week.

BROTHERS (two), age 17 and 21, seek work as Under Gardener and Handy Man; good refs.—G. C., c/o. The Lodge, Burton Firs, Petworth, Sussex.

LADY GARDENER (London) desires post on Estate or Market Garden; practical all-round experience; skilled in Pruning; excellent testimonials. Reply C., Box 7, 41, Wellington Street, Covent Garden, W.C.2

TWO trained WOMEN GARDENERS (Inside and Out), require post together, Head and Under, or equals; knowledge of Poultry.—G.D. Box 14, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER seeks situation in well-kept Garden; experienced in Fruit and Plants, Inside and Out; two years four months experiece; at liberty when suited.—D. RICHARDS, Badge Hall Gardens, Shropshire, nr. Wolverhampton.

LADY GARDENER desires Post under good Head Gardener in Thanet; 18 months in Pleasure Gardens; good experience Inside and Out.—"HALKA," St. Peter's Road, Broadstairs.

LADY GARDENER, reliable, experienced, desires work under good Head; last 2 years charge Plant and Fruit houses; previously several years general work Inside and Outside; hardy fruit experience desired. — GILBERT, 10, Clyde Road, Croydon, Surrey.

LADY GARDENER desires post to work under another or where others kept; good knowledge Digging, Planting, Pruning; two years last post gentlewoman. Good reference.—M. C., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER desires engagement in private establishment under Head Gardener, Inside and Outside; previous experience.—Apply, TOWN, Kingston House Gardens, Abingdon, Berks.

TWO LADY GARDENERS, some experience, desire post for Herbaceous or Kitchen Garden work.—MISS NOTT, 8, Kingsholm Square, Gloucester.

TRADE.

NURSERY MANAGER or FOREMAN, life experience in the management of large quantities of Glass, producing for up-to-date nurseries, markets and shops.—LAWRENCE, 83, Warwick Avenue, Paddington.

AS WORKING MANAGER; life experience in Florist Busines, making up, decorating, plants, seeds, correspondence; entire charge; where could reside on premises preferred; wife assist, good saleswoman; moderate wages and commission.—37, Broadway Avenue, Croydon.

WORKING MANAGER or FOREMAN; life experience, Tomatos, Cucumbers, Grapes, and general Pot Stuff, also Outside Fruit, Vegetables, Salads. Married; age 46; 20 years' reference; abstainer. FOSTER, 56, South Street, Ponder's End, Middlesex.

MANAGING FOREMAN, thoroughly experienced in Grapes, Cucumbers and Tomatos for Market; good references.—C. J., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN GROWER or MANAGER; life experience in growing Tomatos, Cucumbers, Bedding Plants, Chrysanthemums, Hydrangeas, Marguerites, Roses and Ferns.—FOREMAN, Park Nurseries, Hutton, Essex.

FOREMAN GROWER, 26 years' good general experience on Market Nurseries under Glass; Tomatos, Cucumbers, Grapes, Peaches, Nectarines, Melons, Figs, Oranges, and the general run of foliage and flowering Plants. Thoroughly understands the profitable management of Glass Houses; good references; no fault of own, through leaving present situation; single.—GRIFFIN, Sidbury Gardens, near Sidmouth, Devon.

FOREMAN (Working) for small Nursery; life experience in Fruit Trees, Roses and Shrubs; good Budder and Grafter; age 32; married.—H. F., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

ORCHID GROWER. — Messrs. E. H. DAVIDSON & CO. strongly recommend demobilised soldier as above; 17 years' experience in good establishments; good references.—Apply, S. P., 53, Kimberley Road, Nunhead, S.E.15.

GROWER (Dane); life experience in General Pot Stuff, Bulb Forcing, Palms, Cucumbers, Tomatos, etc.; good references. Please state wages.—B. A., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

SEED GROWER seeks progressive situation; several years' experience.—W. O., Box 27, 41, Wellington Street, Covent Garden, W.C.2.

OFFICER, demobilising, age 24, seeks OPPORTUNITY. College education, R.H.S. and College Horticultural Certificates, theory and practice; two years' business experience; energetic and ambitious. Prospects main consideration.—D., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

SEEDSMAN, demobilised, seeks situation; London and provincial experience Seeds, Bulbs and sundries, and Market Garden Seeds; used to brisk Counter Trade; good references.—SEEDSMAN, Box 15, 41, Wellington Street, Covent Garden, W.C.2.

SALESMAN requires post in Covent Garden Flower Market; well established. — Apply, J. SMITH, Rose Cottage, Norman Road, Belvedere, Kent.

WORKING PUPIL (Resident), age 16, requires training in Horticulture or Farming.—State terms, R. PURKISS, 72, Edburton Avenue, Brighton.

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The Bredon Nurseries, with 1,100 feet run of glass, having a frontage to the road leading from Tewkesbury to Kemerton, and a dwelling-house with garden and sheds, the whole being about two acres in extent

The properties are in the occupation of the owner and possession may be had on completion or earlier by arrangement.

Particulars and plans may shortly be had of MESSRS. FFOOKS & GRIMLEY, Solicitors, Greenhill, Sherborne, or of the Auctioneers, Albion Chambers, Gloucester.

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MESSRS. PROTHEROE & MORRIS will Sell as above at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.2, on

THURSDAY, APRIL 24th, 1919.

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N.B.—Note alteration in day of sale.

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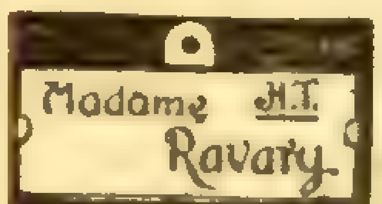

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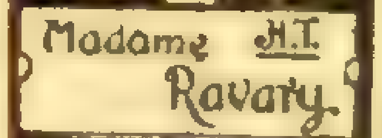

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THE

Gardeners' Chronicle

No. 1686.—*SATURDAY, APRIL* 19, 1919.

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SNOWDROPS.

THE various species of Galanthus or Snowdrop are widely distributed over Europe, and extend through Asia Minor to the Caucasus. The local forms or varieties seem to be numerous, and when plants are raised from seed it is by no means difficult to pick out seedlings which appear to some gardeners to deserve distinctive names. Others are content to know only the specific name of their plants, without giving a varietal name to each one that shows a slight variation, but, even so, they find it difficult to assign their Snowdrops to one or other of the various species. These notes have no claim to be exhaustive, but merely represent an attempt to point out the characteristics of the several species as they were defined in the original descriptions. The points of difference between the various species are in most cases slight, and it may well be that the evidence of seedlings would lead to the reduction of the number of species by showing that several so-called species were really of hybrid origin.

In our search for characteristics by which to separate the species, we may consider either the foliage or the flowers. The latter seem to vary considerably in collected and seedling forms, both in shape and also in the position and extent of the green markings which usually occur only on the inner segments, although forms are known in which the outer segments are also marked with green. The foliage is perhaps more constant in its characteristics; at any rate, it provides us with a guide by which to divide the species into three groups. The first of these has the narrow, almost flat glaucous leaves of G. nivalis; the second has bright green leaves; and the third has leaves with edges which are folded back longitudinally, especially at the base.

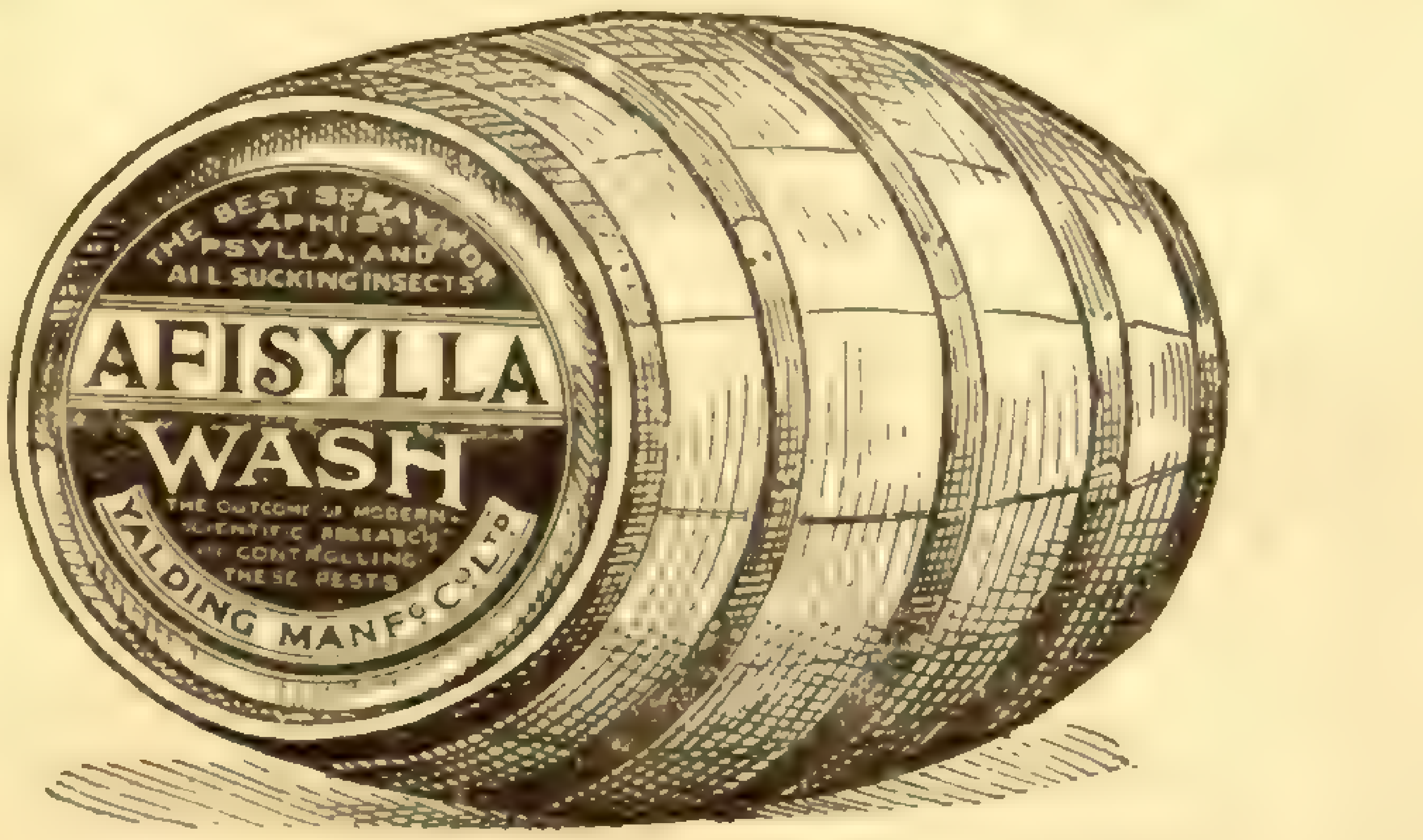
To the first of these groups belongs G. nivalis, which is the Snowdrop most commonly grown in our gardens, and which has even become naturalised in some places, though it is probably not a native of this country. In southern Europe there is a stronger growing ally of G. nivalis called G. caucasicus (cf. Baker, *Gard. Chron.*, 1887, March 5, page 313)) This is perhaps hardly more than a sub-species, in which the stronger growth is due to a more congenial climate. The outer segments of the flower are more convex, and narrow more noticeably at the base, and the plant sometimes has the habit, which I have never noticed in G. nivalis, of producing a second stem and flower from one pair of leaves. In the neighbourhood of Naples, and possibly also on the eastern side of the Adriatic, there grows another sub-species, which has been named G. Imperati (Bertoloni, *Flora Italica*, IV., 75). As was recently shown in these columns, there is perhaps some doubt as to whether the real G. Imperati is in cultivation, because the plant which goes by that name in our gardens flowers earlier than G. nivalis, although Bertoloni draws special attention to the fact that his plant is distinct from G. nivalis in its later flowering habit. The supposed G. Imperati of our gardens is a fine early-flowering form, obviously closely allied to G. nivalis.

In 1874, Mr. Elwes found, in the neighbourhood of Smyrna, a fine Snowdrop (see fig 85 B), which was named after him (G. Elwesii, Baker, in *Bot. Mag.* t. 6166). This has broader and even more glaucous leaves than those of G. nivalis, and the inner segments of the flowers have, besides the green dots or horse-shoe marks at the edge, a large green blotch on the lower part. Moreover, the inner surface of the inner segments is almost wholly covered by parallel, green veins to the number of twelve on each segment, while in G. nivalis there are on each segment only six complete lines and two lines that merely begin and then fade away. Another characteristic of G. Elwesii is the way in which the inner segments narrow suddenly just below their apex, thus forming a slight constriction in the tube containing the anthers which is formed by the inner segments.

The second group of Snowdrops—namely, those which have bright green leaves—comprises three species. The first of these—G. latifolius—was described as long ago as 1868 (Rupr. in *Regel's Gartenflora*, page 130 t. 378) as coming from the Alpine meadows of Ossetia, a district in the central Caucasus to the north of Tiflis. The leaves are broad and glossy, but the flower is disappointingly small and very similar to that of G. nivalis; that is to say, the inner segments have only the small horse-shoe green mark with its extremities extending into the notches at the apex and no green blotch on the lower part of the segments.

FIG. 85.—(A) GALANTHUS PLICATUS; (B) G. ELWESII.

In 1888, Foster received from the neighbourhood of Amasia, in Northern Asia Minor, a number of bulbs which proved to be those of a new species which was named after him by Baker, *Gard. Chron.*, 1889, April 13, page 459. G. Fosteri combines the characteristics of G. Elwesii and G. latifolius, for it has the green



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IT IS THE STANDARD FOOD FOR PLANTS.

bridge and Mr. Lafferty. In the *Gard. Chron.* of March 29 (page 157) Mr. Wm. Taylor asks "If Phytophthora is the culprit, why should it not continue to the end when we know how much this fungus and its allies delight to flourish on the class of plant to which the Tomato belong?" Pethybridge and Lafferty account for the cessation of the rot just above the soil level as being perhaps due to changed conditions of moisture. *R.*

HARDY FUCHSIAS.

Signs are not wanting to show that the different hardy Fuchsias are increasing in popularity. This need occasion no surprise, as they form a delightful feature in the garden during the latter part of the summer, and often well into the autumn. In the favoured parts of the country, such as the south and west, and especially when in proximity to the sea, some of them form large bushes that will keep up a succession of flowers for months together. So well do they flourish at the seaside that there is a widespread idea that such conditions are necessary to their well doing. This is, however, by no means the case, as in gardens far removed from the sea they are very fine and much appreciated. One of the largest growers, and so desirable in many ways that it would be my selection if limited to a single one, is F. Riccartonii. This, which almost attains the dimensions of a small tree where it is favourably situated, is of a freely branched habit of growth, and bears its small but richly coloured blossoms in great profusion.

The different hardy Fuchsias may be grown in various ways. First, the smaller kinds are seen to considerable advantage when given suitable positions in the rock garden; next, where quite hardy the stronger growers may be associated with ordinary flowering shrubs. Even in colder districts many of them may be treated as herbaceous subjects, for if cut to the ground each season they will grow again from the base in the spring and flower freely during the latter part of the summer. When treated in this way they are seen to the best advantage grown in a bed or mass. This method admits of the crowns being covered in winter by a dressing of leaves or some other protective material.

For some years Mr. L. R. Russell, of Richmond, has made a speciality of hardy Fuchsias, and they used to form a feature at Messrs. J. Veitch and Sons' Coombe Wood Nursery, where a good collection of the best varieties was grown. Many of the hardy kinds, particularly such old favourites as F. globosa and F. gracilis, are now regarded as but varieties of the Chilian F. macrostemma, though they were formerly looked upon as distinct species. Established bushes of these two, as well as of F., Riccartonii may often be met with in cottage gardens.

An old, yet very distinct, hardy Fuchsia is known as F. corallina or F. exoniensis. In this plant the leaves are considerably larger than in any of the others, and, growing in the open ground, it forms a dense bush 3 to 4 feet in height, and of a distinct arching habit of growth. The flowers have red sepals and a purple corolla. Of varieties with white corollas, so freely represented among the greenhouse kinds, the hardiest is Madame Cornellison, which is also one of the oldest of this class, having been sent out about the year 1860. A large number of hardy Fuchsias were raised and distributed by M. Lemoine, of Nancy. The first were sent out in 1886, and others in following years. Chief among M. Lemoine's varieties are ; americana Elégant, Bouquet, Drame, Elysée, L'enfant Prodigue, Florian, and myrtifolia minos. They are exceedingly free flowering, but not so vigorous in growth as F., Riccartonii or F. gracilis.

Nurserymen who stock these Fuchsias generally keep them in pots. Where they can be obtained in this way I prefer to plant them out into their permanent quarters during the latter part of May or in June, as there is then ample time for them to become established before winter. *W. T.*

FORESTRY.

TIMBER OF THE FALSE ACACIA.

In 1823 Cobbett created quite a sensation with regard to the False Acacia (Robinia pseudacacia), the wood of which, under the name of the Locust, he declared to be "absolutely indestructible by the powers of the earth, air and water." He caused many millions of this plant to be reared from seed, which he distributed throughout the country and prophesied that the time was not far distant "when the Locust tree would be more common that the Oak." This, I need hardly say, has never come to pass, though some of the trees planted in Cobbett's time have attained a large size and produced timber of excellent quality.

At one of the largest toy-making establishments in London I saw several articles made of home-grown Acacia wood, for which purpose it seems to be well adapted. The timber produced in this country is of good quality—strong, moderately weighty, and very durable—and has stood the test of time in a commendable way.

Fig. 87.—Tomato seedling attacked by Phytophthora cryptogea.
(See p. 188.)

In fully matured trees it is of a peculiar greenish-white colour, changing to a dull buff or brown when quite dry, marked distinctly with brownish veins, and works smoothly under the tools of the carpenter. It forms heartwood when quite young, and the burred or knotted graining is rich and beautiful.

In this country it has not been extensively used, though experiments carried out on one of Lord Derby's properties proved that home-grown timber is valuable for many out-of-doors purposes, and has been used successfully for turnery and as nails for gates and wooden buildings. Some of the trees that were cut into boarding girthed 12 feet at a yard from ground-level. The timber requires slow and careful seasoning, or the boards are apt to warp and rot. On the Continent the timber is largely employed in the making of agricultural implements, also for carts, carriages, axles, posts, sills, joists and gates. But apart from its value in an economic sense, the Acacia and its varieties are among the most beautiful of flowering trees; while they succeed better than almost any others when subjected to the conditions of our larger centres of industry. *A. D. W.*

TREES AND SHRUBS.

FIG TREES IN LONDON.

A number of old and large Fig trees are to be seen in London, including the historic specimens at Lambeth Palace, the far-reaching tree at High Street, Poplar, those in St. Paul's Churchyard, and the soot-begrimed standard tree at St. Giles-in-the-Fields. Even in the densely populated East-End, as at Stepney and the Commercial Road, the Fig-tree looks healthy and has attained to goodly proportions, which points out how well suited this tree is for town planting. The first Fig trees planted in this country are said to have been brought from Italy in 1548 by Cardinal Pole and planted by him at Lambeth. When measured two hundred years afterwards these trees were 50 feet high, the circumference of the stems being 31½ inches and 25 inches respectively. In 1813, being much injured by frost, they were cut down, but sent out shoots freely. Loudon mentions that when he visited the grounds in 1836, owing to the structural repairs to the palace in 1829, both trees had been rooted out, the only remains being some young plants in the kitchen garden, which had been raised from cuttings of the original trees.

There are now five trees growing by the buttresses of the library, the largest of which when measured in 1917 was 30 feet in height, the stem girthing 33 inches. One of these was, unfortunately, blown partially over a short time since, and the stem split in consequence.

In Stepney Churchyard, now converted into a park, by the archway at Stepney Station, by Jamaica Road—all in the East End of London—the Fig flourishes. In the rectory garden at All Saints', Poplar, a healthy Fig-tree, some 20 ft. in height, may be seen from the street. By the lake side in St. James's Park are many healthy, far-spreading Fig-trees, while as a wall covering—as by the National Gallery and many other public buildings, the deep-green, stout leaves of the Fig have been found to be the most useful and lasting of foliage for smoky situations. Probably, the tallest of London Fig trees is that in Whitefriars, by Powel's glass works, which has attained to a height of fully 40 feet, the spread of branches being proportionate.

VEGETABLES.

DUTCH BROWN BEANS.

Now that the time of sowing vegetable seeds has come round again, it may interest some readers of *The Gardeners' Chronicle* to know how I fared on a small scale last summer in the North-West of England with the Dutch Brown Beans distributed to Fellows by the Royal Horticultural Society. I obtained one ounce of seed and raised about fifty plants under glass, but had only room for a row of thirty plants, which were put out of their pots on May 25th and spaced a foot apart. The pods were gathered in early October, shelled, and the beans weighed. The yield obtained was 2 lbs. 12 ozs. of mature and 5¼ ozs. of full-sized, immature beans. The average yield per plant works out roughly at 1⅞ ozs., approximately 80 beans. The row took up about as much room as one composed of Potatos would. Allowing the average low return of 2 lbs. of Potatos per plant, and calculating the nutritive value of the Bean as four times that of the Potato, the latter would then have afforded five times the quantity of food, with much less expenditure in labour; consequently in this part of England this variety of Haricot can scarcely be regarded as remunerative. The question remains, however, whether one can consider it worth growing in this climate.

Last summer was not favourable for such a sun-loving crop, for after the middle of July the weather here was cool and wet for the rest of the growing season, though the season was a long one. The first frost was not experienced until the night of the 12th-13th October.

I hope to try the Dutch Beans again this summer, from seed of my own saving, to see what may be the result should August and September prove more favourable. *J. P., Carlisle.*

markings of G. Elwesii near the base of the inner segments and the bright green foliage of G. latifolius.

The third species of this group is G. Ikariae (Baker in *Gard. Chron.*, 1893, April 29, p. 506), which was found on the island of Nikaria (Icaria), which lies to the south-west of Samos. This has the broad, glossy, bright-green leaves of G. Fosteri and large flowers with a single green blotch on each inner segment. It flowers later than Fosteri, and is indeed one of the latest of all Snowdrops to flower.

To the third of the three divisions, which we have made among the Snowdrops, there belongs perhaps only one species—namely, G. plicatus (see fig. 85 A) (Marschall von Bieberstein, *Flora taurico-caucasica* III., page 255, 1819). This was aptly named with reference to the curiously folded edge of the leaves. These are of a rather thin substance, especially towards the edge, which is folded back for some distance along either side from the base upwards. Even if the folds are not apparent in the upper part of the leaf, they can always be found by examining the base. The outer segments of the flowers of G. plicatus become very narrow near the base, and stand out widely from the inner segments, and, even as the flowers grow old, tend to reflex. The inner segments have a larger green blotch than those of G. nivalis, and have eight parallel green veins on the inner side of each segment. This Snowdrop seems only to have become known in our gardens after the Crimean War, when bulbs were brought home by soldiers who had seen it flowering during the war. It is found, apparently, in the Crimea and on the north-western shores of the Black Sea.

We have now passed in review all the chief species of Galanthus, but there remain others that have been described as species and of which some should probably rank as such, while others are possibly natural hybrids.

In Greece and the neighbourhood Snowdrops are found that flower in the autumn and which retain this habit even in this country, where the flowers appear in October, before the leaves. They are, however, difficult to keep in health in our gardens, and their exact place in the genus is still uncertain. G. octobrensis was found in Albania in 1875; G. Rachelae was discovered by Professor Mahaffy on Mount Hymettus in Attica in 1886 and G. Elsae on Mount Athos, while G. Olgae was described as flowering in October on Mount Taygetus, in Southern Greece.

G. cilicicus is probably only an early-flowering form of G. nivalis. When first imported the bulbs send up their flowers early in November, but in subsequent years the blooms do not usually appear before Christmas.

In the Balkans there are at least two Snowdrops, which, from the descriptions, would seem to be more nearly allied to G. Elwesii than to any others. Both have the green basal blotch and glaucous leaves of that species but differ slightly both from it and from each other in the shape of the inner segments. G. gracilis was described by Velenovsky (*Flora bulgarica*, p. 539, 1891), as flowering in March, near Sumla, or Choumla, in Bulgaria, while Orphanides' G. graecus is described in Boissier's *Flora orientalis* V. p. 145 (1884).

G. byzantinus, which is found in western Asia Minor, is intermediate, and probably a hybrid, between plicatus and Elwesii. Its foliage is relatively broad and has the longitudinally folded edge of plicatus, but it is of a more glaucous and lighter green. (See Baker in *Gard. Chron.*, 1893, Feb. 25, p. 226.) G. byzantinus is of easy growth and is liable to vary considerably both in its time of flowering, in the shape of its flowers and in the extent and position of the green markings on its inner segments.

Baker's G. grandiflorus (*Gard. Chron.*, 1893, March 25, p. 355 and June 3, p. 656) was apparently a hybrid between G. plicatus and some large flowering form of G. nivalis, while G. Allenii (Baker, ibid, 1891, March 7, p. 298) and G. Perryi (Baker, ibid, 1893, March 4, p. 258) appear to be two hybrids between G. latifolius and G. caucasicus, the latter being closer to G. caucasicus, while the former is more like G. latifolius. *W. R. Dykes.*

PHYTOPHTHORA DISEASE OF TOMATOS.

The Tomato is a plant which is subject to many serious diseases and pests, and growers will be more or less interested to learn that another disease must be added to an already too long list, and it is one which threatens to do great harm unless precautionary measures are taken. Recently I was called upon to visit a large Tomato-growing nursery in the South of England (where plants are raised by the tens of thousands for indoor and outdoor culture) to investigate some trouble which the grower was experiencing with his plants. I was taken into a large house where there were thousands of plants in 3-inch pots; a large percentage of the plants were falling over the sides of the pots, as shown in the illustration (fig. 86), and large gaps where diseased plants had been removed showed that the disease had brought about many fatalities. The grower informed me that every morning and afternoon he had to remove large numbers of "top heavy" plants which the previous day were quite upright and sturdy. He said there had been trouble with the disease for the past three years, but it was not until this spring that he had regarded it with any seriousness.

Microscopic examination of the plants revealed that the diseased areas at the collar of the plant were invaded by fungus mycelium, and when diseased plants were grown in bottles of water, sporangia were freely developed, and it was then possible to identify the fungus as Phytophthora cryptogea Pethyb. This fungus was first described in the Scientific Proceedings of the Royal Dublin Society, Vol. XV. (N.S.), No. 35, February, 1919, under the title of "A Disease of Tomato and other plants caused by a New Species of Phytophthora," by Dr. G. H. Pethybridge and Mr. H. A. Lafferty.

The symptoms are given in detail, and according to the authors the disease is usually first apparent when the affected plants have reached a height of six inches or so. The stem just above the ground becomes brown and shrivelled, and the plant becomes top heavy and falls over. It is interesting to note that the foliage remains quite green and healthy for some time after the plant has collapsed. A diseased plant taken from a pot generally shews that the affected areas continue below the soil level and the roots are also affected (fig. 87). Healthy roots are generally found nearer the surface of the soil, formed, no doubt, by the plant's efforts to overcome the effects of the disease. These adventitious roots in turn become affected and the plant finally dies.

Sometimes a species of Pythium is formed in conjunction with Phytophthora, but the authors clearly show that this is not the primary cause of the disease. Pure cultures of the organism were obtained in Quaker Oat agar, and healthy plants were inoculated with the fungus. At the end of 48 hours it was evident that infection had taken place, and within a week the inoculated plants had toppled over and the leaves began to turn yellow. The fungus was again isolated from these plants and grown in pure culture, and was found to be similar to that used for inoculation purposes.

The development of the fungus in pure culture is dealt with in detail, and the production of sexual organs described. The authors also found that the fungus is the cause of a disease of Petunia and Aster, although it is still doubtful if the fungus causing the black-leg disease in Asters is absolutely identical with Phytophthora cryptogea.

The authors are of the opinion that the plants become infected through their roots from the soil, and this conclusion is further strengthened by the fact that seeds sown in infected soil became diseased when they had reached the height of two inches. It was thought that the disease may be introduced into the soil by the leaf-mould, more particularly because the fungus was found to be pathogenic to Beech. This point is worthy of further investigation.

With regard to the control of the disease, popularly named "foot-rot," the authors think that the healthy portion of the plant could be treated as a cutting, but it is doubtful if this method would be popular with large growers. The precautionary measures recommended are: (1) Destruction of diseased plants by burning; (2) Removal from the nursery of all soil in which diseased plants have been growing; (3) Thorough cleansing and disinfection of houses, frames, pots, pans and boxes; and (4) Thorough sterilisation of the soil used for sowing, pricking off and potting. It is stated that partial sterilisation of soil by the methods of steaming employed in connection with other diseases of the Tomato would probably not be sufficient. The authors do not state the length of time which the soil should be heated nor the minimum temperature required.

In the issue of *The Gardeners' Chronicle* for March 22 (page 142) reference was made to "Damping-off and Collar Rot of Tomato." This disease was considered by Mr. G. T. Spinks to be caused by a species of Phytophthora, but he had not been able to find any sexual organs and was therefore unable to describe the species (c.f. The Annual Report of the Agricultural and Horticultural Research Station, Long Ashton, Bristol, 1917, pp. 25-27).

From the symptoms recorded by Mr. Spinks, it is very probable that this disease is the same as that now described in detail by Dr. Pethy-

Fig. 86.—Tomato seedling which has collapsed as a result of Phytophthora disease.

in blossom they should be protected from frost and cold winds, and especially in exposed situations. Cherry trees are often laden with blossom and it is necessary to severely thin the flowers as soon as they begin to unfold. If this is not done, it often happens that the fruit appears to set and then at stoning period most of it drops. Heavily blossomed trees should have more than half their blooms removed. Dusting the border lightly with lime, and afterwards watering it is beneficial to the trees after the fruit is set. Weak manure water should be given after the setting stage and at fortnightly intervals, but it should not be given when the fruit is stoning. Where manure water is not available use a mixture of superphosphate of lime 2 parts and 1 part muriate of potash, at the rate of one ounce to the square yard. For better spreading the fertiliser, mix a little dry sand with it and apply when the flowers begin to fade. Trees with heavy crops should be given a second dressing when the fruit is swelling.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Odontoglossum citrosmum. — Specimens of O. citrosmum which have been resting for a long time in the cool-intermediate house are now commencing to grow again, and flower-spikes will soon make their appearance from the centre of the new growths. Henceforth afford a little more water and suspend the plants from the roof in such a position as to display the flower-spikes to advantage.

Deciduous Dendrobiums.—Considering their value as garden Orchids, the deciduous Dendrobiums are not cultivated so extensively as they should be. It is not difficult to grow them successfully, provided a warm, moist house is available. Growths spring from the base of the stem-like pseudo-bulbs soon after the flowers are over, and before they commence to root on their own account any necessary repotting or top-dressing should receive attention. It is not advisable to disturb any plants that are well-established in sweet material, but a little of the surface compost may be carefully picked out and fresh added. Young, vigorous specimens requiring increased rooting space should be given a shift with as little root disturbance as possible. Use well-drained pots or pans of sufficient capacity to accommodate the plants for two years. Specimens that have become exhausted from over-flowering are best removed from their receptacles (shaking all the old material from their roots) and, after cutting away useless pseudo-bulbs, potted anew. These Dendrobiums require a rooting medium that will not readily decay and one possessing a larger capacity for free aëration than for holding moisture. Equal parts of Osmunda fibre, A.1. fibre and fresh Sphagnum-moss well broken and mixed together, with a liberal quantity of crushed crocks and charcoal, will provide a suitable compost. The potting should be done carefully and firmly, and the surface of the compost left just below the rim of the pot. Watering is an important detail in the cultivation of newly-potted plants during their early stages of growth. Only sufficient moisture should be given to keep the material just damp, as new growths are frequently lost at this stage through an excess of moisture. As the new growths develop and the roots ramify freely in the compost the amount of water should be increased gradually. During their growing season these Dendrobiums need plenty of heat and a moist, buoyant atmosphere. The sun should be allowed to shine on them for as long as possible in the day, excepting just as young growth commences, when shading is necessary. On bright days, frequent damping of the house is necessary, and overhead syringing will also be beneficial at such times, but this should be done early in the day in order that the foliage may become dry before night-time. All kinds of deciduous Dendrobiums are easily propagated by division and by laying the pseudo-bulbs on moss after cutting them into short lengths, each with one or more nodes. Apical growths proceeding from immature pseudo-bulbs are also suitable for propagating.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Coleus thyrsoideus.—Head back old plants of Coleus thyrsoideus and keep them rather dry at the roots for a time. After they have had a rest, place them in a warm house and frequently syringe them so that they may produce fresh growths suitable for cuttings, which, when inserted in small pots of light, sandy soil, will root freely in a propagating frame.

Primula.—Seeds of Primula sinensis, to produce winter flowering plants, should be sown now in shallow, well-drained pans filled with a mixture of finely sifted loam, leaf-mould and sand. Press the soil firmly in the pans, and before sowing the seed thoroughly soak it with water. Cover the seeds with fine sandy soil and germinate them in a warm house. Cover the pans with glass and paper until the seeds germinate. If the soil becomes dry before the seedlings appear, dip the pans to their rims in water. The perpetual flowering P. obconica and other half hardy Primulas may be propagated by division of the roots. Pot the portions singly into suitable-sized pots, place them in a close frame, shade from sunshine, and water the soil carefully until growth commences.

Carnation.—Tree Carnations ready for their final potting should, according to their strength, be potted into 6- or 7-inch pots, the soil being leaf-mould with sharp sand, lime rubble, soot, and a little concentrated plant fertiliser. Pot firmly, and place the plants in a house having a temperature of 55° to 60°. Give the roots a thorough watering after potting, and syringe the plants twice daily. An occasional fumigation is necessary to check insect pests. Younger stock should be encouraged to make healthy growth. Stop the plants to make well furnished specimens.

Chrysanthemum.—Plants that have filled their pots with roots, both those intended for large blooms and bush plants for decorative purposes, should be shifted into 6-inch pots. Pot firmly in soil consisting of three parts fresh loam and one part leaf-mould, enriched with manure from a spent mushroom bed and soot. Place the plants in a cold frame on a layer of coal ashes. Spray them daily, but take care not to keep the roots excessively wet until the plants are growing freely. If subject to black fly, dust the leaves with tobacco powder. Pinch out the points of leading growths on bush plants to cause side shoots to develop.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Winter Greens: Cauliflowers and Broccoli.—Sowings of many of the winter green crops may now be made in an open position, and in ground that contains no fresh manure. Give the surface soil a good dressing of burnt garden refuse before sowing. Sow in drills one foot apart and an inch in depth. Protect the seed beds from birds.

Lettuce.—The box-raised plants should be ready for planting out. Place them one foot apart in a sheltered position. Make a sowing of both Cabbage and Cos varieties in open quarters.

Onions.—Onions raised in boxes early in the year will soon be ready for planting out of doors, provided they are well hardened. The soil should be loosened with a fork to bring the surface into a fine tilth, and a dressing of soot and burnt garden refuse applied. Tread the plot firmly and rake the surface level. Lift the Onions very carefully with a ball of earth and plant them firmly in rows 18 inches apart and allow 14 inches between the plants. If dry weather prevails at the time of planting water the seedlings directly they are set. Hoeing the soil frequently and occasional dustings of soot are very beneficial to this crop.

Peas.—Seedling Peas of main crop, marrowfat varieties that were raised in boxes, are ready for planting out of doors. Plant in double lines at eight inches apart in ground that has been trenched and manured. Water the plants if needed, and place stakes along the rows as they are planted. The rows of tall growing varieties should be at least six feet apart. Sow more seeds for successional cropping in drills running north and south.

French Beans.—As frames utilised for the growing of salad plants become vacant, sow seeds of Magnum Bonum and Canadian Wonder Beans in rows made 18 inches apart. Thin the plants later to 9 inches apart in the rows. Close the frame to favour a quick growth.

Cardoon.—Sow seeds of Cardoons singly in small pots and germinate them in gentle warmth. Afterwards harden them gradually in a cold frame. During the middle of May they may be planted in trenches prepared as for Celery, at 18 inches apart in single lines.

Marrows.—Sow a plentiful supply of all varieties of Marrows. It is best to sow only one seed in each 60-sized pot. Place the pots containing the seeds in a warm place until the seedlings appear, when some may be planted in frames on a spent hot-bed. Attend carefully to early Marrows growing in houses. Keep them well supplied with water and syringe the foliage regularly to promote quick growth. Pollinate the flowers and stop the leading growths.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Strawberries.—The fruits on the earliest batch of plants will be ready to gather, and during the ripening period the atmosphere of the house should be kept dry, air being freely admitted whenever the weather is favourable. The amount of water supplied to the roots should be curtailed, as overwatering at this period will seriously affect the flavour of the fruits. Fruits on the successional plants should be encouraged by frequent applications of weak liquid manure, soot-water, or a suitable artificial manure, to the roots.

Pot Vines.—The fruit on pot vines will now be rapidly colouring and the berries finishing. A moderately dry atmosphere should be maintained and plenty of air admitted to the vinery during the day. Admit a little air also during the night, and increase the amount of ventilation early in the morning as the sun gains power. Watering requires to be done with extra care at this stage. The berries of the Black Hamburgh variety, after colouring has commenced, should rapidly assume the bluish black hue which denotes perfect finish and flavour. Berries that take a considerable time to colour are usually deficient in these respects. In such cases an application of sulphate of ammonia has often a good effect. This stimulant, however, is rapid in action, and should be used carefully or more harm than good will result. About half an ounce to one gallon of water, applied at intervals of eight to ten days, is sufficient to give good colour to both foliage and berries. The temperature at night should be about 65°, allowing 10° rise on dull days. On sunny days the temperature may be allowed to rise to 80° or more with plenty of ventilation.

Early Permanent Vines.—The berries of early Grapes have passed the stoning age and are swelling rapidly. They will shortly commence to colour. Growth will again become active, and to prevent crowding of the foliage pay timely attention to pinching and stopping the lateral growths. If there are signs of red spider, sponge the leaves carefully with a suitable insecticide. Examine the borders for the purpose of determining whether water is required: if it is now is a good time to apply a suitable artificial manure before giving a copious watering. Soot water has a beneficial effect, promoting good colour in both foliage and berries. Houses situated to catch the sun's rays early in the morning, and more particularly old houses, should have a little air admitted by the top ventilators throughout the night. Increase the amount a little early in the morning, and maintain the requisite temperature by the use of the hot water system. If this is done there will be very little danger of the berries scalding.

SOLDANELLA.

The genus Soldanella consists of only four species, a well-marked variety in the Transylvanian pyrolaefolia, and two natural hybrids. These plants are all peculiar to the mountain regions of the middle and south of Europe. The four species fall naturally into two groups, the distinctive character being in the length of the style. In the alpina and montana group the style is either of equal length to the corolla or longer, while in the pusilla and minima set the style is shorter than the corolla. Another distinction is that in the former two species the flower stems bear two or more flowers, while in the others the flowers are solitary.

All the Soldanellas may be grown in well-drained, moist soil, and they need plenty of sunshine. They do not flower well in the drier parts of this country, because a moisture-laden atmosphere is essential to their successful culture. Sphagnum-moss mixed with the soil in which they are planted has proved of great assistance in supplying these conditions. All are easily propagated by division of the roots after flowering, or from seeds sown in the spring.

S. alpina. This species is found throughout the alpine regions of Central and Southern Europe, at an elevation of from 4,000ft. to 8,000ft. It is distinguished by its reniform, entire leaves, very sparsely toothed, with two drooping lobes at the base. The stems grow to a height of 3 inches or more, and bear two or three fringed, violet coloured, drooping flowers in April and May. There is a beautiful white flowered variety of this plant in cultivation.

S. montana (see fig. 88). This species is found in the Alps of Austria and Transylvania at an elevation of from 3,000ft. to 4,000ft. It is a stronger growing plant than S. alpina, with rounded, more or less crenate leaves, which are often purple on the underside. The flower stems frequently grow to a height of from 8 inches to 12 inches, and bear two or three deeply fringed, violet-blue flowers in May and June.

S. pusilla (syn S. Clusii). This plant is found wild on the Granitic Alps of Central Europe at an elevation of from 5,000ft. to 7,000ft. It is a very small plant with minute reniform leaves, that are slightly crenate. The stems are about 3 inches high, and bear solitary, reddish-violet flowers. These are narrow, long, and fringed for nearly one-third of their length.

Fig. 88.—Soldanella montana; flowers violet-blue.

S. minima. This, the smallest of the Soldanellas, is found on the limestone Alps of Eastern Switzerland, Tyrol, and the Carpathians, at an elevation of from 6,000ft. to 7,000ft. The leaves are quite round, very small and not indented at the base as in S. pusilla. The stems are about 3 inches high, slightly downy, and bear solitary flowers of a lilac shade. In S. minima the flower is fringed to only one-quarter of its length. There is a white form of this species.

Of the hybrid Soldanellas S. Ganderi is intermediate between S. alpina and S. minima, but more closely allied to the former. S. hybrida is intermediate between S. alpina and S. pusilla. S. pyrolaefolia is a form of S. alpina with orbicular leaves and tall flower stems. *W. I.*

The Week's Work.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Aster, Stock and Zinnia.—Sow seed of these annuals in well drained pans or shallow boxes filled with a sweet, sandy compost pressed rather firm. Sow the seeds evenly and not too thickly, press them into the soil and cover them with fine, sandy soil. Give a gentle watering, stand the pans in a little warmth and cover them with squares of glass and paper until the seedlings appear, when both paper and glass may be gradually removed.

Hardy Annuals.—If the sowing of hardy annuals has been delayed the seeds should be sown forthwith in groups in well prepared soil. Do not bury the seeds too deeply. Seedling coming through the soil should be carefully protected from both slugs and sparrows.

Perennials.—Border Phloxes and other hardy perennials planted late need careful attention until they become thoroughly established. Water the roots at short intervals in dry weather, and watch for slugs and other pests. Use the hoe freely, especially amongst plants growing in soils inclined to cake on the surface in dry weather. Mulch the roots of all strong gross-growing plants freely, and thin the shoots so that those left to bloom may produce better and larger flowers. Support the plants at an early stage of growth.

Dahlia.—If old Dahlia stools have not yet been taken from their winter quarters set them out in cold frames on a layer of decayed leaves. Place them rather closely together and scatter fine soil and leaf-mould amongst the roots. Give the clumps a gentle watering and keep the frames rather close and moist till the young shoots appear, when more air should be admitted. Dahlias require a deeply worked soil and one that is thoroughly enriched with manure. The plants should be ready for putting out by the end of May.

Bedding Plants.—All bedding plants raised either from cuttings or seeds should be given careful attention. Do not allow the plants to remain a day longer than is necessary either in the cutting boxes or seed pans.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Watering Fruit Trees.—Fruit trees should be examined constantly to see they do not suffer from lack of water. Fruit trees, and especially those growing against warm walls, need an abundance of water, and a proper system of watering should be carried out. Where water is available from pipes, and a hose can be used, it is an easy matter to spray the trees, and this will afford water to the roots at the same time. In the early part of the year spraying counteracts the bad effects of cold winds. Where water is not laid on, a garden engine should be used for spraying. After the third week in May it is best to water in the afternoons or evenings, the latter time being best, as the water then has time to soak through the soil before the hot sun reaches the border. Where watering and syringing are done systematically and constantly, the trees are seldom attacked by red spider, and many other insect pests are kept away.

Cherry Trees Dropping their Fruit.—This trouble often arises from unsuitable conditions at the roots, and also from the bloom being damaged by frost and cold winds. It may be that the roots have got down into the cold subsoil, or that the drainage is not efficient, and if this is found to be the cause it should be remedied in the autumn. When the trees are

situated reasonably near to markets, with moderately good transport facilities. The organisers of the Government's schemes, we are assured, are keeping all these points well in mind. A second type of settlement is intended for the returning service man who has had little actual experience of agriculture, although he may have worked an allotment in town or suburb, and who wishes in future to obtain open-air employment in the country. For this man it is proposed to provide a cottage holding. The local authority will erect a cottage, attached to which will be a small area of land varying from half an acre to four or five acres. This little holding the man will be able to cultivate in part or whole for himself; he will be able to keep a cow or other livestock. But it is assumed that he will get the main part of his livelihood by working in some agricultural employment. No doubt later on, as they gain experience, some of these men will desire to pass from Class II. into Class I. At present they recognise that they might not be able to make a living if they set up as small holders on orthodox lines. Thirdly, there is another type of settlement. The Board of Agriculture have acquired several large estates which are being developed on co-operative lines, either as small holdings colonies, or as large farms on a profit-sharing basis. In the former case there will be a central farm in charge of an experienced agriculturist and grouped round it will be a number of small holdings of various sizes, each provided with a house and the necessary farm buildings. These holdings will be let to ex-service men after they have served a period of probation as wage-earners. The tenants will be able to obtain advice and assistance from the manager of the central farm; they will be able to hire horses and the more expensive farm implements, and will get the benefit of co-operative organisation for the purchase of their requirements and the sale of their produce. On the profit-sharing farms the settlers will each have a good cottage and garden, will be employed on the farm at the district rate of wage, and will also share in any profits made on the farm as a whole.

Heart Rot of Western Hemlock.—The demand for timber and the curtailment of ordinary sources of supply have caused of recent years a large demand for the wood of Tsuga heterophylla, the Western Hemlock, of which 248 million feet were cut in the United States in 1910. Unfortunately the value of the timber is affected adversely by the fact that it is very susceptible to decay. Recent investigations* show that the chief pest of decay is the Hydnaceous fungus Echinodontium tictorium. This fungus is a wound parasite which affects not only this species of Tsuga but also T. mertensiana and various species of Abies, such as A. grandis, A. concolor, A. nobilis, and A. amabilis. The fact is that the Western Hemlock, though it flourishes best in regions of relatively high rainfall, is very tolerant of environmental conditions, and is to be found growing in most undrained soils. In its growing state it contains in its wood a high percentage of water, and offers very favourable conditions to the entry of the parasite. Hence there can be little hope of preventing the disease, and the forester's efforts must be concentrated upon the control of the disease. Ordinary ringing of diseased trees is not efficacious, since owing to the large amount of water contained in the wood a tree which has been completely ringed so that a girdle of bark and some wood have been removed may continue to give and provide harbourage for the fungus for several years. Therefore the authors recommend the systematic destruction by fire of all individual trees affected by the fungus. An interesting fact referred to by the authors has reference to the use of the fungus by North American Indians: mixed with tar or oil the powdered fructifications of Echinodontium tinctorium were used for the preparation of the Indians' "war-paint."

Narcissus White Knight.—The standard of excellence which governs an award made to Daffodils by the Royal Horticultural Society's Narcissus and Tulip Committee is now so high that rarely does a variety obtain the coveted First-Class Certificate. This honour was granted, however, on the 8th inst. to the beautiful Narcissus White Knight, a Trumpet variety which has excellence of form, distinction, substance and purity to recommend it, and if it has one failing this is found in the comparative shortness of the flower stems. The illustration (fig. 89) shows the shape and pose of the flower, and the bloom shown in profile admirably depicts the regular, rolled rim of the trumpet—a marked feature. Narcissus White Knight was granted an Award of Merit on May 2, 1916, when shown, as on the 8th inst., by Messrs. R. H. Bath, Ltd., consequently it holds the double honour. In 1916 it was also exhibited in splendid condition at the Midland Daffodil show by several competitors. When White Knight and other white trumpet Daffodils are sufficiently numerous and cheap to be planted in quantity, their flowers should be popular with florists.

Precautions Against Caterpillars. — Fruit growers should keep a sharp look-out for leaf-eating caterpillars in the flower trusses of their fruit trees as the buds begin to open. In most districts last year great damage was done to fruit by the ravages of caterpillars both at this stage and later in the year. There is every prospect of severe attacks during the coming season; for where grease-banding was carried out in the autumn large numbers of Winter Moth were caught. Early preventive measures should be taken. A first spraying should be given before the blossom opens. The caterpillars are then very small and easily killed. If nothing is done at this stage, many flower trusses will be badly damaged. Severe or even total loss of crop may result, and finally partial or complete defoliation of the trees and a reduction of the crop in the following year may occur. The best spray to use at this time, according to a Board of Agriculture expert, is a nicotine and soap wash, which will destroy Apple Sucker and Aphis at the same time as caterpillars. The formula for nicotine and soap wash is:—Nicotine (95 per cent. purity), ¾ oz.; soft soap, ½ lb.; water, 10 gallons. If the water is hard, 1 lb. of soap should be used. Dissolve the soap in hot water, dilute with cold water to the required strength, add the nicotine and stir well. This is a "contact insecticide"; and it should be applied with as much force as possible and in a fairly coarse spray. There are many good proprietary washes containing nicotine which may be used in substitution. If spraying is delayed until after the blossom has fallen, arsenate of lead should be used at the rate of ½ lb. of arsenate of lead paste to 10 gallons of water. This should be applied in a fine spray, the object being to wet all the leaves without drenching them. No spraying should be done while the trees are actually in blossom. Both the above mentioned sprays are poisonous. Lead arsenate should not be used where vegetables are grown underneath the fruit trees, or

Fig. 89.—Narcissus White Knight: a white trumpet variety.
(First-class Certificate, R.H.S., April 8, 1919.)

* *A Study of the Heart Rot in Western Hemlock.* By J. R. Weir and E. L. Hubert. U.S. Dept. of Agric., Bull. 722. Oct., 1918.

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AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 48.6°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Tuesday, April 15,* 10 a.m.: Bar., 28.8; temp., 49°. Weather—Showery.

Disease Resistance in Plants. The facts of immunity from disease are as remarkable as they are obscure. That plants should, by virtue of excellence of cultivation and their consequent robustness, be able to resist attacks of disease seems simple and self-evident; but that races of a given species of plants should exist which, whilst other races of no less vigour succumb to attack by a specific disease, are able completely to withstand that attack, could perhaps hardly merit belief were not the evidence overwhelmingly convincing. This latter type of specific immunity occurs in the case of Wheat and rust disease, in that of Wichuraiana Roses and mildew, Potatos and wart disease, as well as in not a few others.

So far as we are aware, nothing whatever is known of the nature of the power which confers specific resistance to disease. In the case of Wheat resistant to rust, it has been found that whereas the rust spore may germinate on the leaf and its germ tube may pass through a stoma, the tube, instead of gaining entrance to the cells, as it does when it infects a non-resistant race, withers away before the cells of the immune variety. It is evidently not passively but actively repelled. Another remarkable fact is that the hybrid between a rust-resistant and a rust-susceptible variety of Wheat is susceptible. On current methods of interpretation of the facts of inheritance this is taken to mean that susceptibility is due to the presence of a factor facilitating infection, and immunity is due to the absence of that factor. Recent discoveries with respect to immunity of animals from certain bacterial diseases (tetanus, etc.) may perhaps provide a clue to the understanding of these facts. It appears, according to these discoveries, that whereas a culture of the disease-producing bacteria, if washed clean of their toxins, are incapable of producing the disease with which their presence is generally associated, yet if, together with the bacteria, ionisable calcium salts are injected into an animal the disease is induced. The calcium salts cause the resistance of the cells of the body to be broken down and allow the bacteria to win in the struggle with the body cells. May it not prove that a similar explanation will be found to account for susceptibility of plants to specific disease? That the explanation might be found to lie in this direction is evident enough. Many of the differences between varieties of plants must depend on differences in the permeability of the protoplasmic linings of their cells. Colour varieties, for example, are probably to be explained in terms of protoplasmic permeability. Thus it is known that in the presence of a potassium salt a violet becomes converted into a blue pigment, and that in the presence of plant acids the blue becomes red. In races, varieties of which are each definitely characterised by one of these colours, it cannot but be believed that all contain the same pigment, all have potassium salts, and all possess plant acids. The reason for the varietal colour difference, must therefore be sought in the prohibition of movement of these things towards one another; where the permeability of the protoplasmic cell-wall admits of their commingling one colour results; where it prevents the interaction of these substances the variety is characterised by flowers of another colour. So in the case of immunity, may it not be that the infecting germ tube excretes a substance necessary for breaking down resistance—just as the fungus Botrytis cinerea is known to excrete oxalic acid! If this substance, the precursor and necessary antecedent of infection, can pass into the cell, the way is prepared for the entry of the fungus itself; but if not the latter beats in vain against the bars of impermeability.

Or it may be, and in the light of the researches already referred to it is by no means improbable, that the breaking down of the resistance is not brought about directly by some substance excreted by the fungus, but by a product of the action of the excretion on the substances in cell-wall. If the latter contain the necessary chemicals which, when acted on by an excretion from the fungus yield a toxin which passes into the cell and overcomes its resistance to infection, the variety will be a susceptible one; but if these chemical accomplices of infection are absent from the cell-wall, the variety remains resistant.

In any event, the work which is being done in enquiring into the mechanism of immunity in animals should encourage plant pathologists to undertake with renewed vigour the problem of plant immunity, for both from the point of view of pure science and of practical horticulture knowledge of the nature of the resistance of plants to disease is urgently needed.

Royal Horticultural Society's War Relief Fund.—A floral fête and exhibition in aid of the Royal Horticultural War Relief Fund will be held in the grounds attached to the Royal Hospital, Chelsea, on June 24, 25 and 26, 1919. Full particulars will be issued in due course. All inquiries (enclosing stamped envelope) should be addressed to 17, Victoria Street, S.W.1 (not to Vincent Square). Offers of exhibits and assistance in connection with the fête will be gladly welcomed by the committee, and should be addressed to the Hon. Treasurer, Sir Harry J. Veitch, R.H.S. War Relief Fund, 17, Victoria Street, S.W.1, or to Mr. Bisset at the same address.

Flower Show in Aid of St. Dunstan's Fund.—A flower show in aid of the Blinded Soldiers' and Sailors' After-Care Fund will be held in the Royal Hospital Gardens, Chelsea, on July 2 and 3, 1919. The Secretary of the show, Mr. T. Geoffrey W. Henslow, appeals for the support of the horticultural trade to make the exhibition a success.

Organising the Village.—At the latest meeting of the Agricultural Club, Sir Henry Rew, K.C.B., in the chair, the subject of discussion was "The Organisation of the Village," introduced by Sir Douglas Newton, K.B.E. Referring to the Land Settlement (Facilities) Bill, Sir Douglas said it provided, with perhaps some comparatively small amendments, the necessary machinery and facilities for the reconstruction of the villages, and the development of social life and amenities in the rural districts which were so much to be desired. The plan outlined by the Agricultural Policy Sub-Committee could be adopted, possibly with some modifications, if the necessary powers were given to local authorities, as well as to the central authority. There were primary essentials, such as decent houses, gardens, proper sanitation, and milk supply, which must be provided in every village where they were lacking or defective, and there were other scarcely less necessary provisions, such as those centres of social activity which the Village Clubs Association had been established to promote.

Changes at Madresfield Court.—Mr. William Crump is leaving Madresfield Court at midsummer, after a period of about forty years' service in these famous gardens. Mr. Crump has for long occupied a position in the front rank of British gardeners, and he is one of the most successful fruit growers in this country. He will be succeeded by Mr. Lambert, who has been in charge of Copley Hall Gardens, Howick, for the past fourteen years. Mr. and Mrs. Lambert recently received presentations from the members of the garden staff at Copley Hall and their friends in the district as an expression of esteem. The presentations were made by the rector, the Rev. Thomas Mitchell, who referred to the many activities of Mr. Lambert in Howick, including his association with the Church, Howick Cricket Club, and the local Rifle Club.

Guides to Smallholders.—The Board of Agriculture has in preparation a series of "Guides to Smallholders." Although primarily intended for free distribution through the Army authorities to service men contemplating settlement on the land, the guides will be available to the general public. The first number, dealing with "Pig Keeping," is ready, and copies may be obtained from the Board's office, 3, St. James's Square, London, S.W.1, price 2d. each, post free. Other guides which will be issued shortly are: "The Smallholder's Horse," "Farm Crops," "Co-operation for Small Producers," "Soils and Manures," Fruit Growing on Small Holdings in England and Wales," and "Market Garden Crops on Small Holdings."

State-Aided Land Settlement.—In view of the misconception that appears to prevail in some quarters as to the Government's plans for placing ex-service men on the land, the Board of Agriculture has issued a brief statement of the three different types of settlement which are in progress of organisation. The first is intended to meet the requirements of the considerable number of men who, before they served in the Army, worked on the land, who have a certain amount of capital at hand, and who desire a small holding of their own. Either through the County Council or the Board of Agriculture it is proposed that these men should be given the opportunity of leasing or buying small areas of land which they can cultivate for themselves. There are already many more holdings of this kind in England and Wales than is commonly supposed; and most of them are extremely successful. Much depends, of course, on the holding being on good soil and

the soil. In the early part of the year this is secured by diligent attention to hoeing, but later in the season it may often appear advisable to apply a deep mulching to both sides of the rows, and occasionally resource must be had to watering. Soft water, or that which has been exposed to the air for some time, only must be used, as hard, cold water arrests plant growth, and in the case of Peas renders them open to attacks of mildew. Against this disease preventive measures should be adopted in the case of mid-season and late crops, and the most effective preparation is that known as Mo-Effic, used according to the directions supplied with it, and it is easily applied by means of a fine spray from a knapsack sprayer, choosing the late afternoon for this work.

One would scarcely anticipate much trouble from the actual operation of seed sowing, but as each season discloses complaints of bad germination, one naturally inquires if the fault lies entirely in the seed, which is often condemned without just reason. For some years I have practised starting the earliest sowings in pots, the varieties mainly depended upon being The Pilot, The Sherwood, and Chelsea Gem. Pots about 4 inches in diameter are used and filled with ordinary potting compost, placing 6 to 7 seeds in each and covering them with rather less than an inch of soil, 75 pots constituting a sowing. The pots are placed under the stage of an ordinary greenhouse, away from hot-water pipes, and from seed ripened in a normal year the germinating power given by this system was never under 98 per cent.; in seed ripened in a bad year the result equalled 92 per cent. Seed from the same samples was invariably used for the first sowing out-of-doors, and the results were extremely interesting, though sometimes disappointing.

Provided the soil worked free, and with a good time to sow in, germination, in the case of the "Pilot," gave about 90 per cent.; Chelsea Gem and Sherwood, sown later on the same plot, gave about 85 per cent. In spring, 1910, seed of Chelsea Gem gave most erratic results. Sown in pots the percentage of seed germinating was over 95 per cent.; from the earliest sowing in the open, made about the middle of April, scarcely 50 per cent. of the seed sown germinated; while the last of the sample, sown in June, on ground vacated by Celery, gave a yield of almost 100 per cent.

Results such as these clearly indicate no fault on the part of seed, but are entirely traceable to unsuitable conditions or temperature of the soil. In the case of late varieties similar results have been noted on soil fresh dug before sowing, for however carefully prepared it is quite impossible on some lands to secure the fine tilth such as naturally follows where land is exposed to the weather for a prolonged period, and which in the ordinary course provides an ideal seed-bed. Bad husbandry, low temperature in the soil, and unfavourable weather are factors always opposed to the highest results in seed-sowing, and to these we may often trace the majority of the complaints relative to bad germination of seed. *Thomas Smith.*

Publications Received. — ***Further Data on the Susceptibility of Rutaceous Plants to Citrus-Canker.*** By H. Atherton Lee. Reprinted from Journal of Agricultural Research, Vol. XV., No. 12. Washington: Government Printing Office. ***Ash Absorption by Spinach from Concentrated Soil Solutions.*** By Rodney H. True, Otis F. Black, and James W. Kelly. Reprinted from Journal of Agricultural Research, Vol. XVI., No. 1. Washington: Government Printing Office. ***Report on County Fruit Plots and Demonstration Allotment Gardens, 1918.*** Staffordshire Education Committee. ***Bulletin of Peony News, No. 7, together with the Proceedings of the American Peony Society for 1918.*** Edited by the Secretary, A. P. Saunders, Clinton, N.Y. Published by the American Peony Society. ***Journal of the Board of Agriculture, March 1919.*** Price 4d.

QUERCUS COCCIFERA.

THE KERMES OAK.

As part of the general interest which is now being taken in hardy trees and shrubs, it is to be hoped that there may be included a renewal of the cultivation of Oaks. Fifty years ago the nurserymen of the time, or, at any rate, some of them, maintained quite extensive collections for sale. Now it is becoming difficult to get any but the commoner sorts and those with coloured or variegated foliage. There is a very extensive collection available for study at Kew, and a few amateurs—notable amongst them being Lord Ducie and the Hon. Vicary Gibbs—have maintained a keen interest in the genus.

One of the most interesting of the evergreen species is Quercus coccifera, a shrub or small tree of close compact habit. It has not, of course, any colour beauty of flower to recommend it, but its wealth of small leaves and its neat habit, together with its historical associations, make it a pleasant acquisition as a lawn shrub. The leaves are stiff, hard of texture, smooth, glossy on both surfaces, broadly oval, round or oblong in outline, and armed with a few stiff, spiny teeth at the margins; they range from ½ to 1½ inches in length, but not so much in width. The species produces acorns fairly regularly in this country. The illustration in Fig. 90 shows a fruiting branch taken from a bush at Kew. The acorns vary much in shape and size, but are usually about ½ inch long, with the lower half enclosed in a cup, which is densely covered with short, spine-like scales. Examples of this Oak at Kew range from 6 ft. to 10 feet high, but there is one in the Vicarage Garden at Bitton approaching 20 feet in height.

Quercus coccifera is of economic interest, and gets its popular name of "Kermes Oak" from being the host plant of the insect, Chermes (or Coccus) ilicis. This insect when dried yields one of the richest and most permanent of red dyes—a dye, however, which has now, owing to the greater cheapness of other dyes, fallen very much into disuse. In the dried state the insect is known as "grain" or "scarlet grain," and from that this Oak has been known as the "Grain Tree." So highly was "grain" esteemed as a dye in mediaeval times that a representation of three sprigs of this Oak was taken to form the crest of the Worshipful Company of Dyers, whose arms were granted to them between 1420 and 1450 A.D. But so lost to modern industry had it become that the Company itself a few years ago no longer knew what the three sprigs were supposed to represent. Tapestries two centuries old in Flanders are said to have lost none of their richness of hue, so "fast" is this dye. Shakespeare knew its virtues well, and several times alludes to it; thus Olivia, in "Twelfth Night," says "'Tis in grain, sir, 'twill endure wind and weather." The Kermes was regarded by some of the early naturalists as the fruit of the tree upon which it was found, and by others as a vegetable excrescence similar in its nature to a gall.

This Oak is a native chiefly of the Mediterranean Region, extending from Spain and North Africa eastwards to Asia Minor and Syria. There are two or three forms of it, and in Palestine it becomes a fair-sized tree. *W. J. Bean.*

Fig 90.—FRUITING BRANCH OF QUERCUS COCCIFERA.

on Gooseberry bushes if the fruit is to be picked green. Where nicotine is used, a fortnight should elapse before the crops are gathered.

Retirement of Mr. James Hudson, V.M.H.—The retirement of Mr. James Hudson from the charge of Gunnersbury House Gardens, to which we referred briefly in last week's issue, takes effect at the end of May. Mr. Hudson has for a long period occupied a unique position in the world of horticulture, and the following account of his career will be read with interest. He was born on May 29, 1846, the youngest son of Samuel Hudson, who for forty-six years was head gardener and resident agent at Horsted Place, Sussex. James was educated at Doctor Saunder's grammar school at Uckfield, and became head scholar. In 1861 he entered upon a course of training in land surveying, timber measuring and general estate work. He had the opportunity of entering a solicitor's office at Lewes, but he preferred gardening to the law and after working under his father for some time he was appointed foreman at Deepdene, Dorking. In 1869 he sat for the R.H.S. examination and came out at the top (see *Gard. Chron.*, September 4, 1869, p. 940. "This is the only instance in which the whole number of marks has been obtained by any candidate since the commencement of these examinations.") His first position as head gardener was with Mr. J. C. im Thurn, at Champion Hill, and from thence he went to Gunnersbury House, in July, 1876, as head gardener to the late Mr. H. J. Atkinson, the then owner. After thirteen years in that position he was engaged by the late Mr. Leopold de Rothschild, who purchased the estate, and, being a keen gardener, gave Mr. Hudson every opportunity for the expression of his genius. Mr. Hudson has made his mark in all branches of gardening, but has excelled especially in the cultivation of indoor and hardy fruits, Water Lilies, Bamboos, and specimen plants. During his stay at Gunnersbury Mr. Hudson has frequently spent his holidays on the Continent, and has even gone so far afield as Palestine and Egypt, and in these countries, as at home, he has invariably acquired new horticultural knowledge during his travels. On four separate occasions he has judged at the Quinquennial Shows at Ghent; he has also acted as judge at Hamburg, Bruges, and in most of the principal cities of his native land. It is a matter of interest that one who headed the list in the R.H.S. examination of nearly fifty years ago should now be one of the Society's examiners, a position he has held since 1904. Further evidence of the high esteem in which he is held may be gathered from the facts that he has been a member of the Royal Horticultural Society's Council for about twenty years; was awarded the Victoria Medal of Honour in Horticulture when it was first instituted; was treasurer of the United Horticultural Benefit and Provident Society for twenty-five years; and has been more than twenty years a member of the Committee of the Gardeners' Royal Benevolent Institution. Everyone who visited the gardens at Gunnersbury House realised that an exceptionally clever cultivator was responsible for the splendid plants, flowers, fruits, and vegetables met with on all sides. To those anxious to know, Mr. Hudson has been always ready to give the benefit of his experience, and he wrote frequently in the horticultural Press on the methods that he employed; indeed, his writings in the *Gardeners' Chronicle* date back for a very long period. In the early 'eighties he wrote the weekly notes on Plants Under Glass in this publication for four years in succession, and since then he has contributed many times to our Week's Work columns, in addition to many original articles. Mr. Hudson, who is seventy-three years of age retires after a long, useful, and honourable career, with the best of good wishes and the generous regard of his employers. He will take with him into his retirement the good wishes of all who knew him either personally or through his writings. Those who frequent the meetings of the Royal Horticultural Society will be glad to know that Mr. Hudson will continue to reside at Acton and take part in the work of the premier horticultural society, with which he has been identified for so long a time.

THE ALPINE GARDEN.

MAZUS PUMILIO.

Among the many attractive, though often deceptively coloured, plates in Wooster's *Alpine Plants*, one of Mazus pumilio is certain to interest lovers of Alpine plants. The illustration is a fairly faithful one of this little member of the Figwort family. The species hails from Tasmania, and, like several other Alpines from the same region, is not so easy to retain in gardens as its "book" reputation would indicate. It is a neat little creeping plant only some two or three inches high when in flower. The almost entire and obtuse leaves incline to lie close to the ground, and among them rise on short stems, little above the foliage, the small, pale purple or violet flowers with white centres, which make this plant attractive though by no means brilliant.

As already suggested, though M. pumilio is reputedly hardy, it may be lost in some severe winters, and it is safer to keep a spare plant or two under glass to replace losses. It is an ideal subject for the Alpine house.

There seem to be two other causes of its loss in gardens. One is the want of occasional top-dressing, which should consist of working among the foliage with the fingers in spring and autumn a little loam and sand. The other appears to be confinement in a small space until the soil becomes exhausted. Its creeping habit suggests this, and where it cannot spread into "pastures new" it should be lifted and replanted in fresh soil. Wooster recommends "rich loam and sand," but I think it is benefited by adding fibrous peat or leaf-mould. The Mazus flowers in June and July.

MR. JAMES HUDSON, V.H.M.

PRIMULA SUFFRUTESCENS.

Numerous Primula lovers have attempted the cultivation of this sub-shrubby Primula, which is a most interesting plant, but have in most cases failed to retain it for long. This is little wonder, as we cannot give it anything like the natural conditions which prevail in its haunts. Here is an account of its home which makes us almost despair of supplying this Sierra Primrose with its wants. "If one takes his alpen-stock in hand and climbs to the snow-line in late summer he is apt to be rewarded by the charming flowers of the Sierra Primrose. The little plants grow in the drip of the snow-banks, where the melting ice gradually liberates the tufts of evergreen leaves. The glowing flowers look as though they might have caught and held the last rosy reflection of the sunset upon the snow above them." Thus writes Miss Parsons, in her book, *The Wild Flowers of California*, and it is a matter for surprise and says much for the adaptability of this Primula that it does not at once disappear in our climate without its covering of snow in winter and its supply of icy water at flowering time. The serrated leaves are evergreen which increase their difficulties in this country, and the most successful growers I know have contented themselves with growing it under glass in winter and spring. It succeeds better in some districts than in others, especially where the climate is dry, and Dr. John MacWatt's experience at Duns is worth quoting. He says it is "quite hardy in light, well-drained soil if planted in a position sheltered from strong winds." But it is largely a question of winter treatment and shelter from our variable winters.

LYCHNIS ALPINA.

Is not this little Alpine scarcer than it was a dozen or more years ago? I think this is the case, and it seldom comes under one's ken in going through rock gardens, even of some note. It is a pretty, if not showy, little plant, growing only a very few inches high and partaking a good deal of the appearance of Lychnis Viscaria, but it is not viscid. The flowers are a shade of red purple, and the plant makes a neat little carpet of green leaves, in summer well relieved by the flowers. One of the ablest of writers tells us of the position it occupied in one of the few British habitats, and this is interesting and affords us useful hints as to dealing with L. alpina. It was observed on high cliffs, and in perfect health where not a drop of rain was likely to reach it, but seedlings, apparently from the above plants, were doing well on moist, crumbly rock. I have had no difficulty in growing it on almost level rockwork in crevices between stones and in a dry place facing east. It has been met with thriving in other exposures. Some of the best plants I have ever seen were growing on an almost level spot on a rockery facing south-west and in loam, sand, and leaf-mould, in a pocket of the rockery, and occasionally top-dressed with grit. This neat little plant may be raised from seeds or increased by division.

ANEMONE NEMOROSA BLUE BONNET.

This plant is one of the best of the blue varieties of Anemone nemorosa, the Wood Anemone. It has large flowers of a clear blue. In addition to its value because of its large blooms it is desirable on account of its blooming later than the others. It loves a shady spot, and is an excellent subject for planting in a thin shrubbery or under the shade of deciduous trees, although it is also very beautiful in the open. *S. Arnott.*

NOTES ON CULINARY PEAS.

Culinary Peas are generally regarded as a vegetable of first importance, so that in every garden strenuous efforts are made in order to maintain an adequate supply during the period of the year when they are in season. Difficulty is sometimes met with, at times local in character; it may be an error on the part of the cultivator, or we can trace the loss of a crop, at times, to that most insidious of foes, namely, mildew. The general conditions under which Peas succeed are fairly well recognised, consisting mainly in deep cultivation of the soil. They are deep rooting subjects, and, given the means for firmly establishing themselves, few plants are more free from inherited weakness or disease than standard varieties of garden Peas as they exist to-day.

Mere digging of the soil is not conducive to the best results, and every cultivator should aim at producing a working tilth at least 2 feet deep for this crop. This end is secured by a regular system of trenching the ground, at the same time working into the bottom spit all garden refuse capable of being converted into soil and placing under the top spit a liberal dressing of well-decayed manure. On land not previously trenched it is advisable to retain the bottom spit in position until this system is practised for several years, when it may with advantage come to the surface. Trenching is best performed before the New Year, allowing the surface to lie rough and be acted upon by weather.

In spring a dressing of soot and fresh slaked lime should be applied and forked in previous to planting or seed sowing.

In order to secure free, uninterrupted growth, it is necessary to retain the natural moisture in

TRADE NOTES.

Early in 1918 the Agricultural Wages Board appointed a Committee, under the chairmanship of Sir Henry Rew, to inquire into the financial results of the occupation of agricultural land and of market gardens, in view of the cost of production under existing conditions, and the present controlled prices for farm and garden produce, and also to inquire into the cost of living as affecting workers in rural districts. The Report of the Committee was presented to the Wages Board on March 13, and has now been published as a Parliamentary Paper.

The Committee heard a certain number of witnesses, but their task was mainly that of collecting, examining and weighing a large mass of documentary evidence, collected for the most part specially for the purpose of this inquiry. On the side of farming costs, a schedule drawn up by the Committee was widely circulated among farmers with a view to obtaining particulars for each of the past five years under the main items of receipts and expenditure. The results of this part of the inquiry were somewhat disappointing, only 119 schedules being returned completed. These schedules represent, however, only a small part of the mass of material on which the conclusions of the Committee in regard to the first part of their terms of reference are based.

An analysis of the statistics collected of changes in the prices of farm products and of form requirements (including labour costs and rent) shows an increase in these elements in the farmers' accounts, as between 1913-14 and 1917-18, of about 100 per cent. in each case. This is not to say that the actual receipts and expenditure had changed in this proportion. Prices of products are in some cases merely nominal, the actual sales being very small; while on the other hand the quantities of materials used and the amount of labour employed had diminished very substantially.

The most definite evidence on the financial results of farming laid before the Committee was that dealing with expenditure and receipts on a number of farms, including "tenant," "home," "co-operative" and "co-partnership" farms. The cash profits or losses which the differences between expenditure and receipts represent show an extraordinary diversity, but that farming was substantially more profitable in 1917-18 than before the war appears to be amply demonstrated. The conclusion of the Committee, based on an analysis of the cash statements of the tenant farms, and after making allowances for the value to the farmer of his house, and the subsistence derived from the farm, is that the farmer's average pre-war net returns from farming were in the region of 9s. to 10s. an acre, and that in 1917-18 these had risen to about 34s. an acre. Since then the position has been changed by the operation of the Agricultural Wages Board's Awards, the full effect of which was not felt in 1917-18. The Report goes in some detail into the question of the rate of interest earned by the farmer's capital, and the changes in this element during the period of the war. An apparent increase in farming profits will require modification in view of the depreciation in the general condition of the farms resultant upon enforced economies in the application of fertilisers to the land and in the upkeep of equipment. On the other hand, restrictions on the purchase of feeding stuffs and on the employment of labour may have been the cause of real economies in productions which may to a certain extent, at any rate, become permanent. Considerations of this character receive interesting and suggestive treatment by the Committee.

The consideration of the changes which have occurred in the cost of living of agricultural labourers involves a reference of the ability of the workers to bear an increased expenditure, and this is provided by a measure of the increase of wages. The average minimum rates for adult male workers fixed by the Wages Board, which include, of course, the value of allowances which can now be reckoned as part of wages, are 31s. 5d. for ordinary labourers, 38s. 1d. for stockmen, and for both classes combined 33s. These figures represent, according to the Committee's findings, an increase on the corresponding figures for 1914 of 83 per cent. in the case of ordinary labourers, 103 per cent. in the case of stockmen, and 88 per cent. for both classes combined. The average increase in the cost of labour to the farmer is, however, only about 50 per cent., the difference being mainly due, of course, to the depletion of the ranks of labour for war purposes. An interesting fact revealed by the inquiry is that the effect of fixing minimum rates has been substantially to narrow the gap between the highest and the lowest paid counties.

In the matter of the material for an estimate of the cost of living of farm workers the Committee were more fortunate than in regard to the first part of their inquiry. By the co-ordination of the inquiries on this subject with those instituted by the Sumner Committee on the Cost of Living of the Working Classes, it was possible in the result to secure a body of nearly three hundred family budgets of rural workers for a week in June, 1918, to which material over 100 further budgets collected by the Investigators employed in the Inquiry into Wages and Conditions of Employment in Agriculture, relating to the spring of 1918, constituted a valuable addition. Nor was there any lack of material as to the course of retail prices of food and other commodities consumed by farm workers and their families, the returns obtained from co-operative societies in the smaller towns and villages of England providing an excellent

THE LATE HENRY HOWARD.

but by no means the only basis of comparison in the two periods under review. The estimated increase between 1914 and June, 1918, in the expenditure of a typical farm worker's family, the size of which, on the average, ranges between 5 and 6 persons, is found to have been about 85 per cent., with a further increase to 93 per cent. in January of the present year. Up to this latter date wages may be said to have nearly kept pace with cost of living as measured by the expenditure of a typical family. There were, of course, considerable modifications in diet in the two periods, but the nutritive value was not substantially different.

Throughout the Report the Committee draw attention to the instability of all the data with which they have had to deal, and in summarising the results they lay emphasis on the fact that they regard the evidence as inadequate to support more than very tentative conclusions. This inconclusiveness is inseparable from an inquiry made at a time when conditions are in no way normal, when prices are artificial, the result of Government control and not of free competition, and when purchasing is restricted both by direct control and by lack of supplies. The Report contains much useful information, but it concludes with an emphatic assertion of the need for further inquiry "before it can be said that the full facts either as to the farmers' or workers' position are available."

Reports are extremely varied as to the actual condition of commercial horticulture in Holland. Some reports suggest that Dutch nurserymen are in a bad way and have reduced stocks of many subjects as a consequence of food production; other reports suggest that there are large stocks ready for export. In this connection, and in others, the Horticultural Trades' Association has arranged to send Messrs. G. W. Leak, A. Bide, R. W. Wallace, Herbert Smith and Chas. E. Pearson to investigate and report. The party will leave for Holland on April 25.

Messrs. John K. King and Sons, Coggeshall, Essex, have received the Royal Warrant of Appointment as seedsmen to His Majesty the King.

Obituary.

Walter Thomson.—It is with deep regret that we record the death, at the comparatively early age of 49, of Mr. Walter Thomson, who has been for the past 17 years gardener to the late and present Dukes of Northumberland, at Alnwick Castle. Mr. Thomson was a gardener of exceptional attainments, with wide and varied knowledge of practically all subjects in horticulture. He was, however, perhaps at his best with fruit—outside as well as inside, a branch of horticulture for which the gardens at Alnwick Castle have long been widely famed. He was studious and observant, not so much a student of books as of nature itself, and rarely failed to master the problems which confront the gardener year by year. Before entering the service of the Duke of Northumberland he was for several years gardener and overseer to General Pitt-Rivers at Rushmore, and he was at one time in the service of the late Lord Roberts. He was a former member of the Kew gardening staff. He was singularly modest and humble, approachable to all comers, and to those who enjoyed his closer intimacy and friendship he disclosed a deep, rich nature, a delightful fund of humour, and was constancy itself. During the past winter he showed some signs of failing strength, but it was hoped that with returning warmth he would regain his usual vigour. He was attending to his duties up to the day he took to bed, and although everything that medical skill and loving affection could do he gradually sank and passed peacefully away. He leaves a widow, one daughter and three sons, to whom we extend the deepest sympathy in their great sorrow.

Henry Howard.—We announce with deep regret the death of Mr. Henry Howard, who was for 33 years in charge of the estate and gardens at Purfleet, Essex. Mr. Howard died on April 7, aged 67 years. He was a fellow of the Royal Horticultural Society, and a regular attendant at the shows and meetings of the Society. He was a life subscriber to the Gardeners' Royal Benevolent Society. He conducted the work on the Purfleet Estate in a very able manner and was held in much esteem in the district in which he lived. During his career at Purfleet he raised many seedlings of Daffodils and Lilium tigrinum. The funeral took place at West Thurrock on April 10.

CROPS AND STOCK ON THE HOME FARM.

Sugar-Beet.

Among the root crops that may profitably be grown for feeding stock, Sugar Beet deserves consideration. It is also of importance at present to ascertain in what districts of this country its growth on a larger scale for the manufacture of sugar might eventually be recommended. Farmers, especially if they have not hitherto had experience of this crop, would do well to sow a breadth or so to serve mainly for stock-feeding purposes. At the same time their experiences with a small area will supply useful evidence as to the possibilities of cultivation on a larger scale.

A crop of at least 10 tons per acre may be expected, and there are instances where as many as 18 tons have been obtained. To sow one acre

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Culinary Peas (see p. 161).—The article by Mr. E. R. Janes on "Culinary Peas" will, I am sure, have the endorsement of all thinking gardeners. Soil often becomes manure sick by the constant application of farmyard dung, and in the case of culinary Peas, if the ground has been well manured the previous season for Celery, a good application of lime is all that is necessary to produce an excellent crop of Peas the following season. I can heartily endorse his remarks, too, about stating how often one sees the stakes meeting at the top like a span-roofed greenhouse, with the result that the object for which the stakes are used is completely defeated. The stakes should be at least 18 inches wider at the top than at the bottom in order to allow the haulm room to spread. Mr. Janes hits the nail on the head as to watering: I have seen gardeners in the height of the summer, when the ground is very warm, soaking Peas with water direct from a very cold well or reservoir. *D. White, Theydon Place Gardens, Epping, Essex.*

Sunflowers for Seed.—Some writers have recorded disappointment in the growing of Sunflowers for seed for poultry. We had a useful addition to the sawdust-like, non-nutritious "meals" that were obtainable. The year before I selected seed from the shortest plants with the largest blossom heads; thus we had not more than two or three which exceeded about five feet in height out of a few hundred. Owing to wind effects it appeared useless to make use of the giant varieties which were advocated. Many were planted out along a fence. Unfortunately, a man I had working planted out many under and in the shadow of some fruit trees. As anticipated, these did not succeed. We gathered the heads as soon as the peripheral florets began to wither, cut off the main part of the still fleshy, broad stem, and dried the seeds under cover, after rubbing off all florets to facilitate drying. If gathered thus early the seeds are fully formed, but the birds have not yet started their attack. Many of the small secondary flowers failed to ripen seeds or became mildewed in the late season. Maize, which was planted between, or near by, the Sunflowers, also afforded a useful addition, though not enough was grown to keep our few hens going. Buckwheat was also tried, but this crop was a failure, as greenfinches and blue tits descended upon it and cleared the seed as it ripened. Evidently Buckwheat needs growing by the acre, and is no use for small or garden culture; the green haulm was greedily eaten by ducks and fowls. A friend has just related to me that he lost much of his Sunflower seed through rats, which were observed to climb the stems. *H. E. D.*

An American's Impressions of the Chiswick Shows.—Thinking it may be of interest to your readers, I send herewith an extract from a personal letter of Mr. Henry Colman, Boston, U.S.A., showing the importance of the Horticultural Shows held at Chiswick under the auspices of the Royal Horticultural Society 75 years ago. Mr. Colman was a prominent agriculturalist and Secretary of State, and visited this country to study and report upon European agricultural methods.—*Jeremiah Colman.*

(Extract from *European Life and Manners*, vol. I., p. 212.)

Being Personal Letters from
Henry Colman, Boston, U.S.A.
London, 18th June, 1844.
56, Charing Cross Road.

"My dear M.——

". . . . On Saturday last I went to the *fete* of the Royal Horticultural Society, at Chiswick. The terms of admission here are made difficult, so that the company may be select. You may judge how select they choose to have the company when I tell you that five shillings, more than a dollar, are required for a ticket of admission before the day of the show, and seven-and-sixpence on that day, if you purchase your ticket at the gate; and no free tickets are given to anybody, nor can a ticket be purchased without the recommendation of a member. Chiswick is seven miles from London. It is a matter of etiquette for the ladies to go in full and elegant dress. There were more than fifteen thousand people in the gardens, and four bands of music, and as to the carriages, there were not only acres but miles of them. I went in a public conveyance, and when we reached the first carriage in the line waiting for its turn to drive up and set down the company at the gate, we were then nearly three miles from the place. But they must all wait their turn, as the police would not let one go before another. It is impossible for me to tell you how beautiful the flowers and fruit were, and how still more beautiful the ladies were."

Gardeners' Hours and Wages (see pp. 128, 144, 157).—There is a fallacy concealed in *Mr. H. Chivers'* comparison of the lad of 18 in the garden and in the army. In the latter he can learn all that is necessary in a few weeks or months, provided that he is then efficiently commanded and led, but in the garden trees cannot profitably be pruned at the word of command nor will the order "As you were" restore a plant that has been killed by transplantation at the wrong season of the year. A head gardener can control to some extent, but the mischief that can be done by the inexperienced is untold. Therefore there is no real comparison between the two. Gardening skill is only won by experience, and it is hardly to be expected that an unskilled youth of 18 should command full wages. At the present moment I am willing to take into my garden and teach him all I can about Irises, Tulips, and vegetables any young gardener who is keen to learn. I cannot afford to pay full wages if that means £2 a week, and if *Mr. Chivers* is to have his way and to prevent any gardener from accepting less than the maximum wage, there seems no course open to me but to give up my garden altogether. *W. R. Dykes, Charterhouse, Godalming.*

——The case for gardeners has been aptly put by *W. W.* and *W. Chivers*. Mr. Elwes holds out a very poor prospect for the future of our profession. He says, judging by the advertisement columns in your paper, there are many more gardeners wanting places than there are places vacant. No doubt there are at present, owing to demobilisation, but the statement is rather misleading, as many employers prefer answering advertisements to advertising; and, again, many gardeners who are wanting places are not necessarily out of work, but are seeking a change to improve their position. Mr. Elwes, who is, I presume, an employer of labour, says the war has taught us to do without many things we had before. Quite true; many of us have had to go short of the necessaries of life. He probably means luxuries. As a gardener with 25 years' experience in private gardens and nurseries, I do not envy the one skilled man who may have to carry on with inexperienced labour, consisting of old men, boys and women. I am afraid his pleasant manners would often desert him, however much he loved his profession. With all due respect, I would ask Mr. Elwes what he considers a fair living wage for a gardener, taking into consideration the present high cost of living. We are up against the stern realities of life and cannot live on poetry, much as we might and do appreciate it. The present rate of wages paid to skilled gardeners is much less than is paid for unskilled labour in many other occupations, and yet we are expected to keep smiling and carry on with a contented mind. I belong to no union, so will sign myself, *Free Man.*

Women in Horticulture (see pp. 77, 156, 169).—Having been a woman-gardener since long before the war, I have read with much interest the correspondence connected with women in horticulture, and my opinion is that women who are good at their work and keen gardeners are not being dismissed, unless it is at the hands of an unpractical 'woman-head" who pays attention to affairs not concerning the work itself, and things which a man head-gardener is too businesslike to take up. I do not think any woman minds giving back to the demobilised man his own position, but it certainly is unfair when she is refused a reference, particularly so if she means to "stick to it," as many of us do. It is true women have "roughed it," living in damp and unhealthy bothies, and it seems to me they would now appreciate a little consideration on giving up their places to the men.—"*Referenceless.*"

"Clarkeara" Paul (see page 184).—A hybrid from the three genera Brassavola Laelia and Sophronitis has previously been raised and named Lowiara, as recorded in *Orchid Review*, 1912, p. 360. The name of Colonel Clarke's plant is therefore Lowiara Paul. *W.*

SOCIETIES.

ROYAL HORTICULTURAL.

TRIAL OF KALES.

The following awards have been made to Kales after trial at Wisley.

Award of Merit.

Ormskirk Hearting Curled Greens, sent by Mr. Clucas.

Highly Commended.

Cottager's Kale, sent by Messrs. R. Veitch and Son; Dwarf Purple Curled, sent by Messrs. Barr and Sons; Extra Curled Scotch, sent by Messrs. Sutton and Sons; Favourite, sent by Messrs. Sutton and Sons; Green Curled, sent by Messrs. Robert Sydenham, Ltd.; Improved Hearting, sent by Messrs. Sutton and Sons; Purple Plume, sent by Messrs. J. Carter and Co.; Scotch Kale Selected, sent by Messrs. Barr and Sons; Jerusalem Purple, sent by Messrs. Barr and Sons; Variegated Kale Selected, sent by Messrs. Barr and Sons, and recommended as a decorative variety.

SCOTTISH HORTICULTURAL.

APRIL 1.—The monthly meeting of this Association was held on the 1st inst., Mr. Fife, President, in the chair.

A lecture on "Soil Organisms" was delivered by Dr. W. G. Smith, Edinburgh and East of Scotland College of Agriculture. All fertile soils, he said, harbour a vast population of living organisms, some of which are useful and others harmful to cultivated plants. The organisms which prepare nitrogenous food have been most studied. These obtain nitrogen from the air (azotobacter) or from farmyard manure and plant remains (nitrification). Certain conditions favour the operations of these soil organisms, and these conditions are part of good practice. The effects of cultivation and manuring were shown to have a bearing on the soil organisms, apart from the soil itself and the feeding of the crop plant. Injurious soil organisms utilise plant food, destroy useful soil organisms, and interfere with fertility. The method of checking these by partial sterilisation of soils by steam and heat was described.

CHESTER PAXTON.

THIS energetic Society, of which Mr. T. Gibbons Frost, J.P., is the president, Mr. N. F. Barnes, Eaton Gardens, chairman of committee, and Mr. G. P. Miln, J.P., honorary secretary, has, from 1889 until 1914, organised lectures and demonstrations chiefly for the purpose of encouraging the extended culture of hardy fruits throughout its district, which embraces Cheshire and North Wales. In keeping with the spirit of the times, the exhibitions were discontinued for the period of the war, but the Society has nevertheless continued its educational work in another direction. Immediately the Cultivation of Land Order came into operation the members of the Committee placed their services at the disposal of the plotters, and those of them who were novices at gardening gladly accepted the help of these practical men, with the most beneficial results. The Society also offered a series of prizes and cultural certificates for the largest crops and best kept plots. Illustrated lectures specially adapted for allotment holders and those having cottage gardens, were also organised and were largely attended. Six allotment holders have been added to the Committee, a step which is anticipated will give the plotters a greater interest in the work of the Society generally.

BULL'S FOOD
FOR
PLANTS, FRUIT and VEGETABLES

makes just the difference and is distinctive because it also feeds the soil, providing it bountifully with that in-dispensable organic nutriment so essential to the vigorous production of all Plant life, rendering the poorest rich and abundantly prolific, hence its magic power in the soil, trebling the yield of Fruit and Vegetables.

BULL'S FOOD sold by all Seedsmen and Nurserymen.

BULL'S PLANT FOOD CO., 536, King's Rd., Chelsea.

A NEW DISCOVERY.

WOOD PRESERVATIVE
IN SOLUBLE POWDER FORM.

'ESITOL'
(Regd.)

Slate Green, Yellow, Blue & Black.

1lb. Tin of Powder dissolved in water makes 2 Galls. of Liquid Preservative, sufficient to cover 100 sq. yds. of Timber. ESITOL Wood Preservative has been scientifically TESTED and PROVED.

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AGENTS WANTED.

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HORTICULTURAL 6% ROLLED SHEET GLASS

A SUBSTITUTE for ordinary 21-oz. glass, which is now so scarce. The **new British Rolled Sheet** is about ⅛ in. (or equal to stout 21 oz.) in thickness. Can be supplied to buyers' sizes, at favourable prices, delivered free and sound in the country in quantities. We also offer ordinary **21-oz. British Sheet Glass**, under the same conditions.

Manufacturers of
GENUINE WHITE LEAD PAINT.
"BLACKFRIARS BRAND."
AND
BEST LINSEED OIL PUTTY,
'ESKIMO' WHITE (LEADLESS) PAINT
&c., &c.,

GEORGE FARMILOE & SONS, Ltd.
34, St. JOHN STREET, WEST SMITHFIELD, LONDON, E.C.1
& Blackfriars Wharf, Upper Ground St., S.E.
Quote GARDENERS' CHRONICLE.

CORRY'S
CONCENTRATED
WINTER DRESSING
FOR
FRUIT and Other TREES
(NON-POISONOUS)

For the Destruction of all Insect Pests that shelter in the Bark during the Winter Months. This Preparation is highly valued by practical Growers throughout the Kingdom.

Directions for Use accompany each Package.

Sold by the Trade generally.

Prices: Pints 1/6; Quarts, 2/9; ½ Gallon, 5/3; 1 Gallon, 9/-; 3 Gallons, 26/-; 5 Gallons, 43/-; 10 Gallons, 71/-

Manufactured by—

Corry & Co., Ltd., London.

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The Pots that Drain

PETER BAILEY & SONS, Ltd.,
Heaton Mersey Pottery,
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WEED DESTROYERS
DAISY KILLER (Lawn Sand)
INSECTICIDES
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FUMIGANTS
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Catalogue on application.

SOLE MANUFACTURERS:

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Chemical Works,
Barrow-on-Humber, HULL.

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Ask Your Horticultural Sundriesman for

"Abol" Insecticide (Non-poisonous) ½ Pint 1/3, Pint 2/-, Quart 3/-, ½ Gal. 5/-, Gal. 8/9.
"Abol" Patent Syringes No. 4 19/-, No. 5 21/-, No. 6 28/-, Bend 2/- extra.
"Abol" Fertilizer. Tins 7d. and 1/-, 7 lbs. 3/-, 14 lbs. 5/-.
"Abol" Shading Tins to do 200s. feet, 2/-
"Abol" Hose Terminals, ½ in., ⅝ in., ¾ in., 13/-.
"Abol" Weed Killer Powder. Ask for special list.
"Abol" Lawn Sand. Tins 10d. and 1/3. 14 lbs. 4/6, 28 lbs., 9/-

WRITE FOR GARDEN GUIDE FREE ON REQUEST.

E. A. WHITE, Ld., 99, Beltring, Paddock Wood, Kent.

Wm. WOOD & SON'S
Le Fruitier Manure
The Perfection of Plant Food.

30/- cwt., **16/-** ½ cwt., **9/-** 28 lbs., carr. paid.

POTATO MANURE "SUCCESS." As supplied to many Allotment Holder Associations.

LOAM, RICH, YELLOW, FIBROUS. Carriage paid. Quotations in truck loads to any station.

GRUBICIDE SOIL FUMIGANT. The underground Insecticide. Destroys WIREWORM, MILLEPEDES, and all soil pests. **16/6** per cwt., carriage paid.

VELTHA SOIL FUNGICIDE. Cures shot hole fungus in Peaches, etc. CHRYSANTHEMUM and TOMATO FUNGUS.

ANTI-FLY DUSTING POWDER. Absolute preventive of ONION, CARROT, CELERY FLY, and the CABBAGE CATERPILLAR. **15/-** per cwt., carr. paid.

ELECTRIC WEED KILLER. For Carriage Drives and Garden Paths. GREATLY REDUCED PRICES. 5 galls., **16/6**; 10 gals., **30/-**; 20 gals., **55/-**, carr. paid.

GREENHOUSE BLINDS. Made up on the premises and fixed by our own fitters in any part of the country. SAMPLES of LATH, BAMBOO and TIFFANY MATERIALS post free.

GARDEN HOSE, SPRAYING MACHINES, TOOLS.

Particulars of all the above may be had, post free, in Illustrated Price List from:—

Wm. WOOD & SON, Ltd.,
Royal Horticulturists by Appointment to the King,
Wood Green, LONDON, N.22.
Telegrams—Funghetophone, London
Telephone—Palmers Green 377-8.

Special Offer of

HALF-INCH MESH GARDEN NETTING.

The best Spring protection for Wall Fruit.

SQUARE MESH NETS which cover in full their measured length and width. Bound all round with stout cord. In the following sizes:—

25 yards by 2 yards, at **18/9** each.
25 „ by 4 „ at **37/6** „
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Any other size supplied from stock at 4½d. per square yard.

Half-Inch Diamond Mesh Netting.

17 yards by 5 yards, at **17/6** each.
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Note.—When ordering Diamond Mesh Nets, ⅓ extra both in length and width should be allowed.

All Nets sent Carr. Paid on receipt of order.

Samples and quotations for all kinds of Garden and Tennis Nettings Free on application.

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THE PERFECT INSECTICIDE WASH FOR FRUIT, VEGETABLES, FLOWERS.

Small Cartons for 10 Gallon Wash .... 2/- each
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From Nurserymen, Seedsmen and Ironmongers

Sole Manufacturers
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12 lb. of seed is sufficient. The last week in April or the first week in May is a suitable time for sowing. For feeding purposes it is estimated that 4 lb. of good Sugar Beet are equal to 8 lb. of Mangolds or 1 lb. of cereal meals in mixed rations.

It has been arranged to distribute a quantity of good sound seed in parcels of 16 lb., 8 lb., and 4 lb., at 3s. 6d. per lb., including bag and carriage. Applications, accompanied by remittance, should be made to Mr. Alfred Wood, Secretary British Sugar-Beet Growers' Society, 14, Victoria Street, London, S.W.1. Particulars as to cultivation may be obtained from the Secretary, Board of Agriculture and Fisheries, 72, Victoria Street, London, S.W.1.

Charlock.

Charlock (Brassica sinapis) is an increasing pest on light soils in some counties, especially since the war began. When a field is prepared for a cereal crop during March or April, or for Turnips later, the surface is made quite fine, in which the Charlock seed germinates freely. By harrowing the ground, one crop of Charlock seedlings will be destroyed. The spraying of Charlock among Turnips, Mangold, or Vetches, or any plant with rough foliage is not practicable, as the specific adheres to the leaves as it does in the case of Charlock, and injures the plant. Among cereal crops, however, the danger is not present: the leaves or "flag" being smooth, the spray fluid does not adhere to the surface. As roots generally follow a cereal crop, it is reasonable to suppose that if the Charlock among cereal crops is killed the plant will not perfect a crop of seed to grow among the roots. It is also reasonable to suppose that by constantly killing the Charlock plant among the cereals there will in time be less on the farm. Any cereal crop, such as Wheat or winter Oats, that is sown in the autumn is not liable to this pest, as Charlock cannot withstand frost; hence it is that winter Oats are now more largely grown than formerly.

The spraying should be done directly the first rough leaf has formed. Too many neglect spraying until the plant has grown large and become hard and woody. In that stage the spray fluid has not the same effect as when the leaves are more succulent. Thirty to forty pounds of copper sulphate to 100 gallons of water is a safe quantity to use with a sprayer which distributes the solution in form of a fine mist. Fifty gallons per acre are required. *E. Molyneux.*

ANSWERS TO CORRESPONDENTS.

Big Bud Mite: *G. L.* We forwarded your query to Mr. A. H. Lees, who obligingly replies as follows:—The methods for the control of Big Bud Mite may be divided into two classes, spraying and cultural. Success has been claimed for repeated applications of a contact wash during the early growing season. This, however, necessitates six to ten separate sprayings and therefore is not economically possible, except in the case of nursery stock or in private gardens. Dustings of lime and sulphur have also had advocates, but my own experience of this is that the three prescribed dustings only checked the mite to a very small extent (five-sixths of the control) and also caused some burning. Of the cultural methods, the most successful is picking off the big buds in the winter and destroying them. This method seems to check the mite without ever eradicating it. For success, the bushes must be dealt with more than once, preferably at least three times, and the picker should approach the bushes in a different direction each time, so that buds missed the first time may be seen on the next occasion. This method has given good results in practice. Secondly, badly affected bushes should be grubbed up and destroyed. Cutting the bushes right down to the ground has, in some cases, given good results, though in other cases it is stated that disease has quickly followed the new growth. In order to avoid missing a crop it would be as well to plant twice as closely as usual, thus allowing for a periodical cutting-down of alternate bushes when necessary. There is evidence to show that the infection from bush to bush is slow, but from twig to twig on the same bush it is fast. I am not aware that this method has been tried yet, but it would be worth a trial. There is evidence to show that any factor promoting late vegetative activity, such as a strong growing variety or a wet season or climate, favours big bud development and it is along these lines that a possible cure or mitigation may be found. The subject is being investigated at Long Ashton, but it is too early yet to give any indications of the results.

Erecting a Conservatory: *Oakfield.* As the shape of the glass-house you suggest erecting is somewhat unusual, it would be wise to ask a competent architect to submit plans, as an ordinary conservatory would not be suitable. As you wish to use this building for the growing of plants a glass roof is essential, for although many plants may be wintered in a frost-proof shelter without much light, a glass roof is necessary at other times. Apart from the flowering shrubs which you propose growing and which would be placed out-of-doors during the summer, Palms, Tree Ferns, Cordylines, and Phormium tenax would be suitable foliage plants for furnishing the house. Chrysanthemums would flower quite well in such a conservatory from October to January, provided they are well grown and prepared previous to housing them in September. Melons would not thrive in such a house, neither could they be grown with the class of plants you name. With a glass roof, and the sunny position you suggest, Tomatos could be cultivated in boxes, but we should not advise mixing them with other plants needing syringing, as this would be detrimental to the Tomatos. If you clear the house of the other subjects, Tomatos could be grown in it during the summer. The Tomatos should be cleared out and the house thoroughly cleansed before the Chrysanthemums are housed at the end of September. If you decide to keep the house solely for decorative plants during the summer, the roof glass should be shaded from direct sunshine in April. This may be done by light blinds, or by painting the roof glass with one of the mixtures sold for the purpose by horticultural sundriesmen.

Grapes Shanking: *D. D.* Shanking in Grapes is not due to organic disease but is the result of a check of some kind. The most frequent cause of the trouble is an unsatisfactory condition at the roots and this is especially the case with Grapes grown by amateurs whose vines are planted in borders that have not been properly prepared. The vine needs plenty of moisture during its season of active growth, but stagnant moisture at the roots is very harmful. It is, therefore, necessary to make provision for surplus moisture to pass away readily by providing suitable drainage where the soil is naturally of a retentive character. Shanking may arise from inattention to such details as ventilating, removal of surplus shoots and sudden extremes of temperature. At the end of the season, when the vines are resting, examine the borders and if the roots are found to be in an unsatisfactory condition lift them entirely and remake the border, taking care to provide efficient drainage. It is necessary to induce the roots to grow near the surface and to form plenty of fibrous roots. This is best done by placing mulches of rich material on the surface of the border in summer and allowing plenty of air to enter the soil by pricking up the surface lightly whenever it becomes caked.

Grubs in an Apple Stem. *G.*:—The grubs are the larvae of a bark-boring beetle. They are possibly a species of Cryphalus, but it is impossible to be sure without seeing the adult. This genus makes irregular, cavern-like borings under the bark but they do not penetrate the wood. They are capable of destroying a tree in two or three seasons, and should therefore be dealt with drastically. Where possible, the wood should be cut out and burnt, in other cases the bark should be treated with a strong disinfectant such as lysol.

Insects on Loganberries. *G. T.* The pest is doubtless the Raspberry and Loganberry beetle (Byturus tomentosus). Nicotine-paraffin emulsion gave good results on a commercial plantation when used as a double spraying once a week for three weeks, but the trouble involved is rather great. Last season there was evidence to show that deep culture (say, deep hoeing—three inches) almost entirely controlled it. We suggest, therefore, that you try thoroughly cultivating your ground in the spring when the beetles are coming out, from the middle of April to the middle or the end of May, and again when the beetles are going down into the ground, from the middle of July to the end of August. The grub eating out the tops of the young shoots may be several pests. Send specimens when it appears.

Names of Plants: *S. A. K.* Boussingaultia baselloides, sometimes named Madeira Vine, though Ecuador is its native country. *F. K.* 1, Pernettya mucronata; 2, Phillyrea angustifolia; 3, Blechnum spicant; 4, Gaultheria Shallon; 5, Megasea cordifolia; 6, Kalmia glauca; 7, Phormium tenax variegata; 8, Luzula sylvatica (Wood Rush); 9, Petasites fragrans.

Tennis Court. *L.L.*:—The diagram in fig. 91 shows the correct dimensions of a Tennis Court:—

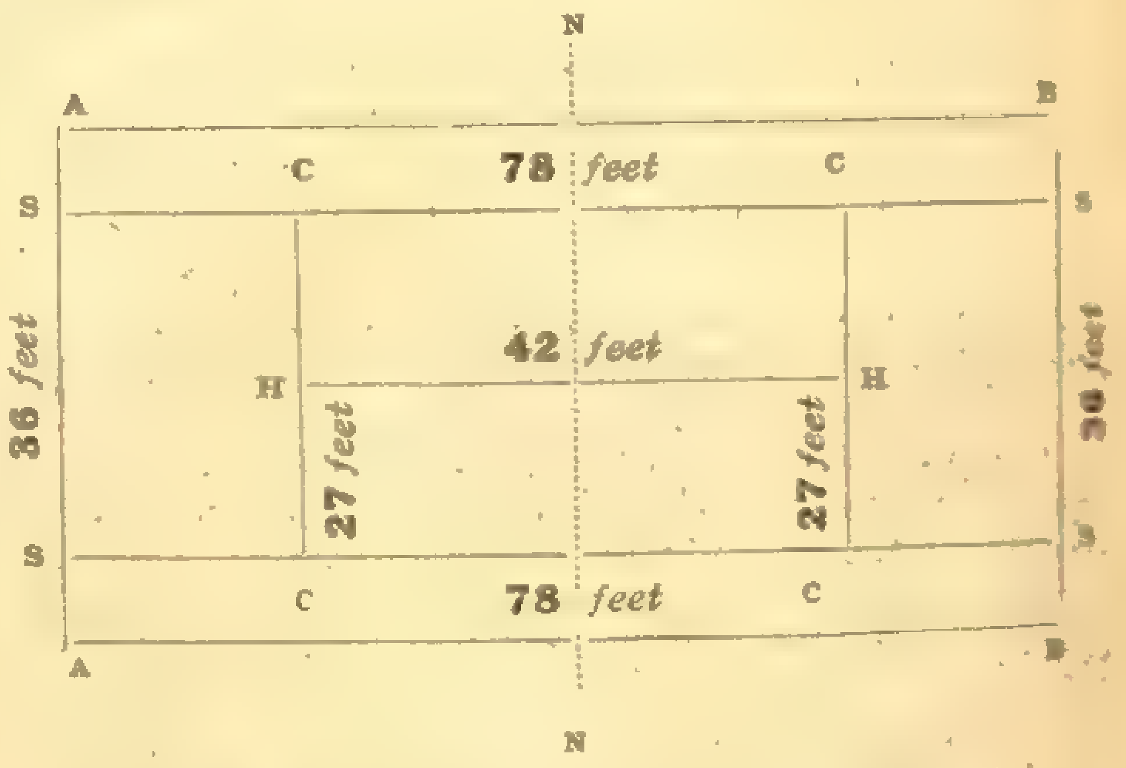

Fig. 91.—Plan of a tennis court.

The lines A B and B A, indicate a double court for three or four players, S S, S S, a single court for two players; A A and B B are the base lines; C C and C C service lines; H H, half-court line; N N net. A court for the single game is twenty-seven feet wide, and seventy-eight feet long; and for the double game, seventy-eight feet long and thirty-six feet wide. The posts for supporting the net should be placed three feet beyond the sides. The service lines run parallel to the net, and are twenty-one feet distant from the same. The net should be three feet high in the centre, and three feet six inches at the posts, to allow of the net dropping.

Watercress Culture: *A. S. R.* The only work we know dealing with this subject is *Commercial Gardening*, published by the Gresham Publishing Company, Southampton Street, Strand. It deals fully with cultivation and propagation. The Watercress would probably derive no benefit from a nitrogenous chemical manure added to the water in which it is growing, as the fertiliser would probably be almost completely washed away before it could operate upon the plants. To secure a crop of Watercress free from flowers during the summer months it is advisable to grow the "green" variety. Cuttings may be placed in clean and slowly-running water at any time between June and Christmas, and in favourable conditions cutting may begin six to eight weeks afterwards. To maintain a supply of Watercress all the year round, the "brown" variety should be grown as well sa the "green," as it is in season from about Christmas to June. Each year a portion of the beds should be cleared from the older plants, and a new stock raised from cuttings.

Communications Received.—W. W.—D. B.—T. H.—E. M. G.—W. C.—T. P.—A. S.—P. L.—R. A. M.—H. P.—L. L.—S. T. W.—G. A. F.—C. W. T.—J. H.—J. D.—R. F. P.—H. T. M.—E. J. P.—H. R. D.—G. W.—G. A. K.—W. L.—A. G.

G. TAYLOR thanks the numerous applicants for the post of Outside Foreman, in Bucks., which is now filled.

WANTED, HEAD WORKING GARDENER for Gloucestershire; thorough experience all branches; Private Grounds; 2 other men and boy kept. Write full particulars, age wages required, etc.—G. M., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

GARDENERS.—Wanted, three good MEN, one for Houses, one Kitchen Garden, one Pleasure Grounds. Bothy and coal found.—Send references and state wages required.—CAPTAIN MILLER, Coundon Court, Coventry.

WANTED, GARDENER (with help); Inside and Out; reliable strong Man, interested in his work; no rooms. State full particulars, wages, experience, etc.—H., Worton Court, Isleworth, Middlesex.

WANTED, strong, capable, willing GARDENER (second of three). Excellent references essential, single, wages 32s.—Apply, stating age, experience, and full particulars, to Rt. Hon. H. PIKE PEASE, M.P., Merrow Croft, near Guildford.

WANTED, good SECOND GARDENER; must have general knowledge of Kitchen Gardening and Plant House; wages £2 per week; good character required.—Mr. FRENCH, The Gardens, St. Leonards, Windsor.

GARDENERS wanted, SECOND and THIRD; must have experience; wages 37s. and 32s.; single. —Apply GARDENER, The Gardens, Greenford Green, Harrow.

WANTED, SECOND GARDENER; four kept, used to horse mower. State age, wages, and experience.—T. EDGE, Esq., Strelley, Nottingham.

WANTED good SECOND of three; thorough outside experience; 30s. and cottage; state age and family.—E. C. SEVERNE, Esq., Thenford House, Banbury.

WANTED, UNDER-GARDENER for Outside and Mowing. Good references required.—Apply, MRS. LAW, Wentworth Hall, N.W.7.

WANTED for Herts, capable UNDER-GARDENER with knowledge of Herbaceous Borders; not required for Glass; Sunday duty once in three weeks; excellent cottage with large cottage garden; seeds provided.—Write experience and wages, F. BRAUND, Leadenhall House, 101, Leadenhall Street, London, E.C.3.

WANTED, FOREMAN (Inside); wages 36s.; excellent bothy, milk, vegetables and attendance —Send copies of references to GEO. JOHNSON, Milton Hill Gardens, Steventon, Berks.

WANTED, for Pleasure Grounds, FOREMAN or LEADING HAND; one who has had experience in Trees and Shrubs and Herbaceous Plants; wages 35s. and cottage.—Apply, stating age, experience, with copies of testimonials, to F. J. CLARK, Aston Rowant Gardens, Oxon.

WANTED, FOREMAN (INSIDE).—State experience, wages required with bothy, &c., to C. GARRATT, Canwell Hall Gardens, Sutton Coldfield.

WANTED, FOREMAN for Fruit and Plant Houses, good wages, with bothy, etc.—Apply with particulars to HEAD GARDENER, Revesby Abbey, Boston, Lincs.

WANTED, JOURNEYMEN (OUTSIDE); wages 30s., bothy, Vegetables, Potatos, &c.; 7 in bothy.—H. R. WHITELAW, Hever Castle Gardens, Edenbridge, Kent.

WANTED, JOURNEYMAN for Plant and Fruit Houses; wages 30s., duty and overtime paid; bothy, milk and vegetables.—State age, experience, W. KINGSWOOD, The Gardens, Norman Court, Salisbury.

WANTED, JOURNEYMEN for Inside and Outside; large establishment in Yorkshire; 30s. weekly, paid for Sunday duty; bothy, etc.—Send full particulars to D. BROUGH, Coollattin, Shillelagh, Co. Wicklow.

WANTED, two good JOURNEYMEN for Outside; wages 30s. and bothy; age about 22, with experience.—Apply to W. WARD, Ken Wood Gardens, Hampstead, London, N.W.3.

WANTED, JOURNEYMAN for the Pleasure Grounds; wages 30s. week, bothy and attendance.—T. WARRINGTON, Foliejon Park, Windsor, Berks.

WANTED, JOURNEYMAN for Pleasure Grounds, help with duty. State wages required with bothy and vegetables. Give particulars of experience. 1 o'clock Saturdays.—C. MOORE, Wargrave Manor Gardens, Berks.

WANTED, JOURNEYMEN GARDENERS; good wages and bothy.—Full particulars and references to HERD BROS., Nurserymen, Penrith.

WANTED, JOURNEYMEN, chiefly for Outside work, for large place in Bucks; 30s. per week; bothy, etc.—Apply, G. TAYLOR, Byram, Ferrybridge, Yorks.

WANTED, JOURNEYMAN, about 20, chiefly for Fruit Houses; also SINGLE MAN for Kitchen Garden.—Apply, stating experience and wages required, to F. J. ROSE, South Stoneham Gardens, Swaythling, Southampton.

WANTED, MAN (SINGLE) for Vegetable growing, capable of taking charge under foreman.—Please state experience and wages required, to SECRETARY, Research Station, Long Ashton, Bristol.

WANTED, a MAN for Inside and Out, to help in Kitchen Garden and on Lawns; able to take duty alternate weeks; married; wages 33s. weekly; 2 rooms and light duty paid extra.—Full particulars to E. SMITH, Falcon Wood, Shooter's Hill, S.E.18.

EXPERIENCED SINGLE MAN required for Kitchen Garden and Pleasure Grounds; little duty; one o'clock Saturdays; good lodgings on the place; wages 35s.—Copies of references and particulars to GARDENER, Pirbright, Chipstead, Surrey.

WANTED, good active YOUNG MAN, chiefly for Inside, and with some experience of Orchids. Wages 32s., no bothy.—Apply, H. REDDEN, The Gardens, Manor House, West Wickham, Kent.

WANTED, YOUNG MAN for Roses, take charge of Croquet and Tennis Lawns with assistance. Bothy and vegetables; share duty; 35s.; 1 o'clock Saturdays.—GARDENER, Poles, Ware, Herts.

WANTED, YOUNG MARRIED MAN for general outside work; good cottage and garden. Also Strong Youth for general garden work, able to take duty; bothy, attendance.—Apply, stating age, experience, wages required, C. BLAKE, Clandon Park, Guildford.

WANTED, two YOUNG MEN for Pleasure Grounds and Kitchen Garden. Write, stating age, wages required (with good bothy, vegetables, and attendance, 1 o'clock Saturdays), to H. NAYLOR, Pleasauna Gardens, Overstrand, Cromer.

WANTED, YOUNG MAN for Herbaceous Borders, Rose Garden and Lawns. Bothy and vegetables, 1 o'clock Saturdays; state age, experience and wages required.—G. LOCKE, Cassia Gardens, Winsford, Cheshire.

WANTED, a YOUNG MAN, experienced in Kitchen Garden and Pleasure Grounds; take duty; bothy and vegetables; one o'clock Saturdays.—Particulars and wages required to J. A. MULFORD, Merevale Hall Gardens, Atherstone, Warwickshire.

WANTED, active single YOUNG MAN, Inside and Out, chiefly Outside, used to Lawn Mowers; good wages paid; with comfortable bothy, etc., and attendance; one o'clock Saturdays.—Apply, stating age, experience, with copies of references, to H. G. SHAW, Bryn-Lupus Gardens, Llandudno, North Wales.

WANTED, active YOUNG MAN (single), for Inside and Outside work; understands Horse Machine; take turn with duty; good wages given.—Apply, E. NEAL, Tilgate Gardens, Crawley, Sussex.

WANTED, SINGLE MAN for horse-drawn Mower and assist in Kitchen Garden; wages 35s. per week and lodgings. Please state age and experience.—S. MELVILLE, Stoner Park Gardens, Henley-on-Thames.

WANTED, SINGLE MAN for fine old Kitchen Garden, 17 miles, London; must be well up in the cultivation of first-class Vegetables and Fruit and to live with employer as one of family; good wages to suitable man.—Apply by letter stating age and experience to C. HART, 14, Canford Magna, Wimborne, Dorset.

WANTED, KITCHEN GARDEN LABOURER; preference given to a man with some knowledge of pruning Fruit Trees. Wife to attend to bothy; age not under 35; wages 35s. and 15s. respectively, with good cottage and garden.—Full particulars and copies of references to, F. W. GALLOP, The Gardens, Lilford, Oundle, Northamptonshire.

ELECTRICIAN - CARPENTER wanted for Farnham, Surrey; take charge of Hornsby Oil Engine and make himself useful about the place.—Miss RUSSELL, 59, Eaton Square, S.W.1.

WANTED, GARDEN LABOURER, steady, reliable man (single). Wages 30s. per week and room. State age and experience. Good character essential. — Apply, GARDENER, "Rignalls," Great Missenden, Bucks.

LABOURER WANTED for Cheshire, strong and active. Good modern cottage. State wage and references.—G. F., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, ODD MAN, in Girls' Boarding School, for Boots, Coal, Heating Furnace, and usual duties, and help in garden; summer term; good references required.—MATRON, Wentworth Hall, Mill Hill, N.W.7.

TRADE.

GARDENERS awaiting situations may obtain temporary employment until suited; good wages.—Apply, JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village N.6.

WANTED, MANAGING WORKING FOREMAN; principally Inside; Chrysanthemums, Bedding Stuff, Ferns, etc.—Apply, W. TRESEDER, Ltd., The Nurseries, Cardiff.

WANTED, HEAD WORKING FOREMAN, thoroughly experienced in Grape, Peach and Tomato growing for markets, good manager of labour, six acres under glass.—State full particulars, age and wages required to E. BOURGAIZE and Co., Leigh Vineries, Wimborne, Dorset.

FOREMAN, thoroughly experienced man, wanted, to take charge of Fruit Tree Department in large Nursery.—Apply, C. J., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

WORKING FOREMAN wanted at once to take charge of Branch Nursery and Market Garden at Egham, Surrey.—Apply personally, or write, stating age, experience, and wages required, to W. A. SHERWOOD, 30, Park Road, Hampton Hill, Middlesex.

WANTED, for two or three months, a first-class TOPIARY EXPERT; must be a practical working man; good wage paid. — Apply, JOHN WATERER, SONS & CRISP, Ltd., The American Nurseries, Bagshot, Surrey.

WANTED, experienced GROWER for Tomatos, Cucumbers, Chrysanths, Violets and Carnations for Market. State wages and references. Single man preferred.—Apply, C. MILLICAN, Kinson, near Bournemouth.

PROPAGATOR wanted; good wages to competent man; used to raising Spring Bedding and Herbaceous Plants.—Apply, Toogood and Sons, The King's Seedsmen, Southampton.

WANTED, GROWER and PROPAGATOR for Herbaceous and Alpine Plants.—State wage required, age, references, etc., CALDWELL & SONS, Nurserymen, Knutsford, Cheshire.

WANTED, a clever TOMATO FORCER, to run 4,000 feet of glass in Jersey.—Apply to C. I. SUMNER, Esq., Belle Vue, St. Aubyn's, Jersey.

MARKETS.

COVENT GARDEN, April 15.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus ...	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	10 0–12 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentia ...	18 0–24 0
Cinerarias, 48's, per doz. ...	24 0–27 0	—— 60's ...	15 0–18 0
		—Cocos	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum—cuneatum, 48's, per doz. ...	10 0–12 0	Nephrolepis, in variety, 48's	12 0–18 0
—elegans ...	9 0–10 0	—32's	24 0–36 0
Asplenium, 48's per doz.	10 0–15 0	Pteris, in variety, 48's	9 0–12 0
— 32's	21 0–24 0	—large 60's ...	4 0–5 0
— nidus, 48's ...	10 0–12 0	—small 60's ...	3 0–3 6
Cyrtomium, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0–2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arums— — (Richardias), per doz. bl'ms.	12 0–18 0	Orchids, per doz:— —Cattleyas ...	24 0–30 0
Azalea, white, per doz. bunches	10 0–12 0	—Cypripediums,	6 0–8 0
Camellias, 12's-18's per box ...	5 0–6 0	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
Carnations, per doz. blooms, best American var.	3 6–6 0	— white, per doz. bunches ...	10 0–12 0
Daffodils, single per doz bun. — Emperor ...	8 0–12 0	Roses, per dozen blooms— —Lady Hillingdon	4 0–6 0
— Golden Spur ...	6 0–8 0	—Liberty ...	8 0–12 0
— Victoria ...	8 0–12 0	—Mme. Abel Chatenay ...	8 0–12 0
— Princess ...	5 0–6 0	—Ophelia ...	8 0–12 0
Freesia, white, per doz. bunches	4 0–6 0	— Richmond, var.	6 0–8 0
Heather, white, per doz. bun.	6 0–10 0	—Sunburst ...	9 0–12 0
Lilac, white, per bunch, 6's ...	4 0–6 0	—White Crawford	6 0–8 0
Lily-of-the-Valley, per bun. ...	4 0–6 0	Tulips, per doz. blooms— —Darwins, in var.	5 0–6 0
Myosotis (Forget-Me-Not), per doz. bun. ...	6 0–12 0	— mauve ...	6 0–8 0
Narcissus ornatus per doz. blooms	8 0–12 0	— white	6 0–8 0
		— yellow	5 0–6 0
		Violets, single, per doz. bun. ...	3 0–6 0

REMARKS.—It is difficult to quote correct prices at the time of writing. White flowers are likely to be a very moderate supply, but they will be the chief attraction to buyers during this week. Lilium longiflorum is not obtainable this Easter, therefore Arums (Richardias) will be more in demand. Roses and Carnations appear to fairly well meet the demand, but an advance in prices is only to be expected towards the week-end. French flowers are practically over, and only small consignments are expected from the Channel Islands.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Jerusalem per bus. ..	4 6–5 0	Lettuce Cabbage and Cos per doz.	3 0–3 6
—Globe, per doz.	6 0 7 0	Mint, per doz. bun.	6 0 —
Asparagus— — Cavillion, per bundle ...	3 6–4 0	Mushrooms per lb.	5 6–6 6
— Lauris... ...	3 6–5 6	Mustard and Cress, per doz. punnets	1 0–1 3
— Paris Green, per bundle ..	10 0–12 0	Parsley, per ½ bus.	6 0–7 0
— — Sprue per bundle ..	2 0 —	Parsnips, per bag	3 0–6 0
Beans, French, per lb.	1 6–2 6	Potatos new, per lb.	1 3–1 6
Beetroot, per bus.	5 0–6 0	Radishes, per doz. bunches ..	3 6–4 0
Cabbage per doz.	5 0 —	Rhubarb, forced, per doz. ..	4 0–4 3
Carrots, per bag ..	14 0–15 0	— natural, per doz.	12 0–14 0
— New, per bun.	1 0 —	Savoys, per tally ..	21 0 —
Cauliflowers, per doz	12 0–18 0	Seakale, in boxes (6-8 lbs.) per lb.	2 0 —
Celery, per doz. ..	36 0–48 0	Shallots, per lb. ..	0 6–0 8
Chicory, Belgian, per lb. ..	1 3–1 4	Spinach per bus.	10 0 —
Cucumbers, per flat	27 0–36 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box	Controlled
Endive, per doz. ..	5 0–6 0		
Garlic, per lb. ..	0 5–0 7		
Greens, per bag ..	11 0–15 0	Turnips, per bag	5 0–6 0
Herbs, per doz. bun.	4 0–6 0	Vegetable Marrows, each	2 0–2 6
Horseradish, per bun	3 6–4 6		
Leeks, per doz. bun.	6 0–8 0	Watercress, per doz.	1 0–1 3

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Cape Fruits pr box— —Grapes (Black)	35 0–40 0	Nuts, con.— — Brazils (new), per cwt.	100 0 —
— — (White)	30 0–35 0	—Cobnuts per lb.	1 3–1 4
Grapes:— — Almeria, per barrel (about 3½ doz. lbs.)	70 0–90 0	Walnuts, kiln dried, per cwt.	130 0–200 0
— Belgian Gros Colmar, per lb.	10 0 —	Pears, Californian Easter Beurré, ½ case	32 0 —
Grape Fruit, pr. cse.	45 0 —	—Winter Nelis, per ½ case	32 0 —
Nuts— — Almonds, per cwt.	120 0–130 0	Strawberries, per lb.	25 0–40 0
— Barcelona, per cwt. ...	130 0–140 0	Pineapples, each	4 0–7 0

REMARKS.—English and Gros Colmar Grapes are now finished, but Belgian Grapes are still available. A consignment of Cape fruits is to hand, consisting of Black and White Grapes and Pears. Strawberries arrive daily. Californian Pears consist of Easter Beurré and Winter Nelis. Cucumbers are fairly plentiful and English Tomatos are now making their appearance. Mushrooms are a short supply, but there are increased quantities of Dwarf Beans and Vegetable Marrows. Supplies of Seakale are limited and the first consignment of Peas is just to hand. Outdoor vegetables continue to be scarce.

GARDENING APPOINTMENTS.

Mr. W. R. Taylor, after serving for nearly three years with His Majesty's Forces in France and Belgium, has resumed his duties as Gardener to T. N. LONGMAN, Esq., Shendish Gardens, King's Langley, Hertfordshire. (Thanks for 2s. for R.G.O.F. Box.—EDS.)

Mr. G. A. Funnell, recently Gardener at Lanwades Hall, Newmarket, Gardener at Brambletye, East Grinstead, Sussex.

Mr. R. Kneller, as Gardener to Colonel C. NEEDHAM, Tylehurst, Forest Row, Sussex.

Mr. A. Neal, for the past 2¾ years temporary Gardener to F. MONCKTON, Esq., Stretton Hall, Stafford, and previously Foreman at Williamston, Neyland, Pembrokeshire, as Gardener to Colonel Bellew, Casewick, Stamford, Lincolnshire. (Thanks for 2s. for R.G.O.F. box.—EDS.)

Mr. G. Taylor is leaving Byram, the seat of Sir JOHN F. RAMSDEN, Bart., after 31 years' service there, and is taking charge of Sir John's Gardens at Bulstrode, Gerrard's Cross, Buckinghamshire. Mr. A. E. Sutton, from Castle Howard, is succeeding Mr. Taylor at Byram. (Thanks for 2s. 6d. for R.G.O.F. box. EDS.)

Mr. Douglas Bath, for the past five years Foreman in the gardens at Englefield, Reading, as Gardener to Sir WILFRED PEEK, Bart. Rousden, Devonshire.

PRESENT - DAY GARDENING

SWEET PEAS

NEW edition by Horace J. Wright, with chapter on "Sweet Peas for Exhibition" by Thos. Stevenson. Contains 8 plates in colour. Price 3/- post free.

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MISCELLANEOUS.

Continued from page ii.

SALE.—Indian Runner DUCK EGGS, Cook's strain; unexcelled layers; 10s. per sitting, carriage paid; boxes must be returned immediately.—RIGGALL, Newbury.

PEAT FOR ORCHIDS, 8s. 6d. per sack; best fibrous Peat in trucks at 20s. per yard, 6 to 16 yards. Rhododendron Peat, 15s. per cubic yard, in truckloads. One yard, in bags, 21s. Leaf Mould, Loam, Sand, Fibre and Compost all in bags, at 4s. each, on rail.—J. HANDSCOMBE, F.R.H.S., The Feltham Nurseries, Middlesex.

GALVANISED TANK, (second-hand); good condition: 4 ft. × 3 ft. × 2 ft. 8 in., capacity 200 gals., £3 10s, Quantity of 3 in. and 4 in. H. W Pipes, Screw-down Valves, Bends, etc.—State requirements, WM. BIGNELL & SON, North Road, Highgate, N.6.

PHEASANT COOPS for the Season. Soundly constructed from best materials. Large stocks ready for immediate delivery. The Keeper's Coop, £8 10s. per dozen, carriage paid. Runs, 75s. per dozen extra. Send for particulars.—BOULTON & PAUL, Ltd., Manufacturers, Norwich.

WEEDS! WEEDS! WEED!

NOW is the time to kill them. If your paths are cleaned now they will remain clean for the best part of the year. Our WEED KILLER is safe to handle.

CHEAPER THAN HOEING.

Will not harm birds ro animals; is a powder; only requires sprinkling on the weeds.
1 cwt. Sacks, 20s., free on rail, London.
CLEVELAND & CO., 12, GREAT QUEEN STREET, KINGSWAY, W.C.
Agents wanted.

FOR SALE, GREENHOUSE in perfect condition; pipes (no boiler); size, 47ft. by 17ft.; within one mile station.—Reply, GREENHOUSE, Bracknell, Berkshire.

"LOUDON'S GARDENING," complete, beautifully bound; offers invited; surplus plants wanted—HORTUS, Box 7, 41, Wellington Street, Covent Garden, W.C.2.

FOR SALE, Green's PONY LAWN MOWER, 30in.; Ransome's 12in. ditto; Green's Roller, 26in.; two cylinder WATER BALLAST, with Pony shaft (wood) attachment; all good condition.—W. PETER, Givons Gardens, Leatherhead.

GENUINE OLD YORK STONE PAVING for Rustic Gardens, Rose Walks, Terraces, etc.; rectangular and irregular, as required.—H. BROOK, Quarry Owner, 40, Valley Road, Streatham, S.W.

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PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

WANTED, as DIRECTOR of Training Centre for Disabled Soldiers in Serbia—Teacher, with knowledge of Market Gardening and Agriculture, with administrative experience; knowledge of French essential.—Apply for details, stating salary, to LADY GROGAN, Serbian Relief Fund, 5, Cromwell Road, S.W.7.

WANTED, for Capetown Public Gardens. Gardener; unmarried; three years' agreement: passage paid outwards; commencing wages £3 per week; unfurnished room provided.—Apply by letter, stating age and qualifications, to DAVIS & SOPER, Ltd., 54, St. Mary Axe, London, E.C.3.

GARDENER (Head Working) where two or three are kept, requires Situation; excellent references.—B., 33, Park Road, Henley-on-Thames.

GARDENER (Head Working) just demobilised, seeks post where several are kept; life experience gained in first-class establishments; 3 years and 8 months Head to Lord Bishop of Peterborough; age 36—A. MORPHETT, The Common, Cranbrook, Kent.

GARDENER (Head Working); life experience in all branches; 8 years previous Head; age 42; married (one child); demobilised.—WHEELER, Glengarriff, Queen's Road, Crowborough.

GARDENER (Head Working), seeks situation where two or three are kept; life experience in all branches; age 42; Southern Counties preferred; leaving through wife's ill-health; two girls (11 and 13).—W. BASHFORD, Sandybrook Cottage, Ashbourne, Derbyshire.

GARDENER (Head Working) where three or more are kept; life experience in all branches; just demobilised; age 42; married; excellent references. —COOK, Lamport Station, Northampton.

GARDENER (Head Working), life experience, seeks situation with lady or gentleman who requires a practical and thoroughly competent man in all branches; skilful cultivator of choice Fruits, Vegetables and Plants; leaving through death of employer and estate being sold. Can be highly recommended by a lady and gentleman; married.—WILLIAM COLE, The Gardens, Clewer Manor, Windsor, Berks.

GARDENER (Head Working); all-round experience gained in first-class establishments, including Royal Gardens, Windsor; seven years last place, Head; demobilised; age 42; married (two children).—W. WATSON, Great Baddow, Chelmsford, Essex.

ENERGETIC HEAD - WORKING GARDENER seeks re-engagement; thorough practical experience in all branches; good references; age 47; married (no family).—JOSEPH COLLINS, 22, Highfield Road, Chertsey, Surrey.

GARDENER (Head Working); life experience in all branches inside and out, incluing early and late forcing of choice Flowers, Fruit and Vegetables; 14 years in last situation.—A. WITT, Bank Cottage, Bank, Lyndhurst, Hants.

GARDENER (Head Working); life experience; good references; age 32; married; cottage preferred; good reason for leaving; knowledge of cows. —C. BROWN, 23, Bromley Crescent, Bromley, Kent.

GARDENER (Head Working).—Mrs. L. SALOMONS highly recommends a highly-skilled Man; good manager; 20 years Head, Norbury Park; left through death; life experience in first-class establishments.—GEORGE KENT, Cleveland Lodge Gardens, Dorking.

GARDENER (Head Working); a thorough practical, energetic man, with lifetime experience in large gardens; first-class Fruit, Vegetable and Flower grower; Inside and Out, and the upkeep of a good garden; good organiser, with excellent references as to abilities and character; home counties preferred.—W.A., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head Working), where several are kept; 23 years' first-class practical experience with choice Fruits, Plants; Inside and Out; kitchen garden; highly recommended; age 38; married (no family).—WREN, Rowplatt Lane, Felbridge, East Grinstead.

GARDENER (Head Working); practical life experience all branches; Inside and Out; land and stock; married (no family); excellent references.—HOLDEN, Fordham Terrace, Therfield, Royston, Herts.

GARDENER (Head Working), where two or three are kept; Carnations and Fruit a speciality; married (no family); age 49; can be well recommended; disengaged.—ELLIS, nr. Earley Station, nr. Reading.

GARDENER (Head Working); life experience in all branches; nine years as Head; age 38; married (one child, age 8).—A. BOND, 10, Springfield Road, Crawley, Sussex.

GARDENER (Head Working); age 43; life experience all branches gained in the gardens of Lord North, Lord Brougham, Lord Portman, Sir Archibald Edmonstone, and for the past twelve years Head Gardener to Joseph Shaw, Esq., K.C., seeks re-engagement where a thorough practical man is required; excellent references; state wages and particulars.—FISHER, Osborne House, Southbourne, Emsworth, Hants.

GARDENER (Head Working); life experience; good all-round, Fruit, Flowers, Vegetables; Inside and Out 14 years Head; age 41; married (one child).—LUCKHURST, 174, Sunnyhill Road, Streatham, S.W.16.

GARDENER (Single-handed) requires situation, with Cottage, thirty or forty miles from Birmingham; married; 25 years' experience.—J. WARD, The Lodge, Somerset Road, Edgbaston.

SINGLE-HANDED or otherwise; 25 years' experience; age 42; married (one girl, 9 years); abstainer; churchman.—PARKER, Bishopstone, Shrivenham, Berks.

GARDENER seeks situation, Single-handed or Kitchen Gardener; married (with no small family); good reference; cottage required.—A. W. PHILLIPS, The Cottage, Crowndale, Chorley Wood, Herts.

MR. G. REUTHE, Nurseries, Keston, Kent, can thoroughly recommend a GARDENER well up in Flowers and Vegetables; has been 36 years in one situation, and is now 50 years of age; wages required, £2 per week, and house and Vegetables; has three boys, one of whom could work with him if required—and one daughter; would want railway fare paid to destination. —Apply to above address.

EX-NURSERYMAN, age 33 (married, one child, age 4), desires position as PRIVATE GARDENER; fully qualified; 18 years' experience, both under Glass and Outside; specialities, Roses, Carnations, Bedding Plants, Chrysanthemums, Tomatos, all kinds of Flowers and vegetables, and the raising of all classes of stock; cottage if possible.—M. G., Box 22, 41 Wellington Street, Covent Garden, W.C.2.

GARDENER, married (no family), age 31, requires situation immediately; willing to do anything. Gardening or otherwise make himself generally useful at any work. Demobilised; 3½ years' service. Good references. Please state wages with cottage.—A. LEADBETTER, White House Farm, Binfield, Berks.

GARDENER, practical, all-round, seeks engagement; suburbs; wife very capable cook or housework; lodge or private accommodation required.—GARDENER, 13, Berkeley Mews, Connaught Street, W.

GOOD all-round GARDENER; active, abstainer; can drive car; 10 years' excellent refs.; 42, married; cottage required.—BUTTLE, 44, Eastbrook Road, Waltham Abbey.

KITCHEN GARDEN or Pleasure Grounds FOREMAN; good practical experience; good references; age 28; married; demobilised. Please state wage, with cottage.—T. H. WRIGHT, 7, Silverdale Road, Tunbridge Wells, Kent.

KITCHEN GARDENER and Pleasure Grounds; good practical experience; good references; married; age 46 (one child).—W. EMBERSON, Manor House Cottage, Effingham, Surrey.

KITCHEN GARDEN or Pleasure Grounds; eleven years' experience; good references; age 29; just demobilised (Navy, 2½ years' service); single.—H. HERITAGE, Yew Tree, Sanderstead, Croydon, Surrey.

MR. E. ATKINS, Hargrave Park Gardens, will be pleased to recommend H. TITMUSS as Second, Inside and Out, in good establishment; left here owing to war; age 36; married (no family).—Apply, H. TITMUSS, c/o Mrs. J. Livermore, Great Chishill, near Royston, Cambs.

GARDENER (Second Inside) or OUTSIDE Foreman; has held same positions in good establishments; good references; two girls, aged 10 and 8.—P. CHAPLIN, Ferry Road, Medmenham, Marlow, Bucks.

AS UNDER-GARDENER, accustomed chiefly to Vegetables and general Outside work; also understand the management of Bees; age 40; married (no family); good reference.—SECKSTONE, Cholesbury, Tring, Herts.

FOREMAN requires situation, Outside; life experience in Kitchen and Fruit Garden. Good reference; age 32; demobilised.—MILTON, Fernleish, Neuton Hill, Wakefield, Yorkshire.

ADVERTISER seeks situation as FOREMAN (Inside); 11 years' experience; good refs.; age 28; married; just demobilised.—G. A. OAKS, c/o. Mrs. M. Tew, Shalstone, nr. Buckingham, Bucks.

GARDENER requires situation as PLEASURE GROUND FOREMAN in large gardens; 12 years' experience; married; age 30 (one child); just demobilised.—Apply C. S. M. GRINNELL, St. John's Road, Stansted, Essex.

JOURNEYMAN.—Mr. CHURCH, The Gardens, Raveningham Hall, Norwich, wishes to recommend A. WARNS, age 22; good worker; left here to join Army, 1915; was prisoner of war in Germany two years, where he worked most of his time at gardening.

DEMOBILISED SOLDIER seeks situation in Pleasure Grounds or Kitchen Garden; used to horse machines and scythe; age 28; single; good reference; please state wages with bothy.—G. SMITH, 8, Barn Terrace, Brundall, Norfolk.

LADY GARDENER desires engagement in private establishment under Head Gardener; Inside and Outside; help with Poultry; previous experience.—Apply TOWN, Kingston House Gardens, Abingdon, Berks.

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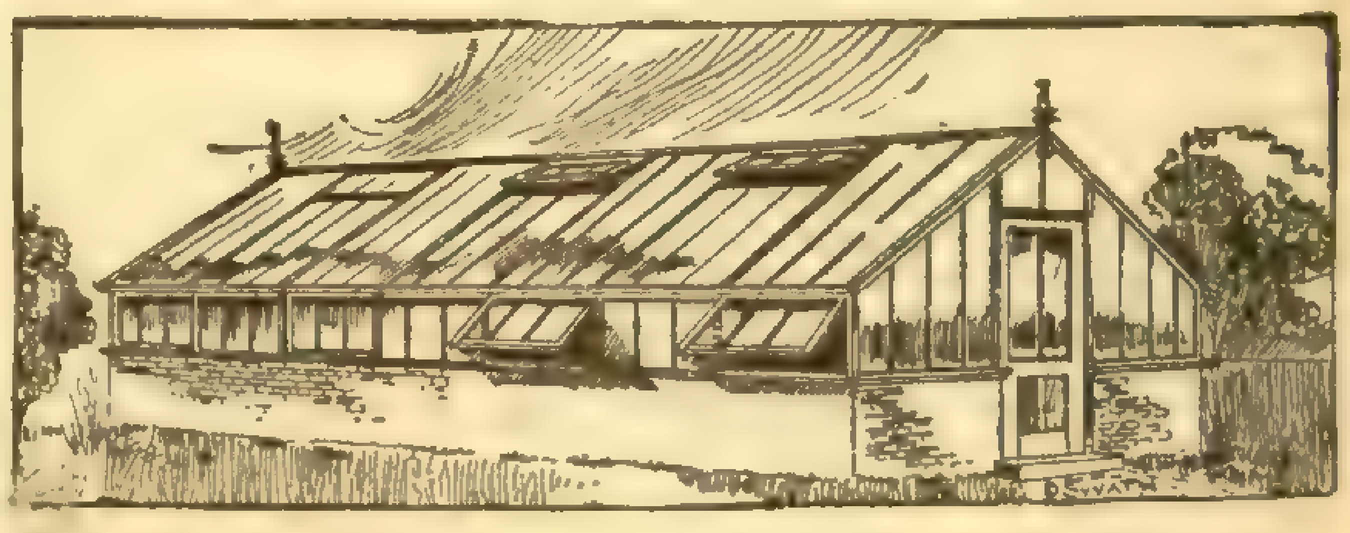

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THE
Gardeners' Chronicle
No. 1687.—*SATURDAY, APRIL* 26, 1919.

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BROCCOLI AND CAULIFLOWERS.

THE quality of Broccoli and Cauliflowers has been much improved in recent years. Many modern varieties of Broccoli are equal to the finest Cauliflowers, so that by careful selection of varieties of both Broccoli and Cauliflowers and a proper system of cultivation, an unbroken supply of these vegetables may be maintained throughout the year, provided the winter is not excessively cold. Much may be done to prevent loss among late Broccoli by carefully selecting and preparing the site on which they are to be grown. Broccoli for autumn and early winter use succeed best on deep, rich soil, but plants which are intended to stand the winter and produce a supply in spring and early summer should be planted in an open situation, where the soil is firm and not too rich, to produce plants capable of withstanding severe weather and of producing good heads during the spring. Some growers recommend planting late Broccoli on ground recently occupied by Strawberries, but although good crops may be obtained in this way it is a better practice to plant on open ground which has been prepared for them some time previously. The Strawberry plot might then be trenched and manured for a crop of early Cauliflowers. To obtain heads of Broccoli next winter and spring, seeds should be sown now; from April 25 to May 10 is a good time. At Frogmore we sow on, or about, May 10, but in late, cold districts it is necessary to sow seeds at least a fortnight earlier. Broccoli seeds should be sown thinly in shallow drills, and the bed kept quite free from weeds until the seedlings are large enough to be planted out. Planting should be done in damp weather before the plants become hard and stunted, but if dry weather sets in when the seedlings are ready to put out it is better to plant and water freely than to allow them to remain too long in the seed bed. The varieties grown at Frogmore to provide a regular succession are: Veitch's Autumn Protecting and Sutton's Michaelmas White for November and December; these varieties require rich ground and a space of 30 inches each way. For January and February, Dickson's Snowdrop, Early Market, Early Feltham, Winter Mammoth, Sutton's Christmas White, and Superb Early White are amongst the best. For March and April, use Main Crop, St. Patrick's Day, Mid Feltham and Snow White. For the latest batch, Sutton's Satisfaction, Latest of All, Late Feltham, Model, and Dickson's Victory are excellent varieties and should be planted two feet apart in an open position where the soil is not too rich but capable of producing sturdy plants. Mid-season and late varieties may be sown on the same date, but it should be remembered that in cold localities the seeds should be sown a fortnight earlier than in the south.

CAULIFLOWERS.

By careful selection of varieties, deep cultivation, a liberal use of manure in the soil, and numerous sowings, an unbroken supply of Cauliflowers may be produced from May to November. In order to produce a full supply of Cauliflowers in May the seeds should be sown in August or September, according to the locality. At Frogmore we sow the seeds as near the middle of September as possible, and winter the plants in cold pits. They are potted into 4-inch pots in November and December; if potted too early the pots become filled with roots and the plants become stunted before the time arrives for planting them in the open with safety. The varieties grown here for this purpose are Dean's Early Snowball, Great Dane, Magnum Bonum, and Early London, and these become fit for cutting in the order named. We pot about 7,000 plants of these varieties each year, winter them in frames, and plant them out at the beginning of April for early summer supplies. A close succession to the foregoing is obtained by sowing seeds of Great Dane and Early London in a slightly heated pit early in February. The young plants are pricked off into cold pits as soon as large enough and grown there until they are fit for planting in the open garden. This is, in my opinion, the most important batch, as the heads should be ready for cutting before the plantations of autumn-raised plants become exhausted, otherwise there will be a break in the succession. Another sowing made on a sheltered border in March will provide for a crop to follow very closely after Early London of the previous sowing; Great Dane, Magnum Bonum, Early London and White Queen are also suitable for this outdoor sowing. The latest outdoor sowing should be made early in May, and this should provide for supplies well into November, by which time the autumn Broccoli will be ready for use. Early Giant, Veitch's Autumn Giant, and Halloween Giant are suitable varieties for this latest sowing, and the last-named variety will last well into November as its heads are well protected from frost by ample foliage.

In all cases Cauliflower seedlings should be transplanted as soon as large enough, and never allowed to remain in the seed bed sufficiently long enough to become either drawn through overcrowding or stunted from lack of nourishment. Cauliflowers succeed best in deep, rich soil, but may be grown to perfection on light land, provided it is deeply cultivated and receives a liberal supply of manure. A mulching of manure among the plants will do much to conserve moisture in the soil and promote quick, healthy growth in hot weather. As the crop quickly suffers from lack of moisture the plantations should receive liberal supplies of water during dry periods, or early "buttoning" will be the result instead of the formation of fine heads. *John Dunn.*

THE ROSARY.

HYBRID-PERPETUAL ROSES.

THE Hybrid-Perpetual Roses, after their first introduction from France, had a very long and beneficent reign and were much more earnestly cultivated by the greatest Rosarians than the more refined Noisettes and Teas. Of late years H.P.'s have largely given place to the more fascinating class of fragrant Hybrid Teas. They are, for the most part, of comparatively easy culture and can be grown with facility in any garden that is suitable for their culture.

Such varieties as Duke of Edinburgh, Victor Hugo, and Duke of Wellington are still included in nurserymen's catalogues, and I also retain these veterans in my collection, and sometimes imagine that even by some of the grandest modern "crimsons" they have not been entirely superseded. These, after all, were the Roses that laid the bright foundation of our finest modern acquisitions; and I question very much if the venerable General Jacqueminot, which still flowers profusely in gardens, has not been the original or chief progenitor of them all.

I well remember that the late Mr. William Paul, of Waltham Cross, always declared that Duke of Edinburgh was raised, in his earlier days at Cheshunt, from a seed of General Jacqueminot.

Another eminent Rose, whose descendants have been numerous beyond enumeration, is Baroness Rothschild, and its first notable production, a Rose which, initially, made a great sensation, was the beautiful, scentless Merveille de Lyon. Many of the finest of the old Hybrid Perpetuals are still assiduously cultivated in modern gardens.

Conspicuous among these are A. K. Williams, which had a long reign among its dark-crimson contemporaries as an exhibition Rose; Charles Lefevre, which was a supreme favourite of Dean Hole; Duke of Edinburgh, already characterised; Duke of Wellington, Dupuy Jamain, Horace Vernet, and the luminous Fisher Holmes.

Among crimson Hybrid Perpetuals of comparatively recent origin, few are more grandly effective than Captain Hayward. General McArthur, Salamander, Crimson Emblem, Admiral Ward, and H. D. M. Barton; while, among the most entirely reliable and highly ornamental white Roses within the range of my acquaintance, two of the finest are Snow Queen and its presumable derivative, Candeur Lyonnaise, Roses of almost peerless beauty, whose scentless character is their one great limitation. But so commanding is their impressiveness that they are invaluable for exhibition. Maharajah is a fascinating variety, with large, single, dark-crimson coloured flowers; David R. Williamson is a richly fragrant variety, of exquisite carmine-rose colour, which has been very popular, especially in England. Other Hybrid-Perpetuals of various and distinctive colours that may be highly commended are: Mrs. John Laing, Mrs. R. G. Sharman Crawford, Suzanne Marie Rodocanachi (rosy cerise); Hugh Dickson, perhaps the most beautiful of all bright crimson Roses; Commandant Félix Faure, which is always finest in early autumn; Ben Cant, Marie Baumann, Alfred Colomb and Merveille de Lyon. *David R. Williamson.*

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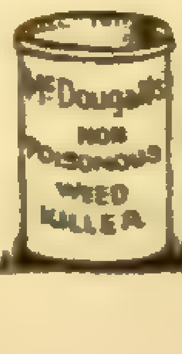

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ORCHID NOTES AND GLEANINGS.

DENDROBIUMS FROM MESSRS. J. CYPHER AND SONS.

The value of Orchids for cut flowers has been demonstrated in a higher degree during the war than at any previous time, and throughout the long period when the sale of plants was restricted many Orchid growers found some return in the sale of their blooms.

Messrs James Cypher and Sons, Exotic Nurseries, Cheltenham, one of the oldest Orchid-growing firms who make a business of the sale of rare and well-grown Orchids, as well as a decorative branch in which Orchids and especially cut blooms, are extensively used, write saying that the cut flower business has been more than usually satisfactory this year, and praising the Dendrobiums so extensively grown by them. These Orchids have given a wealth of bloom for some months past, and they have sent us a box of very handsome examples representing the types at present in fine condition.

CULTURAL MEMORANDA.

THE CULTURE OF THE RAMONDIA.

A considerable number of cultivators of Alpine flowers—and these not always novices—appear to experience considerable difficulty in growing Ramondias in a satisfactory manner. From hearsay or from one or two experiments they have acquired the impression that these attractive Alpines are troublesome—though this is not true. Given conditions in which they can obtain their few necessities, they will seldom fail to give satisfaction, and their demands can usually be supplied in most gardens where they are desired.

One of the most important details in the successful cultivation of the Ramondia is shade. Being natives of sunless—or almost sunless—gorges, the Ramondias have little liking for the direct rays of the sun. If fully exposed to these they are easily shrivelled and seared as if by fire, and shade is necessary to secure their welfare.

Fig. 93.—Ramondia serbica (syn. Nathaliae): flowers pale mauve.

The numerous varieties of Dendrobium nobile are favourites with growers, their blooms varying from the pure white D. nobile album to the large, rich vinous-mauve of the true D. n. nobilius, which in most respects is still one of the best coloured forms. D. n. elegans, D. n. Cypher's variety, and D. n. Heathii, are other desirable plants. Forms of the D. Ainsworthii class are represented by D. Ainsworthii Bilney's variety, a large, cream-white flower, tinged with rose and having a dark purple eye; D. rubens magnificum, one of the largest forms, with petals tinged with mauve, and D. Apollo grandiflorum, a large bloom of fine shape. The charming D. Cybele (Findlayanum x nobile) is represented by D. Cybele giganteum, the largest coloured form, and the rare and chaste pure white D. Cybele album. D. lituiflorum, a pretty species that is becoming rare, has neatly-formed mauve-tinted flowers produced on slender pseudo-bulbs. Dendrobium Thwaitesiae Veitch's variety, is the finest rich yellow variety of its class, the spray of three flowers bearing large, rich orange yellow blooms, with dark maroon disc to the lip. D. Rolfeae, a compact and pretty flower, and other hybrids were also included.

Many years ago, when Ramondia pyrenaica (see Fig 95) was coming into favour, and doubts were expressed as to the proper conditions it required, I saw a large number of the plants in a hardy plant nursery. They had been established in pots for sale, and were growing admirably on a stage with an impromptu pavilion composed of thick cheese cloth to supply shade from the sun. The result was excellent, and an object lesson was afforded to all who saw the plants. A year or so afterwards, on visiting the garden of the late Rev. C. Wolley Dod at Malpas, Cheshire, a flourishing group of Ramondias was seen on a little bank sloping gently to the north and with a low screen of sheet iron between the plants and the sun. The owner, in his time one of our best hardy plantsmen, was justly proud of the success of his Ramondias, and emphasised the point that shade was essential for these flowers. I have seen Ramondias in many conditions since, and have experimented not a little with them. My conclusion is that this question of shade should be placed in the forefront of the conditions required.

Another desideratum is moisture. This need not be excessive, but its absence leads to a sickly condition on the part of the plants, which shrivel badly, and although they respond wonderfully to a supply of water artificially applied, this is sometimes neglected, and the plants eventually succumb if great care is not taken of them. It has been advanced that the shrivelled leaves of a Ramondia soon swell and recover their former healthy appearance after being supplied with water, but it is obvious that the plant must have been suffering and could not fail to be weakened by its ordeal. These two points seem to be more important for the Ramondias than that of soil. The plant is not difficult to cultivate in ordinary garden loam, and the compost may vary considerably. Loam, leaf-soil, sand, and grit have been recommended, as well as loam and peat.

Shade and moisture may best be secured by planting the Ramondias on the north side of a rock garden or a wall. In the former situation it is not difficult to secure the necessary conditions. In a wall garden it is more difficult, unless the wall is a retaining one and well supplied with moisture. Where the plants are self-grown ones, such as are sometimes found in an old mortar building, the roots penetrate between the crevices of the stones and suffer less than those planted in similar positions. On a properly built retaining wall, where the stones are laid so that the rain can enter between the joints, the supply of moisture is generally sufficient, but sometimes the ground behind a retaining wall is too dry for the welfare of the Ramondia. On a northern exposure, such as these plants have in Sir Herbert Maxwell's garden at Monreith, no difficulty is experienced.

These remarks are the result of considerable experience in the cultivation of the Ramondias as represented by R. pyrenaica, R. serbica (syn. Nathaliae; see fig. 93), and the other species or varieties of this charming genus of rock or wall plants. *S. Arnott.*

THE ALPINE GARDEN.

CORTUSA MATTHIOLII.

This old plant, known as the Common Bear's Ear Sanicle, is a native of Italy, Siberia and Austria, and has been in cultivation in this country since 1596, at least, and may have been introduced even before that date. Matthioli, in his Commentary on Dioscorides, gives a figure and description of the species, and tells a good deal about the plant. It is frequently figured in more recent garden literature, but is not now a common subject in cultivation. It does not, however, deserve to sink into oblivion, although its near allies, the Primulas, far eclipse it in attraction and intrinsic beauty. The plant grows from eight inches to ten inches high, and has prettily lobed leaves and umbels of drooping, deep purplish-crimson flowers in April, May and June. Its cultural requirements are shade, shelter from cold winds, and a moist soil. Peat is preferable, but the plant will grow well in a mixture of loam, leaf-mould and sand. Propagation is effected by division or seeds. In cold districts it is advisable to give the plant protection in winter, especially of a kind to throw off heavy showers of sleet and rain, from which it suffers even more than from frosts. *S.*

FLORISTS' FLOWERS.

VERBENAS.

The Verbena about the middle of the last century and for long afterwards was exceedingly popular, both as a bedding plant and also for exhibition purposes. As illustrating the extent to which the plants were then cultivated, and also serving to show their hold on the public, it may be mentioned that in the list of plants certificated from 1859 to 1893 issued by the Royal Horticultural Society, more than 100 first-class certificates are recorded as awarded to garden varieties of Verbena. The greater number of these awards were made in the '60's, when Verbenas were largely grown for exhibition purposes. With regard to the R.H.S. list of certificated plants it may be noted that in the last

THE FERNERY.

THE BRITISH SHIELD FERNS.

The following article on Polystichum was sent us by the late Mr. C. T. Druery just before his death.

To those who possess conservatories small or large which are attached to the dwelling house in such a way as to be largely shaded thereby, and consequently handicapped for successful flower cultivation owing to the absence of bright sunshine, no plants can be more highly recommended than our native Shield Ferns, or Polystichums, and particularly their varietal forms. In the very many wild "sports" which have been discovered by those who make a hobby of Fern hunting, Nature has supplied abundant material, not only in the form of varieties which are far and away more beautiful than the common or normal types, but she has also endowed these with a capacity for such further improvement of type that in these days we have hundreds of forms well worthy of places of honour even in the conservatories of the most exacting connoisseurs of plant beauty. Amongst the three species indigenous to Great Britain and Ireland—viz., P. Lonchitis, P. aculeatum, and P. angulare—the first-named is so rarely successfully grown and has varied comparatively so little that we prefer to dismiss it and only to deal with the other two. Of these two, it is undoubtedly P. angulare, or the Soft Shield Fern, which has been the most liberal in its wild "sports." Of these P. proliferum has for many decades been a popular Fern for the decoration of dwelling rooms and conservatories. This differs from the normal, twice divided specific form in having its sub-divisions much more numerous, slender and acute, giving the fronds almost a mossy aspect, but it is further distinguished by the faculty, as its name "proliferum" implies, of producing considerable numbers of plantlets along the stalks, and in the axils of the pinnae or side divisions. By layering these it is very easy to increase the stock, and it is doubtless this fact which has contributed largely to its popularity and wide distribution by traders. It has, however, been found that not only a number of distinct proliferums have been discovered with a like faculty, but that many other varieties have a like tendency, though on a less liberal scale, the little plantlets or bulbils only occurring near the frond bases. These, if left alone, are apt to root into the soil, and so provide lateral offsets, though the family generally is far more prone to remain as single crowned plants than many other species.

Polystichum angulare is evergreen and hardy, and under glass protection retains its frondage through the winter and until the next season's fronds are well in evidence. Good, open leafy compost or good ordinary garden soil suits this Fern well, so that it is by no means difficult of cultivation. In the open garden, in a position not too freely exposed to sun and wind, the various types of this Fern make magnificent specimens, varying in size according to their varietal character, from five feet or more across to dwarf gems less than a foot in diameter.

The handsomest forms by far are those known as plumosums or divisilobums. In these the fronds, instead of being only twice divided into mitten-shaped lobes, like a fingerless glove with the thumb nearly at right angles, may be thrice or even four times divided; as these divisions are very slender and considerably lengthened, the fronds are of a densely mossy nature. Of this section there is now, thanks to selective cultivation, a considerable number, but the best are known as the Jones and Fox divisilobed plumosums, densum, laxum, robustum, and last, but not least, "Baldwinii" In addition to these, and on similar lines, and quite possibly of similar origin, there are Esplan, Pearsonii, Grimmondii, and plumosissimum (Birkenhead), the last a perfect marvel of dissection, but extremely difficult to grow to perfection. With the others, however, with proper treatment as regards watering and planting in suitable situations, there is no difficulty in their cultivation. All these forms are due to selection, but there are several "plumosums" which were found wild—viz., Moly's, Patey's, and Wallaston's, which, however, are not dissected to the same extent as the others, but are nevertheless very pretty. The crested or tasselled section of the species embraces a number of very pretty forms, in which the form of the tassels varies greatly from bunch or corymbiforms to flat or fan-like ones; while with these there are associated an almost infinite amount of variation in the forms of the ultimate divisions, pinnules, pinnulets, and so on, some being blunt and rounded, some very long and acute, and all graded between with varied habits of growth and, as already indicated, of size, some being lax and slender and spreading, and others densely congested. The majority of these forms are symmetrical in growth and handsome. So beautiful, indeed, is the family as a whole in its varietal capacity, that it is a saying amongst British Fern lovers that everyone who takes up the cult as a hobby is bound eventually to become a Polystichum lover in particular.

P. aculeatum, of tougher character and with somewhat lucent frondage, is specifically distinguished from P. angulare by the fact that the mitten-shaped sub-divisions aforesaid have wedge-shaped bases and are attached to the stalk by the point of the wedge and not by a distinct stalk, as is the case with P. angulare. In P. aculeatum we have some very finely tasselled varieties, and others in which the sub-divisions vary in shape considerably. It is of stiffer habit, and forms handsome specimens. The "grandiceps" forms of Talbot and Abbott bear heavy terminal crests of great size. P. aculeatum has distinguished itself specially by yielding the unique "gracillimum Druery" and "plumosum Green" sections of very beautiful forms, of which the former has no parallel, while the latter imitates closely the plumose "divisilobums" of P. angulare above mentioned in delicacy of cutting. Despite the great difference between these two sections, they both arose from one sowing from a very beautiful wild "find" named "pulcherrimum," which had been reputed as barren for nearly forty years, but on which closer investigation eventually disclosed a few spores.

[In Fig. 92 we illustrate the beautiful P. a. pulcherrimum Drueryi, which received the R.H.S. First Class Certificate on October 1, 1907.—Eds.]

Fig. 92.—Polystichum aculeatum var. pulcherrimum Drueryi.

water to settle the compost, and keep them rather dry afterwards until the roots are growing freely; they will then require a very liberal supply of water all through the growing season. Cool, airy quarters, in a light structure, suit this Orchid, but newly-potted plants may be put into rather closer quarters for a time, and afforded a little extra shade until they are re-established. They need a moist atmosphere, and unless this is provided they are subject to attacks of red spider.

Ada aurantiaca.—This fine old Orchid should find a place in every collection, as it has bright flowers and blooms freely. It is, moreover, fairly easy of culture, requiring to be grown in a pot with good drainage, good peat fibre and Sphagnum-moss. The materials should be used in as rough a state as possible, according to the size of the pots employed, so that the large quantities of water required during the summer months will not render the material sour. The best time to give these plants new rooting material is shortly after flowering, when new roots are pushing forth from the last made growths. Ada aurantiaca will grow well in the cool house, but it succeeds best in a rather warmer temperature, such as the cool-intermediate house affords, and especially during the winter months. It likes a shady position, and newly potted plants will need extra shade and careful watering for a time.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Pollination of Fruit-tree Blossoms.—Owing to the loss of many bees through the Isle of Wight disease, pollination of fruit blossoms should receive attention. Bees are a valuable help in fertilising flowers, and no large fruit garden should be without them if they are to be procured, for bees are worth keeping for this purpose alone. As a rule, outdoor fruit blooms do not need much help in this matter, especially if the weather is warm and favourable for pollen distribution, and bees are kept; but where there are no bees it is a good plan to give the trees a gentle shake or tap the branches of flowers with a stick bound round with a piece of cloth. On bright, hot days it is a good plan to lightly spray the blossom with clean water, in the form of a very fine mist; just sufficient to disturb the pollen is all that is needed.

Vines on Walls.—Outdoor vines should be disbudded; it is surprising what good Grapes may be grown on warm walls if the vines are properly attended to. Extend the growths evenly over the wall and avoid overcrowding. As soon as growth is vigorous all lateral shoots should be pinched to one eye and the fruiting shoots should be shortened to three or four joints beyond the bunch. One bunch only should be allowed to each shoot. As soon as the shoots are large enough secure them firmly to the wall, taking care to leave plenty of room for the stem to swell. Where old vine rods are getting worn out strong, young shoots should be selected and trained up to replace them. See that the vines receive plenty of water in dry weather, and give them liquid manure at least once a week, or a dressing of some good fertiliser. As soon as the fruit is set syringe the vines night and morning. A good mulching of decayed farmyard manure should be placed over the roots, as vines like plenty of manure; the layer of dung should not be so thick as to exclude the air, nor should it be of a wet, sloppy nature.

Peach Trees.—Trees heavily laden with blossom buds should be relieved of some of them, removing, as far as possible, all buds nearest to the wall and leaving the bulk for fruiting on the side exposed to the sun.

Aphis on Fruit Trees.—All kinds of fruit trees should be carefully watched now for any signs of green or black fly, for if once allowed to establish themselves these pests cause considerable trouble. Where these insects are found the trees should be at once syringed with quassia extract or some other suitable insecticide.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford. Wrotham Park, Barnet, Hertfordshire.

Use for Forced Bulbs.—Old Daffodil bulbs that have been lightly forced under glass should be planted out of doors either in grass near deciduous trees, in the semi-wild garden, or other suitable places. In planting, see that the soil is broken up to a reasonable depth and enriched with manure. The old bulbs of Tulips and Hyacinths that have been forced may also be planted in suitable places, where they will grow and flower freely for several seasons without further attention.

Sweet Peas.—Seedlings raised in pots should be planted out in deeply dug and thoroughly prepared soil. Stake them at once, and, should keen winds prevail, place a few Laurel branches along the sides of the rows. Always stake Sweet Peas early, keep the soil about the plants well dusted with soot, and allow ample room between the clumps.

Chrysanthemums.—All early flowering Chrysanthemums that are to flower out of doors should at once be planted in suitable positions, allowing them ample space for development. The soil should be deeply cultivated and well enriched with suitable manure.

Hyacinths.—The Hyacinths will need supports to keep the trusses in an upright position. Keep the soil around them free from weeds and stir the surface at intervals. See that all the varieties are correctly named and make notes of the most useful sorts for another year's planting.

Tulips.—Where May flowering Tulips have been planted for the production of late flowers, stir the soil amongst them, both to encourage growth and to destroy small weeds. Should dry weather set in, give the beds a thorough soaking with liquid manure, or a dressing of some good artificial fertiliser.

Polyanthuses and Primroses.—In order to work up a healthy stock of Polyanthuses for spring flowering, seeds of suitable varieties should be sown in pans, or in cold frames; any fairly good soil of a sandy nature pressed firmly will serve as a seed bed. Sow the seeds thinly, and when the plants are large enough lift them carefully and transplant them a couple of inches apart in boxes or frames, removing them later to a well-prepared border.

Sunflowers.—Sow Sunflower seeds where the plants are intended to flower. Do not plant the seeds too deeply. Support the plants early, and feed them liberally in dry weather.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Cyclamen.—Seedling Cyclamens are growing freely, and may be shifted into slightly larger pots. The soil for this potting should consist of two-thirds loam and one-third leaf-mould, with sand and small pieces of charcoal added. Place the plants in a warm house, arranging them on a rough, moist bottom. Shade from bright sunshine and syringe the plants daily. Fumigate the house occasionally to keep down insect pests.

Cytisus and Genista.—All Genistas and Cytisus which have passed out of flower should be pruned into shape, placed in a temperature of 55° to 60°, and syringed on bright days. When they have made good growth, place them in a cool house, preparatory to plunging them outdoors in a bed of ashes for the summer months. Cuttings may be inserted singly in small pots, placed in an intermediate house, covered with a bell glass, and shaded from the sun until rooted.

Violets.—Where a supply of Violets in frames is required throughout the winter, preparation should now be made for planting young stock, rooted last autumn, or produced by the division of old plants after flowering. A border under a wall, with a north aspect, or soil in any situation shaded from sunshine, should be deeply worked and heavily manured for the plants. The single varieties grow stronger than the double ones, and should be planted at a greater distance apart. Care must be taken not to let the roots get dry, and if the plants are troubled with red spider, spray them at the close of bright, sunny afternoons, with weak, liquid manure from the cowshed.

Various Cuttings.—With a view to having plants of sufficient size and usefulness for flowering in winter, cuttings should now be inserted of Eranthemum pulchellum, Thyrsacanthus rutilans, Plumbago rosea, and Salvias. Use 60 sized pots filled with a mixture of loam, peat, leaf-mould and sharp sand, insert the cuttings and place them under a bell glass or frame over bottom heat until rooted, then remove them to a shelf near the roof glass in a warm house and keep them well watered. Cuttings of Fuchsia and Heliotrope inserted now will make useful decorative plants by the autumn.

Gesnera.—Re-pot the tubers in well-drained pots in a mixture of peat, leaf-mould, dry cow manure and sharp sand; grow them in a moist, warm atmosphere, and afford them very little water until they commence to grow, when a thorough watering may be given. To prevent injury from insect pests fumigate the plants occasionally.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Cauliflowers.—Seedling Cauliflowers growing in pots and frames need liberal applications of diluted liquid manure from now onwards, and daily syringing with clear water when closing the lights. Prick off plants from later sowings when large enough to handle.

Leeks.—Seedling Leeks that are well established either in pots and boxes may, when suitably hardened, be transferred to their final quarters. Prepare trenches one foot in depth and the width of a spade; break up the bottom soil, and on this place a layer of short manure to the depth of 6 inches. Cover the manure with 5 inches of prepared compost consisting of loam 3 parts, manure from a spent mushroom-bed, leaf-mould, and grit one part each. Make the soil firm, and plant the Leeks with great care in single lines at 1 foot apart. In hot, dry weather water the plants, and syringe them daily when necessary. Good varieties are Prizetaker, Lyon, and International.

Cabbage.—The long, trying spring, with much rain, has not suited this important crop. When the surface soil is in a workable condition, use the hoe often. Dress the ground between the rows with sulphate of ammonia, and occasionally with soot, and work these fertilisers well into the soil. This treatment will promote a rapid growth from now onwards. Young plants raised in boxes for succession may be planted out in rows made 18 inches apart, allowing a distance of 1 foot between the plants in the rows. Make another sowing of Cabbage on a sheltered border, choosing an early variety such as Early Favourite or Tender and True.

Beet.—A sowing of early Turnip-rooted Beet may be made with safety now in a sheltered border. Sutton's Globe is an excellent variety, of dark red colour when cooked. Sow in shallow drills 1 foot apart, and watch closely for birds when the seeds are germinating, or the crop may be quickly spoiled.

Mushrooms.—If it is possible to obtain fresh horse droppings in a short space of time, a Mushroom-bed may be made at the foot of a wall facing north, to provide Mushrooms during the summer. The manure should be turned every second or third day. When the temperature of the manure has fallen to 78° make up the bed firmly to a depth of not less than 15 inches. Break the spawn into 4 inch squares, and insert the portions 2 inches deep at 1 foot apart. Cover the surface with finely sifted loam to the depth of 1 inch, make this firm with the back of a spade, and cover with long litter.

list, which carries the record down to the year 1910, many of the commoner kinds of garden flowers are omitted. For instance, there are only five Verbenas named therein, all of which obtained Awards of Merit. The same is true of Pelargoniums, Fuchsias, Petunias, and other florists' flowers. This omission is thus alluded to in the latest list. "In the following pages will be found a list of all the plants, flowers, fruits, etc., to which the Council have granted Certificates on the recommendation of these several committees or otherwise, from the year 1859 to the end of 1910, with the exception of purely florists' flowers certificated previous to 1890, many of which, having been superseded and become obsolete, are omitted from this list. They will, however, be found, if wanted, in the previous lists published in 1894 and in 1900."

Old time nurserymen's catalogues are often interesting reading, and in that of the then prominent firm of E. G. Henderson and Son, Wellington Road, St. John's Wood, for the year 1866, no fewer than 28 new varieties are listed, seven of them being announced as exhibition varieties, the others being recommended for bedding. It may be noted that the exhibition kinds are priced at 5s. each, and the bedding ones at 3s. 6d.

Again, in the catalogue of Philip Ladds, then of Bexley Heath, for the year 1868, no fewer than 52 varieties are quoted, but at a very much cheaper rate than those above referred to. A dozen of them are described as new, Italian, striped varieties. The chief English raisers were Mr. C. J. Perry, of Castle Bromwich, a very successful exhibitor of the Verbena; Mr. Eckford, afterwards prominently identified with the Sweet Pea; Messrs. Henderson, above referred to; Mr. John Wills, then manager for Mr. J. W. Wimsett, Ashburnham Park Nursery, Chelsea; and Mr. H. Cannell, of Woolwich. The advent of the new varieties issued by these raisers was annually awaited with interest far greater than most gardeners of the present day can understand. *W. T.*

TREES AND SHRUBS.

SALIX SALAMONII.

As a watrside tree this Willow deserves a more extended notice than it has yet received, especially in localities too inclement for S. babylonica. It is a hybrid between that species and our native white Willow, S. alba, and whilst it is not so pendulous in habit as S. babylonica, it is extremely graceful, and has inherited the greater hardiness of the other parent. It is also a more vigorous grower than S. babylonica, and this has led to its being planted extensively on the Continent, in the north-central parts of which that species is not hardy. S. Salamonii is said to have originated on the estate of Baron de Salamon, near Manosque, Basses Alpes, more than fifty years ago, and it was first put into commerce by the firm of Simon-Louis of Plantières, near Metz, in 1869. The illustration in Fig. 94 is of a tree growing by the side of the lake at Kew, where there are also several others.

FIG. 94.—SALIX SALAMONII GROWING BY THE LAKESIDE AT KEW.

The specimen figured is 50 to 60 feet high. The leaves are brilliant green above and glaucous beneath. On first expanding they are clothed with silky hairs, especially beneath, but these soon fall away leaving the surfaces as smooth as those of S. babylonica. Another quality of S. Salamonii is that the foliage is retained until December. The photograph was taken late in October, when the common Oak had dropped most of its leaves. Notwithstanding this fact, it is one of the earliest trees to burst into leaf in spring; thus there are few genuinely deciduous trees that are in full foliage during so many months of the year as this Willow. *W. J. Bean.*

Spring Horticultural Exhibition in Paris.—The Spring Horticultural Exhibition which is being arranged by the Société Nationale d'Horticulture de France is to take place at Cours-la-Reine from June 5 to 9. The exhibition promises to be interesting from many points of view.

The Week's Work.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Late Vineries.—On vines in successional houses, reduce the bunches to the required number and thin the berries. Free-setting varieties should be attended to directly the berries begin to swell, otherwise it is very difficult to thin them without causing injury. Tying out the shoulders tends to form shapely bunches, and when this is done very little thinning is required. After the berries have been thinned once, subsequent thinnings are necessary only to remove seedless berries and others that are crowded. Sudden outbursts of sunshine after a dull spell are liable to scald the foliage; to prevent this danger admit air early in the mornings directly the temperature begins to rise, increasing the amount of ventilation gradually as the temperature rises, so that by the time the sun has sufficient power to cause scalding excessive moisture on the foliage is dispersed. Vines which are in full flower should have plenty of air whenever it is possible to open the ventilators freely without danger from cold draughts. To assist the berries to set give the rods a sharp shake two or three times during the day; shy setting varieties may be assisted by tying the bunch point upwards and placing on one side any leaves which hinder the free access of sunlight. Endeavour especially to secure a good set of berries on the shoulders of the bunch setting well, otherwise a shapely bunch cannot be produced. On bright days damp the paths, walls and borders during the afternoon and again the last thing at night.

Melons.—The fruits on plants raised from seed sown last December are rapidly approaching the ripening stage, and a drier atmosphere is necessary to develop their full flavour. Admit air freely on every favourable occasion, for if the house is kept too close there is a likelihood of the fruits cracking badly. The supply of water to the roots should be considerably reduced. Cut the fruits at the first sign of cracking at the stem. After being cut, the fruits will attain a better flavour if kept for three or four days in a warm, dry place. Successional fruits are swelling rapidly under the influence of increased sunshine. If the rooting area is restricted, feeding must be on a liberal scale until the fruits attain their full size, and the more frequent the change of food the better will be the progress and the finer the fruits. The temperature at night should range from 65° to 70°, and by day from 80° to 85°, and 90° to 95° after closing the house with sunheat and giving a thorough syringing. All laterals should be pinched at one or two leaves beyond the fruit; remove all useless growths, and carefully preserve the principal leaves. As the days lengthen allow an increase of temperature at all times when air may be admitted freely.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Anguloa.—The present is a good time to examine and repot any Anguloas that are not likely to flower, provided they need this attention. Those that are going to bloom (as indicated by the swelling of the flowering growths) should not be disturbed until the period of flowering is over. Anguloas need ample drainage, and a free, open compost made of two parts each of the best fibrous loam and peat (or Al fibre), and one part well chopped Sphagnum moss, with a liberal addition of crushed crocks and charcoal. Use clean pots, make the rooting material moderately firm about the roots, and keep the base of the plant a little below the rim of the pot. A few days after repotting, give the plants one good soaking of

of houses, hostels, workshops, and other buildings. The design shows a grand avenue, facing on to Lancaster Castle and parish church at one end, and on to a new church to be built at the other, and it is expected the corporation will construct a new road connecting the village and the district in which it is situated with the town. The village is intended to be a memorial to the Lancaster men of all regiments, and of Lancaster sailors and Service men of all kinds, who have fallen in the war. The scheme has thus taken definite shape. Several cottages have been promised, and the subscribers to the Royal Lancaster Prisoners of War Fund have voted £2,500 from their surplus funds to build five cottages and £250 towards the Lord Roberts Workshop. Other Lancastrians have promised one or more cottages. It was recently announced that the estimated cost of the village to voluntary subscribers would be about £23,000 or £25,000, other sums being payable from public sources.

Chrysanthemums from Ardencraig, Rothesay.—Few floricultural or botanical curiosities which reach the Editorial offices of this paper occasion us much surprise, and it is no new experience to receive flowers blooming extraordinarily out of season; but we confess to some surprise when opening a box of Chrysanthemum blooms on Thursday, the 17th inst., to find really good, substantial and long-stemmed flowers of the variety Mrs. J. J. Thornycroft, which would have realised from 6d. to 1s. each in Covent Garden Market, judging from the prices paid for white flowers. The Chrysanthemums were sent by Mr. J. Davidson, gardener to Sir John Reid, Ardencraig, Rothesay, who also kindly sent the following note:—

I am sending for your inspection, by post, a box of Chrysanthemum blooms, variety Mrs. J. J. Thornycroft, which I think are fairly good for the time of year. We maintain a large supply of cut flowers all the year round, and Chrysanthemums are our mainstay for the winter season. We begin to cut Chrysanthemums at the beginning of August, and continue until the end of March, but this year the blooms are a little later, and we shall be cutting until the end of April. It is wonderful how large and continuous a supply of good cut flowers can be maintained after one has had a little practice and some experience of the local climatic conditions. Chrysanthemums, Narcissi, the longer-stemmed Tulips, Sweet Peas and various other subjects are all available in their season. As in many other establishments we have been very short handed for the past few years, but we have managed to keep things going by extra work and care and now look forward to better times.

Sea-Algae as Fodder for Horses.—A French professor (M. Lapicque) has lately presented to the Académie the result of some experiments which have been carried out in regard to the food value of certain sea-water Algae, of which the most suitable appears to be Laminaria flexicaulis. Monsieur Lapicque states that this Alga has been fed to army horses, and has been found to contain considerable nutritive value. He points out, however, that the excessive washing which was at first thought necessary in order to get rid of the hygrometric salts is disadvantageous in that it washes away also the nutritive sugar. It has now been found that the best plan is to gather the Alga in August and September, plunge it for a quarter of an hour in weak lime-water (four or five grammes of lime to a litre of water), then rinse it for a quarter of an hour in soft, clear water, and dry it in the open air. After this process the injurious salts disappear, and the fodder can be kept like hay.

FIG. 95.—RAMONDIA PYRENAICA: FLOWERS PALE PURPLE.
(See p. 201.)

Nitrate of Soda.—The Minister of Munitions announces that the control of nitrate of soda will be suspended as on and from May 15. General licences will, however, be issued until that date authorising dealings in nitrate of soda, but such licences will not authorise the holders to enter into any transaction which involves the actual movement of nitrate except within the British Isles before May 15. All applications for licences should be addressed to the Ministry of Munitions (Department of Explosives Supply), Storey's Gate, S.W.1.

New Orders Concerning Copper Sulphate and Blast-Furnace Flue Dust.—The Ministry of Munitions has issued the following Order with respect to Copper sulphate. "With reference to the following Order made by the Minister of Munitions, namely: The Copper Sulphate Order, 1918, dated February 15, 1918, the Minister of Munitions hereby orders as follows:—(1) The operation of the said Order is hereby suspended on and after April 15, 1919, until further notice. (2) Such suspension shall not affect the previous operation of the said Order or the validity of any action taken thereunder, or the liability to any penalty or punishment in respect of any contravention or failure to comply with the said Order prior to such suspension or any proceeding or remedy in respect of such penalty or punishment. (3) This Order may be cited as The Copper Sulphate (Suspension) Order 1919. A new Order dealing with blast-furnace flue-dust is as follows:—In reference to the following Order made by the Minister of Munitions, namely: The Blast-Furnace Dust Order, 1917, dated August 7, 1917, the Minister of Munitions hereby orders as follows:—(1) The operation of the said Order is hereby suspended on and after April 30, 1919, until further notice. (2) Such suspension shall not affect the previous operation of the said Order or the validity of any action taken thereunder, or the liability to any penalty or punishment, in respect of any contravention or failure to comply with the said Order prior to such suspension, or any proceeding or remedy in respect of such penalty or punishment. (3) This Order may be cited as The Blast-Furnace Dust (Suspension) Order, 1919."

Anti-Rat Campaign.—Although action under the Rats Order, 1918, is not yet so general or drastic as might be desired, many of the County Councils are moving in the matter, and there is a growing recognition of the seriousness of the problem. In many counties the action taken by the Council is restricted to offering a reward for the bringing in of dead carcases, the price paid ranging from 1½d. to 3d. Buckinghamshire, Shropshire, Staffordshire, Derbyshire, Middlesex, Oxfordshire, Rutland and other counties offer 2d. per rat; Worcestershire will pay 2s. per dozen for rats' tails. The County Council of Anglesey pays 1½d. per rat's tail produced, and from January 25 to March 31 19,691 rats were destroyed under this arrangement. Carmarthen also offers 1s. 6d. per dozen for rats' tails, work under the Order being carried through by the police. This is a temporary scheme which will be run for three months pending the consideration of further measures. In the Isle of Wight and Leicestershire the price is 3d. per rat. In the area last mentioned in eight weeks 29,378 rats had been slaughtered at a cost of £367 4s. 6d. West Sussex has given trial to a reward scheme which began on December 1. Up to March 9 29,762 rats had been accounted for at an expenditure of £367 1s. 9d. Whilst the principle of making payment does some good by providing an incentive to kill rats it does not bring about that thorough and systematic destruction over wide areas which is necessary to ensure satisfactory and lasting results. For this reason reliance upon reward schemes alone cannot be regarded as sufficient. In East Sussex an Executive Officer to supervise rat destruction has been appointed and similar appointments have been made in Hampshire and elsewhere. Kent, Lancashire, Monmouth and Somerset are among the counties now considering the question of making such appointments. Cornwall is employing poisoners at 32s. per week. The Hereford Council have granted £400 to be used by the War Agricultural Executive Committee for the destruction of rats; Devon has voted £1,000 and operations are being carried out in experimental areas, and Glamorgan is devoting a similar sum to selected districts. The Surrey Council will consider a scheme shortly formulated by the War Agricultural Executive Committee. In East Suffolk, where rat destruction has since the outbreak of human plague in 1910 been energetically carried out under the direction of the Local Government Board, the Rural and Urban District Councils are offering rewards ranging from 1d. to 2d. per rat killed, and in some cases have engaged rat catchers.

Publications Received.—***The Cultivation, Composition and Diseases of the Potato.*** Supplement to the Journal of the Board of Agriculture, March, 1919. Price 6d. Board of Agriculture, 3, St. James's Square, London, S.W.1. ***Soils and Fertilisers.*** By T. Lyttleton Lyon. Edited by L. H. Bailey. New York: The Macmillan Company, Ltd. Price 6s. 6d. net.

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Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 49.2°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, April 23, 10 a.m.: Bar., 30.2; temp., 56°. Weather—Fine.

Rubus Barkeri. An account of the remarkable behaviour of Rubus Barkeri Cockayne was given in *Gard. Chron.*, November 19, 1910, p. 374, in which the record of this species in failing to flower was described, and the conjecture of Dr. Cockayne that it might prove to be a non-flowering species was reviewed. Now, after a period of about nineteen years since R. Barkeri was brought into cultivation, the same author records* that its reluctance to blossom has lapsed, and that a specimen grown in the garden of Mr. D. L. Popplewell, of East Southland has produced a panicle of five flowers, which with the exception of one stamen in one of the flowers are all female, whence it is to be inferred that the species is dioecious.

The fact that flowering has only occurred after so many years might perhaps be taken to indicate that the original cuttings were taken from a juvenile and not from an adult plant; but the evidence, based on thickness of the stem and size of the plants, is all against this view. We are therefore driven to conclude that Rubus Barkeri, though capable of bearing blossom, is in fact a shy flowerer, that is to say, that it requires special and apparently unusual conditions before it is able to pass from the vegetative to the reproductive stage. The curious facts discovered by Dr. Cockayne with respect to this Rubus, only serve after all to remind us of our ignorance of the special conditions which determine whether a plant or a bud shall remain vegetative or become floriferous. The recurrent and at times sporadic formation of fruit buds in the case of fruit trees is a case in point. The gardener has done his part in observing the general conditions which make for or against fruitfulness. In ascribing a large influence to the extent of "ripening of the wood," he—without doubt correctly—realises that the nature of the bud of this spring was determined, perhaps irrevocably, perhaps only conditionally, by the weather and the state of the tree in the autumn of the preceding year. It remains for the botanist to explore this subject further, not only in continuing the remarkably interesting researches of Prof. Klebs, which were referred to in this Journal, June 24, 1916, page 339, but also in following by microscopic means the normal course of development of these buds of fruit trees which in course of time become fruit buds.

Perhaps the most striking illustration of the determining influence of external conditions in the development of a plant is provided by the well authenticated behaviour of the buds of such trees as the Beech. As is well known, branches of Beech, if exposed to full sunlight, bear leaves of different anatomical structure from those on branches growing in shade. What, however, is more remarkable, is the fact that if a branch which grew, say, in shade in one year, is exposed in the following year to the sun, the leaves retain as it were the impress of the conditions imposed on them in their embyronic bud stage, and, despite the sunshine which greets them as they open out of the bud, develop the anatomical characters of shade-leaves. It is this interval between the operating cause and outward manifestation which adds so much to the difficulty of discovering the secrets of plant behaviour. For instance, there can be little doubt but that the reason for the greater productiveness of Scotch and Irish seed Potatos is to be sought and found in the soil conditions which attended the early development of that bud or collection of buds which is the Potato tuber. It would be well worth the attention of the investigator to inquire into the conditions of soil temperature and moisture which occur in the Lothians, and to compare them with those which obtain generally in districts less favourable to the production of prolific "seed."

* *Trans. of the N.Z. Institute*, XLIX, 1916.

The Surveyors' Institution.—The next ordinary general meeting of the Surveyors' Institution will be held in the Lecture Hall of the Institution, 12, Great George Street, Westminster, S.W., on Monday, April 28, when a paper, entitled "Notes on the Report of the Agricultural Policy Sub-Committee of the Reconstruction Committee," will be read by Mr. Joseph Henry Sabin (Vice-President). The chair will be taken at 5 o'clock.

Horticultural Instructor for Durham.—Mr. W. S. Sharp, gardener, Lilleshall House, Newport, Salop, has been appointed chief instructor in horticulture to the Durham County Council. Mr. Sharp has had a wide and varied experience in all branches of horticulture as well as forestry. He is an old Kewite, and since leaving Kew has had charge of various gardens, including Mr. A. Bulley's famous garden at Ness; Burton Manor Gardens, Cheshire; Ince Hall Gardens, Chester; and Swinfen Hall, Lichfield. For some time past Mr. Sharp has been assisting in lecturing and demonstrating for the Staffordshire Education Committee, and during the past season has acted in an advisory capacity to numerous small-holders, fruit growers and allotment holders in Staffordshire.

Rainfall in March.—According to *Symons's Meteorological Magazine*, the total rainfall of March exceeded twice the average for the month over practically all England and Wales, except in the eastern and extreme northern counties. The amounts varied from about 2 inches in East Anglia to more than 5 inches over large areas in the south and Midlands, and rose to above 10 inches in the Welsh mountains and the Lake district. In Scotland, the excess was not remarkable, and in many areas the fall was short of the average. Less than 2 inches fell on the east coast, and from 5 to 10 inches in the wettest parts of the Highlands. Ireland was wet generally, but a few scattered stations had less than the average. Less than 2 inches fell over the centre, and 5 inches was exceeded only in the extreme west. The general rainfall expressed as a percentage of the average was:—England and Wales, 196; Scotland, 105; Ireland, 112; British Isles, 143.

Successful Allotment Holders at Spennymoor.—The progress of the allotment movement is well exemplified in the case of the Spennymoor Allotment Holders, which was registered and affiliated to the Agricultural Organisation Society in September, 1917, and concluded that year with 55 members and a trade turnover of £17. At the end of 1918 it had 350 members and a trade turnover of over £600. This society has obtained from the local Urban District Council 16½ acres of land in different parts of the town.

Sir George Watt.—Sir George Watt, so well known for his botanical researches in India, and who resides at Annandale House, Lockerbie, Dumfriesshire, has been elected one of the members of the new Scottish Education Authority for Dumfriesshire. Sir George Watt, who is a member of several other public bodies, retains his interest in botanical work, and is a keen horticulturist, as the number of rare plants in his garden testifies.

Windsor Rose Show.—By permission of the King, Windsor Rose Show will be held on the slopes of Windsor Castle on Saturday, June 28. Among the cups for competition is the King's Challenge Cup for 48 blooms, distinct varieties.

Royal Botanic Society.—The President of the Board of Agriculture and Fisheries has appointed a committee to report what steps should be taken to render the work of the Royal Botanic Society of London as useful as possible from the scientific and educational point of view. The committee will be constituted as follows:—Lieutenant-Colonel Sir David Prain (Director of Royal Botanic Gardens, Kew), chairman; Sir W. H. Dunn, Bt. (Royal Botanic Society); Surgeon-General Sir A. Keogh (Imperial College of Science and Technology); Sir M. Morris, and Major R. C. Carr (Royal Botanic Society); Mr. Morton Evans (Joint Secretary of the Office of Woods); Mr. H. J. Greenwood (Royal Botanic Society); and Professor F. W. Keeble (Board of Agriculture and Fisheries and Royal Horticultural Society). Mr. G. C. Gough will be secretary of the committee.

A New Public Garden for Orleans.—Landscape architects in France are busy just now preparing to enter plans for the new public garden which is to be created at Orleans near the Boulevard Rocheplatte. The site, which has been acquired by the municipality, presents many favourable features, and there are likely to be a large number of entries for the competition. They will be judged after April 30, which is the closing date.

A Village as a War Memorial.—The family of the late Sir Thomas Storey have given the beautiful residence known as Westfield, Lancaster, with its extensive grounds, for the site of a war memorial village. The estate is within five minutes' walk of the town hall of Lancaster, and Mr. T. H. Mawson has laid it out as a model village, to provide accommodation for disabled service men. Mr. Storey has also agreed to provide on the estate a small ornamental park, bowling green, band-stand, tennis courts, &c., and the public are expected to provide cottages, hostels, workshops, &c., as memorials to those who have fallen and as thank-offerings. The village is designed to accommodate 200 men, and the proposal is to provide a hundred cottages (for married men with families), and three or four hostels for unmarried men. At present the mansion as it stands will be used as a hostel, but eventually, when the new buildings are erected, the house will be used as reading room, billiard room, club house and concert room. A Lord Roberts workshop is to be erected on the estate, and there will be other workshops, at which goods will be made by disabled men. In addition there are to be workshops and studios for craftsmen, designers, and artists. It is proposed that various architects shall be employed, so as to give "variety in unity" in the erection

NOTES FROM TASMANIA.

APPLE STOCKS.

The Tasmanian Government has appointed a Committee of three leading orchardists to invest and report on the merit of the blight-proof stock, as compared with the seedling Apple stock. It was suggested that the Committee should include a departmental officer and a nurseryman, but against that was the fact that the best officer for the work had already expressed his opinion, while to ask a nurseryman, who might have a large stock of either blight-proof or seedling stocks for disposal, to adjudicate, would be to place him in a position he should not be called upon to occupy. The Committee will have the assistance of the Government's micro-biologist and fruit experts will visit the principal orcharding districts. In a handbook still supplied to applicants blight-proof stocks are (on the authority of the late Government expert) warmly recommended, whereas the present fruit expert would not endorse that opinion. Probably the cessation of hostilities will bring a number of would-be orchardists here from over-seas. I most earnestly recommend them not to purchase properties before they know the facts; and I should be very happy to endeavour to assist them in the way of avoiding pitfalls. People who purchase horses scarce knowing the same from cows are generally accounted fools; but it is by no means very easy to convince those of a "know-all" type that the vendors of orchard properties are not invariably angels. *Arthur Garnett, Cambridge, Tasmania.*

PLANTS FOR DWELLING ROOMS.

Although the growing of plants in dwelling rooms is the oldest form of indoor cultivation, it was never practised to such an extent as it is now, and each season enormous numbers of pot plants are raised by nurserymen and sold in the markets for the special purpose of decorating dwelling rooms. The conditions in dwelling rooms are not very favourable to vegetation, and where gas is employed for lighting and fires used frequently the plants will not remain for long in a good condition. But many modern villa residences are fitted with electric light, and have spacious front windows; indeed, the recesses of some of these front rooms are almost like miniature conservatories, and they are suited to the growing of many plants in pots. But it is in the cottage windows in country villages that plants thrive best, and the cottagers' front windows are amongst the most interesting features in these villages. The cottager's wife tends her Fuchsias with the greatest skill, watering, ventilating and shading them from hot sunshine as carefully as would a trained gardener.

It is surprising how many uncommon plants may be met with in cottage windows; most of them probably came from "slippings" given by some gardener, or brought by some relative from overseas. It is stated that the Fuchsia was first discovered growing in a cottage window in London by Mr. Lee, a nurseryman of Hammersmith, and instances are known where species new to science have been discovered in a cottager's front room. A great variety of flowering plants will succeed in an ordinary room during the spring, summer and autumn, and with a few Ferns and other foliage plants the windows may be made bright and cheerful throughout the whole of the year. Many plants, after they have flowered early in the season and made their new growth, may be placed out-of-doors in a sheltered, partially-shaded situation for the wood to ripen before taking them indoors again for the winter. Such plants as are placed out of doors in this way should be kept rather dry at the roots, and given only sufficient water on mild days to keep them from flagging.

Plants grown just inside windows should be carefully examined for decaying foliage, and during cold, damp weather, if convenient, a fire should be lighted in the room. In very cold weather sheets of newspaper placed against the inside of the window will afford the plants considerable protection, and at night time in winter the blinds will also serve to keep out a considerable amount of cold. On fine days the window may be opened for an hour or so, but this must be done very cautiously, as cold draughts are very harmful to the plants, and would result in a check to growth. The best time for repotting indoor plants is in early spring; those that require increased root room should be afforded larger pots, but over-potting must be guarded against, and it is very essential to provide ample drainage. Certain plants will not need repotting for two years provided the soil remains sweet; a little concentrated fertiliser given at intervals would be beneficial to such plants. In watering the plants it is a great convenience to stand them in the open, and this allows damping them overhead to be done at the same time. When replacing them indoors pans are necessary under the pots to keep the water from dripping on the floor.

The following is a list of plants that are suitable for the purpose, and their cultivation is not difficult :—

Fig. 97.—Clivia (Imantophyllum) miniata: a good plant for dwelling rooms.

Flowering Plants for Dwelling Rooms.—Self-coloured, white-edged and grey-edged Auriculas. Perpetual flowering Begonias: B. Dregei, flowers white; B. fuchsiodes, bright coral-red; B. insignis, pinkish lilac; B. Knowsleyana, blush white; B. Sutherlandii, orange; B. Weltoniensis, light pink; tuberous Begonias of mixed colours. Cereus flagelliformis, the "Rat-tail" Cactus; C. speciossimus, intense crimson; Campanula isophylla, lilac blue; C. i. alba, white, both these Campanulas are fine plants for hanging baskets. Clivia miniata (see fig 97), a fine plant for its green foliage and large trusses of orange shaded flowers. Crassula (Kalosanthes) coccinea, which gives beautiful masses of scarlet flowers; Epiphyllum Gærtneri, brilliant scarlet. Fuchsias (double flowers) Avalanche, Ballet Girl, Brilliant, Duchess of Edinburgh, Phenomenal and Sylvia; (single flowers) Charming, General Grenfell, Mrs. Rundle, Mrs. Todman, Olympia and Rose of Castile. Zonal Pelargoniums, (single) Bowood, Dryden, Kingswood, London, Mrs. Brown Potter, and Snowdrop; (double) Decorator, Double Jacoby, King of Denmark; Hermione, Lord Derby and Madame Thibaut. Ivy-leaved Pelargoniums, Corden's Glory, Galilée, Incomparable, Jubilee, Madame Crousse and Souvenir de Charles Turner. Scented-leaved Pelargoniums, capitatum, Clorinda, denticulatum or Pheasant's foot, Lady Scarborough ("Parsley leaved"), quercifolium ("Oak-leaved"), and Rollisson's Unique. Mimulus moschatus, the common Musk, and Harrison's Musk. Myrtus communis, the common Myrtle, and the variety Jennie Reitenbach, with smaller foliage. Nerium Oleander album, double white, and N. O. roseum, double rose. Phyllocactus Akermannii, Agatha, Ena, Jenkinsonii, La Belle, and Niobe; and Vallota purpurea or "Scarborough Lily," bright scarlet.

Foliage Plants.—Aloysia citriodora, the sweet scented Verbena; Anthericum variegatum, green leaves striped with white, and pale blue flowers; Aralia Sieboldii, large green palmate leaves; A. S. variegata; Araucaria excelsa, pale green foliage; Asparagus plumosus; A. Sprengeri, bright green foliage, suitable for baskets; Aspidistra lurida, more generally used than any other plant for rooms; A. lurida variegata; Carex japonica variegata, with grasslike foliage; Cissus rhombifolia, trifoliate, dark green foliage, useful as a climber; Copresma Baueri variegata, of dense, compact habit; Eulalia japonica variegata, a tall, graceful grass; Farfugeum grande, leaves spotted with yellow; Ficus elastica, the "India-rubber Plant"; F. radicans, suitable as a hanging plant, small dark foliage; F. r. variegata, with creamy white variegation; Grevillea robusta, a plant with beautiful, fernlike foliage; Ophiopogon (Liriope) spicatus aureo variegatus, yellow variegated foliage; Ornithogalum longibracteatum, the "Onion plant," a favourite for cottage windows.

Palms.—Chamaerops excelsa, C. Fortunei, and C. humilis; Cocos Weddelliana; Corypha australis; Kentia Belmoreana, and K. Forsteriana; Phoenix canariensis, P. Roebelinii, P. rupicola; Rhapis flabelliformis.

Ferns. — Adiantum cuneatum; Asplenium Colensoi, A. dimorphum; Cyrtomium anomophyllum, C. falcatum; Lomaria gibba; Nephrolepis exaltata, N. exaltata superba, N. Marshallii, N. todeaoides, N. Whitmanii.; Onychium

FRUIT REGISTER.

APPLE SURE CROP.

At the Meeting of the Royal Horticultural Society on March 11, 1919, the Superintendent, of the Wisley Gardens, Mr. S. T. Wright, brought before the members of the Fruit and Vegetable Committee a late keeping culinary Apple, named Sure Crop (see Fig. 96). No one present seemed to know anything of the variety, which in many respects resembles Dumelow's Seedling, frequently known as Wellington. The flesh of Sure Crop is white and has a brisk, acid flavour, as in the case of Dumelow's Seedling. The variety is listed in Messrs. Clibran's catalogue, and we believe the trees at Wisley were sent there by that firm about fourteen years ago. Mr. Wright informs us that the tree is of sturdy growth and very free in cropping. The blossoms appear very late in the season and consequently the flowers are not very liable to injury by frost. The fruits are in season during March and are stated to be suitable for dessert as well as culinary purposes. They are deep green in the autumn, but change to yellow when kept for several months.

FIG. 96.—APPLE SURE CROP: A CULINARY VARIETY IN SEASON IN MARCH.

ANTIRRHINUMS AS SUMMER BEDDING PLANTS.

THERE are several reasons why Antirrhinums are so popular as summer bedding plants: they are easy to cultivate, and are not fastidious about their flowering quarters. In these gardens we fill two positions annually with many thousands of plants; one is a very hot and dry border, the other is a formal set of beds situated in a moist shady corner on the lawn, yet despite the wide gulf fixed between their respective conditions both batches of plants thrive exceedingly, and provide an exquisite and gorgeous display throughout the summer and autumn. Added to these qualities is the wide range of colours obtainable from the many varieties, and the trim, neat habit of the plants. Despite the comparative ease with which Antirrhinums may be grown, one often notices beds of plants that leave much to be desired, owing to wrong methods being employed. I am a firm believer in spring sowing to raise plants for summer bedding, treating the plants as half-hardy annuals. I am aware that many gardeners favour sowing in August for the same object, but my experience leads me to the conclusion that although plants raised from an autumn sowing are perhaps a trifle earlier in blooming, the late summer and autumn display is not nearly as good as that obtained from a spring sowing.

The seeds of Antirrhinums may be sown at any time from the beginning of February until the middle of March, but the ideal time is the second week in February, as the seedlings may then be kept growing on without check until the period arrives when bedding can be done. The seed boxes should be filled with a rich, open compost, and the seed sown thinly, an important detail to observe, as not only are stronger plants obtained, but if, owing to pressure of other work, the transplanting of the seedlings is delayed, the seedlings will not suffer nearly as much from neglect as they would if the seed had been sown thickly. After sowing place the boxes in gentle warmth, and when the seedlings are a suitable size harden them gradually on shelves close to the roof-glass in a cool house. Some growers advise pricking out the seedlings twice, first in boxes and a second time in cold frames; but I have always found one transplanting sufficient to secure ideal plants. Transferring the seedlings direct from the seed boxes into cold frames may be done with safety; indeed, I consider coddling is often responsible for the many indifferent results obtained. Prick out the seedlings into cold frames when large enough to handle, using a fairly rich, open compost. Allow the seedlings plenty of room, say, six or seven inches apart, because, even if growth is slow at the start, they develop rapidly during April. Keep the frames quite close until the plants are rooted, and afterwards admit air freely until the lights may be removed altogether.

I have seen it stated that the tops should be pinched out of the plants when they are three inches high, on the ground that bushier plants are obtained. Stopping, however, I would on no account recommend, as I believe that by doing this the best flower-spikes would be lost. The naturally shrubby habit of the Antirrhinum always ensures bushy plants, and for that reason I would strongly urge that the plants should be allowed to grow naturally. Bedding-out may be done at the beginning of May, and if good plants are used there will be a moderate amount of bloom in early June. Before lifting the plants from the frames the roots should receive a thorough soaking of water to ensure lifting each specimen with a good ball of soil attached. Set the tall varieties eighteen inches apart each way; for intermediate and Tom Thumb varieties a space of fifteen inches is sufficient. During the summer it is highly important to keep the seed-pods removed.

Varieties are very numerous. Amongst the tall sorts Cloth of Gold, Pure White, Orange King, and Crimson and Gold are all fine. Intermediate varieties are perhaps best represented by Fire King, Delicate Pink, Orange King, Rich Apricot and Bonfire, whilst amongst dwarf sorts I recommend White Queen, Yellow Prince and Crimson King. Dobbie's Brilliant, Moonlight, White Beauty, and Yellow Queen are other desirable varieties. *F. W. Miles, Ware Park Gardens, Ware.*

NOTES ON IRISES.

THE SNAKE'S HEAD IRIS.

"THIS species of Iris, readily distinguished from every other by its quadrangular leaves, is more remarkable for the singularity than for the beauty of its flowers; yet to some minds not apt to be caught by gaudy attire these sombre tints have their charms." Thus wrote Wm. Curtis in the *Bot. Mag.* in connection with an illustration of Iris tuberosa dated Sept. 1, 1801. The popular names given to the plant on that occasion were Snake's Head Iris and Velvet Flower-de-Luce. The first of these two popular names is now in fairly common use, but another title is common in Covent Garden flower market whither small quantities of flowers arrived this Spring from the Scilly Isles. This title—the Widow Iris—is in keeping with the colouring of the bloom, which is bright green, with a dull yellow median band on the inner surface of the outer segments, this band ending at the "falls," which are dark lurid purple, or for all practical purposes, black. The flowers sold readily, so even with florists "these sombre tints have their charms."

So far as cultivation is concerned, Curtis's remarks over a century ago, borrowed from Philip Miller, may not be altogether at variance with modern ideas. He considered the plant perfectly hardy, flowering best in an eastern aspect, "and if the soil be light it will be proper to put some rubbish at the bottom to prevent the roots descending too deep, in which case they seldom produce flowers." Miller's advice not to keep the roots long out of the ground, when propagation is being effected by offsets, is obviously good.

According to modern authorities this quaint and interesting plant is not Iris tuberosa, but Hermodactylus tuberosus. It must not be forgotten, however, that Curtis gave Hermodactylus folio quandrangulo as a synonym of I. tuberosa. In this commercial age the chief interest of this brief note lies in the fact that flowers of the Snake's Head or Widow Iris are saleable in Covent Garden. *C. H. C.*

I have no fear that these workers will seriously interfere with the usual employment of men in the garden. Many were utter failures, and their retirement will be accepted without regret. I have no prejudice against women gardeners, but between the real woman gardener and the majority of women doing garden work there is a great and significant difference. If a woman of sound constitution chooses in her early youth to follow the occupation of gardening seriously, and gain her livelihood thereby, I do not for one moment doubt but that she can, by perseverance, gain advancement and experience and be entitled to a position of equality with the majority of men of her age. The ordinary woman gardener will only be successful in obtaining employment in the garden when men cannot be obtained, unless she be one of the most energetic workers and equal in constitution to her task. A skilled woman gardener will stand a fair chance in many places, and should do if she obtains her experience on the same footing as a man, but the usual method is rarely followed by them. Horticultural Colleges and Institutions usually provide their training, and the experience gained therein is not always the most suitable for the average large garden. That women trained for a year or two in a college can do as much as a gardener with a life experience is too absurd to discuss. Until women gardeners can do all things themselves independently, as they would wish and expect those under them to do, they are in no wise entitled to a position of authority or responsibility. Women can only attain success as gardeners by the same method of training as men. *Bertram J. Hedger, Tredegar Park Gardens, Newport, Mon.*

Potatos Diseased in April.—It has been the custom here for years to grow Potatos on hot-beds for use about the middle of April. This year I had plants in three frames, all in splendid health until about a fortnight ago, when they were suddenly attacked very badly with Potato blight, and are now practically ruined. I sprayed the haulm with Burgundy mixture, but it was too late to save the crop. The variety is Myatt's Ashleaf; the seed was home-saved, and the crop was practically free from disease last year. It would be interesting to know if any of your readers have had this happen to a crop so early in the season as the first week in April. *E. Sutton, Kilkenny Castle Gardens.*

Phytophthora disease of Tomatos (see pp. 142, 157, 183, 188).—Five years this spring I had very fine seedlings of the then new variety, "Aviator," that grew into strong, healthy plants, until they were shifted into 48 sized pots. Within a week from the date they were re-potted I found, to my amazement, that every plant had collapsed similar to the one illustrated in fig. 86. As they were the earliest plants I had, I was at a loss what to do, so decided to insert the healthy tops as cuttings. The shoots were removed at the first leaf and inserted separately in 70 sized pots. The cuttings were kept close for a few days, then air was admitted gradually, and from that time they grew into fine healthy plants and produced a grand crop of fruit without the slightest sign of disease. In this way I was successful in obtaining a batch of about fifty plants. *D. Burridge, Nether Close Gardens, Leicester.*

Big Bud Mite (see pp. 141, 156, 183).—Black Currants are badly affected with big bud mite in Northumberland, and, conscious of the relative futility of the cures or preventives recommended from time to time, I have been interested in varieties for which immunity is claimed in respect to the pest. Up to now, however, I have experienced only negative results. Three years ago, for instance, in a garden containing Currants badly affected with big bud I planted the following varieties of Black Currants: Victoria, Edina, Boskoop Giant and Seabrook's Black. At the end of two years my hopes in respect to the two last-named varieties were somewhat flattered, seeing that they were still quite free from the pest, whereas Victoria and Edina had both become infested. This, the third year, has demonstrated, however, that the immunity referred to is only relative since both Boskoop Giant and Seabrook's Black have both fallen victims to a moderate extent. Perhaps the results are not altogether disappointing since it is certainly something to have varieties exhibiting comparative immunity. In relation to the pest, it is interesting to note that it proves most troublesome on the drier soils, though this, of course, may merely bear relation to the moderate growth occurring under such circumstances. *Chas. W. Mayhew, Morpeth.*

Gardeners' Hours and Wages (see p. 196).—The writers on this subject do not advise how any rule of wages or hours can be enforced, and as matters are now no one can. The general secretary of the B.G.A. advertises that a new standard of wages and hours has been adopted, when he must know that he cannot enforce it. Till such time as this can be done it is not right to ask gardeners to subscribe to the funds of his association. Recently 345 gardeners applied for one place (see page iii, April 5th), and for a gardener for a place known to the writer, advertised in *The Gardeners' Chronicle* recently, there were 221 applicants, many asking 30s. a week. What is the employer to think? Is he to ignore all those who asked 30s. and give 50s.? Again, a gardener engages a foreman at 40s. a week, when he himself only gets 38s. When he mentioned it to his employer the answer he got was that he saw plenty of gardeners advertising for places, and very few wanting gardeners. Now if this gardener had downed tools would there have been a general strike till he was reinstated at a standard wage? No; hundreds would have been after the place, glad to take less than the 38s. It has been a very hard time for gardeners during the past four years, and many have worked long hours to keep things going. Gardeners ought to have better pay, but how are they to get it? If they all come out for better pay will the B.G.A. house and keep them till the wages rise all round? The writer knows a gardener who had ten to twelve hands in pre-war days under him, and he does not get the wages of the cowman and carters, viz., 36s. a week. Then there is the question of the boys of eighteen getting 31s. At this rate a good foreman of twenty-six to thirty should have 60s., and the head be paid in proportion. Gardeners can never demand high wages unless, by some means, they become united. However, there may be a better future for them if the wages question keeps so many from entering the profession. *W. M. G.*

——Most gardeners, especially those holding responsible positions, will, I should say, be in total agreement with Mr. Elwes in his article on the above subject, on page 144. The writer points out many of the inconsistencies of trade unionism as applied to gardeners, and he might well have indicated many more. In the majority of gardens the remuneration does not solely consist of the money paid, as the advocates of Socialism would have us believe. Again, the weak point of trade unionism, and an exceedingly weak one, is that all workmen are to be considered equal, yet anyone who has had a number of men under his charge is fully aware that some are worth at least half as much again as others. This Socialism, if it takes hold of the gardening fraternity, will destroy all friendship between employer and employee, and prove to be a great set-back to horticulture, for as Mr. Elwes observes, no union can force employers to employ its members at all. Should gardeners as a class go in for trade unionism, the only ones likely to benefit are a few loud-voiced men who, dissatisfied with gardening and everything else, will become secretaries of some branch or other. In all this spirit of discontent the lover of plants will find no scope for his energies. As the pace at which an army marches depends upon its slowest unit, so this spirit of Socialism will bring all to the lower level. Before young gardeners join trade unions under the idea that they are benefiting themselves, they had better beware that they do not find themselves under a far worse tyranny than before.—*An Old Gardener.*

SOCIETIES.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

April 14.—The Monthly Meeting of this Society was held in the R.H.S. Hall on Monday, the 14th inst., Mr. C. H. Curtis in the chair. Eight new members were elected. Four members withdrew interest amounting to £15 13s. 10d., and one member over the age of 70 years withdrew £2 4s. 10d. from his deposit account. The death certificates of two members were received, and the sum of £58 17s. 2d. was paid to their respective nominees, also the death certificate of one lapsed member, and the sum of £3 2s. 8d. was paid to his nominee. One member was granted 5s. per week for life from the Distress Fund. The sick pay on the ordinary side for the month was £90 13s 4d.; State section £38 16s. 8d; and maternity claims £6.

TRADE NOTES.

The Canadian Mission, which has recently been established in London at 1, Regent Street, S.W.1, by the Dominion Government, was constituted by an Order of the Canadian Privy Council in November, 1918, and Mr. Lloyd Harris was appointed chairman of the Mission.

The objects of the Mission are as follows:—

(a) The serious tonnage position arising out of the war, coupled with the numerous restrictions put in force, both in the United Kingdom and in Canada, on import and export trade, tended to sever old connections which had existed for generations between the Mother Country and the Dominion. It is one of the duties of the Mission to study the question at first-hand and to devise the means of re-establishing the traditional trade.

(b) A great work of reconstruction and reorganisation must be undertaken in Europe during the next few years in order to repair the devastating effects of the war. Raw materials, etc. will be necessary for this work, and many articles required can be obtained from Canada. The Mission hopes by means of negotiations with the Governments of the countries concerned to make arrangements for the supply of such goods to the advantage of all interests involved. It is further considering how, by a system of credits, to assist the Governments in purchasing the materials.

(c) The Mission is convinced that the resettlement of Europe is largely dependent on sufficient supplies of food being available and distribution being properly organised. The food can only be obtained in two ways:—

(1) By imports from countries having margins for export; and

(2) By increased production in Europe itself.

Canada has large supplies which she is willing to place at the disposal of Europe, and, moreover, by reason of the fact that she has always specialised in the manufacture of agricultural machinery and implements, she is in a position to come to the assistance of the nations of Europe in their endeavours to produce supplies wtihin their own borders.

The officials of the Mission will at all times be willing to advise persons in the United Kingdom desirous of obtaining information with regard to Canadian trade.

The Chamber of Horticulture is organising a conference to be held on May 21 at the Royal Horticultural Society's Chelsea Show, when a debate on "Increasing the Supply of Home Grown Fruit" will be contributed to by Mr. W. G. Lobjoit, J.P., Mr. Smith, of Loddington, Professor Salmon, of Rye, Mr. F. Hammond, of Pilgrim's Hatch, and others.

On July 3 and 4 the Chamber is organising an Exhibit of Produce (at the request of Mr. Geoffrey W. Henslow) on behalf of St. Dunstan's Blinded Soldiers and Sailors After Care Fund. Societies or firms willing to co-operate are invited to communicate with the Secretary of the Chamber, 11, Adam Street, Adelphi, W.C.2.

japonicum; Osmunda palustris; Polypodium aureum, P. Mayii, P. sporadocarpum; Pteris Childsii, P. cretica major, P. serrulata, P. Summersii, P. tremula, P. Wimsettii; Scolopendrium crispum, S. c. cristata major; Selaginella amoena, S. Emiliana; Todea arborea.

Miniature Succulent and Other Plants.—Aloe aristata, A. brevifolia, A. variegata; Crassula (Rochea) falcata; Echeveria agavoides, E. atropurpurea, E. metallica, E Peacockii, E. retusa floribunda, E. secunda glauca; Gasteria disticha, G. verrucosa; Haworthia margaritifera; Mesembryanthemum blandum, M. candens, M. crystallinum (Ice Plant), M. curvifolium, M. muricatum, M. roseum, M. spectabile; Pilocereus senilis (Old Man Cactus); Saxifraga Fortunii, S. longifola, S. nepalensis, S. pyramidalis, S. sarmentosa (Mother of Thousands), a good basket plant, a cottage window favourite; S. s. var. tricolor, with red and white variegated leaves. *John Heal.*

NOTICES OF BOOKS.

TEXT-BOOK OF BOTANY.

At the present time, when there is a call for scientifically trained horticulturists, it is a pleasure to be able to recommend an introductory book on botany which is suitable for placing in the hands of young gardeners. There are many botanical books for beginners, but only two or three which really fulfil their purpose. Too many elementary books read like paradigms of irregular verbs to be of any use other than for examination "cram" purposes.

The book* now under review, although written for the Cambridge Senior Local Examinations, is one which can be read without the feeling of a possible future nemesis. It is written by a physiologist, and has a physiological bias, which is all to the good from a horticultural point of view. There are instructions for numerous simple, though often fundamental, physiological experiments. Following an introductory chapter, the functions of plant organs and the food of plants are dealt with; the remaining sections have as their headings Form and Structure; Reproduction; Classification; and Plants in Relation to their Environment; and a supplementary section deals with seedless plants.

The section on classification is much better than is usual in modern elementary text-books, and is treated on evolutionary lines, though only a small number of families (16) are described. We believe that if horticultural students would endeavour to learn the characters of flowering plant families (or Natural Orders, as they were previously called) on evolutionary principles, they would find classification one of the most interesting parts of their botanical studies, rather than the dryest subject, only to be tackled under compulsion.

The supplementary section on seedless plants has been added for examination purposes. The treatment is necessarily inadequate, though what there is appears to be sound.

The illustrations, many of which are old friends, are excellent, and the general style of the book is of the quality to be expected from the Cambridge Press.

* *Botany: A Text Book for Senior Students.* By D. Thoday, M.A. (Cantab.). Pp. 642; figs. 250. Cambridge: At the University Press, 1919. Reprinted with Supplement.

Fig. 98.—Hanging basket of begonias.
(*See p.* 207.)

THE SCIENCE AND PRACTICE OF MANURING.

A revised and enlarged edition of Mr. Dyke's well-known and instructive book* gives full instructions on questions relating to manuring, and deals with the origin and history of manures, plants and their food, the influences of manures on crops and on soil sterilisation. General manures and concentrated fertilisers receive attention and directions for their use for particular crops are given in detail. The book ends with a chapter on "Points to Remember when Manuring," in which some excellent advice is offered, but we see no mention made of one of the greatest abuses to which artificial manures are liable to be put, viz., the tendency to a one-sided or incomplete manuring. A note of warning on the haphazard purchase of "special" manures might well be incorporated in this chapter.

There are one or two small errors in this book which have escaped the eye of the proofreader, but the one appearing in bold type as a heading to Chapter V., "Soil Fertility and Partical Sterilisation," and which is again repeated in a sub-heading, is hardly excusable.

* *The Science and Practice of Manuring.* By W. Dykes, with introduction by J. Wright, V.M.H. London: The Lockwood Press. Price 2s. net.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Quercus coccifera.—In the note on this Oak (p. 195) I omitted to mention that there is a full and interesting account of its relationship with the "Kermes" dye or "Scarlet grain" in the *Kew Bulletin* for 1910, p. 167. This was, indeed, the source of the information there given. *W. J. Bean.*

Shamrock.—In the issue for March 29, p. 160, your correspondent *K., Dublin*, states that evidence is "not wanting to show the original plant thus honoured [as the 'Shamrock of Ireland'] was Oxalis Acetosella." As I am particularly interested in the identity of the "original" Shamrock, I shall be glad of a reference to the evidence referred to, as I believe it is recognised by those who have gone into the question that out of the half-dozen or so possible species Wood-sorrel is the least likely to have been the plant in question, if, indeed, it stands any chance at all, which seems to me very improbable. *C. Nicholson, 35, The Avenue, Hale End, E.4.*

Birds and Fruit Buds (see pp. 237, Vol LXIV., 114, 128, 173).—I was very interested in the experience of your correspondents *re* the sparrow. I do not think Mr. Stanbury's patience has been strained to the extreme, as mine has, for besides losing fruit buds, our seedling Sweet Peas, Culinary Peas, Lettuce and Spinach have been destroyed by this bird. I agree sparrows destroy many insect pests, but in my thirty-five years' experience I have proved that the sparrow can be spared from gardens. I was for some few years in a garden where the sparrow never troubled us in any way; very few of the birds were ever seen in the garden, which was much more prolific than my present one, and notwithstanding the absence of the sparrow there was no increase of insect pests whatever. We have in this country many summer birds of passage and I believe that they are chiefly insect feeders. I quite believe these summer visiting birds would be, like myself, all the happier in our garden without the troublesome sparrow. I should like to be able to put the eggs of these birds into the sparrow nest and do away with the sparrows' own eggs, for there is no doubt that birds keep to the same locality where they are hatched. I believe we should be justified in reducing the number of these trying birds, as Mr. Turner suggests. *W. Chaffer, Broadlands, Effra Road, Brixton, S.W.*

——I read with interest the note by *Market Grower* on the visitation of bullfinches in fruit plantations. I congratulate him on his freedom from these birds. We have been treated quite the opposite to *Market Grower*, having had most of our Plums practically stripped of both fruit and wood buds. The varieties mostly attacked were Victoria, Prince of Wales, Monarch, Grand Duke and Pond's Seedling; no Plum trees have entirely escaped damage. Bullfinches have been generally a nuisance in this part of Suffolk (S.E.). We noticed last week they had started on the fruit buds of Pear trees. Apples up till the present time they have not touched. *R. B.*

Women in Horticulture (see pp. 77, 114, 128, 156, 169, 196).—I have followed closely the progress of women gardeners, and I have little hope for much success on their part, in most branches of horticulture. I read with interest the views expressed on this subject by your correspondents in previous numbers of this journal, and with them I fully agree that women cannot altogether take the place of men in the general routine of large gardens. The advent of women in horticulture cannot altogether be attributed to the war, because they were slowly establishing themselves for years previously, but were rarely found as probationers among the staffs of the principal gardens. The number of women workers in the garden increased considerably, and female labour was a necessity in many places when the ranks of the men were depleted for war services. Although many did well for the time,

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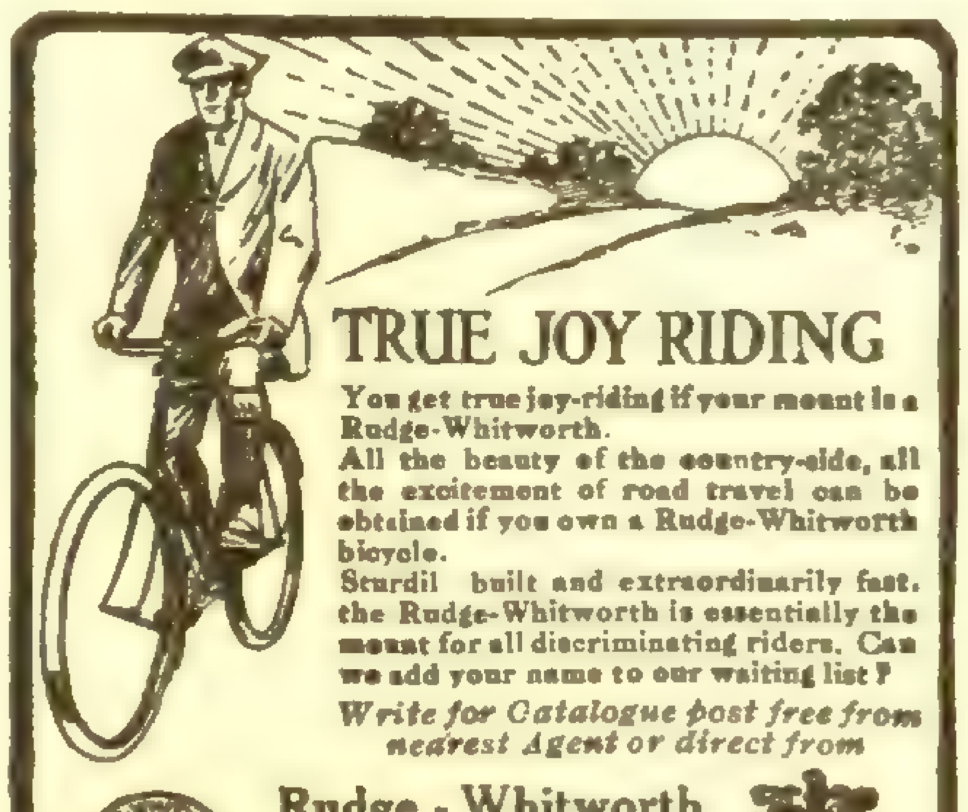

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112 lbs., **25/-**; 56 lbs., **13/-**; 28 lbs., **7/-**.

HARRODS LTD LONDON SW1

LABEL YOUR PLANTS WITH "A. G." Weatherproof **LABELS**

Madame H.T. Ravary.

The names are fired to Opal Tablet. Adopted by the leading Botanic Gardens.
Any names to order from 1/6 doz,
E. & A. GILBERT, 7a, Bath St., BIRMINGHAM.
Write for List and Free Sample.

MEMORIAL TABLETS for WALLS.
Wording fired to Buff Tablets from 4/6 each carriage paid.
E. & A. GILBERT, 7a, Bath St., BIRMINGHAM.

Once Tried, Always Used.

The "PATTISSON" HORSE BOOTS

SIMPLEST! STRONGEST! MOST ECONOMICAL!

SOLES of best English Sole Leather (Waterproofed), with Motor Tyre Rubber. Studs, or of Solid Rubber. Fig. 1 can be Refitted repeatedly, equal to New Boots. Rubber Soles Strongly Recommended.

USED FOR MANY YEARS IN THE ROYAL AND IN THOUSANDS OF THE PRINCIPAL GARDENS.

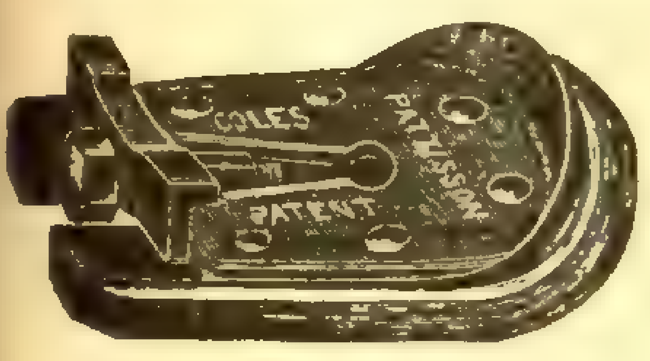

Fig. 1.

The "PATTISSON" BOOTS are the most durable on the market, outlasting several sets of ordinary boots, and when worn out can be many times refitted and are then *equal to new ones*, but this can only be satisfactorily done by us the makers

SILVER MEDALS. Royal Horticultural Soc., 1904 & 1914. Royal International Exhibition, 1912.

Hundreds of Testimonials. The "Field" says:—"As good as anything that could be devised."

Illustrated Price Lists, from the Makers.

H. PATTISSON & CO.,
4-6, Greyhound Lane, STREATHAM, S.W.
CONTRACTORS TO H.M. GOVERNMENT.

Fig. 2, A Quality.

Fig. 2, A or B Quality.

Get rid of these Pests to your Fruit

KATAKILLA

NON-POISONOUS

THE PERFECT INSECTICIDE WASH FOR FRUIT, VEGETABLES, FLOWERS.

Small Cartons for 10 Gallon Wash .... 2/- each
Large Cartons for 50 Do. Do. .... 6/- each

From Nurserymen, Seedsmen and Ironmongers.

Sole Manufacturers
Mc DOUGALL BROS LTD.
66-68, PORT STREET, MANCHESTER.

John Don, F DON R Derby Road, Nottingham. Established 1883

LOAM

SLUGS!
INSURE YOUR CROPS
Against SLUGS, WORMS, RATS, MICE, CATS, and BIRDS
(Leaflet and Sample Free).
6d. and 1s. Tins and 15s. per cwt. (f. o. r. London) of Chemists, Stores, and Nurserymen.

THE SANITAS CO., Ltd., LIMEHOUSE, LONDON, E.14.
Awarded Medal, Royal Horticultural Exhibition, 1911.

"SANITAS" POWDER

PREVENTS POTATO BLIGHT

'Blighty'
REG TRADE MARK
BURGUNDY MIXTURE

PREVENTS POTATO BLIGHT

THE NEW READY PREPARED MIXTURE.

Presents many advantages over all other mixtures. Requires no mixing, does not need testing, leaves no sediment to clog the nozzle of sprayer—adheres tenaciously to the leaves and gives absolute satisfaction. TESTED AND APPROVED BY THE FOOD PRODUCTION DEPARTMENT.

Obtainable of all Dealers in 1 lb., 2 lb., 4 lb. cartons, and 14 lb. to 1 cwt. bags.

PRICES: In Bags, 1 cwt. 60/-, 56 lbs. 35/-, 28 lbs. 21/-, 14 lbs. 12/6. In Cartons, 4 lbs. 4/6, 2 lbs. 2/6, 1 lb. 1/4.

If any difficulty is experienced write direct to the Makers of the famous "Maple Brand" Copper Sulphate.

THE MOND NICKEL Co., LTD. (Horticultural Section), 39, VICTORIA STREET, LONDON, S.W.1.

LITTLE'S WEED DESTROYER
(Liquid).

Double Strength.
Gallon Drum makes 60 Gallons.

MORRIS, LITTLE & SON, LTD., DONCASTER

CROPS AND STOCK ON THE HOME FARM.

Wireworm.

One of the worst pests the farmer has to contend with is wireworm. The grubs eat the stem of Oats and Barley immediately above the seed, and almost directly the seedlings appear above the surface. As a preventive in any soil other than newly ploughed up grass, Sainfoin or leys, clean cultivation and frequent moving of the soil, with liberal manuring, are useful for enabling the plant to grow quickly out of the stage when it is most liable to attack. A fillip to growth is required when wireworm is suspected in the soil to hasten the formation of the second and third leaf, as after that stage of growth wireworms do no harm. One cwt. of sulphate of ammonia per acre, sown evenly over the field likely to be attacked, directly the plant shows through the soil, is a good preventive.

Grass for Hay.

No time should be lost in "laying up" pastures from which hay is to be cut this season. If basic slag was sown over the surface in the autumn a dressing of 2 cwt. of sulphate of ammonia per acre should be applied now. An alternative to the basic slag now would be 4 cwt. superphosphate per acre, or a similar quantity of dissolved bone compound should be sown before harrowing the surface, which is beneficial in scattering cattle droppings, removing moss and preparing an even surface by filling holes, which will facilitate the cutting of the grass. Afterwards roll the surface firmly.

Mechanical Power.

The difficulty of purchasing horses except at a very high figure is compelling farmers to depend more and more upon mechanical power. Army horses sell readily at 130 guineas, and at this figure they are too expensive for the ordinary farmer, although the best animals give the best return in good work.

The motor tractor has come to stay, as it can be used on the farm for many purposes. I am using now a Titan tractor, 10—20 h.p. This cost £385, with a few accessories as an additional charge. The firm supplying the tractor gave a week's free tuition to two of our employees—an expert ploughman and a youth of 19. The ploughman has an advantage over an ordinary mechanic in that he understands how the ploughing should be done in various fields and for certain crops. In our case the men were easily taught, and it is an advantage to teach two to drive the tractor, as in the case of illness the ploughman can take charge and almost any ordinary labourer can, after half an hour's teaching, manage the plough, and thus the work is not delayed during a busy season.

The Titan tractor is easily managed and appears to meet many requirements. It starts on petrol (which, during the warmer weather, does not exceed half a pint daily), and after starting it runs on paraffin and uses 3½ gallons per acre for ploughing, and 12 gallons for an ordinary day's threshing from 7 a.m. to 5 p.m. In ordinary light soil as much as five, and even six acres per day of 10½ hours can be ploughed; and this area would require at least twelve horses. At one time an acre per day was the standard amount of work for two horses and a man, but I cannot say this standard is reached at the present time.

Tractor ploughing is a distinct gain to the farmer in the saving of time, and certainly the work can be done better, especially when the man in charge is an expert ploughman. Both men were supplied with a typed copy of instructions. I need hardly say the principal business is the regular and careful oiling of all the parts of the tractor; wasteful lubrication adds to the cost without any extra return. In the case of ploughing it is a wise arrangement to pay the men a small sum, say, 3d. per acre each, as an encouragement, provided, of course, there is no scamping of the work.

I use a Cockshut plough, with four furrows, during three parts of the year, and one less for the winter months so as to reduce the strain on the tractor during adverse weather. This plough is easily handled by a youth and the mechanism is simple. I need hardly say that the fields should be ploughed the longer way, thus avoiding as much as possible the necessity of frequently turning. A useful implement to attach to a tractor is a wide cultivator, or scarrifier, one that will move the ground in breadths of 10 feet or more. When preparing land for Barley or roots, such an implement is a boon, especially in light soil.

For threshing corn my practice hitherto has been that of hiring threshing tackle at per sack, but of late, owing to the lack of machines, I, with others, have suffered much inconvenience, so it was decided to purchase a Marshall Drum, which it is expected will pay for itself in three years. Roughly, it cost us £100 per year for threshing the Corn new, but with the tractor and the Drum the threshing is as well done as by any other method. Another advantage in using the tractor is that one can thresh when it is convenient to do so. The tractor drives the threshing machine even easier than it ploughs. The ordinary horse elevator is easily fitted with driving gear to the threshing drum, which answers admirably, thus saving the cost of a new straw carrier. A ploughman feeds the thresher, which is the most important point to study in the threshing of any kind of corn. The drum is fitted with all the latest improvements for threshing and screening corn. The tractor easily moves the drum about where the roads are reasonably good, although its total weight is 5 tons.

Implements.

One of the most seasonable and useful implements is the artificial manure distributor. At this time of the year especially, fertilisers are largely used for the various crops. Special fertilisers are employed for stimulating weakly-looking Wheat, to give better straw and corn, and a similar dressing is at times required by Barley. Then there are the various manures used for Mangolds, Potatos, Turnips and other root crops, all of which should be sown broadcast, as the seed is sown or before. There are also various stimulants to be applied to grass. For all this work I use a No. 2 "Jack's Imperial" distributor with a sowing breadth of 9 feet. This machine, drawn by one quick moving horse, will cover efficiently 9 to 10 acres per day. The machine being built low, the manure is distributed evenly within a few inches of the ground, thus enabling the work to be done during windy weather. By a simple adjustment any quantity from 1 cwt. to 10 cwt. per acre may be sown. Two special points to consider in the efficient working of the machine is to keep the wheel bearings thoroughly oiled and the distributing parts free from manure corrosions: superphosphate especially is liable to clog the parts, as with continual churning parts of it become soft, clogging the wheels, which should always be cleaned before storing for the night. One of these machines will do the work much superior to that of four men with the old-fashioned seedlip. *E. Molyneux.*

The Meadow Hay Crop.

The removal of all restrictions on this year's hay crop is announced by the War Office and the opportunity of growing and selling freely should encourage farmers to make special efforts to secure a good yield. The feeding value of good meadow hay is high, nearly as high, for instance, as that of undecorticated cotton cake, and hay is equally in demand in both town and country. The weather, which is restricting most farming operations at present, will not prevent attention being given to meadows, and much can be done to improve both the quantity and quality of this year's crop. Steps might, for instance, be taken, by suitable manuring, to increase the yield from the large areas of land which have been impoverished by a long course of annual mowings, followed by grazing by store stock. With such land an immediate application of 1 cwt. sulphate of ammonia and 2½ cwt. superphosphate per acre should produce a marked advance on the usual returns.

ANSWERS TO CORRESPONDENTS.

Cymbidium Lowianium: *W. L.* The contents of the seed capsule which you describe as "fine, powder-like stuff," include the seeds, a fair proportion of which seem to be perfectly good and would probably germinate in sufficient numbers in a warm house. The better way would be to sow some of the seeds on the surface of the material in which the parent plant or some other Orchid is growing, and which is not likely to be disturbed for a year or so. The remainder may be sown in a seed pan, which should be placed in a glass-covered frame in a warm house, with the pot standing in a shallow pan of water. Orchid seeds generally require a long time to germinate, and you must not condemn the seeds too soon if there is apparently no sign of germination.

Early-Flowering Chrysanthemums: *M. B.* Good early-flowering Chrysanthemums for the supply of cut-flowers are Almirante, the varieties of Mdme. Marie Massé, Perle Chatillonaise, Normandie, Dolores, Elstob Yellow, Caledonia, Roi des Blancs, El Draco, Sanctity, Goacher's Crimson, and Market White.

Maggoty Pears: *Miss C. J.* We suspect the injury is caused by the maggot of the Codlin Moth. The female insect first appears about the time the blossom commences to fall, and lays its eggs, sometimes on the sides of the embryo fruit, and sometimes on the leaves. As soon as the caterpillar is hatched it crawls over the Apple or Pear until it reaches the eye, and then commences eating a passage deep into the fruit. The best plan of destroying the pest at this season is to spray the trees with an arsenical poison directly the blossom has fallen. The arsenate of lead spray recommended on page 193, used at the rate of half a pound of arsenate of lead paste to ten gallons of water, will destroy the pest. Next June place a band of hay or old sacking around the trunk of the tree, close to the ground. If the bands are removed in winter they will be found to contain many of the cocoons of the Codlin moth, which may be destroyed by burning.

Market Buying: *A. S.* As you are within a reasonable distance of London you should attend Covent Garden market at least one morning each week. By this means you will be enabled, as in no other way, to keep fully in touch with the markets and the ruling prices, and you will be as well repaid for your time and trouble as you would be if the time was spent in jobbing gardening. There are many good salesmen who would endeavour to meet your requirements, but you should study the market for yourself rather than trust to the judgment of others. In ordinary times salesmen occasionally have a surplus of certain things and are often willing to sell cheaply to the retailer. An inexperienced buyer might be tempted with the offer only to find himself saddled with goods, though obtained cheaply, which would show nothing but loss on the transaction. In commencing a business of the nature you propose we advise you to buy sparingly of all perishable produce. Roots and fruit, which will keep longer, may be purchased in larger quantities. Study quality in what you purchase and arrange with the salesman to send you by rail goods you may require between your weekly visits. Look carefully round the market and make your own selection for this purpose.

Names of Fruit: *I. J.* Wyken Pippin.

Names of Plants: *H. G.* Cheiranthus Marshallii. *S. E. R.* (1) Forsythia suspensa; (2) Salix Caprea; (3) Nothoclaena sinuata; (4) Primula floribunda var. Isabellina. *G. G.* Eupatorium ianthinum. *W. T. C.* (1) Saxifraga oppositifolia; (2) S. apiculata; (3) Adonis amurensis; (4) Gaultheria procumbens.

Communications received.—C. O.—F. M. G.—M. H.—C. S.—S. T. W.—J. L.—B. J. H.—A. W.—C. J.—W. H. C.—W. R. P.—W. C. M.—J. K. D.—E. S.—L. W. Y.—J. H.—J. P.—C. S.—C. H.—P. T.

WANTED, FOREMAN for Fruit and Plant Houses, good wages, with bothy, etc.—Apply with particulars to HEAD GARDENER, Revesby Abbey, Boston, Lincs.

PLEASURE GROUND FOREMAN wanted with good general knowledge of private grounds, where several men are kept; state experience and wages required; lodge provided.—Apply, W. H. SEXTON, Bailiff, Heatherden Hall, Iver Heath, Bucks.

WANTED, FOREMAN and JOURNEYMAN Inside; also JOURNEYMAN for Flower Garden; good wages, bothy, &c.—State full particulars, G. BARRELL, Chalfont Park Gardens, Bucks.

WANTED, two good JOURNEYMEN for Outside; wages 30s. and bothy; age about 22, with experience.—Apply to W. WARD, Ken Wood Gardens, Hampstead, London, N.W.3.

JOURNEYMAN for Inside, age about 23; wages 33s. weekly, bothy, vegetables, attendance, etc.—Apply, F. B. BURBIDGE, Goldings, Hertford.

WANTED immediately, six JOURNEYMEN or IMPROVERS for Flower and Vegetable Gardens, and one JOURNEYMAN for Greenhouses; able to take charge; no bothy.—State age and wages required, "I. D.," Box 10, 41, Wellington Street, Covent Garden, London, W.C.2.

WANTED, two JOURNEYMEN, one Inside, one Outside; bothy, etc.; hours, 7 to 5; wages, 30s. per week.—Apply T. CRADDOCK, Middleton Park Gardens, Bicester, Oxon.

WANTED, JOURNEYMAN for the Houses; wages 30s. per week; bothy, etc., and attendance.—Apply, A. BULLOCK, Copped Hall Gardens, Epping.

WANTED, JOURNEYMAN, chiefly Outside; Lawns, Herbaceous Borders, etc.; duty; 30s. per week, bothy, milk, vegetables.—Apply, with full particulars, to T. HERBERT, Tilstone, Tarporley, Cheshire.

WANTED, two experienced JOURNEYMEN, one for Inside and one for general Outside work, able to take duty inside; no bothy.—Apply, stating age, experience and wages, to A. REEVES, Sunyfield Cottage, West Heath Road, Hampstead, N.W.3.

WANTED, JOURNEYMAN for Pleasure Grounds and general Outside work; wages 30s. week, with bothy.—Apply, stating experience, to E. SIMS, Holly Lodge, Highgate, N.6.

WANTED, JOURNEYMAN to look after Fruit and Plant Houses; wages 30s., bothy and attendance.—SIMS, Grove Gardens, Stanmore, Middlesex.

WANTED, JOURNEYMAN for Fruit Houses.—State experiences and wages required, with bothy, etc., to W. H. BACON, Mote Park Gardens, Maidstone, Kent.

WANTED, JOURNEYMAN for Kitchen Garden; 30s. weekly; bothy, etc., and attendance; 1 o'clock Saturdays; take turn with duty, 6s. extra.—References and particulars to R. G. PRINGLE, Hall Place Gardens, Tonbridge, Kent.

WANTED, JOURNEYMAN for Inside, about 26 years.—Apply, stating wages required with bothy and Vegetables, to J. PEPLOW, Compton Verney Gardens, Warwick.

WANTED, JOURNEYMAN for Fruit and Plant houses; wages 35s., no bothy.—State age and experience, W. HIGGS, The Lodge Gardens, Holyport, Nr. Maidenhead.

WANTED, JOURNEYMAN to assist Fruit FOREMAN with Vineries and Peach houses, &c.; assist Outside when required.—State age, experience, and wages required with bothy, coal, light, vegetables, and attendance, J. G. BESANT, Hall Gardens, Melton Constable Park, Norfolk.

WANTED, two JOURNEYMEN for Fruit Houses.—State experience, wages required with bothy, and vegetables, D. BATH, Rousdon Gardens, Lyme Regis.

WANTED, JOURNEYMEN for Pleasure Grounds; help with duty; 35s. per week, bothy, &c.; also GARDEN LAD.—State particulars, age, and wages required with bothy, A. FALCONER, Poulton Priory Gardens, Fairford, Glos.

WANTED, two good JOURNEYMEN for Outside; 30s. per week, bothy, milk, and vegetables.—Apply, HEAD GARDENER, Houghton Hall, King's Lynn.

WANTED, two good JOURNEYMEN, one for Fruit, one Plants; wages 35s. per week, bothy; extra for stoking; half-day a week; good references required.—F. JOHNSON, The Gardens, Maiden Erlegh, Reading, Berks.

WANTED, JOURNEYMAN GARDENER, with some knowledge of hardy plants.—Apply, E. MARKHAM, Gravetye, East Grinstead.

WANTED, in large Garden, a good, experienced MAN as Second Outside, not under 26; take charge of Herbaceous borders, Peach wall, and other Fruits; wages 32s. weekly; bothy and usual allowances, 9d. per hour overtime, 1 o'clock Sat.—H. LLOYD, Tewin Water Gardens, Welwyn, Herts.

WANTED, experienced MAN for Inside and Out; duty alternate weeks; good references; 40s. weekly.—E. C. WICKENS, Tewkesbury Lodge Gardens, Forest Hill, S.E.

WANTED, two good MEN, one for Pleasure Grounds and Fruit Trees, one as Cowman and Kitchen Gardener; £2, no bothy; single preferred owing to house scarcity.—GARDENER, Feltham Lodge, Feltham.

WANTED, strong single man as GARDENER'S ASSISTANT; some experience in Kitchen and Pleasure Grounds; take duty; lodgings provided. State wages and experience.—Mr. PORTER, Gardener, Longworth Manor, Berks.

WANTED, YOUNG MAN for Inside and Out; duty paid; 1 o'clock Saturdays.—Apply, stating wages required, with bothy and vegetables, to W. MILES, Caversham Park Gardens, Reading.

WANTED, strong YOUNG MAN for General Garden work; some experience necessary; 25s. with good bothy, etc.; duty.—Head Gardener, Ellisfield, Manor Gardens, Basingstoke, Hants.

WANTED, YOUNG MAN for Inside and out. Please apply stating age, experience, and wages required. — J. H. TRUMAN, Springfield, Whittlesea.

WANTED, several YOUNG MEN for Pleasure Grounds and Wood; wages, 30s. per week, with bothy, vegetables and attendance.—WM. CAMM, The Gardens, Cliveden, Taplow, Bucks.

WANTED, YOUNG MAN for general Outside work; able to take duty.—Apply, stating experience, age, wages required, to D. THOMPSON, Smalley Hall Gardens, Nr. Derby.

WANTED, YOUNG MAN, experienced in Kitchen Garden; able to take duty alternate weeks; one o'clock Saturdays; bothy.—State experience, age and wages required, G. MORGAN, Dale Ford, Sandiway, Cheshire.

WANTED, YOUNG MAN for Pleasure Grounds and Kitchen Garden; state experience and wages required.—Apply G. BALLARD, The Gardens, Birlingham House, Nr. Pershore, Worcestershire.

SMART YOUNG MAN, 17 to 19, for Inside work; bothy and vegetables provided.—State particulars and wages required to J. W., "Westwood," Pendlebury, Manchester.

WANTED, two YOUNG MEN for inside and Out.—Please state, age, experience, and wages required, with good bothy, etc., to WALKER, The Gardens, Locks Park, Derby.

WANTED, YOUNG MAN for Inside and Out; take duty; good bothy, milk, vegetables, attendance; 1 o'clock Saturdays. State age, experience and wages.—RUSE, Folly Farm Gardens, Sulhamstead, near Reading.

WANTED, a SINGLE-MAN for Pleasure Grounds and Kitchen Garden; used to horse mower; wages 37s. a week.—Apply, FRASER, Coombe Hurst, Kingston Hill.

WANTED, YOUNG MAN about 18 for Inside and Out; wages 25s., with bothy, &c.; duty 5s., alternate week.—J. H. EDGE, The Gardens, Orton Hall, Peterborough.

FLORIST DECORATOR (male) required, for Hotel work in London.—Write "DEC.", c/o. Goulds, 54, New Oxford Street, W.C.

WANTED, GARDEN LABOURER, steady, reliable man (single). Wages 30s. per week and room. State age and experience. Good character essential. — Apply, GARDENER, "Rignalls," Great Missenden, Bucks.

WANTED, GARDENER'S LABOURER.—Apply or write, F. BROWN, The Cottage, Worcester Park, Surrey.

TRADE.

WANTED, MANAGER for Nursery (about 40 acres) in West of Scotland; general stock, comprising Forest and Fruit Trees, Shrubs, Roses, Herbaceous Plants, etc., also Glass Houses. Must be thoroughly experienced and energetic; able to control labour, a good correspondent, and accustomed to estimating for contract work. — Apply, stating salary expected, and give full particulars of experience, with copies of Certificates or References, to A. M., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GARDENERS awaiting situations may obtain temporary employment until suited; good wages.—Apply, JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

GARDENER wanted, JOURNEYMAN, unmarried, for this Nursery; also IMPROVER, with one or two years' experience; work almost entirely under glass; good opportunity of advancement for willing, capable man.—FINDLAY BROTHERS, Springhill Nursery, Baillieston, Glasgow.

GARDENERS waiting for situations can fill up their time at £2 weekly.—ROBERT GREEN, 1911, Ltd., 28, Crawford Street, London, W.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village N.6.

WANTED, HEAD WORKING FOREMAN, thoroughly experienced in Grape, Peach and Tomato growing for markets, good manager of labour, six acres under glass.—State full particulars, age and wages required to E. BOURGAIZE and Co., Leigh Vineries, Wimborne, Dorset.

WANTED, at once, for our Quarry Farm Nurseries, Rotherfield, a thoroughly reliable and experienced FOREMAN to take sole charge. A thorough knowledge of Roses essential, and must be well up in Shrubs and Hardy Perennials. Excellent 9-roomed house on Nursery.—State wages required, full particulars, with copies of references. Two or three KNIFE HANDS also required; must be good Rose-budders.—A. CHARLTON & SONS, Summervale Nurseries, Eridge Road, Tunbridge Wells.

WANTED, for two or three months, a first-class TOPIARY EXPERT; must be a practical working man; good wage paid. — Apply, JOHN WATERER, SONS & CRISP, Ltd., The American Nurseries, Bagshot, Surrey.

ORCHID SEEDLINGS GROWER (experienced) wanted for America. Life opportunity for Young Man.—State full particulars, L., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, experienced GROWER for Tomatos, Cucumbers, Chrysanths, Violets and Carnations for Market. State wages and references. Single man preferred.—Apply, C. MILLICAN, Kinson, near Bournemouth.

GROWER wanted, take charge small range Glass in General Nursery; pot-plant trade and supplies for flower shop. Replies must state wage, experience, age, when disengaged.—W. W., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

WANTED at once, experienced TOMATO HAND; good wages, and fare paid.—MANAGER, Pabo Nurseries, Conway, N. Wales.

WANTED, MAN to grow Tomatos, Cucumbers, Carnations Chrysanths, etc., in quantity. —T. FEWSTER, Stockton-on-Tees.

MARKETS.

COVENT GARDEN, April 23.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	10 0–12 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentia ...	18 0–24 0
		—— 60's ...	15 0–18 0
Cinerarias. 48's. per doz. ...	24 0–27 0	—Cocos	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum—cuneatum, 48's, per doz. ...	10 0–12 0	Nephrolepis, in variety, 48's	12 0–18 0
		—32's	24 0–36 0
—elegans ...	9 0–10 0	Pteris, in variety, 48's	9 0–12 0
Asplenium, 48's per doz.	10 0–15 0	—large 60's ...	4 0–5 0
— 32's	21 0–24 0	—small 60's ...	3 0–3 6
— nidus, 48's ...	10 0–12 0	— 72's, per tray of 15's	2 0– 2 6
Cyrtomium, 48's ...	10 0–12 0		

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d		s. d. s. d.
Arums—		Orchids, per doz:—	
— (Richardias), per doz. bl'ms.	9 0–12 0	—Cattleyas ...	18 0–24 0
		—Cypripediums,	6 0– 8 0
Azalea, white, per doz. bunches	10 0–12 0	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
Camellias, 12's-18's per box ...	5 0– 6 0	— white, per doz. bunches ...	10 0–12 0
Carnations, per doz. blooms, best American var.	3 6– 6 0	Roses, per dozen blooms—	
Daffodils, single per doz bun.		—Lady Hillingdon	4 0– 6 0
		—Liberty ...	6 0–10 0
— Emperor ...	3 0– 4 0	—Mme. Abel Chatenay ...	4 0– 8 0
— Golden Spur ...	2 6– 3 0		
— Victoria ...	2 0– 4 0	—Ophelia ...	5 0– 8 0
— Princess ...	2 6– 3 0	— Richmond, var.	4 0– 6 0
		—Sunburst ...	6 0– 8 0
Heather, white, per doz. bun.	6 0–10 0	—White Crawford	6 0– 8 0
Lilac, white, per bunch, 6's ...	4 0– 6 0	Tulips, per doz. blooms—	
Lily-of-the-Valley, per bun. ...	4 0– 6 0	—Darwins, in var.	3 0– 6 0
		— mauve ...	6 0– 8 0
Myosotis (Forget-Me-Not), per doz. bun. ...	6 0–12 0	— white	6 0– 8 0
		— yellow... ...	5 0– 6 0
Narcissus ornatus, per doz. blooms	8 0–12 0	Violets, single, per doz. bun. ...	5 0– 8 0

REMARKS:—The prices of coloured flowers have fallen a little since the Easter demand, but those for white blooms remain very firm, owing to the finishing of the French consignments and reduced supplies from Guernsey and Scilly. There is now an abundance of home grown Daffodils also a plentiful supply of Roses and Carnations. To-day, being St. George's Day, red and white Roses are in great demand and prices are firm.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Jerusalem per bus...	3 6– 4 0	Mint, per doz. bun.	6 0 —
		Mushrooms, per lb.	4 6– 5 6
—Globe, per doz.	8 0 9 0	Mustard and Cress, per doz. punnets	1 0– 1 3
Asparagus—		Peas, per lb. ...	3 6– 4 0
— Cavillion, per bundle ...	2 0 —	Parsley, per ½ bus.	6 0– 7 0
— Lauris... ...	3 0– 5 0	Parsnips, per bag	4 0– 6 0
		Potatos, new, per lb.	1 3– 1 6
Beans, French, per lb.	1 6– 2 6	Radishes, per doz. bunches ..	3 6– 4 0
— Broad (French) per pad ...	5 0– 6 0	Rhubarb, forced, per doz. ..	1 9– 2 0
Beetroot, per bus.	5 0– 6 0	—natural, per doz.	5 0– 6 0
Cabbage per doz.	5 0 —	Savoys, per tally..	21 0 —
Carrots, per bag..	14 0–15 0	Seakale, in boxes (6-8 lbs.) per lb.	0 9– 1 0
— New, per bun.	1 0 —		
Cauliflowers, per doz	4 0– 6 0	Shallots, per lb. ..	0 6– 0 8
Celery, per doz. ..	36 0–48 0	Spinach per bus.	7 0– 9 0
Chicory, Belgian, per lb. ..	0 9– 1 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box.. ..	Controlled
Cucumbers, per flat	30 0–36 0		
Endive, per doz. ..	5 0– 6 0		
Garlic, per lb. ..	0 5– 0 7		
Greens, per bag ..	11 0–15 0		
Herbs, per doz. bun.	4 0– 6 0	— English, per lb.	3 0– 3 6
Horseradish, per bun	3 6– 4 6	Turnips, per bag	5 0– 6 0
Leeks, per doz. bun.	6 0– 8 0	Vegetable Marrows, each	1 0– 1 3
Lettuce Cabbage and Cos per doz.	1 6– 2 6	Watercress, per doz.	1 0– 1 3

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Cape Fruits pr box—		Nuts, con.—	
—Grapes (Black)	35 0–40 0	— Brazils (new). per cwt.	95 0–100 0
— — (White)	30 0–35 0		
Grapes:—		Walnuts, kiln dried, per cwt.	130 0–180 0
— Almeria, per barrel (about 3½ doz. lbs.)	70 0–90 0	Pears—	
— Belgian Gros Colmar, per lb.	10 0 —	Cape Winter Nelis, per case ...	17 6 —
Grape Fruit, pr. cse.	45 0 —	— — Doyenné du Comice, per case	35 0 —
Nuts—			
— Almonds, per cwt.	120 0–130 0	Strawberries, per lb.	25 0–40 0
— Barcelona, per cwt. ...	130 0–140 0	Pineapples, each	4 0– 7 0

REMARKS:—A few new Black Hamburgh Grapes are available. This weeks' consignment of fruit from the Cape consisted of Grapes, Pears and Melons, all of which arrived in satisfactory condition. Supplies of home-grown Tomatos are now increasing daily but Mushrooms continue to be a limited supply. Beans and Vegetable Marrows are more plentiful. The following vegetables are also obtainable, Seakale, Cucumbers, Chicory, New Potatos, Asparagus (English and French), Globe Artichokes, Broad Beans and Peas. Outdoor vegetables are, as usual at this period of the year, scarce.

GARDENING APPOINTMENTS.

Mr. W. C. Moseley, for the last 4½ years Gardener to the Hants County Council at Knowle, and previously for 6 years Gardener to the late Sir G. BARHAM, Snape, as Gardener to the Hants County Council Institute, Sparsholt, Winchester.

Mr. A. E. Lacey, as Gardener to H. VERDON ROE, Esq., Elmer, Leatherhead.

Mr. A. Blandford, as Gardener to THOMAS KINGSCOTE, Esq., M.V.O., Watermoor House, Cirencester, Gloucestershire.

Mr. C. L. Branson, as Gardener to Sir ARTHUR EVANS, Youlbury, Boarshill, Oxford.

Mr. W. H. Christian, having been demobilised from the Royal Navy, has resumed his duties as Parks Superintendent, Barrow-in-Furness.

Mr. W. C. Moseley, for the last 4½ years Gardener to the Hants County Council at Knowle, and previously for 6 years Gardener to the late Sir G. BARHAM, Snape, as Gardener to the Hants County Council Institute, Sparsholt, Winchester.

Mr. W. R. Phillips, previous to joining His Majesty's Forces for 5 years Gardener to CHAS. WATERLOW, Esq., The Kennels, Stanmore, Middlesex. as Gardener to JAMES GROVES, Esq., Heathfield Park, Sussex.

Mr. W. Stevens, Gardener to MISS HOZIER, Manor House, Haslemere, Surrey, and previously for 6 years Gardener to Col. BARHAM, Hole Park, Rolvenden, Kent, as Gardener to W. CARLILE, Esq., Sayhurst, Newport Pagnell, Buckinghamshire.

Mrs. E. Bowden is relinquishing her post as Pleasure Ground Forewoman at Warter Priory Gardens, owing to reinstatement of demobilised men. [Thanks for 2s. P.O. for R.G.O.F.—EDS.]

SITUATIONS VACANT.

Twenty words (or three lines including headline) **3s.**, *and* **6d.** *for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office,* **6d.**

PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1686 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

PARK SUPERINTENDENT required for one of the Birmingham Parks. Must be a good organiser and capable of taking charge of large staff. Height not under 5 ft. 8 in., nor over 42 years of age. Salary, including war bonus, £200, with house, &c.—Apply, CHIEF OFFICER, Parks Department, Cannon Hill Park, Birmingham.

GARDENER wanted, experienced SINGLE-HANDED, help when required; must be strong, healthy, and interested in his work; mainly flowers and vinery; good 4-roomed cottage in garden (half an acre), coal and light; good personal reference; stage age and wages; wife to look after fowls and willing to undertake small quantity light laundry (latter extra remuneration).—Write fullest particulars, WARD, "Blanefield," Oakleigh Park, London, N.20.

SINGLE-HANDED, experienced GARDENER wanted; married handy man preferred.—Reply by letter, giving particulars of past experience, stating wages required with 3-roomed cottage, age, etc., to J. CROWTHER, Ranelagh House, Grove Park, Chiswick, W.4.

WANTED, good Single-handed WORKING GARDENER; must understand Vegetables, Flowers, and borders; help given; good reference.—Apply, stating wages, etc., MAJOR TREVOR, Maesmor, Corwen, N. Wales.

GARDENER (three and one Improver kept), with knowledge of Glass, to specialise in Lawns and Perennial Borders; no bothy.—Apply by letter only, stating age, experience and wages.—H. KAYE, Rayleigh, Harewood Road, South Croydon.

GARDENER, thoroughly experienced, middle-aged, married (no family), required for private house; able to milk; wife to be useful in house when required (extra); highest references required; wages, including comfortable cottage, vegetables, etc., £2.—Apply GREEN, Warfield Dale, Warfield, near Bracknell, Berks.

WANTED, GARDENER; has youth under and help given; experienced Inside and Out; lodge and coal found.—State wages, full particulars, T. EYTON, Plas-yn-Cwm, St. Asaph.

WANTED, GARDENER (single) for Kitchen Garden, small Greenhouse, Vinery, Lawn; wages and references to J. WALKER BRIGGS, Atherstone.

MAN AND WIFE wanted (London) as GARDENER, etc., wife to assist part time in house; small cottage.—Give particulars, wages required, etc., to 28, Paternoster Row.

WANTED, good SECOND GARDENER for Fruit and Plant Houses; also a YOUNG MAN, 18 to 20, for Inside and Out. Bothy, 1 o'clock Saturdays.—State wages, experience, to W. R. TAYLOR, Shendish Gardens, Kings Langley, Herts.

WANTED, SECOND in Garden, and to drive Hornsby engine for electric light plant and water supply.—Apply, giving particulars of experience and wages; single man preferred; good rooms, all found but food.—FAIR, Willoughby House, Near Rugby.

WANTED, a good SECOND GARDENER, single; must be experienced in Vines, peaches, &c., Inside.—Apply, stating wages and experience, to R. F. JONES, Mia Hall, Dyserth, Nr. Rhyl, N. Wales.

WANTED, UNDER-GARDENER, Outside and In; bothy, with attendance.—State age, experience and wages, to SECRETARY, Stanmore Hall, Stanmore, Middlesex.

GARDENER (UNDER) wanted; experienced Outside, energetic, able to milk and used to pigs. Good references indispensable; cottage and good wages. State age, family.—W. WALE, Lapworth, Warwickshire.

GARDENER (UNDER) wanted, Flowers and Lawns, also one for all-round work; no cottages—Particulars to HEAD GARDENER, Rokefield, Westcott, Dorking.

WANTED, two UNDER - GARDENERS single, Inside and Out, chiefly Kitchen Garden and Lawns.—State age, wages, with full particulars to A. WHITE, Brooklands Gardens, near Halifax.

ORCHID GROWER wanted, a thoroughly qualified man for a good private collection; must have good practical experience species and hybrids.—Apply, with particulars of experience, wages required (cottage provided, with milk and vegetables), ... TAYLOR, The Warren House Gardens, Stanmore, Middlesex.

ORCHID GROWER (SECOND) wanted, wages 35s., free house and coal, or good bothy if single. —State experience and references, WOOD, Wallhouse, Torphichen, Scotland.

WANTED, LEADING HAND in Kitchen Garden; One for Pleasure Grounds; also JOURNEYMAN, chiefly outside work; state age, wages and experience; good bothy, etc.—A. SMITH, Parkwood Gardens, Nr. Henley-on-Thames.

GARDENER (Head Working); demobilised; three or more kept; life experience in first-class establishments; excellent references; age 36; married (one child, age 3 years.—Apply, GARDENER, 14, Crystal Square, South Street, St. Leonards-on-Sea.

HEAD WORKING GARDENER or FARM BAILIFF, Home Farm; life experience; age 52; total abstainer; two sons if required, one nearly 18 one 16, useful in garden.—F. COMLEY, The Cottage, Hitcham Place, Taplow, Bucks.

GARDENER (Head Working), thorough experience in all branches gained in first-class establishments; previous enlistment Foreman at Bessborough, Co. Kilkenny; excellent recommendations; demobilised; age 32; married.—WILKS, Ashcroft, The Green, Southgate, London, N.14.

GARDENER (Head Working); age 49; 25 years' practical experience, Inside and Out, in good establishments; experience in Vines, Peaches, Stove and Greenhouse Plants, Carnations, Chrysanthemums, etc.; married, one child, age 11; excellent references.—Apply, D. JONES, The Gardens, Abberley Hall, Great Witley, near Worcester.

ENERGETIC HEAD - WORKING GARDENER seeqs re-engagement; thorough practical experience in all branches; good references; age 47; married (no family).—JOSEPH COLLINS, 22, Highfield Road, Chertsey, Surrey.

GARDENER (Head Working) where four or five are kept; single; age 45; life experience, inside and Out.—Apply to R. NICHOLLS, Priory Cottage, Martyr Worthy, Winchester, Hants.

GARDENER (Head Working); all-round experience gained in first-class establishments, including Royal Gardens, Windsor; seven years last place, Head; past twelve months teaching Gardening to discharged soldiers; demobilised; age 42, married.—W. WATSON, Great Baddow, Chelmsford, Essex.

GARDENER (Head Working), with five or more; life practical experience all branches of Horticulture, Inside and Out; energetic, economical and competent; 18 years Head; personal recommendation; holder of Cups, Medals, and Certificates, Vegetables, Fruits, etc.; age 46; married.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (Head Working) where four or more are kept; life experience in all branches, Inside and Out; age 45 years, married (no family).—A. EVERITT, 3, Claremont Villas, Hare Lane, Claygate.

HEAD GARDENER (Working) offers his services where several are kept; thoroughly experienced all branches; first-class decorator; Sweet Peas and Vegetables specialities; very successful exhibitor; Certificates and Silver Medallist; very highly recommended; aged 37; just demobilised.—WM. HODSON, Elmhurst, near Lichfield, Staffs.

GARDENER (Head Working); employer, selling place, highly recommends; excellent previous references; life experience all branches; married (no family); disengaged any time.—H. SHORT, Easterlands, Wellington, Somerset.

GARDENER (Head Working); life experience in all branches in first-class establishments; excellent references; married (no children); age 35; just demobilised.—W. FURNELL, Clipston, Market Harborough.

GARDENER (Head Working); nine years' Head; life's practical experience, Inside and Out; very keen; not afraid of work; winner of numerous prizes; age 41, married.—T. G., Box 14, 41 Wellington Street, Covent Garden, W.C.2.

MIDDLE-AGED MAN seeks situation as Head-Working or good Single-Handed GARDENER; life experience in all branches; death cause of leaving; youngest child, 18; 20 years good reference.—WRIGHT, 29, Russell Place, Blackheath, S.E.3.

GARDENER, good Single-handed or otherwise; age 38; life experience in all branches; married (one child); good references.—J. BAKER, 9, George Street, Worthing, Sussex.

GARDENER (Single-handed), demobilised; 11 years' general experience; age 27; married when suited. State wages.—W. WALKER, Woodrow, Amersham, Bucks.

GARDENER, demobilised, Single-handed or where two or three are kept; previous to war, life experience in first-class Gardens; well recommended; age 30; married (no family).—PHELPS, Michaelston-y-Fedw, near Cardiff.

GARDENER (Single-handed); married; 30 years' experience; seeks situation and cottage with private family.—H. FINCH, 3, Grand Parade, Coombe Lane, Norbiton, Surrey.

LT.-GENERAL SIR H. CHERMSIDE can highly recommend WM. DUTTON to any lady or gentleman requiring the services of a capable Gardener; experienced in all branches of Gardening.—Pepper Arden, Northallerton, Yorks.

C. DALBY, Greenham Lodge Gardens, Newbury, wishes to recommend W. RAWLINGS to any Lady or Gentleman requiring a Gardener; experienced in all branches; small attached Farm not objected to; further particulars readily supplied.—Apply, either to above or W. RAWLINGS, Arborfield Cross, Reading.

GOOD all-round GARDENER; active, abstainer; can drive car; 10 years' excellent refs.; 42, married; cottage required.—BUTTLE, 44, Eastbrook Road, Waltham Abbey.

GARDENER, where one or two kept, or single-handed: experienced Inside and Out; good references; age 35; married, no family.—RUSHEN, Great Wigborough, Colchester, Essex.

GARDENER seeks situation; ten years' good experience, Inside and Outside; age 26; married when suited. Please state wages. Home counties preferred. — R. BROWN, Torre House, 151, Cottenham Terrace, Hornsey Rise, N.19.

GARDENER, practical, all-round, seeks engagement; suburbs; wife very capable cook or housework; lodge or private accommodation required.—GARDENER, 13, Berkeley Mews, Connaught Street, W.

GARDENER and BAILIFF seeks re-engagement; life experience in Gardening in all its branches; a competent, reliable, all-round Man, to give a supply of Fruit, Flowers and Vegetables; good table decorator; two, seven, nine years' previous characters; age 53; one son at home, age 14.—F. MATTHEWS, Wexham Park, Slough, Bucks.

CHAUFFEUR-GARDENER.—Married couple age 32, one girl (age 9), would like situation where house is found; man demobilised. M.T., R.A.F., with motor-car driving licences since 1908; can do all repairs. Wife Lady Gardener; thoroughly trained 3 years in all branches Under Glass and Outside; good references.—CROSS, 51, Oozehead Lane, Blackburn.

KITCHEN GARDENER or Pleasure Grounds; good practical experience; good references; married, age 46, one child.—EMBERSON, Manor House Cottage, Effingham, Surrey.

MR. E. ATKINS, Hargrave Park Gardens, will be pleased to recommend H. Titmuss as SECOND; Inside and Out in good establishment; left here owing to war; age 36; married, no family.—Apply H. TITMUSS, c.o. Mrs. J. Livermore, Great Chishall, near Royston, Cambs.

GARDENER (Second), Inside and Out; good practical experience; good references; married (no family); age 31; demobilised.—"W.," St. Mary's, Bedfont, Feltham, Middlesex.

GARDENER (Second) or GENERAL FOREMAN; situation desired as above by demobilised Corporal; first-class general experience in good establishments; excellent testimonials; aged 28; married (no family).—R. KING, Foxes Lodge, Binsted, Arundel, Sussex.

DISCHARGED GARDENER seeks situation as KITCHEN GARDEN FOREMAN or good Single-Handed; good references; age 40; married (no family).—F. THATCHER, 8, St. James Terrace, Winchester.

GOOD SECOND (Inside), or Single-handed with help; good general experience; well recommended; age 30; married.—MARTIN, 170, Hamilton Road, West Norwood, Surrey, S.E.27.

SITUATION required as LEADING HAND on Pleasure Grounds, or Inside; life experience; age 29; please state wages, with Bothy.—A. NEWNHAM, Brown's Farm, Stubbington, Fareham, Hants.

FOREMAN (General) seeks situation in First Class Establishment; experienced Inside and Out; good references, and very highly recommended by present employer; age 30; married when suited.—CARTER, Fonthill House Gardens, Tisbury, Wilts.

FOREMAN, Kitchen Garden or General; 15 years' experience in extensive gardens, pre-war; excellent refs.; demobilised; age 31, single; please state wages, etc.; bothy preferred.—F. RICKARDS, 23, Sherborne, Nr. Northleach, Glos.

FOREMAN (Inside or General) in good gardens; experience in first-class establishments; Foreman last two situations; well recommended.—ABLE, Box 7, 41, Wellington Street, Covent Garden.

PLEASURE GROUNDS FOREMAN requires Situation; excellent references; long practical experience in notable establishments; married (no family); Cottage required.—W. WALLER, Lodge, Stag Road, Iver Heath, Bucks.

FOREMAN or SECOND, Inside or Inside and Out; demobilised; 11 years' practical experience; age 28; married when suited; well recommended.—D. HATCH, "Ower," nr. Romsey, Hants.

FOREMAN (Inside), age 29, 14 years' experience; Vines, Peaches, Carnations and other Plants; good references; London preferred.—HUMPHRIS, Tewkesbury Lodge Gardens, Forest Hill, S.E.

FOREMAN requires situation, Inside; twelve years' experience in good establishments, including Lambton Castle, Aply Castle, etc.; age 29.—Wm. EDGE, Elm Cottage, Dudleston Heath, Ellesmere, Salop.

JOURNEYMAN (Inside) seeks situation in England or Wales; four years' experience in present place; age 19; strong; Protestant; well recommended.—J. HAWKINS, Fota Gardens, Queenstown, Ireland

SITUATION required, Orchids or Orchids and General; 14 years' experience in first-class Trade and Private establishments; age 32; married (two children). — CHEADLE, Stanwick, Wellingborough.

YOUNG MAN (18½) seeks situation as Improver, Inside and Out, first week in June; four years previous apprenticeship; bothy, and vegetables.—Reply, giving full particulars, to J. OVERSON, 19, Seaford Road, Wokingham, Berks.

YOUNG MAN (single) seeks situation in Kitchen Garden or Pleasure Grounds; four years' experience. Please state wages.—G. F., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

IMPROVER (Inside).—Mr. Arnold can strongly recommend C. FOYLE, age 16; 3½ years' experience, chiefly Inside. — ARNOLD, Hestercombe Gardens, Taunton.

INSIDE FOREWOMAN or position of trust; Forewoman in last three situations; excellent references.—BOWDEN, The Gardens, Warter Priory, York.

LADY GARDENER desires engagement in private establishment, under head gardener; work Inside; Outside help with Poultry; previous experience.—Apply, TOWN, Kingston House Gardens, Abingdon, Berks.

LADY GARDENER seeks situation in well-kept garden; experienced in Fruit and Plants; Inside and Out; two years' five months' experience; at liberty when suited.—Badger Hall Gardens, Shropshire, nr. Wolverhampton.

LADY GARDENER desires post on Estate; Home Counties preferred; Inside and Out; one; year's experience Inside; good references.—BRISTOW, Mond Lodge, Downs Court Road, Purley.

HOUSE and Estate CARPENTER desires re-engagement on Gentleman's Estate; used to routine of House, carpets, blinds, floor polishing, etc.; also general repairs of estate, farms, cottages, carpentry, painting, plumbing, h. and c. water, paperhanging, distempering, glazing; life experience; present berth four years; excelent references; age 41; married.—Write, HOUSE CARPENTER, Box 15, 41 Wellington Street, Covent Garden, W.C.2.

TRADE.

ADVERTISER seeks position as MANAGERESS in Branch Nursery, with shop. Qualified and energetic.—"EFFICIENT," Box 7, 41, Wellington Street, Covent Garden.

WORKING MANAGER or FOREMAN (just demobilised) requires situation in Market Nursery; 15 years' experience in Tomatos, Grapes, Peaches, Ferns, Carnations, etc.; first-class references; age 35, single.—For further particulars apply to WILSON, 29, St. Kilda's Road, Stoke Newington, N.16.

MANAGING FOREMAN (Working), well up in Grapes, Cucumbers, and Tomatos for market; good references.—Apply, with particulars, to T., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (Working); life experience in Fruit Trees, Rose and Shrubs; expert Budder and Grafter; age 32; married.—Please state wages, H., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

SALESMAN requires post in Covent Garden Flower Market; well established. — Apply, J. SMITH, Rose Cottage, Norman Road, Belvedere, Kent

NURSERY, Seed and Floral Trade SHOPMAN, age 36, seeks situation; 18 years' London and Provincial experience; used to brisk Counter Trade.—L. C., 70a, Granby Road, Well Hall Estate, Eltham, Kent.

PROPAGATOR wanted; good wages to competent man; used to raising Spring Bedding and Herbaceous Plants.—Apply, Toogood and Sons, The King's Seedsmen, Southampton.

WANTED, good PROPAGATOR and one who is well up in Alpine and Rock plants.—Apply, stating wages, experience, etc., to CARTER PAGE AND CO., LTD., 52, London Wall, E.C.2.

WANTED, one or two MEN accustomed to growing Perpetual Carnations; single men preferred; please send copy of testimonials and state wages required.—GEO. CLARKE, The Nurseries, March, Cambs.

WANTED, YOUNG MEN for Knife Work, Pruning, etc.; permanent job.—LAXTON BROS., Nurseries, Bedford.

WANTED, one or two active MEN, for General Nursery Work, Inside; good wages.—Apply, with references, ST. GEORGE'S NURSERY CO., Harlington, Middlesex.

WANTED at once, REPRESENTATIVE to Travel for a leading Wholesale House in the Seed Trade. Apply K., Box 15, 41, Wellington Street, Covent Garden, W.C.2, with fullest particulars as to experience, references, salary required, etc.

WANTED, immediately, ASSISTANT SHOPMAN; keen, energetic, good window dresser; for general nursery, seed, bulb and florist trade.—State experience, reference, wages required, to HOPWOOD & SON, Nurserymen, Cheltenham.

FLORIST.—Wanted, thoroughly experienced Lady; must be first-class Saleswoman and Designer; only those used to high-class trade need apply; good salary.—Apply with full particulars to DINGLEYS, Ltd., 71/3, Piccadilly, Manchester.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS, and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

C. TURNOR, Stoke Rochford, Grantham, can very highly recommend his late HEAD GARDENER, a thorough, practical man; 9 years here; age 39; married, 3 children.—S. ARBURY, 14, Earlsfield Villas, Dysart Road, Grantham.

MR. BARRELL, Coombe Cottage, Kingston Hill, can with confidence recommend a thoroughly capable HEAD GARDENER, conversant with every branch, Inside and Out; age 45.—GARDENER, Gables Cottage, Surbiton

J. C. POTTER highly recommends his HEAD GARDENER; thoroughly efficient all branches; highest references; 4 years present, 9 previous; age 48; disengaged; leaving through establishment being broken up.—ELBOURN, 8, Bryanston Square, London, W.

GENERAL MULLENS wishes to recommend his late Head Gardener, where two or more are kept; experienced Inside and Out; excellent refs.; age 42; two children, 10 and 8; please state wages; demobilised.—STARLING, Greyhound Lane, Langham, Colchester.

VISCOUNTESS KNUTSFORD wishes to recommend her Head Gardener, H. Symonds, to any lady or gentleman requiring the services of a thorough good all-round man; 28 years' experience in all branches; married; age 43.—The Priory, Royston, Herts.

COL. A. H. HEATH, Street Ashton Lodge, Rugby, highly recommends A. CHEFFINS as Head Gardener; life experience in large establishments; 13 years Head; highest references; Carnations, Orchids, Fruit, etc.; age 44; married (one child).—Stowe Park, Buckingham.

THE Honble. Mrs. ACLAND, Digswell House, Welwyn, highly recommends CHARLES CANNING, late HEAD GARDENER; thoroughly experienced and capable; 4½ years service, 10 previous; married (two sons, grown up).—C. CANNING, Digswell, Welwyn, Herts.

JOHN S. DUGDALE, Esq., K.C., 29, Eaton Square, London, S.W.1., can highly recommend his HEAD GARDENER, who has been with him 12 years; first-class GARDENER, excellent organiser and manager; would undertake Estate Management; age 45; (married); 31 years experience in first-class establishments.—Blyth Hall, Coleshill, Birmingham.

THE HON. LADY SYDENHAM wishes to recommend her HEAD GARDENER; just been demobilised; leaving through no fault of his own; well up in all the routine of Gardening, Inside and Out; married (no children); age 34; abstainers and good references.—Apply to R. J. TANNER, Park House Gardens, Cookham, Berks.

GARDENER (HEAD); thoroughly competent in the management of all branches of Gardening under Glass and Outside; good decorator; age 31; married; good references.—CRICK, Marchwood, Southampton.

GARDENER (HEAD); practical experience Fruits, Plants, Kitchen Garden, Pleasure Grounds, house and table decorations, gained in first-class establishments; previously Head; married (two children); age 36; recently demobilised.—Apply, T. LARKBEY, Battlefields, Wrotham, Kent.

GARDENER (HEAD) with several under, seeks re-appointment; life experience, gained at Cliveden, Grimston Park, Betteshanger and Stansted; practical knowledge management; alterations; four years Head, Wroxham Hall, Norwich, previous to service; age 37; married (three children); R.C.; demobilised; please state wages, etc.—Cpl. FRIEND, Wormley, Broxbourne, Herts.

GARDENER (HEAD) offers his services where several men are employed; life experience in all branches Inside and Out; 13 years as head; excellent references; age 45; married (two children, 13 and 8 years).—NEWCOMB, Fairlawn Cottage, Victoria Road, Wimbledon Common, S.W.

GARDENER (HEAD) offers his services where several men are employed; Fruit, Plant, and Vegetable Culture; Inside and Out; first-class refs. as to ability, etc.; abstainer; energetic and good organiser; Underwood Plantings and experienced Apiarist, Rock Gardens, etc.; age 45; 20 years Head; disengaged.—RYDER, 549, Wandsworth Road, Clapham, S.W.8.

GARDENER seeks situation as HEAD; life experience; married; good testimonials; discharged from the Army; previously employed as Foreman at Eywood Hall, Titley.—C. ROBERTS, Titley, Herefordshire.

GARDENER (HEAD), thoroughly experienced in management and upkeep of a large establishment; first class references; 8 years Head of 10 here; served B.E.F.; age 41; married, one child.—FRENCH, Lower Hare Park, Newmarket.

GARDENER (HEAD), life experience, seeks Situation with lady or gentleman who require a practical and thoroughly competent man in all branches; previous to Army service, six years' Head Gardener at Pyt House, Tisbury, Wilts; highest refs.; age 39; married (no family).—H. MARTIN, Lodge Farm, Colne Engaine, Essex.

GARDENER, HEAD of three or more; life experience in all branches; two years previous as HEAD; demobilised; age 36; married.—C. MOORE, 7, Park View, Carleton, Nr. Skipton, Yorks.

GARDENER (HEAD) seeks engagement, age 34; married (no children); 16 years' practical experience all branches. Well recommended. Head previous to enlistment in R.A.S.C. M.T.—D. F., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

LORD ASHCOMBE, Denbies, Dorking, Surrey, highly recommends G. ALLAN as Head Working Gardener; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

MRS. GUY PAGET, Shofwyke House, Chichester, highly recommends F. COTTERELL as HEAD WORKING GARDENER where thoroughy competent man is required; life experience in all branches gained in first-class establishments. Excellent references; age 32; married.—F. COTTERELL, 18, Bognor Road, Chichester.

C. F. LIPPINCOTT, Esq., wishes to highly recommend his Head Working Gardener; thoroughly experienced in Fruit, Flowers and Vegetables, etc.; Inside and Out; also Bees; 6 years as Head; experience gained in good establishments; good manager; leaving through no fault; married, age 35.—CROUCHER, The Old Lodge Gardens, Ashford, Middlesex.

GARDENER (HEAD WORKING).—Mrs. L. SALOMONS highly recommends a highly-skilled Man; good manager; 20 years Head, Norbury Park; left through death; life experience in first-class establishments.—GEORGE KENT, Cleveland Lodge Gardens, Dorking.

COL. LESLIE WILSON, M.P., highly recommends HEAD WORKING GARDENER; life experience; age 42; married (three children, 11, 9, 4); demobilised. — HALL, 35, Milton Road, Wokingham, Berks.

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GARDENER (HEAD WORKING); life experience in large establishments: well up in all branches of gardening Inside and Out; Lawns and Shrubs; could manage electric plant; over two years temporary Gardener here; 13 years previously as Head; 48 years of age; married (no family).—HEATH, The Lodge, Hillingdon House, Harlow, Essex.

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GARDENER (HEAD WORKING) practical life experience all branches; married, 1 boy; excellent references; disengaged.—G. DEUCE, 25, Pollard Road, Woking, Surrey.

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GARDENER (HEAD WORKING) where two or three are kept; Carnations and Fruit a speciality; married, no family; age 49; can be well recommended disengaged.—ELLIS, near Earley Station, near Reading.

GARDENER (HEAD WORKING); life experience in good establishments; well recommended; single; age 39; demobilised.—J. H. RAINBOW, 77, Alderney Street, London, S.W.1.

GARDENER (HEAD WORKING); life experience all branches; age 31; married; good references; R.H.S. Certificate; demobilised; disengaged.—PHEAR, Sherston, Malmesbury, Wilts.

GARDENER (HEAD WORKING) two or three kept; life experience in all branches; Inside and Out; excellent references; married, no family.—CLARK, Barton House, Moreton-in-Marsh.

GARDENER (HEAD WORKING), four to six under; married; age 34; life experience all branches; Carnations a speciality; well recommended in upkeep of good establishment; good manager and energetic; demobilised, over 3 years France.—E. ODDY, 8, Fuller Road, High Barnet, Herts.

GARDENER (HEAD WORKING) or good single-handed, with help; life experience in all branches; well recommended; good references; age 36; married, one boy, 4 years.—Please state wages. W. MILLER, Barnardiston Hall, Haverhill, Suffolk.

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GARDENER (HEAD WORKING) or good SINGLE-HANDED, with help; life experience in all branches; age 42; married (one child).—WHEELER Glengarriff, Queen's Road, Crowborough, Sussex Disengaged.

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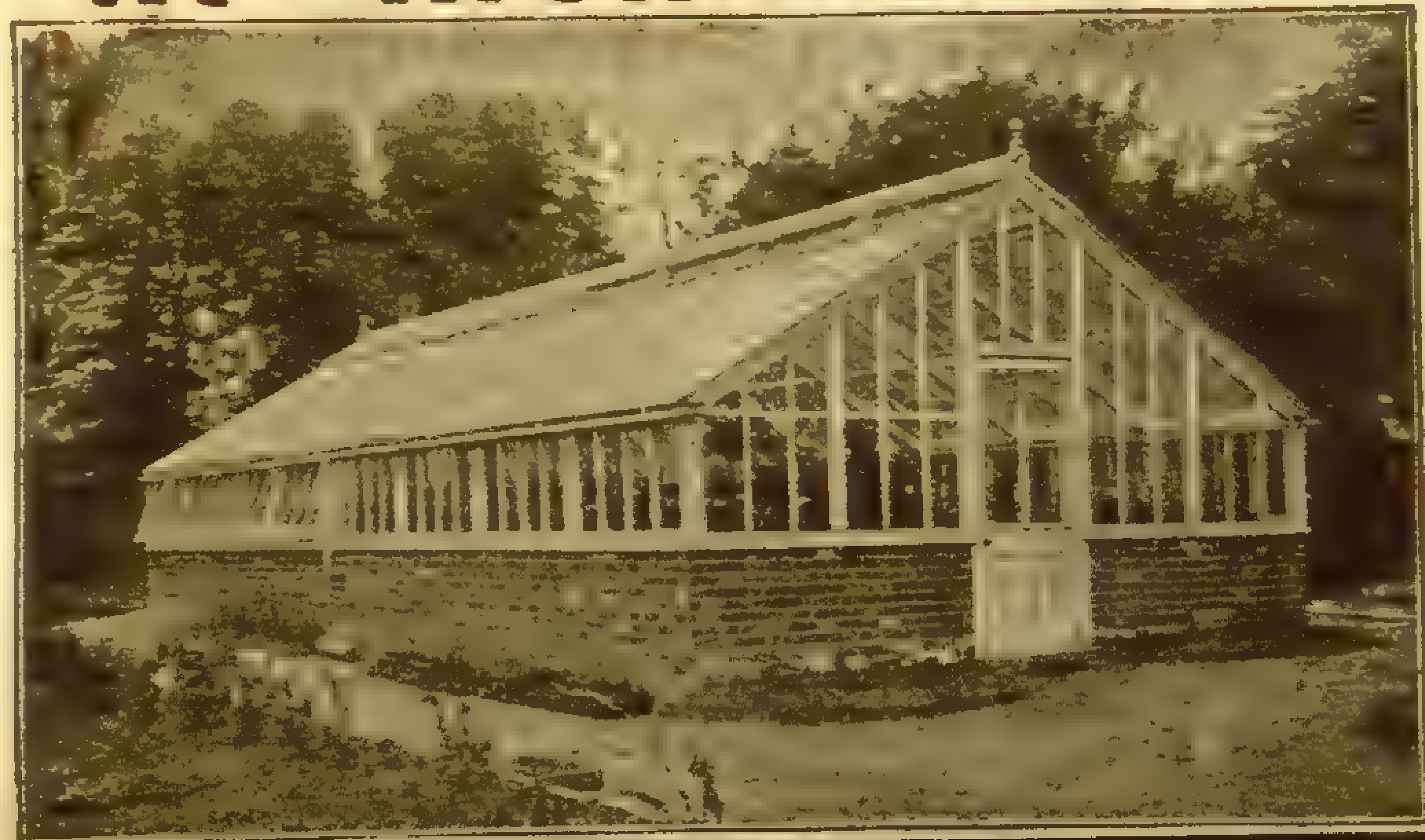

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MESSRS. PROTHEROE & MORRIS will Sell the above by Auction, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.2, on WEDNESDAY NEXT, MAY 7th.

Catalogues had. Commissions executed.

The whole of the well-grown Collection of Cattleyas, a few choice Odontoglossums and Cypripediums, from the

STONE HOUSE COLLECTION, HASLINGDEN.

formed by HARRY WORSLEY, Esq.

MESSRS. PROTHEROE & MORRIS are instructed to Sell the above by Auction, at the COAL EXCHANGE, MARKET PLACE, MANCHESTER, On WEDNESDAY, MAY 7th, 1919, AT ONE O'CLOCK.

Catalogues may be obtained at the Coal Exchange, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

MESSRS. THOMAS S. WARE (1902), LIMITED.

The Goodwill of the Old-Established Nurseries, carried on at Feltham, and formerly at Tottenham; also the collection of 189 Gold and Silver Cups and Medals gained by the firm at the principal Horticultural Shows.

MESSRS. PROTHEROE & MORRIS will Sell the above by Auction, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. on WEDNESDAY, MAY 7th, at 4.30 O'CLOCK, in two lots. Particulars of Messrs Dawson and Co., Solicitors, 2, New Square, Lincoln's Inn, W.C., and of the Auctioneers, 67, Cheapside, E.C.

MESSRS. PROTHEROE & MORRIS will Sell by Auction, a Collection of

TOPIARY WORK (clipped box), well executed specimens of choice designs

GARDEN FURNITURE, Tables, Chairs, Tubs, etc.

GARDEN ORNAMENTS, Sundials, Figures, in stone and lead, Vases, etc.

At the Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY, MAY 9th, 1919, at ONE O'CLOCK.

On view two days prior to the sale.

FRIDAY NEXT.

Established Cool, Intermediate and Hot-house Orchids, from various sources, including a fine selection of Choice Hybrid Cattleyas, Laeolia-Cattleyas, Cypripediums Odontiodas, etc., etc., together with Orchids in flower and bud.

MESSRS. PROTHEROE & MORRIS will Sell the above by Auction, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, MAY 9th, at ONE O'CLOCK.

On view morning of sale and catalogues had.

PLUMPTON, SUSSEX.

300 Azalea Indica Fielders White, 280 Arums, 120 Cypripedium insigne, 250 Hydrangeas, 300 Geraniums, 800 Marguerites, 1,000 Tomato Plants, 500 Carnations, and other stock.

MESSRS. PROTHEROE & MORRIS will Sell the above by Auction, at the Nursery, Plumpton, on MONDAY, MAY 12th, 1919, at 12.30 O'CLOCK, by order of Messrs. Allwood Bros.

SECOND DAY OF THE CHELSEA SHOW.

MESSRS. PROTHEROE & MORRIS will Sell by Auction, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.2, on WEDNESDAY, MAY 21st (second day of the Chelsea Show) a Collection of Rare and Valuable Orchids from well-known collections.

Messrs. Protheroe and Morris invite further entries from gentlemen desirous of including such plants in this sale.

BUSINESSES FOR SALE.

PROTHEROE & MORRIS, HORTICULTURAL MARKET GARDEN AND ESTATE AUCTIONEERS AND VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

PARTNERSHIP.

WORKING PARTNER wanted, with few hundred pounds, in old-established Seed and Nursery Business, for Cucumbers, Tomatos, Bedding Plants; Manchester district.—A. G., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

EXHIBITIONS.

ROYAL SHOW

CARDIFF, June 24th to 28th, 1919.

78TH ANNUAL EXHIBITION OF HORSES, CATTLE, SHEEP, GOATS, PIGS, POULTRY, RABBITS AND FARM PRODUCE, BACON AND HAMS, BOTTLED FRUITS. TROTTING, HORSE JUMPING AND TIMBERING COMPETITIONS. AGRICULTURAL EDUCATION, FORESTRY AND HORTICULTURE.

HORTICULTURE

Entries close May 31st.

LIVE STOCK ENTRIES CLOSE MAY 20.

Prize-sheets and Entry Forms will be forwarded on application to

THOMAS McROW, Secretary.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND, 16, Bedford Square, London, W.C.1.

PLANTS, &c. FOR SALE.

FERNS! FERNS!!—Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

BAY TREES, magnificent consignment, Pyramids and Standards, for Sale, in all sizes.—Sizes and prices on application, ROBERT GREEN (1911), Ltd., 28, Crawford Street, London, W.

ALPINES, ROCK GARDEN and Herbaceous Border Plants. Catalogues free. Choice selections:—1 each of 12 for 6s.; 1 each of 25 for 12s.; 1 each of 50 for 24s.; 1 each of 100 for 48s.; carriage and packing free for c.w.o. Please state aspect.—G. R. PHIPPS, Alpine Nursery, Barnham, Bognor.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinias, Lilies, Hydrangeas, etc.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.9.

CYCLAMEN PERSICIUM.—H. B. MAY & SONS, Ltd., offer very strong plant stores for immediate potting; also in 3 in. pots. the very finest strain, in separate colours.—Nurseries, Chingford, E.4.

FOR SALE, about 200 ORCHIDS, chiefly Cypripediums and Cattleyas; sell in lots.—LOWE, 126, Tonge Moor, Bolton, Lancashire.

JAPANESE LILIUMS JUST TO HAND.

MORLE & CO. have pleasure in offering in fine condition a consignment of L. Speciosum Rubrum, Melpomene, Roseum, and Album, 7 to 8 inches, at 15s.; L. Longiflorum Giganteum, 7 to 8 inches, extra, 18s.; and L. Auratum, 8 to 9 inches and 9 to 10 inches, at 24s. and 30s. dozen; also to offer Hydrangea Hortium Blue Std. and Pyramid Bay Trees Sprouted Begonias and Gloxinias.—MORLE AND CO., 150-156, Finchley Road, N.W.

KEITH, LUXFORD & CO., Sheering Nurseries, Harlow Essex. Send for retail price lists of the best Chrysanthemums and Carnations.

PLANTS, &c., WANTED.

WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free.—SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

WANTED, quantity of TURF, good meadow or cultivated; quote price on Rail.—JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

WANTED, PAUL CRAMPEL STRUCK CUTTINGS, also Tuberous Begonias.—W. & J. BROWN, Seed Merchants and Nurserymen, Stamford.

MISCELLANEOUS.

GENUINE OLD YORK STONE PAVING for Rustic Gardens, Rose Walks, Terraces, etc.; rectangular and irregular, as required.—H. BROOK, Quarry Owner, 40, Valley Road, Streatham, S.W.

PHEASANT COOPS for the Season. Soundly constructed from best materials. Large stocks ready for immediate delivery. The Keeper's Coop, £8 10s. per dozen, carriage paid. Runs, 75s. per dozen extra. Send for particulars.—BOULTON & PAUL, Ltd., Manufacturers, Norwich.

A TIME SAVING BOON An Unique Green Clouding, mixed and removed with simply **Cold Water**. Last whole season. Elliott's New Summer Shading, "PINGO," for Greenhouses. R.H.S. Medal awarded. TRY IT. Pkts. 1/6, or 7-lb. bags 15/6, of Seedsmen, or carr. paid, of Maker—**F. ELLIOTT, ALFRED ROAD, LONDON, W.3.**

GALVANISED TANK, (second-hand); good condition: 4 ft. × 3 ft. × 2 ft. 8 in., capacity 200 gals., £3 10s. Quantity of 3 in. and 4 in. H. W Pipes, Screw-down Valves, Bends, etc.—State requirements, WM. BIGNELL & SON, North Road, Highgate, N.6.

SHANKS'S LAWN MOWER, 18in., with box, complete. Patent Chain Cover, excellent condition, £8 8s. Several other Secondhand Machines, various makes.—WILLIAM BIGNELL & SON, North Road, Highgate, N.6.

PEAT FOR ORCHIDS, 8s. 6d. per sack; best fibrous Peat in trucks at 20s. per yard. 6 to 16 yards. Rhododendron Peat, 15s. per cubic yard, in truckloads. One yard, in bags, 21s. Leaf Mould, Loam, Sand, Fibre and Compost all in bags, at 4s. each, on rail.—J. HANDSCOMBE, F.R.H.S., The Feltham Nurseries, Middlesex.

SALE.—Indian Runner DUCK EGGS, Cook's strain; unexcelled layers; 10s. per sitting, carriage paid; boxes must be returned immediately.—RIGGALL, Newbury.

"PESTITE" kills wireworms, rook worms, cockchafer grubs, Julus worms, and other soil pests; also "club root" and other fungoid diseaes. Price: 28lbs. 5s. 6d., 56lbs. 7s. 6d., 112lbs. 10s. 6d., 1 ton £8, all carriage paid, from G. LANG & SONS, LTD., Hounslow, Middlesex.

THEY WILL KEEP YOU DRY!

BEACON OILSKINS never fail to keep out the wet. That's why they are worn by hundreds of farmers, gamekeepers, and other outdoor men, women, and children. You should wear them if you want weather comfort. They aren't sticky like ordinary oilskins. We return your money at once if they don't satisfy you. The Beacon Booklet will show the style which suits you best. Men's Coats from 25s. up; Children's, 16s. 6d. up; Ladies' Smart Oilskins, 28s. 6d.; Sou'westers, from 3s.; Long Leggings, from 5s. Send postcard to-day for this free booklet of "Weather Comfort." Send now—before you forget—to BARBOUR'S, LTD., 66, BEACON BUILDINGS, SOUTH SHIELDS (1)

BIRDS' BATHS, Sundials, Garden Vases, Nesting and Feeding Boxes. Catalogue (No. 3) free.—MOORTON, 5, [illegible]aton Avenue, Chiswick, W.4.

WEEDS! WEEDS! WEEDS!

NOW is the time to kill them. If your paths are cleaned now they will remain clean for the best part of the year. Our WEED KILLER is safe to handle.

CHEAPER THAN HOEING.

Will not harm birds or animals; is a powder; only requires sprinkling on the weeds.

1 cwt. Sacks, 21s.; 56 lbs., 11s.; free on rail, London. CLEVELAND and CO., 89, ALDERSGATE ST., E.C. Agents wanted.

BOX COVERED VAN for sale, excellent condition, suit Florist; £16.—Apply BILLIMORE, c/o Mr. Smith, Van Builder, Eltham.

FOUR-SPANNED roofed frames for sale, 68 ft. by 9½ (each); ridge ventilators; all lights can be raised to any height; also raised erect, would probably suit market gardeners; price on application, or can be seen. Apply, J. KNIGHT, Bowood Gardens, Calne, Wilts.

FRUIT PROTECTION. — For sale, an iron-framed and wire netting enclosure, to protect fruit trees, 48 ft. by 30 ft. by 11.6 high (7 ft. 9 on walls), by Boulton and Paul; in excellent condition.—Apply, THOS. WM. GAZE AND SON, Estate Agents, Diss, Norfolk.

LANDSCAPE GARDENING

After 25 years' practical experience, I am in a position to tender for and advise on this subject, and to undertake the spraying and pruning of fruit trees in any part of the country.

ERNEST P. PANNELL, F.R.H.S.,
Wild Hatch Nursery, Golders Green, N.W.4.

ORCHIDS,

Clean, well-grown and cheap; also
Many Rare and Choice Varieties.
STOVE AND GREENHOUSE PLANTS OF ALL KINDS
Kindly send for Catalogue

JAMES CYPHER & SONS,
Exotic Nurseries, CHELTENHAM.

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J. CHEAL & SONS, Ltd.,
CRAWLEY.

FORBES' unrivalled Collections of
PHLOXES, in Great Variety.
Our selection **7/6** to **30**/- per doz. (carr. paid).
Catalogue on application to—

JOHN FORBES (Hawick), Limited,
Nurserymen, HAWICK, Scotland.

MAKE 1919 YOUR BEST GARDEN YEAR.

PUT IT TO YOURSELF THIS WAY. IF YOU WANT TO HAVE THE BEST GARDEN YOU HAVE EVER HAD, IF YOU WANT TO GROW DELICIOUSLY FLAVOURED VEGETABLES ENOUGH TO SHARE AND TO SPARE ALL THE YEAR ROUND, AND AT THE SAME TIME TO MAKE THAT GARDEN OF YOURS AS GAY AND AS LOVELY AS THE ONE YOU HAVE SO OFTEN ADMIRED, DECIDE NOW TO SOW NONE BUT

TOOGOOD'S GUARANTEED GARDEN SEEDS.

EVERY packet of Toogood's GUARANTEED Garden Seeds ordered from the beneath Free Guides MUST grow for YOU and please YOU or YOU will get it REPLACED FREELY That is real protection.

The right way of having a better Garden than you have ever had before is to get only Garden Seeds that are actually Guaranteed in this way, and the only plan of doing that is to write now for the following absolutely

Free Guides.

(1) TOOGOOD'S FREE GUIDE TO GARDEN WISDOM AND GUARANTEED GARDEN SEEDS, and (2) TOOGOOD'S FREE GUIDE TO GUARANTEED FLOWER SEEDS. Ask for our Free BEDDING PLANT LIST also, if it interests you. Postcard will do. No obligation of any sort. Just address us personally:

TOOGOOD & SONS,
Seedsmen to H.M. the King, and Growers :: of "Better Crops" Seeds only, ::
SOUTHAMPTON.

CRETS
The Pots that Drain

PETER BAILEY & SONS, Ltd.,
Heaton Mersey Pottery,
Nr. Manchester.

WILLIS BROS.
GARDEN FERTILIZER

Complete reliable manure for digging in for Vegetable Crops, or as top dressing for Fruit Trees and Flower Beds.
NO STABLE MANURE REQUIRED.
12/6 per cwt., 7/- half-cwt., 4/- 28 lbs., 2/6 14 lbs.
£11 10s. per ton, carriage paid.

SPECIAL POTATO MANURE

Produces a big crop of good quality and tubers are less likely to be diseased than if grown with farm yard manure.
15/6 cwt., 8/6 ½ cwt., 5/- 28 lbs., carr. paid:
Insecticides, Flower Pots, Silver Sand, Peat, etc., supplied.

WILLIS BROS., Horticultural Manure Manufacturers,
HARPENDEN, HERTS.

SPECIAL OFFER
OF
HIGH-GRADE SEED POTATOES.

Carefully Selected, Hand Picked, at LOW PRICES TO CLEAR.

EARLIES.—Duke of York, Early Rose, Midlothian Early (once grown from Scotch), and Epicure (Scotch), 28 lbs., **6/-**; 56 lbs., **10/6**; 112 lbs., **18/6.** **Second Early and Maincrops.**—Arran Chief, British Queen, Dalhousie, Duchess Cornwall, Factor, Scotch Champion, Up-to-Date, and following **Immune** Varieties:—Great Scot, King George, Templar, The Lochar (**All Scotch Seed**), 28 lbs., **5/-**; 56 lbs., **8/6**; 112 lbs., **14/6**

Also following **High-Class Peas** (which are scarce):—

Little Marvel (Sutton's) English Wonder, Sutton's Excelsior, William Hurst and Daisy (Carter's) all Dwarfs. **Special Stocks.** Pint, **2/6**; quart, **4/-**

LATE.—Autocrat, Gladstone, and my New Victory, a **green-podded** Senator, extra fine. Pint, **2/8**; quart, **4/6.**

Above Carriage Paid, and Bags Free FOR CASH.

PROMPT DESPATCH GUARANTEED.

QUALITY as supplied to Worcestershire County Council for EIGHTH SUCCESSIVE YEAR.

Edward J. Parsons, F.R.H.S.,
Specialists in High-Class Seeds,
(Fifteen Years with Richard Smith & Co.) **WORCESTER**

Harrods

GARDEN GLOVES.

FOR LADIES Canvas Gloves. Excellently finished. With leather palm, **2/5**

FOR MEN Leather Gloves. Very strong and hard wearing. Hand-sewn. **4/6**

HARRODS LTD LONDON SW1

JOHN KLINKERT, F.R.H.S.
ROYAL KEW NURSERIES,
RICHMOND, LONDON, S.W.
Hardy Plant and Topiary Specialist.

LISTS ON APPLICATION.

WATSONIA ARDERNEI,
F.C.C., R.H.S.

Cape Grown Bulbs Just Arrived.

THIS grand bulbous plant is, in growth and habit, similar to a Gladiolus, and just as easy to grow, producing spikes about 3 ft. high, covered with flowers of the purest white. Described by the late Sir Trevor Lawrence as "A Gigantic White Freesia."

An ideal plant for cutting, and superb as a pot plant for decorative purposes. Of the easiest culture, flowering in the open about three months from planting, or sooner if planted under glass.

Cape grown bulbs are greatly superior to those grown in other districts.

Finest selected bulbs	**7/6** doz.	**50/-** 100
Fine bulbs	**5/-** „	**35/-** „

R. WALLACE & CO., Ltd.,
Kilnfield Gardens, COLCHESTER.

LITTLE'S WEED DESTROYER
(Liquid).

Double Strength.
Gallon Drum makes 60 Gallons.

MORRIS, LITTLE & SON, LTD., DONCASTER

Your Poultry cannot be harmed if you use
McDougall's NON POISONOUS WEED KILLER
SAFE & EFFECTIVE.

From Nurserymen, Seedsmen & Ironmongers.

McDOUGALL BROS, LTD.
66-68, PORT ST, MANCHESTER.

WANTED, an experienced MAN (single), to take charge of Houses, Fruit and Plants. Bothy, with heating, light, and attendance. State experience, age, and wages to HEAD GARDENER, The Lodge, Pasture Wood, Abinger, near Dorking.

WANTED, an experienced MAN (single), for Rock Garden and looking after bees. Bothy, with heating, light and attendance.—State experience, age and wages to HEAD GARDENER, The Lodge, Pasture Wood, Abinger, near Dorking.

WANTED, MARRIED MAN, not under 35, for Kitchen Garden and Hardy Fruit; wife to attend to the bothy; wages 35s. and 15s. respectively, with very good cottage and garden; no young children, but could employ son.—Full particulars and copies of testimonials, to F. W. GALLOP, The Gardens, Lilford, Oundle, Northamptonshire.

WANTED, good MAN for Fruit Trees, Roses and Lawns; take duty; £2; single owing to house scarcity.—GARDENER, Feltham Lodge, Feltham.

WANTED, YOUNG MAN for general Outside work; able to take duty.—Apply, stating experience, age, wages required, to D. THOMPSON, Smalley Hall Gardens, Nr. Derby.

WANTED, active YOUNG MAN to take charge of Plant Houses, with good experience in Plant Growing; wages 42s. per week; Sunday duty, one in three, and overtime paid; 1 o'clock Saturdays.—Particulars, with references, to S. BURGESS, The Gardens, Ranelagh Club, Barnes.

SMART YOUNG MAN, 17 to 19, for Inside work; bothy and vegetables provided.—State particulars and wages required to J. W., "Westwood," Pendlebury, Manchester.

WANTED, YOUNG MAN for the Houses, with experience in Grape thinning, potting, etc.; bothy and attendance.—State wage, H. PARROTT, Brockhampton Court Gardens, Hereford.

WANTED, two YOUNG MEN for Inside and Outside; bothy, milk and veg.; please state wages required.—Apply W. MITCHELL, Henghurst, Woodchurch, Ashford, Kent.

WANTED, strong YOUNG MAN for General Garden work; some experience necessary; 25s. with good bothy, etc.; duty.—HEAD GARDENER, Ellisfield Manor Gardens, Basingstoke, Hants.

WANTED, two YOUNG MEN, one for Fruit and Plant Houses, one for Kitchen Gardens and Lawns; wages to commence, 26s., with bothy, vegetables and attendance; 1 o'clock Saturdays.—State age and experience to W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, YOUNG MAN (single) for Pleasure Grounds and Kitchen Garden. State age, experience and wages required.—Apply, F. G. TOYE, The Gardens, Ingatestone Hall, Ingatestone, Essex.

TWO YOUNG MEN wanted for Outside, one for Kitchen Garden chiefly, the other as odd man help in garden; bothy and vegetables.—LADY ANDERSON, Notgrove Manor, Bourton-on-the-Water, Gloucestershire.

WANTED, YOUNG MAN, 17 or 18 years, for Inside and Out; Herbaceous Borders and Wall Fruit; good wages and bothy.—Apply, full particulars, to DANIELS, Birdingbury Hall, Rugby.

WANTED, two YOUNG MEN for Inside and Out.—Please state age, experience, and wages required with comfortable bothy, &c., to WALKER, The Gardens, Locko Park, Derby.

WANTED, strong YOUTH for Inside and Out; duty every third Sunday; 1 o'clock Saturdays; good bothy, milk and vegetables.—State age and wages, HEAD GARDENER, Clifton Hall Gardens, Nottingham.

WANTED, LADY GARDENER who would undertake the charge of Poultry and Bees, to share a Cottage with another Lady Gardener in small place of five acres.—Write full particulars, stating experience and salary, to MISS ELIN, Gracefield, Lacey Green, Prince's Risborough, Bucks.

WANTED, LADY GARDENER, young, trained; Inside and Out; woman head; share cottage, Vegetables, some fuel.—Apply, stating wages required, BAYLY, Gaywood Hall Cottage, King's Lynn, Norfolk.

WANTED, FOREWOMAN for Fruit and Plant Houses.—State experience and wages required, with bothy.—T. HAZELDINE, Crosswood Gardens, Cardiganshire.

GARDEN LABOURER (demobilised soldier might suit) required at once; must be steady and reliable; wages 30s., cottage provided. State experience, references required, MOORE, Appleby Hall, Ashby de la Zouch, Leicestershire.

WANTED, GARDEN LABOURER.—Apply or write C. DIXON, Holland House, Kensington, W.8.

TRADE.

GARDENERS awaiting situations may obtain temporary employment until suited; good wages.—Apply, JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 46, North Road, Highgate Village N.6.

WANTED, a good GARDENER for Nursery and Outside work; general experience necessary; good wages to an energetic man.—Apply in first instance to P. E., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, for two or three months, a first-class TOPIARY EXPERT; must be a practical working man; good wage paid. — Apply, JOHN WATERER, SONS & CRISP, Ltd., The American Nurseries, Bagshot, Surrey.

PROPAGATOR wanted; good wages to competent man; used to raising Spring Bedding and Herbaceous Plants.—Apply, Toogood and Sons, The King's Seedsmen, Southampton.

WANTED, good PROPAGATOR and one who is well up in Alpine and Rock plants.—Apply, stating wages, experience, etc., to CARTER PAGE AND CO., LTD., 52, London Wall, E.C.2.

WANTED, first-class PROPAGATOR of Hardy Plants and Alpines. Please apply stating full particulars and wages expected, and previous experience.—R. WALLACE AND CO., LTD., Kilnfield Gardens, Colchester.

WANTED, PROPAGATOR of Herbaceous and Alpine Plants.—State age, experience and wage required, CALDWELL & SONS, Nurserymen, Knutsford, Cheshire.

WANTED, PROPAGATOR for a choice collection of Trees, Shrubs, Conifers, etc., new Chinese Plants, Alpines, etc.; also to take charge of a specimen Rock and Water Garden, Herbaceous Borders, etc. A permanent situation for a keen, capable man.—References, wages and all particulars to HILLIER & SONS, 95, High Street, Winchester.

TOMATO GROWER wanted for market work; State age, experience and wages required to CHATTOCK & ROBERTSON, Solihull, Birmingham.

WANTED, experienced ORCHID GROWER to take charge of an Establishment in South America; a knowledge of French or Spanish is required; good salary.—Apply, in first instance, to "S. D.," Box 6, 41, Wellington Street, W.C.2.

WANTED, GROWER (experienced) for Shop trade, Cucumbers, Tomatos, Chrysanthemums; also make up Wreaths, etc.; branch nursery, good house on premises.—State wages required and full particulars, W. CROWDER AND SONS, Horncastle.

WANTED, first-class Fruit Tree FOREMAN, to take entire charge of the Fruit department of a large Nursery. A good progressive place to a man qualified to handle a large number of trees and to deal in a businesslike way with all orders.—Give full particulars and salary expected to J. C., Box 28, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, WORKING FOREMAN for small quantity of glass, with knowledge of Herbaceous Plants and Floral work; must be energetic.—Apply, with copy of testimonials and wages required, to "T. E. J.," Box 27, 41, Wellington Street, London, W.C.2.

WANTED, at once, a good JOURNEYMAN (Single) for the Houses, Vines, Peaches, Tomatos, Cucumbers, and plants in general; good wages.—Apply, J. HUGHES, Manager, Messrs. A. Hart and Sons, Manor Road Nursery, Guildford.

GARDENER wanted, JOURNEYMAN, unmarried, for this Nursery; also IMPROVER, with one or two years' experience; work almost entirely under glass; good opportunity of advancement for willing, capable man.—FINDLAY BROTHERS, Springhill Nursery, Baillieston, Glasgow.

YOUNG MEN wanted for the following Glasshouse Depts.: Stove and Greenhouse; Softwooded; Fern and Palm; Chrysanthemums, etc; 49½ hours weekly; 12 o'clock on Saturdays. State experience and wages required.—CLIBRANS, Altrincham.

WANTED, by old-established firm in North Midlands, Young Men ASSISTANTS for growing Roses, Fruits and General Nursery Stock, also MEN for Jobbing Work and under Glass. Wages 10½d. hour. State age, experience and which vacancy applicants can fill.—R. W. P., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, two YOUNG MEN for Market Nursery. State age, experience, and wages required.—W. A. SHERWOOD, The Nurseries, Hampton Hill, Middlesex.

WANTED, YOUNG MAN for Jobbing Work, and fill up time in Nursery; wages, 1s. per hour; permanent place.—FRANKLAND, Nurseryman, Halifax.

WANTED, several YOUNG MEN in the Roses, Fruit, and Herbaceous Plant Departments; good wages and a permanency for suitable men.—Apply, GUNN & SONS, Olton, near Birmingham.

WANTED, single YOUNG MAN, Inside and Out, for Tomatos, Carnations, and Chrysanthemum growing; wages 32s.—Apply, C. F. WATERS, Deanland Nurseries, Balcombe, Sussex.

WANTED, several YOUNG MEN (single preferred) for Cucumber and Tomato growing for market; good wages to suitable men.—Apply, H. WHATELEY, Spring Gardens, Kenilworth.

WANTED at once, REPRESENTATIVE to Travel for a leading Wholesale House in the Seed Trade. Apply K., Box 15, 41, Wellington Street, Covent Garden, W.C.2, with fullest particulars as to experience, references, salary required, etc.

WANTED, JUNIOR SHOPMAN, General Nursery, Seed and Florist's business.—State qualifications and wages, HOPWOOD AND SON, Cheltenham.

WANTED, FLORIST; must be expert in making up; permanency.—Apply, giving full particulars of experience, wages, etc., to WOOD AND 14, Elton Road, Kingston-on-Thames.

FLORIST.—Wanted, thoroughly experienced Lady; must be first-class Saleswoman and Designer; only those used to high-class trade need apply; good salary.—Apply with full particulars to DINGLEYS, Ltd., 71/3, Piccadilly, Manchester.

LADY FLORIST required for high-class Shop, to take charge.—State age, experience and wages required, J. NASH AND SONS, 11, High Street, Wimbledon.

DRAUGHTSMAN and Estimator required by Messrs. WM. DUNCAN, TUCKER & SONS, Ltd., Horticultural Builders, Lawrence Road, South Tottenham. Must have thorough knowledge of high-class conservatory and winter garden architecture. Write, stating experience and salary required.

CARPENTER wanted, one used to Horticultural Work; single man preferred. State age, experience, and wages required.—W. A. SHERWOOD, The Nurseries, Hampton Hill, Middlesex.

For SITUATIONS WANTED see pp. ix.-xi.

THE

Gardeners' Chronicle

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LILIES IN 1918.

THE passing of 1918 will not have caused the Lily grower the slightest feeling of regret. Neither excess of rain nor deficiency of sunshine meets his wishes, and when one is a concomitant of the other, as was the case last year, he may be excused for harbouring a grievance against the Weather Controller.

His grievance will not be lightened by a retrospect of the weather during several seasons, for it is plain that the country is passing through a series of years wet and cheerless enough to damp the enthusiasm of the most confirmed optimist. But hope lives eternal in the breast of the true gardener and as year after year goes by, each leaving the ground a trifle more sodden than the last, he finds solace in the reflection that the next may prove another 1911. And after all, while it is undoubtedly the case that after several wet years our island has absorbed about as much water as it can carry, we may take comfort from the reflection that this state of affairs is but a phase in Nature's handling of her resources. There is no need to probe very deep into the recesses of one's memory to call up recollections of a period when for some years the summer sun was hot, the winters fair and the earth so parched that ponds, streams and springs dried up, while in many directions the water supply was uncomfortably short.

But though we cavil at the unstable character of our climate, we must not forget that the Lily season of 1918 opened well with a five weeks' spell of fine, dry weather. When this came to an abrupt end early in July, Lilies of all kinds were looking uncommonly well, and though, as it turned out, neither the mid-season nor late species, bespattered by persistent cold rains, had a chance to develop normally, some consolation was found in the fact that the June flowering Lilies had been in better form than for some years past.

This was especially the case with L. tenuifolium, a gentle little Lily that is almost a stranger to British gardens nowadays. Though the reason for this is obscure, it may be because of an unfortunate way the plant has of disappearing, and that is doubtless at the bottom of the legend that the species is naturally short-lived; but as with all the rest except L. Martagon, which will even sow itself and flourish in the cracks of a flagged path, the well-being of L. tenuifolium is more a question of environment than aught else.

In common with all the members of the stem-rooting group, the species needs a sheltering carpet through which the stem

FIG. 99.—LILIUM MEDEOLOIDES IN MR. GROVE'S GARDEN AT KENTONS.

may rise to the sun, and as it is seldom more than knee-high, the carpeting shrub must be dwarf. There is nothing better for the purpose than Muehlenbeckia axillaris, the dwarf Hypericums of the more gentle kinds, or Cotoneaster adpressa. A well-drained, gritty loam suits this Lily; it pines away in holding soils or those in which there is much humus, and is not a plant for shady places; lime seems more or less essential to its welfare.

The bulbs are as hardy as any of the genus and that is saying a good deal. The writer has often left them exposed to severe frost for days at a time and has never observed any ill effects from the refrigeration. As may be seen by reference to Fig. 101, the structure of the bulb of L. tenuifolium is peculiar; it is composed of a few closely wrapped, smooth, fleshy scales, and, so far as I know, there is no other bulb like it in the whole genus, with the single exception of L. cernuum, clearly a relative.

L. tenuifolium is the father of the Lily known as Golden Gleam, a cross-bred plant that did remarkably well in the short allowance of summer vouchsafed to us last year. It inherits the good constitution of its mother, the white Martagon, and is in all respects an excellent garden Lily of medium growth, though a little inclined, under good cultivation, to be top heavy. But this is a fault it shares with almost every floriferous species except those of the Cardiocrinum section in which the stem has the proportions and strength of a miniature mast. A curious point about this hybrid is that though it has not been in existence more than a decade or so, seed comes comparatively true, in the sense that a high proportion of a sowing will develop into hybrid plants and not show that reversion to the mother parent which is so striking a characteristic of hybrid Lilies in general.

So far as the writer's observation goes, Golden Gleam is the only hybrid Lily of which this can be said. As a rule, Lilies of mixed parentage have to be propagated by offsets, bulb scales or stem leaves, and that is why their propagation is such a tedious matter.

Another of the early Lilies that responded to the brief summer of 1918 was L. medeoloides, a Japanese species of rare merit and one with which few amateurs in Britain have more than a transient acquaintance, though it is a common wild plant of the hill-sides in the northern island. Although regularly imported from Japan in pre-war days, and cheap enough to buy, the bulbs are so frail that they seldom recover from the long journey, and to that extent a purchase usually represents money thrown away. But when grown from seed the species is quick to come to maturity, and once it is established, it continues from year to year, quite happy in climatic conditions far removed from those prevailing in its island home.

L. medeoloides (see Fig. 99) is a sparsely leaved plant, and, in point of fact, has far fewer leaves than any other species; except for a straggling upper leaf or two, the few it has are usually arranged wheel fashion about the middle of the slender stem, and it is to this arrangement of the leaves that the plant owes its name, "Kuruma-Yuri," or Wheel Lily.

In its way, the bulb of L. medeoloides is even more peculiar than that of L. tenuifolium, referred to above, and it is unique in the genus. The illustration (Fig. 102) shows the unusual formation of the bulb, made up as it is of a mass of separate scales, each of them minute in itself and articulated. The upper half resembles an Oat and it was this resemblance as well as some confusion between this species and another, that once led to a description of it as L. avenaceum (*avena* = Oat).

Though common enough in the case of American Lilies, the articulation of bulb scales is an exceptionally rare feature in the Asiatic species and it is a singular thing that in this little plant of the Japanese hill sides we find a connecting link between the bulbs—totally dissimilar

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alight at night (using about one pint of oil); on sunny days it will be unnecessary in the day-time.

In a week or ten days the plants will appear. Keep them moist with the syringe (of course, using warm water), give a little air in the day-time, and shade as little as possible. When the Melon plants have three or four rough leaves, shift them into 4 in. pots, and use a larger proportion of good loam. At this stage the plants should be kept fairly moist, and freely syringed. Admit air through the roof ventilators and keep the plants warm at night. When the plants are six inches high it is time to shift them into their final quarters, *i.e.*, 11 in. pots. Mix one third of old, well-rotted, sweet manure with good loam and add a sprinkling of quick-lime; pot the plants fairly firmly, and allow room for a final top dressing. Tie each plant neatly to a short stick. As sun heat increases, less and less artificial warmth will be necessary, but beware of cold winds and gloomy days. The Melon plants will soon begin to grow freely, and should still be kept fairly moist. Arrange the pots, six on either side of the greenhouse and turn out all other occupants, as the Melons must now have the house to themselves. Stand each pair of pots in a shallow box containing 3 or 4 in. of old manure and loam, into which the plants will root through the drainage holes. Fix a long cane for the support of each plant from the sides of the boxes to the slanting roof of the greenhouse, and place a little heap of lime round each stem. From now onwards great caution must be used in watering.

The first appearing female blossoms may not be very strong, but as soon as a healthy looking blossom is well open fertilise it with pollen from a male blossom. Do not attempt with the limited root room of a 11 in. pot, and the consequently small plants, to grow more than one fruit to a plant. Pollinate several female blossoms, but the plant will probably determine which one is to develop fruit. Fertilising should be done on the morning of a sunny day when the plants are dry. At this period, while the fruits are just beginning to swell, the roots should be kept rather dry, but as soon as the fruits begin to increase in size rapidly, rather more water may again be given; but now begins the most dangerous period, when a few hours carelessness may undo the work of months. Canker, a disease which attacks the stem of the plant just at the soil level is the terror of Melon growers. It appears to start as the result of over-watering and chill. The lime mentioned above is a precaution against canker, therefore renew it from time to time and do not be afraid to use it. If there is a cold wind, give air only through the ventilator and keep the door shut; even on the hottest days shut the house in good time, and never allow chilly evening air to have access to the plants, or disaster is sure to follow.

Canker shows itself by the drooping of the end shoots of the plant. If a plant is flagging because the roots are too dry, the bottom leaves will droop first. This is easily remedied by shutting up the house, shading a little by means of an outside blind, if necessary, and syringing freely. Watering a cankered plant will only make matters worse, but sometimes the disease may be checked by renewing the lime round the stem, shading and keeping the plant dry. The soil in the boxes in which the pots stand may be kept fairly moist.

When the fruits are as big as an Orange they should be supported on little hanging stages or by little nets. If stages are used they should be perforated or made of little slats in case moisture collects between the fruit and the wood, which may cause rotting and the loss of a fruit.

When a Melon begins to "net" there is no harm in the plants drooping a little during hot sunshine; shut up the house, shade and syringe and the leaves will soon recover. In very hot weather, while keeping the soil fairly dry, syringe the staes and floor of the house freely, shut up early and spray all over the plants.

As the fruits ripen, no further watering is required, but it is a good rule not to let a Melon plant fail from drought till the fruit emits a strong fragrance. When this stage is reached the fruits will complete their ripening equally well on or off the plants.

In this humble method of Melon culture, the use of fertilisers is almost unnecessary, and practically no cutting back or pruning need be done. The points of the laterals may be stopped when they have made a certain amount of growth, and the main stem may be topped when it reaches the roof. When the Melons are swelling quickly a little concentrated fertiliser in liquid form or a top dressing will quickly bring to view new surface rootlets and help the plant. Both may be applied to the soil in the pots and to the soil in the shallow boxes in which the pots stand. *A. W.*

FIG. 101.—BULB OF LILIUM TENUIFOLIUM X ¼. (*See p.* 211.)

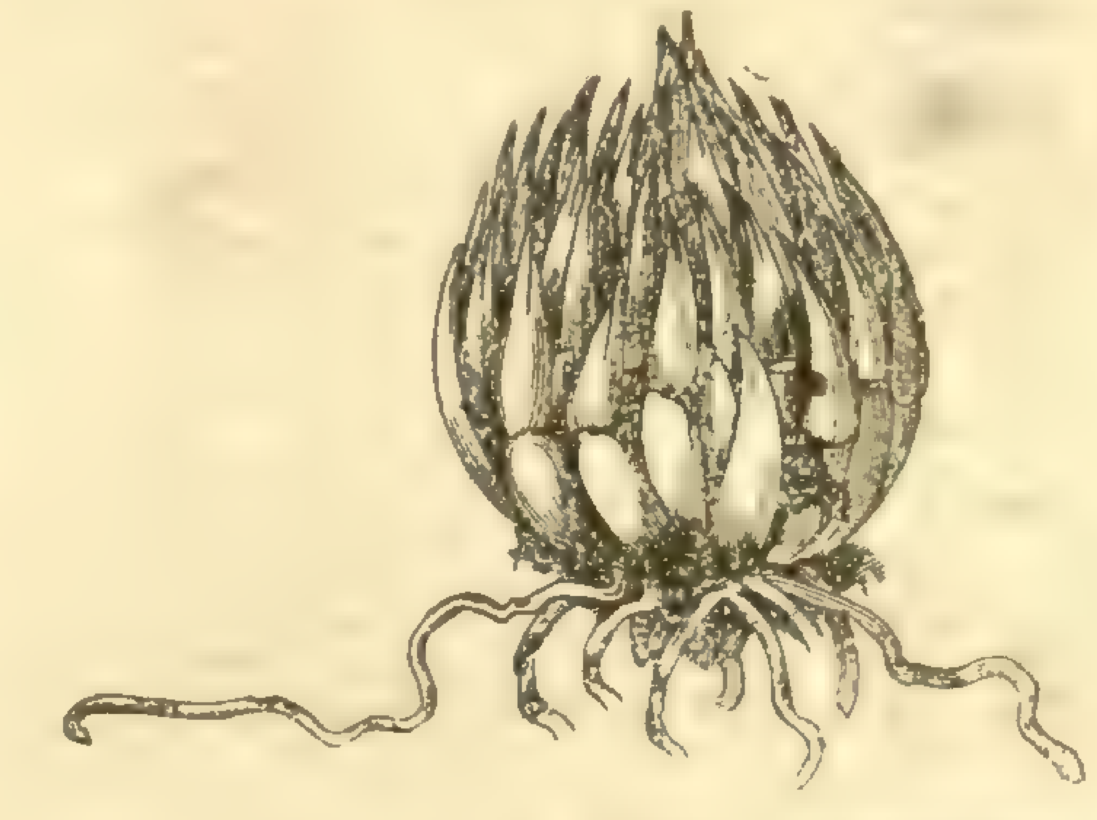

FIG. 102.—BULB OF LILIUM MEDEOLOIDES; NATURAL SIZE. (*See p.* 211.)

LETTERS FROM SOLDIER GARDENERS.

A GARDEN IN WESTERN GERMANY.

GENERALLY speaking, horticulture does not appear to be carried on to any large extent in this neighbourhood (near Duren). The district is a manufacturing one, and does not contain any large residences.

However, at a fair-sized villa garden owned by a German American, I was able to observe to a certain extent the effect of the war on horticulture in Germany, the methods of culture, and the general principles of gardening.

The general effect in design and accomplishment of this garden is a type of massive solidity, which, to English eyes, is rather depressing. The pleasure grounds are divided from the vegetable garden by a small stream, which is conducted down a channel made of concrete. The stream is crossed at points by bridges made of the same material, and in appearance strong enough to bear the weight of a "tank."

The water of the stream is diverted to form a cascade in a small rockery, but its effect is spoilt by the bad arrangement of the rocks and the employment of unsuitable stone; in fact, one gets a similar idea to that given by the hideous conglomeration of clinkers and slag occasionally met with in England.

As regards the plants used, only very ordinary and very adaptable ones remain, partly because the rockery is raised too high and consequently very exposed, and partly because of the dense shade of the overgrown Fir trees, which were originally planted as a background.

Still, in spite of these disadvantages, one notices with pleasure the old favourite Saxifrages, Arabis, Primula, and a few more of the humbler denizens of rock gardens.

The shrubberies are poor and thin, but a few specimen trees of the Silver Fir are in very fine condition and, combined with a fortunately situated clump of Silver Birches, do much to break the monotony, but on the whole the effect is disappointing.

The kitchen garden has next to nothing in the way of vegetables, and what little there is shows a poorness of soil and lack of suitable manure.

Fruit trees are all standards, and have been well tended, being clean and generally in a healthy condition: Apples especially were in first-rate condition.

There are a few beds of Roses, which apparently are greatly prized and receive every attention, but I have not succeeded in obtaining the names of the varieties grown.

The soil, being of a fairly light nature and somewhat stony, seems to require plenty of manure of a substantial nature.

There is one small range of glass-houses, a "lean-to" of three divisions, one of which is the stokehole and potting shed, the other two divisions being heated by the same circuit. There exists no means for regulating the temperature of the two houses other than by ventilation. The heating apparatus is of the modern type, consisting of 3-inch piping and a small, upright boiler. The houses contain nothing of great value, but most subjects are very useful for ordinary decorative purposes.

Up to Christmas there was a very fair show of Chrysanthemums, which were in good condition, although the plants were somewhat shorter in the stem than we commonly see them in England. There was also a pleasing little batch of Carnations of the perpetual-flowering varieties, but they had received no special treatment, and had suffered somewhat in consequence.

At present there is a pleasing blaze of colour from a small batch of Primulas, while a few Begonias of the Gloire de Lorraine type promise well.

The coming season's stock of Pelargoniums for bedding purposes was very fine, the plants being sturdy and short-jointed. A number of Kentia Palms looked in good condition. A few plants of Hippeastrums (Amaryllis) will shortly be in flower, also some Richardias; but the latter seem somewhat starved, although apparently quite healthy and free from sopt disease.

Each house has a Rose trained to the wires; in the one case a Maréchal Niel (still in flower), and in the other a Niphetos. Both trees are healthy, and free from mildew.

Altogether the houses are very interesting, and provide a very refreshing sight after all the weary months when one saw little or nothing of a garden.

There is a certain amount of lawn, but it has been neglected for some time, and is somewhat unkempt.

The paths are well made, stone chippings being the principal material employed in their making. There are several large summer-houses, and one is especially fine, being built of rustic work and thatch, with the interior panelled and decorated in a very tasteful manner, and fitted with electric light and a fire-place. A series of folding glass screens enable the house to be used in winter as well as in summer. It is the best

in themselves—of Lilies on two continents thousands of miles apart.

The plant of this Lily (illustrated in Fig. 99) has an interesting history, for it is the child of a plant that was growing on the hills near Sapporo ten years ago, and, for all the writer knows, may be there now. Walking over the hills one day, Prof. Bayley Balfour espied the ripe capsule of a Lily standing up here and there through the coarse grass, and ever mindful of friends at home, promptly sent a capsule to the writer. In due season a plentiful crop of bulbs resulted, and from one of these, the subject of the photograph springs year by year with a regularity so unfailing as to touch a chord of more than sentimental interest.

But in these days of generous givers, gardens are peopled with plants whose history would fill a book of more than ordinary interest, could it be transferred from the memory of their host or compiled from the ghosts of labels for the most part long since dissolved or indecipherable. Only those who have to deal with them realise how large a part the personal and geographical associations of plants play in the amateur's estimation of them, for the individual who cultivates plants—and under this head one naturally includes trees and shrubs—for the intrinsic beauty and interest so many of them possess, and who is on really intimate terms with them, would be less than human did he not derive added joy from the contemplation of those whose presence conjures up memories of men and places. There can be few gardens or collections of plants—call them what you will—owned by interested amateurs, where at almost every part of the year something does not spring to life to touch a chord of memory's harp.

As usually grown in this country L. canadense is a Lily of moderate stature and none too floriferous. But in sympathetic hands it is capable of great things, as may be seen by reference to the picture (Fig. 100) Mr. Malby has made of the well-balanced head of a fine specimen growing in Colonel Hugh Warrender's garden at Eastcote.

L. canadense is a plant of annual growth in the sense that after producing a flowering stem the bulb dies away. Before its dissolution, however, the bulb throws out a short rhizomatous root, at the end of which a new bulb develops and in course of time reaches the flowering stage. The process is repeated *ad infinitum*, and as each rhizome is a few inches long we find the Lily appearing in a fresh place year by year.

This wandering habit is not an uncommon feature in American species. It is a characteristic, for instance, of L. pardalinum, but in the case of this species the direction of travel of the rhizome is not as a rule more or less straight, as in L. canadense and L. Grayii, but circular, with the result that the rhizome comes round on itself and ultimately produces a mat of bulbs.

The sterility of the cultivated forms of L. candidum has long been a matter of observation by students of the genus, and a great deal has been written on the subject without throwing any light on a puzzling peculiarity. Seed of L. candidum may usually be secured by pollinating with pollen of L. testaceum, but while it meets with a considerable measure of success, the method is by no means a certainty, and the fact remains that, left to themselves, cultivated plants of L. candidum very seldom produce any seed capable of carrying on the race.

It came therefore as a pleasurable surprise to find a number of plants of this species in fruit in Mr. Bowles' garden last autumn. The bulbs from which the plants were growing had come to their host from Salonika, and were representative of the wild form as one knows it in S.E. Europe, virile, but dwarfer and smaller in the leaf than the cultivated L. candidum sent here in such numbers from Northern and Southern France and Belgium.

During the year the trumpet Lily raised from seed collected by Mr. Farrer in Kansu in 1914 has reached adolescence, and, judging by the specimens in Mr. Bowles' garden, is a fine plant. This Lily bears a remarkable resemblance to L. Brownii, an Eastern Chinese species, often reported in W. China but not yet received thence. There are, however, botanical differences, and in any case the bulbs are so unlike that the two plants can hardly be referable to one species. However, whatever it may eventually turn out to be, this fragrant Lily has every appearance of proving a fine garden plant; moreover, the specimens in the garden at Myddleton House have fruited freely, in a season, too, most unfavourable to the process, so that propagation should be easy.

Those who have seriously taken in hand the cultivation of Lilies are aware that many bulbs fall victims to the depredations of insects, and it is probably true to say that where cultivation is on intelligent lines the casualties from this cause alone are greater than from all the rest put together. No bulb is safe, and in casting about for some explanation one is led to the conclusion that it may be found in the fact that bulbs of Lilium are more edible, or at any rate more to the taste of the scavengers of the

Fig. 100.—Lilium canadense in Colonel Warrender's garden at High Grove.

under-world than those of Narcissus, Tulip, Gladiolus, Allium, Iris, Crocus, and the rest, none of which suffers to anything like the same extent.

Hitherto it has been impossible to deal with the nuisance if only because the mischief is seldom apparent until it has been done, and also because there has been no practical remedy. From experiments the writer has made in tentative fashion during the past year there seems good reason to hope that in bi-sulphide of carbon Lily growers have to their hands an instrument of importance in combating the attacks of subterranean enemies, without injuring the bulbs on which they prey.

For a long time past it has been evident that the botanical discoveries of the last 30 years in Western China and the Himalaya have rendered it increasingly difficult to maintain the accepted distinction between Fritillaria and Lilium, and with material crowding in, it is inevitable that sooner or later botanists will have to apply their minds to a subject of which both Hooker and Franchet appreciated the difficulties, though they did nothing to elucidate them. Meanwhile a preliminary step has been taken by Professor Bayley Balfour in an enumeration of Nomocharis*—hitherto a monotypic genus intermediate between Lilium and Fritillaria—and a consideration of the position of the genus in regard to each of the other two.

Through the kindness of Mr. Elwes, seeds of Lilium collected by Mr. Forrest in Yunnan in 1918 have been received, and may perhaps include species not yet known to us.

By the death in 1918 of M. Maurice de Vilmorin, amateur growers of Lilies have lost a friend and ally of the first importance. Though, as was natural, his interests lay more with trees and shrubs, M. de Vilmorin's association with the missionaries and travellers France sends to all parts of the globe led from time to time to his receiving seed of Lilium species from various directions, and especially from Western China.

From seed sent to him by Père Farges in particular, of species from Szechuan and Yunnan, M. de Vilmorin raised a number of Lilies, and as far back as the beginning of the present century had in cultivation at Les Barres a collection of Chinese species that even now would be almost unique, including some magnificent specimens of L. Sargentiæ, at that time known as L. leucanthum, and not systematically in cultivation anywhere else.

As is the way with so many plant lovers, M. de Vilmorin was generous, and for many years never failed to ask the writer's acceptance of a proportion of any Lilium seed that came into his hands. His generosity lost nothing of its savour from association with a courtesy as punctilious as it was natural.

The illustrations of the bulb of L. tenuifolium and L. medeoloides (Figs. 101, 102) are reproduced from *Notes on Lilies*, by Dr. Wallace. *A. Grove, April* 15.

A METHOD OF GROWING SMALL MELONS WITH VERY LITTLE HEAT.

The following notes are only for those who wish to try to grow Melons in a small way.

The principle is to grow small plants in pots, to utilise a limited space to the fullest extent, and to aim at only one fruit on each plant. With a spacious house and plenty of heat and root room, of course several fruits may be grown on one plant, but the method to be described has certain advantages for the small grower. The loss or failure of one plant only means the loss of one fruit. Perfect little fruits weighing about 1½ lb. may be expected. I have succeeded equally well with Sutton's Superlative and Ringleader, but the latter appears to be the more vigorous and hardy, and, though green fleshed, the fruits have a fine flavour.

The appliances available in my case are a small span-roofed greenhouse 6ft. by 8ft. Under the staging at one end is built a little brick chamber, in the roof of which is a small iron cistern, while a 1½in. flow and return pipe run along one side of the house. A light metal door, perforated at the top and bottom to supply air to the stove, gives access to the brick chamber from outside the greenhouse. Inside the chamber is placed a small oil stove, which gives the requisite heat, and no fumes can enter the house.

The house will accommodate twelve plants. The third week in April is quite early enough to commence (unless it is proposed to burn a great deal of oil) as Melon plants should grow quickly and never receive a check.

Place the seeds in thumb-pots in a light, porous compost containing a good deal of leaf-mould. Put them in a propagating box plunged in fibre or leaf-mould on the stage above the hot water cistern, and sow enough seeds to allow for some failures in germination. Keep the stove

*The Genus Nomocharis. Trans. and Proc. of the Bot. Soc. of Edinburgh. Vol. xxvii, part iii.

in good time to prevent crowding. Fig trees, when in good health and carrying heavy crops of fruit, require plenty of water and stimulants. When watering the borders a liberal application of liquid manure will materially assist the fruits to swell, and maintain the health and vigour of the tree. An occasional application of soot water has a beneficial effect in giving good colour to the fruits and foliage. Air should be admitted freely during the day whenever the conditions are favourable. During bright sunny weather the temperature may range from 75° to 80°; the night temperature should be about 65°. Syringe the trees thoroughly at closing time, and damp the borders and bare spaces more or less frequently according to the weather. Young pot trees should be repotted as the plants increase in size. A suitable compost for the purpose is formed of rich, turfy loam mixed with a liberal quantity of old mortar rubble and wood ash.

Plums.—The fruits on Plum trees which were started rather early will now be swelling, and where they are too numerous should be thinned with Grape scissors. Mulching, feeding, and syringings must be continued for some time, as the earliest of crops will have barely passed the stoning period. Clean, soft water only should be used for syringing, as the bloom is easily damaged. Ventilate as freely as the weather permits.

Forced Cherries.—Shortly before the Cherry fruits commence colouring, a good mulch should be applied over the roots of the trees; this will generally supply sufficient nutriment until the crop is gathered. When the earliest varieties show signs of ripening, admit air freely whenever the weather is favourable, and maintain a drier atmosphere. Green and black fly should be kept under by fumigating when the foliage is quite dry.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Disbudding Peach Trees.—Disbudding is essential to good training, as it removes needless shoots and prevents overcrowding and unfruitfulness. Only sufficient growths should be left to fill the available space, in order that all the leaves may be exposed to the light. All shoots not needed should be removed, but it is a great mistake to strip off all the superfluous growths at once, as this would cause a check. By removing a few shoots at a time the sap is gradually diverted to other channels. Disbudding should be done while the shoots can be removed easily by finger and thumb. If allowed to remain until the wood becomes hard, the removal of growth makes a wound, and there is a tendency to tear the bark. In thinning Peach trees it is best to remove alternate shoots at the first thinning, but always leaving the basal and end shoots.

Care of Wall Trees.—Fruit trees on walls now require careful attention with regard to protection from cold winds. A sharp watch should be kept for any signs of blistered or curled leaves on Peach trees. Remove the affected leaves and thoroughly hose or syringe the trees if insects are present, using as much force as possible without damaging the tender leaves. If this work is done regularly there should not be much damage from green fly and red spider.

Apricots.—The Apricot produces its fruit on the preceding year's wood, therefore as much young growth as possible should be laid in without overcrowding. The front and misplaced shoots and any that are not required, should be disbudded as soon as large enough to handle. This is better than leaving them until later, when a knife is needed, as it is best to avoid using the knife on the Apricot as much as possible. Do not permit the roots to become dry, as the Apricot will not succeed in dry conditions; copious supplies of water should be given as soon as the fruits have set. It often happens that, after rains, wall trees are not moistened at the roots, and this is a point often overlooked and frequently the cause of fruit dropping.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Early Potatos.—Guard against damage by frost whenever the growths of early Potatos appear, by covering the haulm with fine, dry soil or litter till all danger of frost is over. Continue to plant maincrop Potatos as ground becomes vacant. If the soil is of poor quality, spread a suitable fertiliser in the drills.

Celery.—Seedlings of main-crop Celery should be pricked out on a very firm base, so that the plants may be lifted at planting time with balls of earth and roots intact. To achieve this desired end place two inches of thoroughly decayed manure on a cinder ash base, tread firm, then place over this a three inch depth of equal parts loam, leaf-soil, and grit. Prick out the seedlings 3 inches apart and shade from bright sun for a few days. Pay attention to watering and give regular syringings.

Early Celery.—The batch of Celery raised from the February sowing and now established in boxes will be almost sufficiently hardened off to plant out in well-prepared trenches. The trench should be 8 inches in depth; dig the bottom up with a fork, add some burnt garden refuse if the soil is heavy, over this place four inches of decayed farmyard manure, and tread firmly. With a shovel work sufficient soil from the trench sides to cover the manure four inches deep. On this soil a dressing of old potting compost may be placed to facilitate quick root action. When the trench is complete take the plants very carefully from the boxes and plant them shallowly, and firmly, one foot apart, in single lines for preference. Water them in, damp them overhead when necessary, and give occasional dustings of soot.

Runner Beans.—Make a large sowing of Runner Beans in pots (one seed in each) and boxes. For plants intended to occupy ground that still carries Broccoli, trenches may be taken out as advised for Celery, but in this instance the soil and manure should be mixed as the work proceeds, with the addition of old mortar rubble and wood ash. Plant in double lines, 15 inches apart, as soon as all danger of frost is over.

Haricot Beans.—Sow Haricot Beans in boxes, in light soil, and place them in frames kept close until germination takes place. Then admit air freely, give water as needed, gradually give full exposure, and plant out in double lines after the 25th of the present month.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Late Planted Flowering Trees and Shrubs.—When the soil is in a fairly dry state tread it firmly over and about the roots of all late-planted trees and shrubs. Afford water as needed, and apply a mulch of suitable material if dry weather sets in. Prune slightly to encourage the formation of shapely heads.

Hollies.—All Hollies may be planted now with every hope for success, but the work should not be further delayed. Plant firmly, supply abundance of water in dry weather, especially on light, porous land, and also apply a good mulching of leaf-mould or old manure over the roots to conserve the soil moisture.

Herbaceous Borders.—Now that the soil is in workable condition, vacant spaces should be filled and the borders hoed freely amongst the plants to destroy all young weeds. Fork out deep-rooting weeds.

Spring Flowering Plants.—As soon as early flowering plants have lost their beauty, remove them and prepare the beds for their summer occupants. Many hardy plants will be required for another year, consequently propagation should not be neglected. Alyssum saxatile, Pansies, Daisies, Aubrietias, and Polyanthuses are among those that need early attention. Alyssums root freely if young shoots are pulled from the parent plant and planted rather deeply on a north border. Polyanthuses may be treated very much the same, and Aubrietias by means of small tufts, keeping each variety correctly named, so as to prevent confusion later. Give water freely in dry weather, and keep the ground free from weeds.

Rose Cuttings.—Make Rose cuttings firm in the soil, first pressing down the cutting so that the end rests on a firm base; they frequently become loosened by frosts, and if not attended to afterwards they fail to root satisfactorily.

Alpine Auriculas.—These useful and attractive spring flowers are not so extensively grown as they should be. Their propagation is not difficult as they are readily raised from seeds or divisions. Seed may be sown in pans or boxes filled with a gritty compost and stood in a frame or in handlights, shaded from the sun. The young plants should be planted on a shady border, and if carefully attended to they soon develop into useful plants. Old plants may be divided after they have finished flowering and the divisions planted rather firmly in good soil on a shady border. If the land is rather heavy, give it a good dressing of burnt earth, wood ashes and soot, and work this in before planting is done.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Azalea indica.—As Azalea plants finish flowering, examine the roots to see if the drainage is perfect, and unless a shift into larger pots is necessary, remove only a little of the surface soil and top dress with fibrous peat. If repotting is done give as small a shift as possible and ram the peaty soil very hard, but first divest the plants of all decayed flowers and dead foliage and dip them in an approved insecticide. After potting place the plants in heat to ensure good growth, and when growth is completed, harden them off gradually preparatory to placing them out of doors for the summer.

Bouvardia.—Bouvardias, which were previously cut back and are now making new growth, should be repotted. Turn them out remove a portion of the old soil, and repot in receptacles no larger than necessary to accommodate the roots. A mixture of equal parts of loam, peat, and leaf-mould, with some sharp sand, makes a suitable rooting medium. Place the plants in a house having a warm, moist atmosphere, syringe them freely, and as they continue to grow pinch the shoots at the second leaf until sufficiently furnished with growths. Larger specimens, and a greater quantity of flowers, may be obtained by planting Bouvardias during the summer in a warm pit. Young stock, either from stem or root cuttings, should be potted into small pots in light, fresh soil, and when growing freely the points of growth should be pinched out, in order to obtain bushy plants.

Caladium.—Caladiums that were started early in small pots should now be ready for their final potting. For this potting use a mixture of loam, peat, leaf-mould and sand, adding some wood ash and dried cow manure. Continue to grow the plants in a warm, moist atmosphere, syringe them after closing the house in the afternoon, and shade them lightly during mid-day. To bring out the bright colours of the foliage it is necessary to allow all the light possible to reach them, but not direct sunshine. When the pots are filled with roots afford liquid manure and pinch out all flower spikes.

Camellia.—Large Camellia plants in borders should receive a thorough cleansing with an insecticide; the border should be well watered, and after the removal of old surface soil a top dressing of fresh loam mixed with a plant fertiliser should be given. While fresh growth is being made, close the house for two hours after 4 o'clock, and give the plants a good syringing, opening the ventilators again in the evening. Attend carefully to watering, and afford occasional supplies of liquid manure. Plants grown in tubs or pots should receive similar treatment.

type of garden house I have seen. A second house, built after the same style outwardly, contains a fair-sized ice chamber built of brick. It is said to be a great success, and is certainly much more accessible than such places usually are.

On the whole, although the war has prevented any progress or improvements in this garden, very little has been allowed to get out of bounds. The chief trouble seems to have been the shortage of manure and, to a great extent, labour.—*S. W. Dance, Cpl., R.F.A., H.Q. 40th Brigade R.F.A., B.E.F.*

ORCHID NOTES AND GLEANINGS.

ODONTIODA MARGARET GATTON PARK VARIETY.

The many forms of Odontioda shown at the meeting of the Royal Horticultural Society on April 8 last afforded an interesting study of the results of introducing the pretty little scarlet Cochlioda Noezliana into the scope of the hybridisers' operations. The variation in colour was remarkable and exceeded all expectation. Amongst the plants was the almost self-coloured Odontioda Margaret Gatton Park variety (see Fig. 103), for which Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), obtained an Award of Merit. The parentage is Oda. Bradshawiae (Odm. crispum × Cochlioda Noezliana) and Odm. ardentissimum crispum × Pescatorei), and in the species used there are no colours to suggest the striking and uncommon dark mahogany-red with a violet shade seen in the hybrid.

The form for which Sir George L. Holford obtained an Award of Merit on February 10, 1914, had a yellowish ground marked with bright red, and that type has been generally followed, C. J. Lucas, Esq., Warnham Court, Horsham, showing a very good example of the cross at the meeting on April 8.

Scarlet selfs are frequent, and, owing to the scarlet colour of Cochlioda Noezliana, scarlet tones are naturally expected. But, as in this case, the production of a whole-coloured flower in a cross usually giving quite dissimilar flowers, having occasionally coloured markings on light ground, proves the individuality of each member of a batch, although the exact means by which such variation in colour is decided is not yet determined.

Another interesting character in Odontiodas was shown at the exhibition on April 8 in the very fine plant of Odontioda Gladys superba (Odm. Pescatorei × Oda. Bradshawiae), for which Dr. Craven Moore, Victoria Park, Manchester, was given an Award of Merit and Cultural Commendation. This plant had two, much-branched spikes of fifty-four flowers, which had a white ground prettily marked with bright red and with mauve margins to the segments. The interesting feature of this hybrid is the production of a much-branched inflorescence such as O. Pescatorei often produces in its mature stage. But proneness to branch in combination with usually simple spikes is common in Odontioda.

LAELIO-CATTLEYA HYMEN.

A first flower of a very pretty hybrid raised by crossing Cattleya Schröderae with the pollen of Laelio-Cattleya Ardens (L. Latona × L.-c. Charlesworthii) is sent by Messrs. Stuart Low and Co., Bush Hill Park, Enfield, the plant having bloomed in their nurseries at Jarvis Brook, Sussex. It is a flower of great promise, the shape and fine substance partaking much of the C. Schröderae parent. The sepals and petals are cream-white, flushed with rose, and have a delicate gold tint over the surface, the midribs and margins of the petals being lighter in tint than the other parts. The prettily-formed, crimped-edged lip is rather darker than the petals, and the base and centre are bright orange colour, the front being tinged with rose. The combination of delicate colours renders the flower very attractive.

Fig. 103.—Odontioda Margaret Gatton Park variety; colour, dark mahogany red.

TWO GOOD ONCIDIUMS.

Oncidium Papilio and O. Kramerianum may be described as constantly flowering, the plants being rarely out of bloom except for a month or so in winter. The wiry peduncles which rise from the base of the pseudo-bulbs bear one flower at a time, and at intervals. The frequent flowering ultimately weakens the spikes, as shown by the smaller blossoms produced, and when this is observed the old spikes should be cut off, when fresh, vigorous ones will soon form. The plants thrive best in a shady corner of the Cattleya house, and they may be cultivated in a variety of ways. Blocks dressed with some rooting material, baskets, and small pans may, any or all of them, be used, the chief point being to ensure a sweet root-run: place little compost about the roots, and carefully avoid a soddened compost. *H. A.*

The Week's Work.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Selenipedium.—Plants of this Cypripedium group of Orchids should be repotted without delay, if they need it, as new roots are now starting from the young growths. They should be grown in pots or, in the case of large specimens, in broad and fairly deep pans. In regard to soil, a compost of good fibrous peat or A1 fibre and Sphagnum-moss should constitute the base for all of them, but for the strongest growing kinds, like S. Sedenii, S. Schröderae, S. grande, and S. caudatum, a third portion of good loam fibre may be added with great advantage. Use the materials in as rough a state as possible, and intermix plenty of crushed crocks, charcoal, and silver sand to keep it porous. Care should be taken to provide ample drainage, for when the plants are well established they require liberal supplies of water; it is, in fact, almost impossible to over-water well-rooted plants during the growing season. The most critical time for Selenipediums is that following the potting process, before the roots have taken possession of the new material: for a time therefore, only sufficient water should be given to keep the material just moist. Most of the kinds may be grown in an intermediate temperature, such as that of the Cattleya house, while the cooler intermediate house is warm enough for S. caudatum and S. Schlimii. They all like a shady position, and a constantly moist atmosphere.

Oncidium Marshallianum.—This species is certainly about the most effective cool-growing kind in cultivation. The large spikes of brightly-coloured flowers that rise from strong growths make a grand display, and too much cannot be said in its favour as a garden Orchid. The plants that are now developing flower-spikes should be kept moderately moist at the roots, and care should be taken to remove the flower-spikes within a reasonable period after the flowers have expanded. Should the plants seem inclined to rest after the flowers are past, by all means allow them to do so; but while at no time is a dry rest advisable, much less water is needed at this stage.

Oncidium concolor.—This small, compact-growing species is now flowering, and is a very beautiful cool house kind. The Odontoglossum house suits it very well, and if kept free from insects and in good condition at the roots it seldom fails to flower freely. Being a small grower, it does not need a large amount of compost, and suspended pans are the best receptacles for it. Repotting is best done after flowering, just as the plants commence to grow again. Afford liberal drainage, so that water may be applied freely when the plants are in full growth.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Figs.—The fruits on early-forced pot Fig trees are ripening, and from now to the time the first crop is gathered a somewhat drier atmosphere is required to develop rich flavour in the fruits and prevent them splitting. Water the roots freely and feed them liberally to encourage the second crop of fruits to develop. All weakly growths should be removed, and the points of the main shoots pinched out when they have made six or seven leaves. The ripening fruits should be fully exposed to sunlight. Planted out trees, intended to supply fruits in succession to pot trees, should be well advanced in growth. The young shoots should be kept closely tied down and superfluous growths removed. After the first pinching, more young shoots generally form than are required, and these should be thinned

Grosvenor and Ecklinville Seedling. Mid-Season and late cookers: Warner's King, Blenheim Pippin, Newton Wonder, Lane's Prince Albert (on crab stock), Bramley's Seedling, and Mère de Ménage. Annie Elizabeth bears well in the bleak districts in the north of the county. Of dessert Apples the best are Worcester Pearmain, Allington Pippin, King of the Pippins, and Blenheim Pippin.

A New Preservative for Wood. — The makers of the new Esitol Wood Preservative claim that the basic colours in which it is put up are fast colours, unbleachable by the sun, unaffected by water, and proof against insects of all descriptions. Further, neither horses nor cattle will gnaw or bite the wood after treatment. It is manufactured in soluble powder form, and 1 lb. dissolved in water makes two gallons of liquid preservative.

Ammonium Nitrate. — *The Journal of the Board of Agriculture*, No. 12, March, 1919, draws attention to the offer by the Ministry of Munitions of ammonium nitrate at £25 per ton, at which price it is easily the cheapest nitrogenous fertiliser on the market. When applying the appropriate dressing of ½-cwt. per acre, the fertiliser should be mixed with dry earth or ashes, or, if it is to be applied, dry superphosphate.

Food Production in India.—The Agricultural Department of India estimates * that by the general use of a pure line Rice raised by the Agricultural Station at Decca, the Rice crop of Bengal would be increased by 500,000 tons. In general the view taken by the Department is that throughout India great increases in food production may be achieved by the general use of improved strains of seed.

Rismollan (Chenopodium Quinoa).—According to trials made by a Swedish farmer,† Chenopodium Quinoa, a South American food plant, has been grown successfully for its grain, both in Germany and in Sweden. The ripe grain is readily threshed, and may be milled into flour and cooked as porridge. The grain is rich in food materials, containing 14.88% of protein, 6.84% of fat, and 52.6% of starch. The yield is said to be remarkably high.

A Potato Hybrid.—Dr. MacDougal records‡ the production of a fertile hybrid between the domestic Potato (Solanum tuberosum) and the wild Potato of Arizona (S. Fendleri). The general features of the hybrid, even to the third generation, are those of the smaller wild parent, and the hybrids as yet have produced tubers only of small size. It is noteworthy that the tubers of seedlings do not reach their maximum size until propagated vegetatively for two or three generations.

Bulletin of Peony News.—The proceedings of the American Peony Society are recorded in Bulletin No. 7, published by the Society. Among other items of interest to Peony growers is a symposium on a general list of Peonys, and a protest against the prohibition of imports of horticultural plants into the United States. The protest is a reasoned one, and in it is the prediction that the prohibition will seriously reduce nursery business in the Eastern States. The Society proposes to deal with the subject at greater length in the next issue of the Bulletin.

Ceylon Agricultural Society's Year Book.—The Secretary of the Ceylon Agricultural Society has brought together a very useful mine of information in its Year Book for 1920-21. It opens with general information about the island—area, population, rainfall and temperature, plant imports and exports—chiefly interesting in showing that in spite of its fertility Ceylon finds it necessary to import Rice to the value of over 59 million rupees, and also that the value of Rubber is now half as much again as that of Tea. Then follows a list of the gardens, including demonstration gardens and experiment stations. Besides the Government Botanic Gardens of Peradeniya, Hakgala (near Nuwara Eliya) and Heneratgoda (not far from Colombo), there are now four experiment stations, twelve demonstration gardens, and 315 school gardens. In addition to the usual information as to planting, measures, weights, etc., the Year Book contains hints on the cultivation of food products, on Rubber planting, notes on tools and manures, general horticultural notes, notes on livestock, the control of pests, and—by Mr. H. F. Macmillan—rules for agri-horticultural shows. The Year Book is a credit to the Society, and should prove of real value in promoting a knowledge of agriculture and horticulture in the island.

Rose Christine (See Fig. 104).—In his notes on a Review of the Yellow Roses (see p. 92), *White Rose* described Christine as the brightest new Rose shown in 1916, and gave the colour as rich golden yellow. The variety was exhibited by the raisers, Messrs. S. McGredy and Son, at the autumn show of the National Rose Society on September 19, 1916, and was awarded a Gold Medal. In the *Rose Annual* for 1917 Christine is described as "a very fine Rose, of vigorous bushy habit, free and uniform, with stout and glossy foliage, which is mildew proof. The blooms, which are freely produced and of faultless shape, are carried on long stiff stems, well above the foliage. They are very sweetly scented." The raisers describe the novelty as a great improvement on Rayon d'Or, the colour being deeper and richer, and the blooms larger. Another advantage claimed for this Rose is its suitability for bedding purposes, as it possesses a very robust constitution, has a desirable habit of growth, and is exceedingly free in flowering. Being a Hybrid Tea variety the foliage is glossy and of considerable substance. The illustration in Fig. 104 shows that the buds are of very pleasing form and suitable for decorative purposes.

FIG. 104.—ROSE CHRISTINE, A NEW HYBRID TEA VARIETY OF GOLDEN YELLOW COLOUR.

Griselinia littoralis for Planting in Shade.—A note in *Irish Gardening* (April, 1919) draws attention to the value of Griselinia littoralis, a New Zealand ornamental evergreen shrub, for planting in shady places. Success may be counted on if strong, well-established plants are used, and if during the first season two or three good drenchings with water are given.

Message from Belgian Orchidists.—At the meeting of the Royal Horticultural Society on Tuesday last, Sir Harry J. Veitch read to the members of the Orchid Committee a letter he had received from Mons. Lambeau, President of the Belgian Orchid Society, in response to the greetings and good wishes sent by the Committee on March 11, 1919. The substance of the letter was as follows: "I have had the honour of communicating to the Council of Administration of the Belgian Orchid Society the motion which your Committee has kindly sent us. My colleagues, who were very much moved at the feelings you expressed concerning the members in particular, and Belgian orchidists in general, wish me to express their thanks for such a spontaneous manifestation of sympathy. Although the collections of Orchids in our country have not made much progress during the period of the war, when everyone here was in great trouble and difficulty, I am confident that interest in Orchids will soon revive as a result of will and work. We hope that our cordial relations with English orchidists will endure in the future."

Publications Received.—***The Large Brown Pine Weevil.*** Board of Agriculture for Scotland. Leaflet No. 8. ***The Pine Beetle.*** Board of Agriculture and Fisheries. Leaflet No. 91. ***Transactions of the Royal Scottish Arboricultural Society.*** Vol. XXXIII., Part 1, January, 1919. Edinburgh: Printed for the Society. Sold by Douglas and Foulis, Castel Street. Price to non-members, 3s. ***The Field Testing of Copper-Spray Coatings.*** By J. R. Winston and H. R. Fulton. United States Department of Agriculture. Bulletin No. 785. Washington, D.C.

* Bulletin No. 84, Agric. Research Institute, Pusa.
† Reported in Plant Immigrants, No. 149, Sept., 1918.
‡ Ann. Report, Carnegie Institute of Washington, Year Book, No. 17, 1918.

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Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

SALES FOR THE ENSUING WEEK.

WEDNESDAY—
Herbaceous Plants, Rhododendrons, Carnations, &c., at one o'clock; Japanese Lilies in cases at 2.30 o'clock.
The goodwill of Thomas S. Ware (1902), Ltd., and Cups and Medals at 4.30 o'clock. Protheroe & Morris, 67-67, Cheapside, E.C.
The collection of Cattleyas formed by Harry Worsley, Esq., of Haslingden, at the Coal Exchange, Manchester, at one o'clock, by Protheroe & Morris.

FRIDAY—
Topiary work, Garden Furniture, Tubs, &c., by Protheroe & Morris. Orchids, Established and in Flower, by Protheroe & Morris, 67-68, Cheapside, at one o'clock.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 50.7°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, Wednesday, April 30, 10 a.m.: Bar., 30.2; temp., 47°. Weather—Dull.

The Entertainment Tax and Horticultural Shows. IT could certainly never have entered the mind of the person who devised the entertainment tax that it would be applied even in war to such useful and educational meetings as horticultural shows. For everyone, except the hopelessly urbanised, knows that a flower show is one of the most valuable methods of fostering the love of plants and skill in cultivating them. This love and skill are national assets; as indeed the war has amply proved. By common consent they are to be encouraged, and yet—those who seek to encourage them find their efforts impeded by the tax. During the war, when matters of great and vital moment were at issue, it would have been almost as foolish to oppose as it was to impose the tax, but now that the stress of war is relieved everyone must agree that this impediment to the holding of flower shows should be removed. For it will be universally conceded that it is the function of the State to encourage everything which tends to cultivate a love of nature and an interest in the land. A State which is desirous of resettling people on the land will neglect no means of making the countryside attractive. But unless there are an intelligent love of plants and animals and a skilled pleasure in their cultivation and raising, the countryside is bound to seem a dull place; and indeed is bound to be a dull place. Stamp out the natural love of plants which is rooted deep in the country population, and they are bound to flock the faster to the towns. It would, of course, be a foolish exaggeration to say that flower shows will alone prevent the exodus from country to town; but it is no exaggeration to say that they are among the means which tend to kindle and keep alive that love of Nature without which the countryside has no attraction.

There is yet another aspect of this subject which deserves consideration. The industry of horticulture has had perforce, to make heavy sacrifices during the war. The volume of horticultural trade was restricted partly owing to the reduced demand for flowers and plants and partly because nurserymen and florists turned a considerable part of the ground and glass of their holdings to the purposes of food production. The industry which with much public spirit used its resources for the national benefit deserves special consideration and encouragement now that the war is over. Hence, not only should the tax be removed from the little flower shows, the holding of which helps to break the monotony of a country life, it should be removed also from the big shows which give those engaged in the horticultural industry an opportunity to exhibit the products of their skill and enterprise.

An Untoward Spring. The Arctic weather of last week end came as a climax to one of the most unfavourable springs experienced during recent years. Ever since the advent of the Nwe Year gardening work out of doors has been hindered by uncongenial weather, and although the amount of frost has not been exceptional, the weather has been sunless, with an excessive amount of rain that has hindered ground operations and caused work of every description to be in arrears, so that many crops, which in normal seasons would have been already in the ground, have not yet been planted. Wise gardeners know the great harm that is done to ground by digging it when it is surcharged with moisture, and therefore defer the operations of digging and trenching until the soil is in a suitable condition for working. All good cultivators realise that it is essential to sow and plant crops when the ground is in a workable condition and that but poor results follow early planting in soil that is more or less water-logged. But late sowing and planting, especially in spring, mean the loss of valuable time and the crowding of as much work into a few weeks as should, in ordinary times, be spread over as many months. Moreover the garden staff is, in most establishments, so depleted owing to the unusual times experienced, that we fear many arrears cannot be overtaken except at the expense of efficiency. The war, however, has taught us many salutary lessons, and amongst them the art of temporising, but notwithstanding this, we cannot expect to meet with so great success as when well proved and recognised measures are adopted. Some little consolation in the backwardness of the season was derived from the fact that fruit trees promised to flower very late, and would therefore stand a better chance of escaping damage by frost. Quite recently it seemed as though spring was really with us at last and fruit trees of all kinds responded to the warmth, making haste to expand their belated blossoms. Plum, early Pear and early Cherry trees put forth a wealth of blossom during the few fine Easter days, but their haste to flower was soon countered by a chilling wind from the north-east which continued for a week or more, until the climax was reached on April 27, in one of the worst blizzards accompanied by much snow, we have had for many years. In some cases the fruit trees were stripped of their flowers and tender foliage, and much havoc has been wrought in orchards and gardens in all parts of the country. The prospects of a fine crop of the small fruits were unusually good, but we fear Gooseberries and Currants have experienced a severe check and that much damage has been done generally to fruit crops. The advantages of natural or artificially provided shelter for fruit trees will be more apparent than ever this season, and it will be interesting to learn the relative amount of damage done in gardens and orchards that are sheltered and in those that are fully exposed to keen winds; and also the measure of protection the trees afford each other when they are planted in blocks as in large commercial orchards and plantations. It is to be hoped that the Apple crop will not be adversely affected, for only in very favoured districts were the earliest Apple trees in bloom. But there are fears that many of the clusters of buds on the point of expanding have been seriously damaged. Certain varieties of Apples are naturally very late in blooming, Court Pendu Plat for example, which derives its local name of Wise Apple from this fact; and the variety illustrated in Fig. 96, in the last issue of the *Gardeners' Chronicle*, known as Sure Crop, is so-called for a similar reason. A race of these late blooming Apples would be a great acquisition and raisers of new varieties might well turn more of their attention in this direction. An abundant fruit year would be of inestimable value to the country, as fruit is a necessary food, and if the home crop fails we must look to sources abroad for our supplies, which would mean not only tonnage, which can ill be spared, but also the transference of money from this to other countries, which would have its effect, however small, in lowering our rate of exchange. The damage to spring flowers, although not of such great economic importance as in the case of the fruit crop, has been very widespread and the spring-flowering bulbs which were at their maximum beauty have been battered to the ground and irrevocably ruined. The loss in this direction will prove severe to commercial growers of Daffodils, early, and especially the Darwin, Tulips and other spring flowers, as the weather has ruined what promised at one time to be a most successful season.

Public Park for Padiham.—Mrs. S. J. Smith, who died a short time ago, bequeathed the sum of £12,000 for the provision of a public park at Padiham. If the local authorities refuse to provide and maintain a public park, the money is to be used for a new church at Padiham.

Demonstration Fruit Plots in Staffordshire.—The Report for 1918 of the Staffordshire Education Committee's County Fruit Plots and Demonstration Allotment Gardens shows that the work of encouraging intelligent planting of fruit in the county is being carried on actively by the Education Committee. In Staffordshire there are now five fruit demonstration stations, three demonstration orchards on county small holdings, and 18 fruit plots attached to evening school gardens. One of the chief objects of the plots is to demonstrate the varieties most suitable for planting in different parts of Staffordshire. Varieties of Apple that are found to thrive generally throughout the county are:—Early cooking varieties: Early Victoria, Lord

Beauty of Tremough type, but far less brilliant.

R. Xenia.—The parents of this light-hued variety are R. Helen Schiffner and R. Mrs. Chas. Butler. The habit of the plant is good, and the flowers are campanulate, in medium-sized trusses, white, with light chocolate spotting over the interior. All the foregoing Rhododendrums were shown by T. Lowinsky, Esq., Sunninghill, and each was represented by a fair-sized plant in a large pot.

GROUPS.

A large group of mollis Azaleas exhibited by Messrs. R. and G. SOUTHGATE was much admired, and especially the varieties Daviesii and Unique (deep yellow) (Silver Banksian Medal). Azaleas were capitally shown by Mr. L. R. RUSSELL, the rosy-red variety, Fred Sander, attracting general attention (Silver Flora Medal). Miss WILSHIRE (gardener Mr. J. Fitt), The Frythe, Welwyn, put up a small group of lovely flowers of white and deliciously fragrant Rhododendrum fragrantissimum — an old garden favourite (Bronze Banksian Medal).

Gill's Triumph was the centre of attraction in a large group of Rhododendrons shown by Messrs. R. GILL AND SON; it was a glorious display, and included R. Thomsonii, R. argenteum, R. Dalhousianum, R. Beauty of Tremough, R. Nuttallii, and R. arboreum album (Silver Flora Medal). Messrs. PAUL AND SON brought up several Rhododendrons, and the one named Janet Paul, with a fine truss of bright bluish blush flowers, was very distinct. Some interesting Rhododendrons were exhibited by Mr. G. REUTHE, together with Viburnum Carlesii, Adonis amurensis, Myosotidium nobile, and alpine Auriculas (Bronze Flora Medal).

Mr. J. CROOK, Camberley, Surrey, showed a wide selection of coloured Polyanthuses, including a very bright, rich red that approaches scarlet more nearly than anything we have seen.

A wonderful range of colour forms of Primula Eureka hybrids was shown by ADELAIDE DUCHESS OF BEDFORD (gardener, Mr. Dickson), Woodside, Chenies; there were pale pink, salmon, almost crimson-rose, deep rose, and rose purple shades: the flowers were of large size. (Bronze Flora Medal).

Alpine and other early spring flowers were shown largely by Messrs. J. PIPER AND SON, their principal features being Primula Juliae, P. Sieboldii, Aubrietias and Auriculas (Silver Banksian Medal). Messrs. R. TUCKER AND SONS were awarded a Bronze Flora Medal for alpines. Mr. G. W. MILLER had a very bright and large group of Polyanthuses, coloured Primroses, Saxifrages and Crown Imperials (Silver Banksian Medal).

Miss C. WARNER (gardener, Mr. H. Stevens), Hawkhurst, exhibited a few dozens of very fine spathes of Richardia aethiopica (Bronze Flora Medal). Messrs. H. B. MAY AND SONS associated Ferns with Hydrangeas, Cinerarias and Calceolarias (Silver Banksian Medal). Messrs. J. CHEAL AND SONS contributed flowering branches of Berberis, Pyrus, Erica and Cytisus in variety (Silver Banksian Medal).

The perpetual Carnations exhibited by Messrs. STUART LOW AND CO. included fine flowers of the showy Mephisto; these were associated with various Acacias in flower (Silver Banksian Medal). Messrs. ALLWOOD BROTHERS were also exhibitors of Carnations, and their group contained several vases of the handsome Mary Allwood (Silver Flora Medal). Messrs. WM. CUTBUSH AND SON exhibited perpetual and Malmaison Carnations in variety (Bronze Flora Medal).

Orchid Committee.

PRESENT: Sir Harry J. Veitch (in the chair), Messrs. Jas. O'Brien (hon. secretary), W. H. White, W. Bolton, Fred. Sander, S. W. Flory, C. J. Lucas, W. J. Kaye, T. Armstrong, E. R. Ashton, R. G. Thwaites, Frederick J. Hanbury, R. A. Rolfe, Arthur Dye, H. J. Chapman, and R. Brooman White.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontioda Lady Veitch (see Fig. 105) (*Oda. Cooksoniae Orchidhurst variety* × *Odontoglossum Mars*) from H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), raised by Messrs. Armstrong and Brown. The grandest Odontioda produced up to the present, and one which exceeds the highest expectation of the enthusiastic hybridists of the early days of the development of crosses with Cochlioda Noezliana. The flower, in size and shape, excels the model type of O. crispum, all the segments being nearly equally broad and of fine substance. The sepals and petals are rich Indian-red, with a gold flush and narrow white margin. The lip is ruby red in front of the yellow crest.

AWARDS OF MERIT.

Odontoglossum The Tiger (Lawrenceanum × Stella), from H. T. Pitt, Esq. One of the finest of the hybrids of O. triumphans, which is the leading species in its composition. The novelty, while retaining the characters of the finest O. triumphans, exceeds them in size, width of petal, and general effect. The ground colour is yellow: the inner parts of the segments are heavily marked with brownish-red.

Odontoglossum Ashtonii (amabile × hybrid unrecorded), from E. R. Ashton, Esq., Camden Park, Tunbridge Wells. A beautiful hybrid. The large flowers have a pure white ground, and the inner two-thirds of the segments are finely blotched with dark purple, the central blotching of the petals having a surrounding band of the same colour. The plant bore three blooms.

Odontoglossum Radiant, var. Marion (Dora × Alexandrae), from Messrs. Flory and Black, Slough. A fine flower, heavily marked with violet-purple, with blush-white blotches on the tips and margin, the lip being of a lighter tone and effectively spotted.

Cattleya Rajah (Enid × Empress Frederick) from Messrs. Stuart Low and Co., Jarvisbrook, Sussex. A handsome flower of large size, true to its large-flowered Cattleya lineage. The sepals and petals are clear rose colour, and the finely-formed lip has a bright ruby-purple front.

PRELIMINARY COMMENDATION.

Odontioda Signor Orlando (Odm. Jasper × Oda. Bradshawiae), from Messrs. Armstrong and Brown, Orchidhurst, Tunbridge Wells. A large, showy hybrid, with the outer parts of the segments light violet colour, the inner halves being white, beautifully marked and blotched with claret red, lines of which colour also extend from the base of the column.

GROUPS.

SIR JEREMIAH COLMAN, Bart., Gatton Park (gr. Mr. J. Collier), staged an interesting group, in which were the new Odontioda Princess Bibesco (Oda. Chanticleer × Odm. eximium), Coelogyne Sanderae, with five spikes, a fine specimen of the little white Odontoglossum Oerstedii; the orange-coloured Polystachya paniculata, from Uganda, a profusely-flowered plant of Dendrobium Brymerianum, with yellow flowers, having deeply fringed lip, and a very fine selection of cut specimens of Gatton hybrid Dendrobiums.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver Banksian Medal for a select group of hybrid Odontoglossums and Odontiodas. The centre of the collection was occupied by fine Miltonias including M. Venus, Hyeana, forms of Bleuana and Charlesworthii, with showy Odontoglossums, including the prettily-spotted O. Pescatorei Duchess of Westminster.

E. R. ASHTON, Esq., Camden Park, Tunbridge Wells, was awarded a Silver Banksian Medal for a group of good and excellently well grown Odontoglossums and Odontiodas.

FIG. 106. FIRST PRIZE EXHIBIT OF WHITE TRUMPET DAFFODILS AT THE MIDLAND DAFFODIL SOCIETY'S SHOW.
(See p. 220.)

MRS. NORMAN C. COOKSON, Oakwood, Wylam (gr. Mr. H. J. Chapman), showed the pretty, new Odontioda Chapmanii (Oda. Bradshawiae Cookson's variety × seedling unrecorded), with a fine spike of red flowers which have light margins; Odontioda Florrie (Bradshawiae × Vuylstekeae), a fine red-purple flower, with glossy sheen; a grand form of Odm. ardentissimum, Oda. Clive, Oda. Oakwoodiense, and a remarkable hybrid Odontoglossum resulting from Odm. splendidissimum × Odm. Pescatorei, in which the general characters were of a blush-white spotted O. Pescatorei.

MESSRS. ARMSTRONG & BROWN, Orchidhurst, Tunbridge Wells, were awarded a Silver Gilt Flora Medal for an extensive group of beautiful hybrid Odontoglossums and Odontiodas, in great variety, with which were finely-coloured and white Miltonias, Brasso-Cattleya Cliftonii, B.-C. Excelsior, and some Laelio-Cattleyas.

MESSRS. CHARLESWORTH & CO., Haywards Heath, were awarded a Silver Gilt Flora Medal for an extensive group of Odontoglossums and Odontiodas. In the centre of the collection were varieties of their handsome Miltonias, Charlesworthii, Lyoth, and Bleuana.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Shamrock (page 208).—The following note, under Oxalis Acetosella, to be found in Luxford's fascinating little *Flora of Reigate*, 1838 (p. 40), may be of interest to Mr. C. Nicholson in his quest:—"It is not improbable that this plant is the original Irish Shamrock, as Mr. Bicheno has ingeniously argued, in a paper read before the Linnean Society a few years ago."—*C. E. Salmon, Reigate.*

——It is quite possible that the Wood Sorrel (Oxalis Acetosella) may have been the original Shamrock of the Irish (see pp. 160 and 208). It is abundant in Irish woodlands, and comes quite close to towns and thickly-inhabited places, where the soil is fairly moist, somewhat shady and otherwise suitable. Its Irish name is Seamrog, and the Gaelic Seamrag. In *Hooker and Arnott's British Flora*, under Oxalis Acetosella, the following passage occurs: "This appears to be the original Seamrog or Shamrock of Ireland; although the name has long been applied to the much less beautiful Trifolium repens or Dutch Clover, both in the Irish and Gaelic languages." Gaelic and Irish names for the White Clover (T. repens) are Seamar bhan, Sameir, Siomrag, Seamrag, and Seamrog. In ancient Irish literature the name is spelt in many other ways. In the *Itinerary* of Fynes Moryson, written in 1599, in a description of the Irish, it is said: "They willingly eat the herbe Schamrock, being of a sharp taste, which, as they run and are chased to and fro, they snatch like beasts out of the ditches." The sharp taste here mentioned gave rise to the belief that Watercresses were meant, but others assumed that a three-leaved plant, with a sharp taste, must have been no other than the Wood Sorrel. St. Patrick is believed to have lived about 377 A.D., yet, apparently, the legend of the Shamrock in connection with him does not appear in the literature of Ireland till 1681. In such circumstances the difficulty of fixing the identity of the original Shamrock is great. Trifolium minus has been adopted as the Irish Shamrock within the last twenty years or so; and was cultivated, ready to welcome the Irish warriors as they returned from the Boer War.—*J. F.*

Rust of Parsnips.—In many parts of the country Parsnips are damaged or destroyed to a greater or less extent by what is termed rust. This is not caused by any specific organism, either animal or fungus, but is the result of a number of concomitant causes, amongst which animal pests are the most numerous. Parsnips are usually sown early, and keep growing throughout the summer, until seriously checked by a period of drought. They then crack in a variety of ways, either transversely or longitudinally, and the cortex, or thick outer rind, is unable to heal the exposed portions, which the Carrot can do. The soft interior of the Parsnip is then exposed to a great variety of soil pests, and decay results from the two forms of injury, the flesh at the same time assuming a rusty colour. In my experience, Julus pulchellus is the most troublesome soil pest, apart from slugs. One remedy is to reduce the pests by trenching, and the judicious use of lime and soot. Another is to sow the Parsnips late, so that the drier and warmer periods of summer will have passed by the time the roots are in full growth, and likely to escape the check caused by drought. Last year I sowed them on April 29, on a border having plenty of soil pests, but had good roots, with very little rust, and Julus pulchellus was the only offender. *J.*

National Gladiolus Society.—A circular has been sent by the Committee of the National Gladiolus Society to the members regarding the position of the society, and recommending its dissolution owing to the resignation of the secretary and lack of general support. There is admittedly scope for a Gladiolus society, and the much needed work of classification and registration has already been begun. It would be a pity that this should come to an end, and as one of the founders of the society I venture to appeal to lovers of the Gladiolus to support it. The resignation of the secretary, Mrs. Atkinson, to whose energy and ability so much of the good work done by the society since 1911 is due, is unfortunate. It will perhaps be difficult, but should not be impossible, to find another secretary to undertake the duties, and carry on the work and its future developments. The lack of support is only comparative, though it is true the society has not obtained such wide and general support or so large a membership as was hoped for and expected. But before dissolving the society on these grounds, would it not be best to look for the possible causes of them, and endeavour by an alteration of policy and an appeal to wider interests to increase the membership. First and foremost, I would urge that the amateur interest should be more largely represented on the Council or Committee. At present the whole eleven members of the Council are representatives of trade interests. At least one half should be representative of amateur interests. It is the amateur and general gardener who ultimately find the money, and they cannot be expected to take an interest in the society unless they have some opportunity of influencing its policy. At present less than 30 per cent. of the subscribers are amateurs, and of the remainder more than 60 per cent. are of foreign nationality! I think that the society should be made as truly national in effect as its title implies, and though all might be welcome to join as general subscribers, participating in all the advantages offered by the society, the Council should be composed of members of British origin only. Other details of policy which might conduce to a wider popularity and support are properly matters for the consideration of the Council or Committee, and I will only refer in a general way to one which I think is the most important of all. At present too much prominence is given to the florists' or exhibition varieties, whereas the general gardening public are more interested in the less formal and more easily grown border varieties. A first-class border variety is as deserving of honour as a first-class exhibition variety, and should receive equal recognition and awards. At the shows there might well be many more classes for the border varieties, since they include several more or less distinct races. I think I may claim to speak without bias, for I am a florist myself, and my whole interest is in the individual flower; but I can appreciate the other point of view, i.e., that of general decorative effect. *A. J. Bliss.*

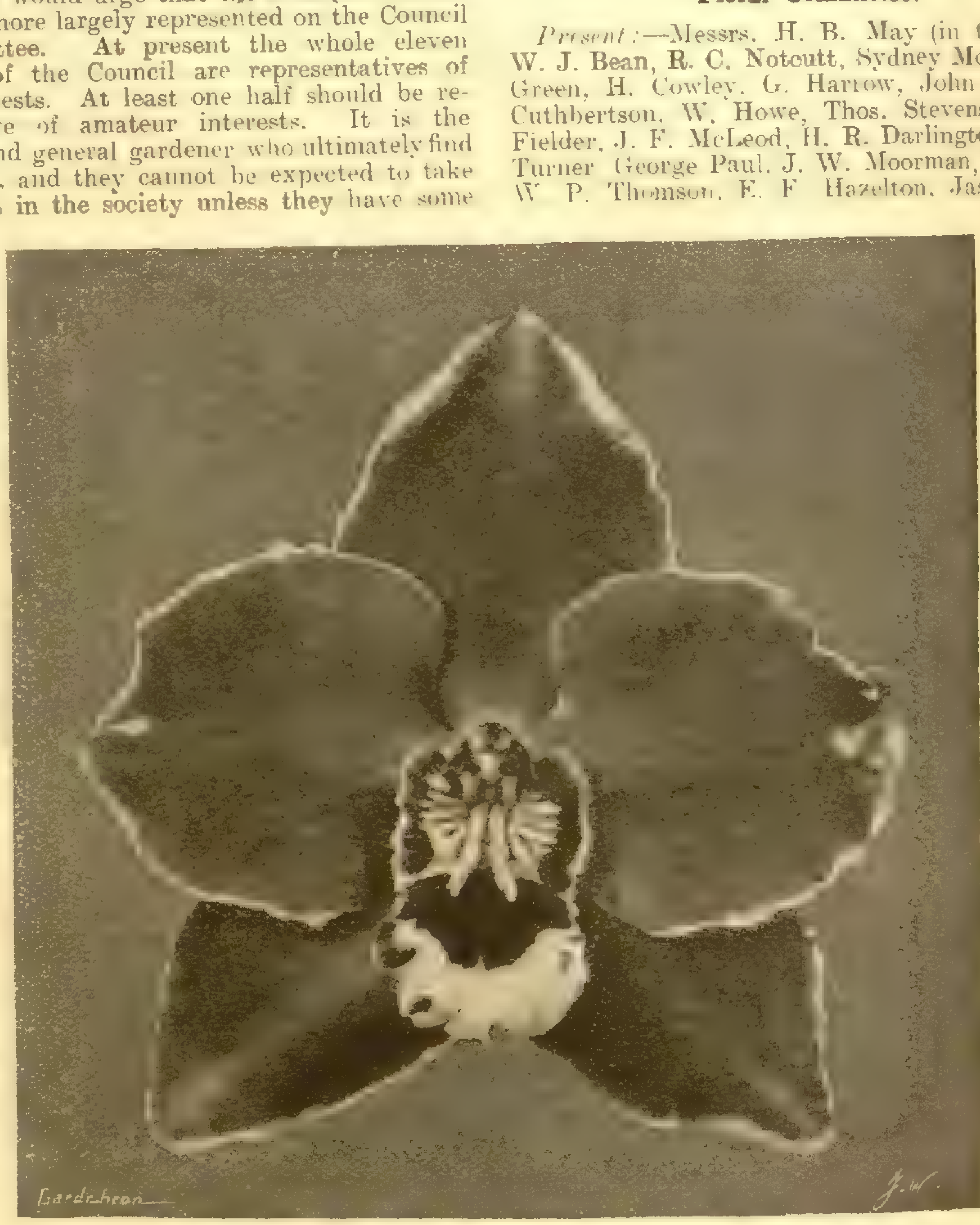

FIG. 105.—ODONTIODA LADY VEITCH.
(See Awards by the Orchid Committee, p. 219.)

SOCIETIES.

ROYAL HORTICULTURAL.

April 29.—In spite of the inclement weather of the previous week end and a by no means spring-like day the London Scottish Drill Hall, Buckingham Gate, was well filled with exhibits on this occasion, and from noon to nearly closing time the hall was crowded with visitors. The meeting was larger than usual as the National Rose Society and the National Auricula and Primula Societies held small shows in conjunction with the R.H.S. meeting.

Floral Committee.

Present:—Messrs. H. B. May (in the chair), W. J. Bean, R. C. Notcutt, Sydney Morris, John Green, H. Cowley, G. Harrow, John Heal, W. Cuthbertson, W. Howe, Thos. Stevenson, C. R. Fielder, J. F. McLeod, H. R. Darlington, Arthur Turner George Paul, J. W. Moorman, C. Dixon, W. P. Thomson, E. F. Hazelton, Jas. Hudson, J. W. Barr, E. H. Jenkins and Rev. F. Page Roberts.

Awards of Merit.

Aubrietia rosea splendens.—A free-growing variety with large, rounded flowers of a rich deep and bright rose shade with a satiny sheen. This should prove a very useful plant for spring displays where rose colouring is needed, as it is far finer than the type.—Shown by Mr. M. Prichard.

Rhododendron Mrs. Adelaide Clow.—This is a white, free-flowering variety (White Pearl × Aucklandii), with a few chocolate spots on the upper segment. The flowers are tubular, wide mouthed and with frilled margins. The leaves are comparatively narrow, deep green, with paler margin, and the habit of the plant is good.

R. Mrs. Tom Lowinsky.—This is the result of the same cross as the foregoing, but it differs therefrom in having a rather straggling habit and large, flattish, white flowers slightly flushed with blush at the base on the outside.

R. Mdme. G. Verde Delisle.—A showy variety derived from a cross between R. Doncaster and R. Aucklandii. The plant is of erect habit and bears large, flat, green leaves. The flowers are broadly campanulate, slightly nodding, in loose trusses, and their colour is pale pink with brighter flushing at the margins. This is of

Favourite, Glory of Noordwijk and promising seedlings. 3rd, Mr. W. B. CRANFIELD.

Six varieties of Yellow Trumpet Daffodils.—1st, Mr. F. H. CHAPMAN, Rye, with richly coloured flowers of Bravo, Rampant, Charger, Desperado, Seahorse and Greatheart. 2nd, Miss POPE, whose blooms of Van Waveren's Giant, Kings Norton and Surprise were very meritorious. 3rd, Mr. J. MALLENDER, Scrooby.

In a class for 6 white Trumpet Daffodils, Mr. CHAPMAN again led with handsome specimens of Aunt Maria, Calibre, and four unnamed varieties. 2nd, Mr. ROBINSON.

Six bicolor Trumpet Daffodils.—Miss POPE led with grand flowers of Glory of Noordwijk, Judge Bird, Middleton Favourite and 3 unnamed seedlings. 2nd, Mr. J. MALLENDER.

Six Incomparabilis varieties.—1st, Mr. W. B. CRANFIELD with Noble, Royalty, Solleret, Grenade, Croesus and Lemon Queen. 2nd, Miss POPE, whose best flowers were Victory, Homespun and Estelle.

Six varieties of bicolor Incomparabilis.—Miss POPE beat 5 contestants with flowers of Orangeman, Lucifer, Chryseis, Bernardino, Lady Mary Boscawen, and a seedling numbered 24. 2nd, Mr. BUNCOMBE, whose flowers of Whitewell, Chryseis and Lady Moore were very choice. In Mr. A. ROBINSON'S 3rd prize stand we noted a beautiful bloom of Great Warley.

The best six Barrii varieties were shown by Mr. F. H. CHAPMAN, who had shapely flowers of Concord, Orange Gem, Crater, Brusque, and two unnamed varieties. 2nd, Rev. T. BUNCOMBE, whose exhibit included a splendid vase of Coeur de Lion. Mr. F. H. CHAPMAN was also successful in the class for six bicolor Barrii varieties. His flowers of Shrove, Harold Finn, Philtre, Torsa, and two unnamed seedlings were particularly good and beautifully fresh. 2nd, Rev. T. BUNCOMBE. 3rd, Miss POPE.

In the class for six varieties of Leedsii, Division 4A, there were seven splendid exhibits. The 1st prize was won by Mr. W. B. CRANFIELD with Cockatrice, Miss E. M. Bowling, Helmet, Anthea, Lord Kitchener and Potent. 2nd, Rev. JOSEPH JACOB, Whitchurch, who showed good blooms of The Hon. Mrs. Francklin, Pioneer and White King. Mr. W. B. CRANFIELD also won the 1st prize in the class for six varieties of Leedsii, Division 4B. He staged Katherine, Spurrell, Evangeline, Diana and St. Olaf in perfect condition. 2nd, Mr. A. ROBINSON, whose finest flowers were Molly Bawn and White Slave. 3rd, Mr. J. H. PADLEY.

Mr. F. H. Chapman was awarded the 1st prize for six Triandrus hybrids with choice flowers. Mr. CHAPMAN also had the best half-dozen poeticus varieties in Distich, Rother, Acme, Fandango and two unnamed varieties. 2nd, Mr. W. B. CRANFIELD.

In a class for six varieties, in which the perianth was restricted to a diameter of three inches, the 1st prize was awarded to the REV. T. BUNCOMBE.

SINGLE BLOOMS.

There was a spirited competition in these classes. *Yellow Trumpet.*—1st, Dr. LOWER, with K. 64, a very refined flower of great substance and richness; 2nd, Mr. F. H. CHAPMAN, with 3K. 10. *White Trumpet:* 1st, Dr. LOWER, with White Knight. *Bicolor Trumpet:* 1st, Mr. C. L. ADAMS, with a superb bloom of Rosemoran Giant; 2nd, Dr. LOWER, with 473. *Yellow Incomparabilis:* 1st, Mr. W. B. CRANFIELD, with a dainty flower of Solleret. *Bicolor Incomparabilis:* Mr. F. H. CHAPMAN, with a refined Bernardino; 2nd, Mr. W. WELCHMAN, with No. 41. *Barrii:* 1st, Mr. W. B. CRANFIELD, with Culverin; 2nd, Miss ISOBEL WORSLEY, with an unnamed seedling. *Bicolor Barrii:* 1st, Dr. LOWER, with an exquisite bloom of Almagra; 2nd, Mr. W. WELCHMAN, with No. 42. *Leedsii:* 1st, Mr. W. B. CRANFIELD, with a delightful specimen of Miss E. M. Bowling; 2nd, Dr. LOWER, with 752. *Leedsii, Division 4B:* 1st, Mr. W. F. COPELAND, with Morning Star: 2nd, THE DONARD NURSERY CO., Newcastle, Co. Down, with White Lady. *Triandrus hybrid:* 1st, Mr. W. F. COPELAND, with an unnamed seedling. *Cyclamineus hybrid:* 1st, Mr. F. H. CHAPMAN, with an unnamed seedling. *Jonquilla hybrid:* 1st, Dr. LOWER, with Gold Mohur. *Tazetta or Tazetta hybrid:* 1st, Mr. F. H. CHAPMAN, with Couplet. *True Poeticus:* 1st, THE DONARD NURSERY CO., with an admirable flower of Ringdove. *Double Daffodil:* 1st, THE DONARD NURSERY CO., with Golden Rose.

SEEDLINGS AND NEW VARIETIES.

All the Daffodils shown in the following six classes were of the exhibitors' own raising. Competition for the Bourne Challenge Cup was very keen, six good exhibits being placed before the judges. The schedule required 12 varieties, and the 72 vases made an imposing display. Two exhibits stood out above the rest—those from Miss ISABEL WORSLEY, Clifton, Bristol, and Mr. F. H. CHAPMAN, Rye. The premier award went to Miss WORSLEY, whose flowers of Peter, Bernardino, Ernest, Giantess, Hope and 7 unnamed seedlings were of great excellence. The outstanding varieties in Mr. CHAPMAN'S exhibit were Mrs. Herbert Smith, Torso, Fandango, Signal, and several unnamed seedlings.

In a class for six varieties not in commerce,

FIG. 108.—NARCISSUS MARY COPELAND.
(See awards, p. 222.)

the 1st prize was won by Dr. LOWER, with Almagra, a lovely bicolor, Barrii, and five unnamed varieties. 2nd, REV. JOSEPH JACOB.

Three entries were made in the Bantam class reserved for six varieties, no perianth to exceed 3 ins. in diameter. 1st, MR. W. F. COPELAND; 2nd, MR. J. MALLENDER.

In a class for three varieties open only to exhibitors who have never won a first prize for seedlings, MR. W. F. MITCHELL, Leck Wootton, was successful with a dainty set. 2nd, MRS. RIDLEY, Wincanton. 3rd, MR. H. F. HOLMES, Derby. Mr. W. F. Mitchell also excelled in the class for three varieties, in which the perianths did not exceed 3 ins. in diameter. 2nd, DR. LOWER. 3rd, MR. H. F. HOLMES.

The Cartwright Challenge Cup was offered for 12 varieties that have not been in commerce more than four years. The only exhibit placed before the judges came from Mr. William Welchman, Wisbech, whose flowers of Mystery, Lord Lister, Dreamland, Clodia, and Patriot were of superior excellence.

The 1st prize in a class for 6 varieties that have not been in commerce more than four years, was won by DR. LOWER with unnamed seedlings. 2nd, MR. C. L. ADAMS with All Trumpet varieties; 3rd, REV. JOSEPH JACOB. For 3 varieties similar conditions to the last named, Miss POPE was placed 1st; 2nd, CAPTAIN J. S. PARKER, Bristol; 3rd, MR. J. H. PADLEY. The Walter Ware Challenge Cup, offered for 9 varieties of Triandrus Hybrids, was awarded to MR. W. F. COPELAND; 2nd, MR. F. H. CHAPMAN.

There were 9 splendid entries in the class for 6 varieties of White Trumpet Daffodils that have not been in commerce more than 4 years. The Challenge Trophy offered as 1st prize was well won by MR. GUY L. WILSON, Broughshane, whose flowers were remarkable for their good form, size, substance, and purity. With the exception of White Emperor, all the varieties were shown under number. 2nd, MISS ISABEL WORSLEY; 3rd, DR. LOWER.

AMATEURS' CLASSES.

A companion class to, but smaller than, the principal one in the open section was for 30 varieties, and a local exhibitor—Mr. W. F. MITCHELL, of Leek Wootton—won the 1st prize with a beautifully arranged collection in which the under-mentioned varieties were of outstanding merit: Seagull, Albatros, Coeur de Lion, Bernardino, Frostbound, Aspasia, Queen of Spain, White Slave, Lucifer, Lord Roberts, Homer and Whitewell. 2nd: Mr. H. R. DARLINGTON, Potters Bar, who had very good blooms, but the staging was less effective than the first-named.

CANON FOWLER, Reading, won the 1st prize for six Trumpet Daffodils, which included pleasing specimens of Treasure Trove, Cleopatra and Weardale Perfection. 2nd, Mr. HERBERT SMITH, King's Heath.

Mr. W. F. COPELAND, who had been awarded the 1st prize in this class for a magnificent collection, was disqualified as the exhibit was not in accordance with the requirements of the schedule.

For 3 Incomparabilis varieties the last-named exhibitor led, followed by CANON FOWLER and Mr. HERBERT SMITH, who were bracketed equal 2nd. In a companion class to the last-named, but with flowers having white perianths, Mrs. RIDLEY was awarded the 1st prize with lovely blooms of Pedestal, Bernardino and Centurian. 2nd, Mrs. BUTLER; 3rd, CANON FOWLER. The best 3 varieties of Barrii blooms were shown by the last-named exhibition; 2nd, Mr. H. R. DARLINGTON. In a similar class to the last-named, but with flowers possessing whitish perianths, Mr. RIDLEY excelled with Ruby, Mascotte and Red Beacon; 2nd, CANON FOWLER.

In a class for 3 Leedsii varieties, Mr. COPELAND led, followed by Mrs. BUTLER and Mr. H. R. DARLINGTON.

For 3 varieties of Leedsii 4B, Mr. W. F. COPELAND was placed 1st with exquisite blooms of Silver Spangle, Morning Star and an unnamed variety. The 3 best double Daffodils were also shown by Mr. Copeland, Mr. W. F. MITCHELL being a good 2nd. Mr. H. R. DARLINGTON showed the best 3 varieties of Tazetta Daffodils as well as the leading 3 Poeticus varieties. Mrs. BUTLER excelled in a class for varieties in which the perianths did not exceed 3 inches in diameter.

Robert Sydenham, Ltd., offered prizes for 12 varieties of Daffodils, which were awarded as follow:—1st, Mr. R. H. DARLINGTON, 2nd, Mr. HAROLD LEE, Wolverhampton.

Messrs. Cartwright and Goodwin's prizes were for 6 varieties of Daffodils. There were 7 good exhibits. 1st, Mrs. RIDLEY; 2nd, Mrs. BUTLER; 3rd, Mr. H. R. DARLINGTON.

The Birmingham Botanical and Horticultural Society's medals were awarded as follows:—Classes 2 to 30 *Silver Medal* won by Mr. F. H. CHAPMAN with 89 points; *Bronze Medal* by Mr. W. B. CRANFIELD with 68 points. Classes 16 to 30 and 31 to 41 won by Dr. LOWER with 74 points; *Bronze Medal* by Mr. F. H. CHAPMAN with 55 points. Classes 16 to 30 and 42 to 55 *Silver Medal* by Mr. H. R. DARLINGTON with 83 points; *Bronze Medal* by Mr. W. F. COPELAND with 53 points.

Messrs. Stuart Low & Co., Jarvisbrook, Sussex, were awarded a Silver Flora Medal for an excellent and varied group, in which were noted specially good hybrid Cattleyas, Odontoglossums and Odontiodas, the yellow Dendrobium densiflorum and the showy scarlet Sophronitis grandiflora.

Messrs. J. & A. McBean, Cooksbridge, were awarded a Silver Banksian Medal for a group of good Odontoglossums and other hybrids, the pure white Laelio-Cattleya Eunice alba Purity; the white Odontoglossum crispum xanthotes, and the very interesting Odontoglossum Eugenia (cordatum × crispum) being specially interesting, the last being recommended for a certificate of appreciation to the raiser.

Pantia Ralli, Esq., Ashtead Park, Surrey (orchid grower Mr. Farnes), sent Odontoglossum crispum aureum Holdenii. of good shape and clear light yellow colour.

C. J. Lucas, Esq., Warnham Court, Horsham, showed Brasso-Cattleya Digbyano-Mendelii var. Evie, a fine white flower tinged with pale lilac.

Messrs. Flory & Black, Slough, showed Odontoglossum Pyramus Langley variety (Louise × l'Empereur), of rich violet colour, with slight white markings.

Messrs. Sanders, St. Albans, showed the white Laelio-Cattleya Frederick Boyle var. Kerchoveae, the scarlet Odontioda William Thompson, and Oda. Diana, the profusely spotted Odontoglossum Elfrida (ardentissimum × Uro-Skinneri), and the quaint Cirrhopetalum picturatum.

Narcissus and Tulip Committee.

Present: Messrs. E. A. Bowles (in the chair), W. B. Cranfield, F. H. Chapman, F. Barchard, H. V. Warrender, Peter R. Barr, W. F. M. Copeland, G. Reuthe, Miss Willmott, Rev. J. Jacob, and C. H. Curtis (Hon. Sec.).

Award of Merit.

Narcissus Prince Fushima.—A large and showy Daffodil, upright and long-stemmed. It is a bicolor incomparabilis variety with a cream-white perianth and a deep and broad crown, finely frilled and of a vivid Indian red colour, with paler shading below and right to the orange-yellow base. The award was made to this variety for cutting and market purposes. Shown by Mr. W. Welchman, Upwell, Wisbech.

Groups.

Notwithstanding the severity of the weather and difficulties of transport, Messrs. R. H. Bath, Ltd., provided a large exhibit of Darwin Tulips in pots. These were staged on the floor-level down the centre of the hall. There were nearly 100 pots, with a few vases of Tulips and Daffodils between them. Among the Tulips the examples of Francis Darwin, Van Poortvleet, Feu Brilliant, St. Simon, Sierrod von Flora, Wm. Copeland, La Tristesse, and Wally Moes, were excellent (Silver-gilt Banksian Medal). The same firm exhibited a group of cut Daffodils, in which Will Scarlet, Coeur de Lion, Phyllida, White Knight, Croesus, the deep golden Buttercup, and the double Inglescombe figured conspicuously (Silver Banksian Medal).

Mr. W. Welchmann, Upwell, Wisbech, showed a small but beautiful collection of cut Daffodils, the flowers clean and large; Boadicea, Illustrious, Hereward, Mystery, Dazzling Beauty, and Lord Lister were capitally shown (Silver-gilt Banksian Medal). Messrs. Herbert Chapman, Ltd., in their group of Daffodils, showed a large number of Poeticus varieties. In addition to many new and unnamed seedlings, this section was represented by Socrates, Fandango, Distich, and Lenore (Silver-gilt Banksian Medal).

A very fine lot of cut Daffodils was exhibited by Messrs. Barr and Sons, and the blooms were surprisingly clean and bright considering the weather experienced. Among the Poeticus forms, Horace, Edna, Timon, Caedmon, and Minerva were represented. Such brilliant crowned forms as Dosoris, St. George, Radiant, Queen of Dawn, Ruby, Cardinal Wolsey, and Jasper were shown, while among trumpet varieties we noted Cleopatra, Earl Goodwin, Tamora, Herod, Prince Arthur, Weardale Perfection, King Alfred, and Michael (Silver-gilt Flora Medal). Mr. W. F. M. Copeland, Shirley, Southampton, also exhibited Daffodils.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (Chairman), Jos. Cheal, Owen Thomas, A. Bullock, Ed. Harris, E. A. Bunyard, G. Reynolds, A. W. Metcalfe, G. P. Berry, W. Wilks, W. H. Divers, and G. F. Tinley.

There was no business before this committee, but the chairman and members congratulated Mr. E. A. Bunyard on his return after a long and severe illness.

Fig. 107.—Narcissus Miss Bowling.
(See awards by the Midland Daffodil Society, p. 222.)

MIDLAND DAFFODIL.

April 23, 24.—After an interregnum of two years, the nineteenth show of the Midland Daffodil Society, held at the Edgbaston Botanical Gardens on the above dates, was less extensive than on some previous occasions; nevertheless it was quite satisfactory and exceeded all expectations, and when the exceptionally unfavourable season, together with the great difficulty of transport, are taken into consideration, the Committee has every reason to feel satisfied with the result of the show. Most of the exhibition hall, corridor and annex were filled with exhibits of Daffodils. Seedlings—always a feature at Birmingham—were extensively shown and of surprisingly good quality. Owing to the recent cold weather and frosty nights, Poeticus varieties were rather weak, but few people were prepared to see such a greatly increased number and improved quality of white Trumpet varieties—a section that has been encouraged at Birmingham for several years. On the present occasion the White Daffodil Trophy, offered by two amateur members of the Society, was well won by a maiden exhibitor, Mr. Guy L. Wilson, Broughshane, Co. Antrim, who is to be congratulated, not only in beating eight contestants in this important class, but for the dozen magnificent Trumpet varieties staged in another class, as well as for a number of choice seedlings shown as a non-competitive exhibit. It is to be hoped that Mr. Wilson will become an annual exhibitor at Birmingham. Local or Midland growers were few in number, but passing reference may be made to Mr. W. F. Mitchell, who won the 1st prize with a splendid collection of thirty varieties in the principal class for amateurs.

On the evening of the first day of the show a few exhibitors and friends met at the Grand Hotel, Birmingham, where an impromptu chat on Daffodils took place, and the discussion elicited many very interesting points and much useful information. We regret to learn that while Mr. J. Coey, head of the Donard Nursery Co., Newcastle, Co. Antrim, was en route to the show, he had the misfortune to dislocate his shoulder.

Open Classes.

The leading class was for fifty varieties, representing the different types of the Daffodil. One vase containing three stems of each variety was required. Each of the three contestants, viz., Mr. W. B. Cranfield, Enfield Chase, Rev. T. Buncombe, Black Torrington, and Mr. A. Robinson, Doncaster, showed flowers of first quality, and the prizes were awarded in the order named. The premier collection included superb examples of the new Giant Leedsii Miss E. M. Bowling (see Fig. 107); Falchion, a beautiful flower of great substance and purity; Helmet, Whitewell, Ingoldsby, Elsie Gott, Grenadier, Sybil Foster, Vestal Virgin, Red Beacon, Anthea, Pedestal, Breastplate, Tammerlane, Potent, Lord Kitchener, Crœsus, Melpomene and Dosoris. Mr. Buncombe's best flowers were Dosoris, Jack Russell, White Frank, Moniter, Penguin, Victory, Steadfast, The Angelus, Naomi and Elvira.

Twelve varieties of Trumpet Daffodils.—The exhibit of Mr. Guy L. Wilson (see fig. 106) was of outstanding merit and worthily won the 1st prize. His varieties included White Emperor, Cleopatra, Herod, King Alfred and unnamed seedlings. Miss Pope, King's Norton, who was placed 2nd, showed clean, well-formed flowers of King's Norton, Surprise, Middleton

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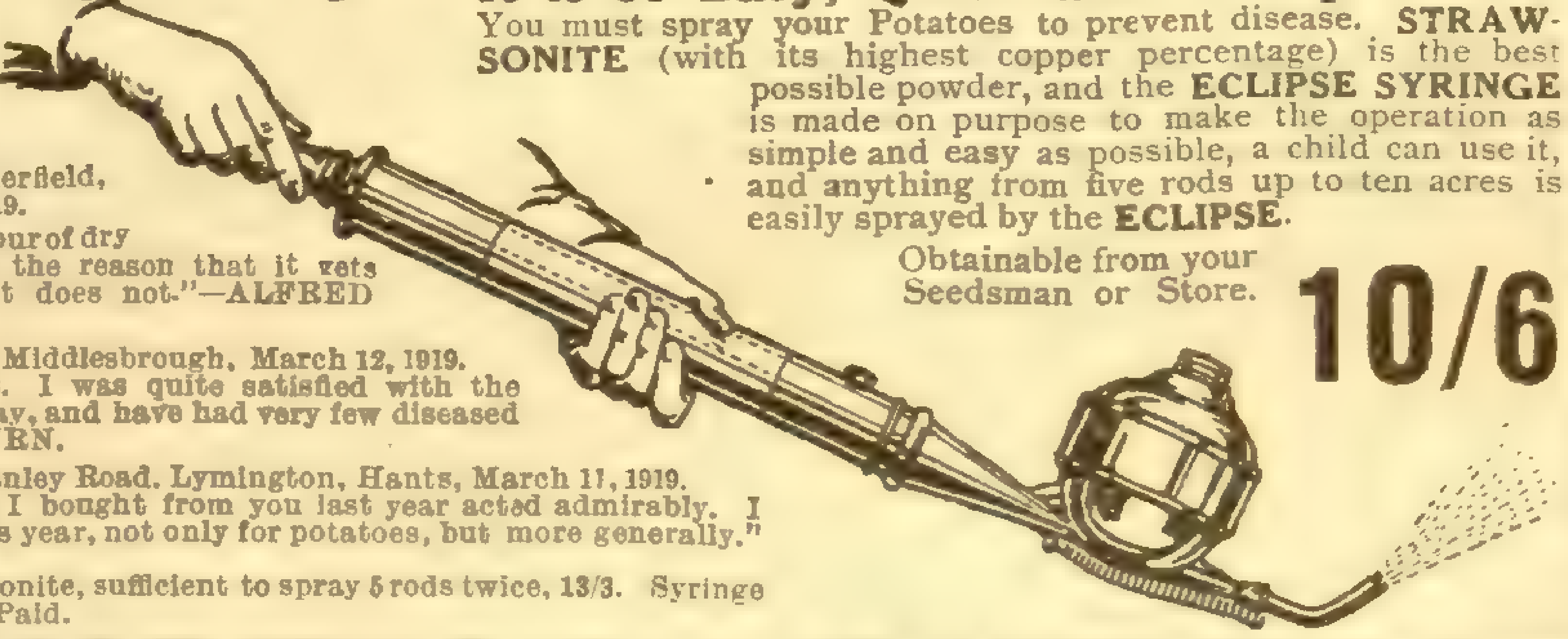

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AWARDS.

First-Class Certificate.

Double Daffodil Mary Copeland (see Fig. 108).—A shapely flower of medium size, with broad cream-coloured petals and a conspicuous rich orange-coloured centre. Exhibited by Mr. W. F. Copeland.

Awards of Merit.

Double Daffodil Milk and Honey.—Flowers pale cream, with a yellow centre. Exhibited by Mr. W. F. Copeland.

Narcissus Jeanette.—A pleasing pale sulphur yellow, Leedsii variety with a cup of deeper tone. Exhibited by Mr. W. F. Copeland.

Narcissus Boadicea (for Show).—A variety having broad pale cream perianth, deepening towards the base of the tube. Exhibited by Mr. William Welchman.

Narcissus Lady Mayoress (for Show).—A delicate cream coloured Barrii variety. Exhibited by Mr. F. H. Chapman.

Narcissus Miss E. M. Bowling (see Fig. 107).—A beautiful Leedsii variety with a pale cream perianth, the frilled cup suffused with fawn pink. Exhibited by Mr. W. B. Cranfield.

Honorary Exhibits.

Messrs. Barr and Sons, Covent Garden, occupied the west-end of the Exhibition Hall with a grand bank of Daffodils, in which there was a good number of new and rare varieties, together with many of the older favourites. (Gold Medal.) The Donard Nursery Co., Newcastle, Co. Down, also had an extensive display of excellently grown Daffodils. (Gold Medal.) Messrs. J. R. Pearson and Sons, Lowdham, Notts, sent an extensive collection of Daffodils. (Silver Medal.) Mr. Guy L. Wilson, Broughshane, Co. Antrim, had an interesting collection of unnamed seedling Daffodils. (Silver Medal.) Mr. W. F. Copeland, Southampton, also showed a collection of seedling Daffodils. (Silver Medal.) Messrs. Edward Webb and Sons, Stourbridge, showed Cinerarias in great variety, together with Schizanthus and Hipperstrums (Silver Medal.)

NATIONAL ROSE.

April 29.—The society's spring show was held at the London Scottish Drill Hall in conjunction with the R.H.S. meeting. There was a very good attendance of the Rose Society's Members who, as usual were chiefly interested in the new Roses, though the splendid displays of the trade exhibitors received their due meed of admiration. In fact these large contributions of fine fresh blooms contributed largely to the success of the show. There were three new seedlings and one Gold Medal and one Card of Commendation were awarded.

Gold Medal.

Rose Victory.—A brilliant H.T. bloom, fragrant, of perfect form and borne on long stout stalks. The habit of the plant is very good and the foliage is that shining and rich green which rarely becomes affected with mildew. The blooms are of a rich velvety crimson when first open and this slowly becomes rose tinted. It is recommended for all purposes and may be properly described as being a greatly improved Richmond. Shown by Messrs. McGredy and Sons.

Card of Commendation.

R. G. Casson.—A showy H.T. variety recommended for garden decoration and exhibition purposes. It is very fragrant and of striking colouring, which may be described as rose overlying rich gold. The habit and foliage are both ideal. The blooms have a suggestion of coarseness, otherwise it would possibly have received a higher award. Shown by Messrs. B. R. Cant and Sons.

Groups of Roses.

These were particularly attractive, and contained large numbers of the best varieties. Mr. Elisha Hicks has a charming central feature of the fragrant delicately tinted Mrs. Elisha Hicks, which was flanked by smaller, though still large, stands of Mrs. Geo. Norwood, another fragrant variety, the brilliant Madame Edouard Herriot, Chas. E. Shea and Joanna Bridge, with many smaller vases of equally delightful varieties in the foreground. (Silver-gilt medal.)

Messrs. B. R. Cant and Sons gave especial prominence to their novelties Covent Garden, a deep crimson, which received the Society's gold medal last May: Golden Ophelia, a gold medal bloom of the following July; and Emily Gray, a beautiful golden climbing Rose. Besides these, Sallie, Madame Edouard Herriot, Snow Queen, Mildred and many others were especially good. (Silver-gilt medal.) Mr. Geo. Prince had a good background of yellow Banksia Rose, with many standard varieties in front. (Silver medal.)

Mr. E. J. Holland had a small, but especially good, amateur collection of blooms, and was rewarded with a gold medal. One of the best stands in the show was the superb dozen blooms of Marechal Niel, by Mr. A. T. Goodwin, which attracted a deal of enviable admiration.

Decorative Classes.

The various bowls of Roses were scarcely so good as in former years, but still there was much to admire. Silver-gilt medals were awarded to Mrs. Hicks for a fine bowl of Madame Herriot; Mrs. Charleton, for Lady Hillingdon; and silver medals to Mr. Courtenay Page for two different bowls, the best containing Melody, and Mrs. Oakley Fisher for a bowl of Chas. E. Shea.

NATIONAL AURICULA AND PRIMULA.

(Southern Section.)

April 24.—The annual show of the above society, which was held in conjunction with the R.H.S. meeting, was a comparatively small affair. The arrangements were rather of an inconsequent nature; there was no indication of the division, objects or requirements of the different classes, and in one instance there was no clue to the identity of the first prize winner. Mr. J. L. Gibson, Belmont, Surrey, was the chief and most successful exhibitor. He won first prizes with (a) six Auriculas, (b) twelve Alpine Auriculas, (c) six Alpine Auriculas, (d) six fancy Auriculas, and the Premier Card for "Shirley Hibberd," the best show Auricula. His Show varieties include good examples of Shirley Hibberd, the Monk and Harrison Weir. Of his Alpines, Argus, St. Vincent, Prime Minister and a maroon seedling were very fine.

Mr. J. T. Bennett-Poe, Holmwood, Cheshunt, won first prizes for (a) six Alpine Auriculas, (b) four Alpine Auriculas and (c) with Argus I. Auricula, and was second in the class for six Show Auriculas, and with Phyllis Douglas, the Premier Card for the best Alpine. Mrs. Groves, Brondesbury, won the first prize in Class 18, which is for six Alpine Auricula.

Mr. G. W. Miller scored his usual successes with Polyanthuses and Primroses. He was first in all the classes, and also for best group of Auriculas and Primulas. His double Primroses and Polyanthuses were particularly noteworthy.

First-class Certificates.

Auricula Strombola.—This gold-centre alpine was probably the best of its type in the show. The blooms are quite round, flat, large and of intense colour. The combination of the broad gold centre and crimson-maroon is very fascinating. Shown by Mr. J. L. Gibson.

Polyanthus Wallflower. — A single-flowered bunch Primrose The dark Wallflower - red ground colour in delicately yet profusely feathered with gold. The individual flowers are slightly pendulous.

P. Queen Mary.—The general habit of this single-flowered variety would have pleased the old-time florist; it is so regular. But it also possesses great garden value. The whole habit is sturdy, the flower stalk exceptionally stout, and the large blooms are freely produced. The deep yellow flowers have regular orange-coloured rays at the base of the corolla.

Primrose Lord Peckover.—A double-flowered lilac Primrose of uncommon lilac colouring which is brightened by golden blotches at the base. It seems to be free-flowering. All these were shown by Mr. J. W. Miller.

The James Douglas Memorial Cup and Medal were awarded to Mr. J. L. Gibson.

ANSWERS TO CORRESPONDENTS.

Euphorbia amygdaloides: *S. W.* This is a common native plant found in woods and copses from Northumberland and Yorkshire southward. It is a perennial, growing up to one foot in height, with entire leaves 2-3 in. long. We cannot find it offered in any nurserymen's catalogue, but it is almost certain to be found wild near where you live. Your best plan would be to consult some local botanist, who would show you where it grows.

Finnochio: *F. W. C.* Finnochio is a vegetable used largely in some parts of Italy, particularly in the Naples district, but it is somewhat rarely grown in this country. There is no difficulty, however, in producing it: but as it quickly runs to flower and seed, several small sowings should be made rather than one large one. Make the first sowing in April, another towards the end of May, and another in summer. Sow in drills 15 or 18 inches apart, and thin the seedlings to 9 inches apart. An abundance of water should be given in dry weather, and about ten days or a fortnight before Finnochio is to be used, draw some fine soil about the base of each plant so as to block the basal portion. The edible part of Finnochio (Foeniculum dulce) is composed of the broad, thickened leaf bases, which overlap each other and produce a bulbous enlargement varying in size from a hen's egg to a tennis ball. Once this swollen base has developed, and the weather is dry or hot, the plants commence to flower, therefore they should be watched, and used before the flower stem elongates.

Formalin: *J. P.* At the present time formalin is a restricted chemical, and cannot be obtained for soil sterilisation purposes. Messrs W. Voss and Co., Ltd., Carlton Works, Millwall, London, E., supply it in quantity, and it is usually kept in stock by chemists. When purchasing be sure to obtain what is known as 40 per cent. With regard to a pig's ring, this should be procurable from any ironmonger who caters for the general needs of the farmer.

Hippeastrum brachyandrum: *H. R. D.* Hippeastrum brachyandrum is a species introduced from Brazil about 30 years ago. The flower ranges in colour from pale pink to dark red, and has narrow sepals and petals. It is not to be compared to the hybrid Hippeastrums now in cultivation. It should be grown in moderate heat, and not allowed to die down altogether in winter, like the hybrids, but treated more like H. aulicum or H. reticulatum, so that the foliage may gradually die away.

Microscope for Gardener's Use: *V. B.* We advise you to communicate with Messrs W. Watson and Sons, Ltd., 313, High Holborn, London, W.C., or Messrs. C. Baker and Co., 244, High Holborn, London, W.C. Both these firms issue catalogues of second-hand instruments, and you should be able to get a reliable second-hand microscope for about £7. Messrs. Watson and Sons manufacture "The Fram" Microscope, which we recommend for your purpose. You should obtain an inch and 1-6 inch objectives, and you would then be in a position to study most diseases and pests of cultivated plants.

Mite or Rust on Ferns: *H. L. B.* The rusty appearance of the fronds is due to the presence of a microscopic species of mite, which is capable of doing much harm among ferns and is a pest which spreads rapidly. Dipping the plants in, or syringing them with tobacco water at intervals, will eventually make a clearance of the pests, but every part of the frondage must be wetted with the insecticide.

Communications Received.—J. W. I.—S. A.—C. S.—A. R. H.—G. M. T.—P. W. K.—H. S. S.—S. A.—C. A. B.—F. W. M.—G. N.—E. M. B.—E. A. E.—A. H. H.—H. C.—E. J. P.—G. M. T.—A. T. B.—C. T.—C. C.—M. E. C.—F. K.—T. S.—J. C.—F. H. C.—A. A. W.—C. H.—J. G. J.—A. G.—G. A. F.—F. W. C.—W. R. D.

For SITUATIONS VACANT see pp. iii.-iv.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

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PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS, and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

C. DALBY, Greenham Lodge Gardens, Newbury, wishes to recommend W. RAWLINGS to any Lady or Gentleman requiring a HEAD GARDENER; age 30; married (one child); small attached farm not objected to.—Further particulars apply either to above or W. RAWLINGS, Arborfield Cross, Reading.

JOHN S. DUGDALE, Esq., K.C., 29, Eaton Square, London, S.W.1, can highly recommend his HEAD GARDENER, who has been with him 12 years; first-class gardener; excellent organiser and manager; would undertake estate management; age 45, married; 31 years' experience in first-class establishments; 19 years as head. —Blyth Hill, Coleshill, Birmingham.

MAJOR THURBURN, Cransley Hall, Kettering, highly recommends CHARLES FORD, his late Head Gardener for 16 years; demobilised; life experience in all branches; energetic, good organiser; age 44, married.—Apply, CHARLES FORD, Cransley.

C. TURNOR, Esq., Stoke Rochford, Grantham, can very highly recommend his late Head Gardener; a thorough practical man; 9 years here; age 39; married; 3 children.—S. ARBURY, 14, Earlsfield Villas, Dysart Road, Grantham.

THE HON. A. J. MULHOLLAND recommends his late Head Gardener; first-class in all departments; capable, energetic, and fully qualified to meet all requirements of good establishment; renovation, landscape and estate, also Bees; leaving, estate sold.—MORRIS, Worlingham, Beccles.

MESSRS. G. & A. CLARK, Ltd., The Nurseries, Dover, can thoroughly recommend a HEAD GARDENER, well up in all branches of the work and able to control men.—Apply to above address.

MR. BARRELL, Coombe Cottage, Kingston Hill, can with confidence recommend a thoroughly capable HEAD GARDENER, conversant with every branch, Inside and Out; age 45.—GARDENER, Gables Cottage, Surbiton.

MR. CLARKE, Barrow Court Gardens, Flax Bourton, Bristol, will be pleased to recommend H. Markwell as HEAD GARDENER, where four or more are kept; 15 years' experience; Foreman here for 2½ years previous to joining Army in 1914; married (no family).

LORD LUDLOW highly recommends E. ABBOTT as Head Gardener; life experience; four years here; age 34; married (one child).—Address E. ABBOTT, Lubenham, Market Harborough.

GARDENER (HEAD) and BAILIFF.—Messrs. Fuller, Moon & Fuller, Estate Agents, 83, High Street, Croydon, are in a position to recommend to any Lady or Gentleman a thoroughly experienced Man, as above, most successful in the cultivation of Fruit, Flowers, and Vegetables, and the management of a large place; good organiser of labour, accounts, etc.; age 48; married.—Full particulars, apply as above.

GARDENER (HEAD); practical experience Fruits, Plants, Kitchen Garden, Pleasure Grounds, house and table decorations, gained in first-class establishments; previously Head; married (two children); age 36; recently demobilised.—Apply, T. LARKBEY, Battlefields, Wrotham, Kent.

GARDENER (HEAD); life experience, Inside and Out; experienced in management of large establishments; well recommended; age 38, married, no children; demobilised. — LEGG, Hamptons, Tonbridge, Kent.

GARDENER (HEAD); thoroughly experienced in management and upkeep of a large establishment; first-class references; 8 years' head of 10 here; served B.E.F.; age 41; married (one child).—FRENCH, Lower Hare Park, Newmarket.

GARDENER (HEAD), thoroughly experienced man in all branches; Roses, Carnations, Alpines, Fruit and Vegetables, Landscape and Garden Improvements; good manager of men.—T. BENNETT, 16, Constantine Road, Hampstead N.W.

GARDENER (HEAD or SINGLE-HANDED); life experience; abstainer; last situation 17 years; married (no children); cottage required; good reference. —Apply, G. P., 2, Sidney Villas, Carlton Avenue, Colman's Estate, Westcliff-on-Sea.

GARDENER (HEAD), life experience, requires situation with Lady or Gentleman who requires a practical and thoroughly competent Man in all branches; previous to Army service, six years Head Gardener at Pyt House, Tisbury, Wilts; highest references; age 39; married (no family).—H. MARTIN, Lodge Farm, Colne Engaine, Essex.

GARDENER (HEAD) seeks re-engagement; life experience in Gardening in all its branches; a competent, reliable, all-round Man, to give a supply of Fruit, Flowers and Vegetables; good table decorator; land and stock; two, seven and nine years' previous character; age 53; one son, age 14.—WM. MATTHEWS, Wexham Park Gardens, Slough, Bucks.

GARDENER (HEAD) seeks engagement, age 34; married (no children); 16 years' practical experience all branches; well recommended; HEAD previous to enlistment in R.A.S.C. M.T.—D. F., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD) or GARDENER-BAILIFF desires re-engagement where high-class Flowers, Fruit and Vegetables are required; life experience in the general routine of large, well-kept, establishments; highest references; thorough knowledge of Herbaceous and Alpine Plants.—Apply, F. FRANCIS, The Bungalow, The Phillippines, Brasted, Chart, Kent.

GARDENER (just demobilised) seeks situation, HEAD of four or more; life experience gained in well-known establishments; excellent testimonials from every employer; six years previous to enlistment Head of 14; energetic, practical; age 37; understands management of large establishment, also growing Vegetables, etc., in large quantities.—WADGE, 15, Brookleaze Place, Larkhall, Bath.

GARDENER (HEAD), life thorough practical experience all branches, Inside and out; age 36; married (one boy, age 6); good references. Please state wages.—S. CLEEVE, 5 Marl's Road, Botley.

GARDENER (HEAD), age 32, married, demobilised, seeks situation as above; life experience gained in large establishments; Inside and Out.—T. SPARROW, Littlebredy, Nr. Dorchester.

EXPERIENCED HEAD GARDENER, interested in Commercial Horticulture, is desirous of taking charge of extensive private establishment, with large amount of Glass, to run same on business lines; expert grower of Indoor and Outdoor Fruits, and capable of producing large quantities of Vegetables, Tomatos, Cucumbers, etc.; used to the grading and packing of all choice Fruits, Flowers, etc., for London Markets; good organiser of labour and used to book-keeping, time sheets, etc.; age 37; married; first-class references. Salary required, £150 per annum, with house and coals, plus 5 per cent. commission on sales.—B. J., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER, thoroughly experienced HEAD, married, age 45, requires situation; highest references; Wife can undertake laundry.—DR. READMAN, Belmont, Hereford.

GARDENER (HEAD); thoroughly competent in the management of all branches of Gardening under Glass and Outside; good decorator; age 31; married; good references.—CRICK, Marchwood, Southampton.

TEMPORARY employment wanted by HEAD GARDENER; just demobilised; any department.—State wages, and whether bothy or lodgings available, J. G., Box 11, 41, Wellington Street, Covent Garden, W.C.2

ORCHID GROWER or HEAD GARDENER where Orchids are one of the leading features; expert in raising and growing Orchids; 15 years' experience in first-class places; highly recommended; 4½ years' Army service; last place sold while on active service; age 34; married (one child); C. RUSHTON, Grittleton Gardens, Chippenham, Wilts.

LORD ASHCOMBE, Denbies, Dorking, Surrey, highly recommends G. ALLAN as HEAD WORKING GARDENER; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

COL. LESLIE WILSON, M.P., highly recommends HEAD WORKING GARDENER; life experience; age 42; married (three children, 11, 9, 4); demobilised. — HALL, 35, Milton Road, Wokingham, Berks.

C. F. LIPPINCOTT, Esq., wishes to highly recommend his HEAD WORKING GARDENER, where three or more are kept; thoroughly experienced in Fruit, Flowers, and Vegetables, etc., Inside and Out; six years as Head; experience gained in good establishments; good manager; married; age 35.—CROUCHER, The Old Lodge Gardens, Ashford, Middlesex.

MR. DUVALL, agent to T. E. Brooke, Esq., highly recommends F. GARRETT as HEAD WORKING GARDENER, or GARDENER BAILIFF; thoroughly competent, Carnations, Orchids, Fruit, early and late forcing; age 52; excellent references.—F. GARRETT, Ponfield Gardens, Hertford.

MR. F. R. TILLY highly recommends thoroughly experienced HEAD WORKING GARDENER, competent in all branches of his work; has been in his service 4½ years; 15 years previously as Head.—MURRAY, Hockwold, Brandon, Norfolk.

GARDENER (HEAD WORKING) two or three kept; life experience in all branches; Inside and Out; excellent references; married, no family.—CLARK, Barton House, Moreton-in-Marsh.

GARDENER (HEAD WORKING or good SINGLE-HANDED, with help); life experience in all branches; well recommended; age 42; married (one child); disengaged.—WHEELER, Glengarriff, Queen's Road, Crowborough, Sussex.

GARDENER (HEAD WORKING); life experience, inside and out; experienced in management of large establishments; well recommended; age 37, married; demobilised.—WARREN, Model Farm, Shirburn, Watlington, Oxon.

GARDENER (HEAD WORKING or good Second) seeks re-engagement; life experience Inside and Out; married; no family; age 36; good references.—DEW, West View, Henfield, Sussex.

GARDENER (HEAD WORKING); 25 years' Practical experience Inside and Out; experience in Vines, Peaches, stove and greenhouse Plants, Carnations, etc.; age 49; married (one child, age 11); excellent references.—Apply, D. JONES, The Gardens, Abberley Hall, Great Witley, near Worcester.

MARKETS.

COVENT GARDEN, April 30.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	12 0–18 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentia ...	18 0–24 0
		—— 60's ...	15 0–18 0
Cinerarias, 48's, per doz. ...	24 0–27 0	—Cocos	24 0–36 0

REMARKS.—Business is more brisk in this department. Growers have started the sale of bedding plants and various sorts of border plants, also Tomato plants in pots and boxes of Runner Beans. All these are selling freely in spite of the wintry weather. Ericas, Hydrangeas, Marguerites, Boronias, Cinerarias, also a few white and coloured Stocks, which are very attractive in forty-eight sized pots sell freely. Mignonette is also meeting with a good demand.

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum— cuneatum, 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
—elegans ...	9 0–10 0	—32's	24 0–36 0
Asplenium, 48's, per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	—large 60's ...	4 0– 5 0
— nidus, 48's ...	12 0–15 0	—small 60's ...	3 0– 3 6
Cyrtomium, 48's ...	10 0–15 0	— 72's per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Arums— — (Richardias), per doz. bl'ms.	8 0–10 0	Narcissus ornatus, per doz. bun. ...	4 0– 6 0
Azalea, white, per doz. bunches	10 0–12 0	Orchids, per doz:— —Cattleyas ...	18 0–24 0
Camellias, 12's-18's per box ...	5 0– 6 0	—Cypripediums,	6 0– 8 0
Carnations, per doz. blooms, best American var.	3 6– 6 0	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
Daffodils, single per doz bun.		— white, per doz. bunches ...	10 0–12 0
— Emperor ...	4 0– 6 0	Roses, per dozen blooms— —Lady Hillingdon	4 0– 6 0
— Victoria ...	4 0– 5 0	—Liberty ...	6 0–10 0
		—Melody	4 0– 6 0
Gypsophila, per doz. bun ...	6 0– 9 0	—Mme. Abel Chatenay ...	4 0– 8 0
Heather, white, per doz. bun.	6 0–10 0	—Ophelia ...	5 0– 8 0
		— Richmond, var.	4 0– 6 0
Iris, per doz. bun.—		—Sunburst ...	6 0– 8 0
—Spanish, White	42 0–60 0	—White Crawford	6 0– 8 0
— — Blue ...	48 0–60 0	Sweet Peas, per doz. bun.—	
— — Mauve ...	48 0–60 0	— White... ...	6 0–12 0
Ixia, Scarlet, per doz. bun. ...	6 0– 8 0	— Coloured ...	8 0–15 0
		Stock, Dbl. White	10 0–15 0
Lilac, white, per bunch, 6's ...	4 0– 6 0	Tulips, per doz. blooms—	
Lilium candidum, per doz. bluns....	4 0– 6 0	—Darwins, in var.	3 0– 6 0
		— mauve ...	6 0– 8 0
Lily-of-the-Valley, per bun. ...	4 0– 6 0	— white	6 0– 8 0
		— yellow... ...	5 0– 6 0
Myosotis (Forget-Me-Not), per doz. bun. ...	6 0–12 0	Violets, single, per doz. bun. ...	5 0– 8 0

REMARKS.—White flowers, such as are required for the makng of wreaths and other florists' designs, continue to be a very short supply, Azalea is almost finished for the season and there is only a very limited quantity of white Pelargonium, which will remain in good demand until double white Stock is ready. A few bunches of Stocks are being sent by home growers, and also a few boxes from Guernsey. The best varieties of Daffodils on sale are Emperor, Barrii, Sir Watkin and Grand Monarque. There is a good supply of Carnations. Also Roses of the sorts mentioned in the price list above. These flowers are arriving in excellent condition and their prices are the lowest offered this season. Spanish Irises are now obtainable in white, blue and mauve colours, also Lilium candidum, Gladiolus, Peach Blossom, Sweet Peas, Ixias, Gypsophila, and a few boxes of Narcissus Poeticus.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Belgian Peaches, each	3 0– 5 0	Nuts, con.— — Brazils (new). per cwt.	95 0–100 0
Grapes:— —Blk. Hamburgh, per lb. ...	9 0–12 6	Walnuts, kiln dried. per cwt.	130 0–180 0
—Muscats, per lb.	50 0 —	Pears— Cape Winter Nelis, per case ...	12 0–14 0
Grape Fruit, pr. case.	45 0 —	— — Doyenné du Comice, per case	18 0–25 0
Melons, each ..	12 6–15 0	Pineapples. each	6 0–12 6
Nuts— — Almonds, per cwt.	120 0–130 0	Strawberries per lb.	8 0–16 0
— Barcelona, per cwt. ...	130 0–140 0	Worthing Figs, pr. lb.	12 0–24 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes— —Globe, per doz.	8 0 9 0	Mushrooms per lb.	4 0– 5 0
Asparagus—		Mustard and Cress, per doz. punnets	1 0– 1 3
— Cavillion, per bundle ...	2 0– 2 6	New Turnips, per buach	1 9– 2 6
— Lauris... ...	3 0– 5 0	Peas, per lb. ...	2 6– 3 0
Beans, French, per lb.	1 9– 2 6	Parsley, per ½ bus.	6 0– 7 0
		Parsnips, per bag	4 0– 6 0
— Broad (French) per pad ...	9 0–10 0	Potatos, new, per lb.	0 10½ —
		Radishes, per doz. bunches ..	2 6– 3 0
Beetroot, per bus.	5 0– 6 0	Rhubarb, forced, per doz. ..	1 6– 2 0
Cabbage per doz.	3 0– 5 0	—natural, per doz.	5 0– 7 0
Carrots, per bag ..	11 0–12 0	Savoys, per tally ..	18 0–21 0
— New, per bun.	1 3– 1 6	Seakale, in boxes (6-8 lbs.) per lb.	0 6– 0 8
Cauliflowers, per doz	4 0– 6 0	Shallots, per lb. ..	0 6– 0 8
Celery, per doz. ..	36 0–48 0	Spinach per bus.	5 0– 6 0
Chicory, Belgian, per lb. ..	0 6– 1 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box	Controlled
Cucumbers, per flat	24 0–28 0	— English, per lb.	3 0– 3 6
Endive, per doz. ..	1 0– 2 0	Turnips, per bag	5 0– 6 0
Garlic, per lb. ..	0 5– 0 7	Vegetable Marrows, each	0 10– 1 3
Greens, per bag ..	8 0–12 0	Watercress, per doz.	0 8–0 10
Herbs, per doz. bun.	4 0– 6 0		
Horseradish, per bun	5 0– 7 0		
Leeks, per doz. bun.	4 0– 6 0		
Lettuce Cabbage and Cos per doz.	2 0– 3 0		
Mint, per doz. bun.	4 0– 6 0		

REMARKS.—The new crop of home-grown Grapes is becoming available and already good bunches of Black Hamburgh and Muscat of Alexandria are offered for sale. Figs from the Worthing district and Melons are amongst the choice fruits on sale and there are also good Peaches from Belgium. Pears, Winter Nelis and Doyenné du Comice from Cape Colony are a little easier in price, the latter variety being the more valuable. Supplies of forced Strawberries are increasing daily and the same is true of English Tomatos and Cucumbers. There are fair quantities of Vegetable Marrows on sale whilst both English and Continental Asparagus is moderately plentiful. New season Carrots and Parsnips find a ready sale. Peas have dropped a little in value, but prices for Beans are well maintained. Owing to the increased quantities Sea Kale is a little easier. The consignments of all out-door vegetables are very limited.

GARDENING APPOINTMENTS.

Mr. John Hay, junr. (at present holding a commission in the R.G.A.), previously for 3½ years Gardener to the late Capt. W. D. DRURY-LOWE, D.S.O., Locko Park, Derby, as Gardener to the Duke and Duchess of NORTHUMBERLAND, at Alnwick Castle, in succession to the late Mr. W. THOMSON. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. G. H. Payne, as Gardener to the Secondary Schools for Girls, St. George's Avenue, Northampton.

Mr. John Anderson, now demobilised, formerly General Foreman at Curraghmore, Co. Waterford, as Gardener to the Marquis of BREADALBANE, Taymouth Castle, Perthshire.

Mr. G. Neale, for 4½ years in H.M. Forces, and previously Gardener to C. N. P. PHIPPS, Esq., Chalcot, Westbury, Wilts, as Gardener to J. A. AITON, Esq., Duffield Park, Nr. Derby. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. G. A. Funnell, who served in the R.G.A. on the Forth Defences, and in France, formerly Gardener at Rufford Abbey, and recently at Lanwades Hall, Suffolk, as Gardener to Capt. GUY NEVILL, and Mrs. NEVILL, Brambletye, East Grinstead, Sussex.

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FERNS AND FERN CULTURE

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THE

HORTICULTURAL DIRECTORY & YEAR BOOK FOR 1919.

The new edition of the Gardeners' Chronicle Horticultural Directory is now being distributed. Owing to the shortage of paper an unlimited number of copies cannot be guaranteed, and purchasers are advised to ORDER AT ONCE to avoid disappointment.

Orders will be dealt with in strict rotation.

The New Edition has been thoroughly revised and brought up to date. Very many changes of address have been notified during the past year, and holders of the 1918 edition are warned that that edition is now out of date.

Apply, enclosing 2/- for each copy required, to:—

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41, WELLINGTON ST., COVENT GARDEN,
LONDON, W.C.2.

GARDENER, where one or two kept, or single-handed: experienced Inside and Out; good references; age 35; married, no family.—RUSHEN, Great Wigborough, Colchester, Essex.

GARDENER (Inside) seeks situation in large place; ten years' experience; two years in last place as First Journeyman; excellent references; demobilised; near London preferred. Please state wages, etc.; bothy preferred.—H. BONIFACE, Cade Street, Heathfield, Sussex.

GARDENER, Kitchen Garden and Pleasure Grounds; life experience; some knowledge of Inside work; married (no children); recently demobilised.—W. BROWN, Porter's Wood Lodge, Whittlebury, Towcester, Northants.

GARDENER (demobilised) seeks situation in Kitchen Gardens and Pleasure Grounds; previous experience; married (no family).—E. LUKER, 18, Dale Street, St Ebbs, Oxford.

SITUATION WANTED; GARDENER working; practical all-round man; Inside and Out; married.—WRIGHT, Court Cottages, Ingatestone, Essex.

GARDENER seeks situation as Kitchen Garden FOREMAN, or good SINGLE-HANDED; good references; age 40; married (no family); demobilised.—F. THATCHER, 8, St. James Terrace, Winchester.

KITCHEN GARDENER or Pleasure Ground Foreman; good, practical experience; good references; married (one child, nine).—W. E., Hazel Cottage, Station Road, Worplesdon, Guildford, Surrey.

GARDENER (SECOND), Inside and Out, or FOREMAN; 18 years first-class experience; good references; age 38; single.—W. OWENS, Hayne Cottages, Longmoor Cullompton, Devon.

GARDENER (SECOND), Inside or Kitchen Garden FOREMAN; excellent references; held same positions; age 37; two girls, 10 and 8.—P. CHAPLIN, Ferry Road, Medmenham, Marlow, Bucks.

GARDENER (SECOND), Inside and Out; good practical experience; good references; married (no family)); age 31; demobilised.—"W," St. Mary's, Bedfont, Feltham, Middlesex.

GARDENER (SECOND), demobilised, age 29, seeks Situation (Inside); good references.—C. H., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

DEMOBILISED SOLDIER seeks situation as Second; chiefly Inside; held similar position pre-war; age 30.—Apply, F. PEARCE, Chestnut Road, Amersham Common, Bucks.

MR. GIBSON, Headington Hill Hall Gardens, Oxford, wishes to highly recommend his late General Foreman as Head Gardener; thoroughly experienced in all branches; demobilised; age 35; married.—Apply, F. W. FORD, 20, Hounslow Road, Feltham, Middlesex.

GENERAL FOREMAN in large establishment; life experience gained Inside and Out; married (no family).—Apply, B. ELKINGTON, Charlton, near Banbury.

FOREMAN (GENERAL) seeks situation in good establishment; 14 years' first-class experience; excellent references; age 30; married.—HUMPHREY, Barby, near Rugby.

FOREMAN (INSIDE or GENERAL); life experience gained in first-class establishments; well up in Vines, Peaches, and all Pot Plants, etc.; age 30; single. Please state wages.—B. A., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (KITCHEN GARDEN or GENERAL); 15 years' experience in extensive gardens, pre-war; excellent references; demobilised; age 31; single. Please state wages, etc.; bothy preferred.—F. RICKARDS, 23, Sherborne, near Northleach, Glos.

SITUATION required as LEADING HAND on Pleasure or Inside; life experience. Please state wages with bothy.—NEWNHAM, Brown's Farm, Stubbington, Fareham, Hants.

FOREMAN (GENERAL) seeks situation in First Class Establishment; experienced Inside and Out; good references, and very highly recommended by present employer; age 30; married when suited.—CARTER, Fonthill House Gardens, Tisbury, Wilts.

SITUATION REQUIRED, Orchids or Orchids and General; 14 years' experience in first-class Trade and private establishments, age 32; married; 2 children.—CHEADLE, Stanwick, Wellingborough.

AS IMPROVER (17½), Inside or Inside and Out; two years' experience; good references. Please state wages, bothy, etc.—F. WITTOCKS, 16, Frogmore Crescent, Hemel Hempstead, Herts.

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GARDENER (Head Working), life experience Inside and Out; knowledge of Electric Plant; well recommended; age 30; married (one daughter, age 3½); Demobilised.—C. J. HARRADINE, 374, St. Ann's Road, Harringay, N.15.

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GARDENER (Head Working) where four or more are kept; life experience in all branches, Inside and Out; age 45 years; married (no family).—A. EVERITT, 3, Claremont Villas, Hare Lane, Claygate, Surrey.

GARDENER (Head Working) where two or three are kept; life experience in all branches; age 46; married (two children).—LOW, Wonham, Bampton, Devon.

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GARDENER (demobilised) seeks situation, Single-Handed, with help; well recommended; good practical experience; age 30; married.—Apply, A. TASKER, Anchor Bridge, Dymock, Gloucestershire.

LADY wishes to recommend her GARDENER; thoroughly experienced with Vines, Peaches, and other Fruits in Outdoors, Stove, and Greenhouse Plants, Flower, Kitchen Garden, Herbaceous, Pleasure Grounds.—"T. G.," 85, St. Dunstan's Road, Baron's Court, London, W.

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Tomato Plants, ready for planting into fruiting quarters, Kondine Red, Bide's Recruit, Ailsa Craig, Peacock's Beatall, 4/0 per dozen, 30/- per 100. Holmes' Invincible, 5/- per dozen, 35/- per 100. All out of sixty pots. Cucumber Plants, ready for fruiting quarters, Rockford's Telegraph and Chennell Challenger, 7/6 per dozen, 50s. per 100. All out of large sixties. Cold house, well-rooted Chrysanthemum cuttings, H. W. Thorp, 12/-, Source de Or, 12/-, Lizzie Adcock, 12/-, Early Framfield White, 12/-, White Imutus, 12/-, Western King, 14/-, Baldock's Crimson, 14/-; Singles, Pink Pagram, 14/-, Bronze Pagram, 14/-, Commodore, 14/-, E. J. Ellis, 14/-, and Glorious 14/-; all per 100 or 2/6 per dozen. Carriage paid. Packing free for cash with order. Please mention paper.

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THE GUM CISTUS AND OTHERS.

FEW Evergreen Flowering Shrubs are more beautiful than the Cistus family, with their beautiful cup-shaped flowers resembling a single rose, having dark blotches of crimson or purple at the petal base, and their rich dark green and somewhat viscous foliage.

We have some good plants in pots, well set with flower buds, ready to send out immediately, of:—

CISTUS LADANIFERUS (the Gum Cistus), blooms 3 to 4 inches across, silky white with crimson blotch at base, in flower in June, **3/6** each.

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C. LORETI, dwarf, rather spreading habit, but making a compact little bush with large white flowers, having a crimson blotch at the base, **2/6** each.

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Winter Gardens, Conservatories, neglected through WAR, can now be put in order.

Plant Houses, Fruit Houses, Garden Frames.

REQUISITES FOR BUILDING ON COUNTRY ESTATES.

HORTICULTURAL BUILDERS and H. W. ENGINEERS.

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EVERY GARDENER KNOWS THAT

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Sold everywhere for Horticultural purposes in Packets at **9d. & 1/3** and in BRANDED and SEALED BAGS; 7 lbs., **3/-**; 14 lbs., **5/-**; 28 lbs., **9/-**; 56 lbs., **16/-**; 112 lbs., **31/-**. Or direct from the works Carriage Paid in the United Kingdom for Cash with Order (except packets). Quantities of 28 lbs., and upwards are supplied in 14-lb., bags

CLAY & SON, Manure Manufacturers and Bone Crushers, STRATFORD, LONDON, E.

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Printed for the Gardeners' Chronicle, Limited, by ODHAMS LIMITED, 83-95, Long Acre, London, W.C.2, and published weekly by the Gardeners' Chronicle, Ltd., 41, Wellington Street, Covent Garden, City of Westminster, SATURDAY, May 3, 1919. Agent for Manchester, JOHN HEYWOOD.

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PEAT FOR ORCHIDS, 8s. 6d. per sack; best fibrous Peat in trucks at 20s. per yard, 6 to 16 yards. Rhododendron Peat, 15s. per cubic yard, in truckloads. One yard, in bags, 21s. Leaf Mould, Loam, Sand, Fibre and Compost all in bags, at 4s. each, on rail.—J. HANDSCOMBE, F.R.H.S., The Feltham Nurseries, Middlesex.

SHANKS'S LAWN MOWER, 18in., with box, complete. Patent Chain Cover, excellent condition, £8 8s. Several other Secondhand Machines various makes.—WILLIAM BIGNELL & SON, North Road, Highgate, N.6.

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IRON AND WIRE FENCING for gardens, tree guards, gates, arches, espaliers, rose stakes, and ornamental garden iron and wire work of every description. Send for illustrated catalogue. Also kennel railing and poultry fencing. Ask for separate lists.—BOULTON AND PAUL, Ltd., Manufacturers, Norwich.

BOYLE'S MOTOR PLOUGH for sale, tractor attachment, suitable for large Garden; in perfect order; can be seen at work.—OAKEY, Westley, near Newmarket.

WANTED, a LAWN SWEEPER, for use on Golf Greens.—Please state full particulars as to make, size, conditions and price, to THE AGENT, Cowdray Estate Office, Midhurst, Sussex.

FOR SALE, Nicholson's *Dictionary of Gardening* (12 volumes), unsoiled; cost five guineas. What offers?—POPLE, 28, Bridge Street, Stratford-on-Avon.

The Gardeners' Chronicle.

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BRITISH GARDENERS' ASSOCIATION. (Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

KENT EDUCATION COMMITTEE.
AGRICULTURAL EDUCATION.

APPLICATIONS are invited for the post of ASSISTANT COTTAGE-GARDENING INSTRUCTOR. Candidates must be active, well educated, and have a good knowledge of the scientific principles and practice of Gardening in all its branches. Experience in lecturing and demonstrating to adults and in conducting and supervising school gardens will be considered an advantage.

Salary £200 to £250, according to qualifications and experience. Forms of application can be obtained from the Agricultural Organiser, Sessions House, Maidstone, and should be returned by May 20. They should be accompanied by copies of recent testimonials and not more than two references.

E. SALTER DAVIES,
Director of Education.

SALOP COUNTY COUNCIL.
AGRICULTURAL COMMITTEE.

THE COMMITTEE invite applications for the position of ASSISTANT INSTRUCTOR in Horticulture man or woman); commencing salary, £180 per annum.

Applications, enclosing copies of three recent testimonials, must be made before May 26.

For full particulars regarding duties and conditions of appointment apply to—

W. H. PENDLEBURY,
County Buildings, Shrewsbury.

EAST SUFFOLK COUNTY EDUCATION COMMITTEE.

WANTED, a HORTICULTURAL INSTRUCTOR (Man or Woman); well qualified in scientific Horticulture, particularly fruit growing; the person appointed will be required to conduct Classes in connection with School Gardens, and lecture to Teachers and others; commencing salary £150 per annum, rising by increments of £10 to £200 plus an allowance of £10 per annum for use of cycle; rail fare allowed; applications to be made on Form 10 (copy of which may be obtained from the under-signed) giving full particulars of training and qualifications, not later than 17th May.—W. E. WATKINS, Secretary, Education Office, County Hall, Ipswich.

WANTED, an experienced HEAD GARDENER, where two men and a boy are kept under him; must be energetic, willing and well up in all branches of gardening; a house and good wages paid to a capable man.—Apply to Major BIRCHALL, M.P., Bowden Hall, Gloucester.

WANTED, WORKING GARDENER as Head of three, thoroughly experienced in Perennial Borders, Lawns, Pruning of Roses and Fruit Trees, and the succession of Vegetables; little glass; preference to man with some knowledge of Stock; cottage (4 rooms and scullery), coals, milk and vegetables found.—Full particulars of experience, with copies of testimonials, age and wages, to SURREY, Box 6, 41, Wellington Street, Covent Garden, W.C.2.

HEAD WORKING GARDENER required; must be thoroughly experienced and well recommended; cottage provided; situation, 17 miles from London, in Surrey.—State wages required, B. G., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

HEAD WORKING GARDENER required; Man with Son to take Second preferred; small place, little glass; good experience necessary; staff three, including cowman-gardener; cottage, four rooms, firing and milk found.—Copies of references and all particulars, age and wages required, to KENT, Box 6, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, GARDENER (HEAD WORKING), not over 35, for country, near Bristol; cottage found.—B. G. M., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) required at once: must have good all-round experience Fruit, Flowers and Vegetables; very little Inside work; must be a worker and have good references; cottage accommodation for married man but no children; age 35 to 40.—Apply, by letter first, to H. BLAKE, Craigmyle, Sunningdale, Berks.

ORCHID GROWER.—Required for Midlothian a man to take charge of an Orchid collection; no hybridising; preferably a young unmarried man.—Apply, Sir B. Milne, 10, Berkeley Street, London, W.

WANTED, SINGLE-HANDED unmarried GARDENER, for Garden 1½ acres, mostly Lawn, Herbaceous Borders, small Kitchen Garden, Conservatory; wages 38s., with room and light; comfortable situation, but willing, agreeable, and industrious man required.—HORACE BAYER, Southwood, Silverdale, Sydenham, S.E.26.

WANTED, WORKING GARDENER, capable of teaching and controlling boys; wages and bonus 53s.; good house and garden on estate.—Apply, with two recent testimonials, SUPERINTENDENT, Desford Industrial School, Leicester.

WANTED, GARDENER under Gardener-Bailiff (four in all), for Hampshire, near Petersfield; a reliable hard-working and obliging married man, with experience of Fruit, Plant-houses and Outside Gardening; capable of taking charge (with two under); liberal wages, cottage and fuel.—Applicants to apply by letter to Mr. HATTON, Gardener-Bailiff, East Hill Farm, East Liss, Hants, stating age, wages required, and full details of past experience.

WANTED, GARDENER (used to Vines), with wife, but no family; to live in and caretake and clean offices.—Apply, Messrs. HYDES, Solicitors, Worcester.

SHEFFIELD.—MAN wanted as SECOND GARDENER; strong, energetic man, required.—Write, stating experience, to E. T. ELLIS, Westwood, Ecclesall, Sheffield

WANTED, as SECOND GARDENER, a thoroughly experienced young married man, for Inside and Out.—Apply, stating full particulars of experience, age, wages required, and if any family, to GARDENER, Holmdale, Holmbury St. Mary, Nr. Dorking.

GARDENER (SECOND), chiefly for Inside.—State age, experience, and wages required, to HEAD GARDENER, The Cleve, Wellington, Somerset.

SECOND GARDENER wanted for Inside and Outside work; good house provided.—Apply, stating experience and wages asked, to S. BUCKHURST, Park, Ascot.

WANTED, two UNDER - GARDENERS, single; Inside and Out; must be experienced.—State wages and full particulars to W. R. PHILLIPS, Head Gardener, Heathfield Park, Sussex.

GARDENERS.—Two good UNDER - GARDENERS required immediately, one for Lawns and one for Kitchen Garden.—Apply, HAYWARD, Head Gardener, Grymsdyke, Lacey Green, near Princes Risborough.

WANTED at once, an UNDER-GARDENER; could lodge with head-gardener; wages 30s. a week.—Apply, MRS. BRYANT, Quar Wood, Stow-on-the-Wold.

WANTED, UNDER-GARDENER, Inside and Out; near town; bothy; state wages and experience.—AGENT, Mill House, Halifax.

WANTED, two UNDER - GARDENERS (single men), one for Kitchen Garden, one for Pleasure Grounds.—State age, experience and wages, with bothy and attendance, to W. PAYNE, Norbury Park Gardens, Dorking, Surrey.

WANTED, good OUTSIDE FOREMAN for Pleasure Grounds; married or single; cottage found, with £2 5s. per week; copies of testimonials only.—F. JORDAN, Ford Manor Gardens, Lingfield, Surrey.

WANTED, FOREMAN (Inside), Fruit and Plant Houses; 40s. week; Sunday duty paid; 10 hours day; 1 o'clock Saturdays.—Apply, copies of references, C. CRANE, Penrice Castle Gardens, Reynoldston, Glam.

WANTED, GENERAL FOREMAN; wages £2; also Two Journeymen (34s. and bothy); 1 o'clock Saturdays; good experience.—Copies of references and particulars, W. HEATH, Caenwood Towers, Hampstead Lane, Highgate, N.

WANTED, an experienced FOREMAN or Second Gardener, where three or four are kept; Inside and Out; wife experienced with Poultry; good house, coal, lights and vegetables.—Apply, full particulars, etc., R. C. HART DYKE, Great Nast Hyde, Hatfield, Herts.

WANTED, FOREMAN or good SECOND "SINGLE," for Glass Department, Plants, Fruit, etc.; smart and sharp at work; wages £2 (no bothy); alternate week-end duty, paid for; 1 o'clock Saturday.—Apply, giving experience, LEES, Oakwood, Chislehurst.

WANTED, FOREMAN and JOURNEYMAN for Fruit and Plant Houses; good wages, with bothy, etc.—State full particulars to H. CHARMAN, Stanford Hall Gardens, Loughborough.

WANTED, LEADING HAND for Kitchen, Garden; one for Pleasure Grounds; also Journeymen, chiefly Outside; state age, wage and experience; bothy or cottage provided.—A. SMITH, Parkwood Gardens, nr. Henley-on-Thames.

Continued on page ix.

SALES BY AUCTION.

PLUMPTON, SUSSEX.

300 Azalea Indica Fielders White, 280 Arums, 120 Cypripedium insigne, 250 Hydrangeas, 300 Geraniums, 800 Marguerites, 1,000 Tomato Plants, 500 Carnations, and other stock.

MESSRS. PROTHEROE & MORRIS will Sell the above by Auction, at the Nursery, Plumpton, on

MONDAY, MAY 12th, 1919, at 12.30 O'CLOCK, by order of Messrs. Allwood Bros.

To Horticulturists and Market Growers
SALE of WELL-EQUIPPED NURSERIES and MARKET GARDENS.

GLOUCESTERSHIRE and WORCESTERSHIRE.

BRUTON, KNOWLES & CO. have received instructions from G. R. Tayler, Esq., to sell by Auction at the

BELL HOTEL, GLOUCESTER,

on Saturday, 31st May, 1919, at 3 o'clock punctually, in three lots, the following Freehold properties :—

At CHURCHDOWN,

mid-way between Gloucester & Cheltenham.

The Churchdown Nurseries, about 10 acres in extent, with about 2,600 feet run of glass, having a frontage to the main road, good dwelling-house and usual accessories, and also an excellent semi-detached dwelling-house with outbuildings, stables and paddock, and about two acres of land.

At BREDON,

about 3 miles from the market town of Tewkesbury.

The Bredon Nurseries, with 1,100 feet run of glass, having a frontage to the road leading from Tewkesbury to Kemerton, and a dwelling-house with garden and sheds, the whole being about two acres in extent.

The properties are in the occupation of the owner and possession may be had on completion or earlier by arrangement.

Particulars and plans may shortly be had of MESSRS. FFOOKS & GRIMLEY, Solicitors, Greenhill, Sherborne, or of the Auctioneers, Albion Chambers, Gloucester

BUSINESSES FOR SALE.

NURSERY with house and shop for sale, in good market town; doing good business in Plants, Cut Flowers, Wreaths, Tomatoes, Cucumbers, &c.; easy distance from London; 32 years in same hands.—"WING," Box 6, 41, Wellington Street, Covent Garden, W.C.2.

PROPERTY WANTED.

WANTED to rent, MARKET GARDEN with some Glass, near Bournemouth preferred.—Write, E. V., 139, Ledbury Road, W.11.

PROPERTY TO LET.

TO MARKET GARDENERS.—To be Let, on moderate terms, Gentleman's Private Gardens; good glass and well-stocked kitchen garden; two miles from station, four from market town; good roomy house.—Reply, ESTATE AGENT, Mells, Frome.

EXHIBITIONS.

WOLVERHAMPTON "VICTORY" FLORAL FETE.

JULY 9th and 10th, 1919.

Over £1,000 in Prizes.

Schedules on application to the Secretary (post free)
G. W. A. MARTIN, 46 Queen St., Wolverhampton.

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CARDIFF, June 24th to 28th, 1919.

78TH ANNUAL EXHIBITION OF HORSES, CATTLE, SHEEP, GOATS, PIGS, POULTRY, RABBITS AND FARM PRODUCE, BACON AND HAMS, BOTTLED FRUITS. TROTTING, HORSE JUMPING AND TIMBERING COMPETITIONS. AGRICULTURAL EDUCATION, FORESTRY AND HORTICULTURE.

HORTICULTURE
Entries close May 31st.

LIVE STOCK ENTRIES CLOSE MAY 26.

Prize-sheets and Entry Forms will be forwarded on application to
THOMAS McROW, Secretary.
ROYAL AGRICULTURAL SOCIETY OF ENGLAND,
16, Bedford Square, London, W.C.1.

BUSINESS CARD.

BRITISH CORRESPONDENCE SCHOOL OF HORTICULTURE, PENNINGTONS, 254, Oxford Road, Manchester.—Complete courses for R.H.S. Senior, Junior, Teachers', and National Diploma of Horticultural Examinations. Fees moderate.—Write, SECRETARY.

NOTICES.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W.14.

PLANTS, &c. FOR SALE.

JAPANESE LILIUMS JUST TO HAND.

MORLE & CO. have pleasure in offering in fine condition a consignment of L. Speciosum Rubrum, Melpomene, Roseum, and Album, 7 to 8 inches, at 15s.; L. Longiflorum Giganteum, 7 to 8 inches, extra, 18s.; and L. Auratum, 8 to 9 inches and 9 to 10 inches, at 24s. and 30s. dozen; also to offer Hydrangea Hortensis Blue, Standard and Pyramid Bay Trees, Sprouted Begonias and Gloxinias.—MORLE AND CO., 150-156, Finchley Road, N.W.

CYCLAMEN PERSICUM.—H. B. MAY & SONS, Ltd., offer very strong plant stores for immediate potting; also in 3 in. pots, the very finest strain, in separate colours.—Nurseries, Chingford, E.4.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinias, Lilies, Hydrangeas, etc.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.9.

ALPINES, ROCK GARDEN and Herbaceous Border Plants. Catalogues free. Choice selections:—1 each of 12 for 6s.; 1 each of 25 for 12s.; 1 each of 50 for 24s.; 1 each of 100 for 48s.; carriage and packing free for c.w.o. Please state aspect.—G. R. PHIPPS, Alpine Nursery, Barnham, Bognor.

BAY TREES, magnificent consignment, Pyramids and Standards, for Sale, in all sizes.—Sizes and prices on application, ROBERT GREEN (1911), Ltd., 28, Crawford Street, London, W.

FERNS! FERNS!! — Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

FOR SALE, 1,000 TOMATO PLANTS, ex. 60, "Bide's Recruit," "Ailsa Craig," "Klondine Red," at 25s. per 100. 1,000 Geraniums, "Paul Crampel," at 45s. per 100, ex. 60. 100 Cucumber Plants, 1d. each.—M. LOASBY, Mount Walk, Ashby de la Zouch.

BEDDING GERANIUMS.

P. Crampels, Denmarks, Kovaleski	6/6 per dozen	52/6 per 100
H. Jacoby	5/9 per dozen	45/- per 100
M. Crouse	4/9 per dozen	38/- per 100

We only stock the above varieties; prices are for plants in 3in. pots, papered and stood upright. Packing and carriage paid per goods train, on orders over £1. We advise intending customers to book their orders at once, as plants are scarce.
NORTHOVER NURSERIES, LTD., GLASTONBURY.

ASPARAGUS, transplanted, extra fine, 21s., 30s., 100.—WILL TAYLER, Hampton, Middlesex.

ORANGE TREES, in pots, mostly setting Fruit, 21s., 31s. 6d. and 42s. each; FIGS, in pots, 5s., 7s. 6d., 10s. each.—WILL TAYLER, Hampton, Middlesex.

CAULIFLOWER, Easter Early Snowball, 4s. 100; also 4,000 Tomato Plants, Improved Khondin, strong, sturdy plants from 6d., ready for planting-out, 15s. 100; showing bud, £1 100; free on rail.—CHIPPESFIELD, Hampton Hill, Middlesex.

PLANTS, &c., WANTED.

WANTED, quantity of TURF, good meadow or cultivated; quote price on Rail.—JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free.—SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

WANTED, large Kentia Fosteriana Palms, from 5ft. to 25ft. in height; large, well-coloured Dracaenas and Crotons; for cash or exchange.—ROBERT GREEN (1911), LTD., 28, Crawford Street, W.

WANTED, suckers of good variety of Globe Artichokes; also double and single varieties of Violet runners, for immediate planting.—F. JORDAN, Ford Manor Gardens, Lingfield, Surrey.

WANTED, VIOLET CLUMPS (single).—Price and varieties to M. LOASBY, Mount Walk, Ashby de la Zouch.

MISCELLANEOUS.

FOUR-SPANNED roofed frames for sale, 68 ft. by 9¼ (each); ridge ventilators; all lights can be raised to any height; also raised erect, would probably suit market gardeners; price on application, or can be seen.—Apply, J. KNIGHT, Bowood Gardens, Calne, Wilts.

WEEDS! WEEDS! WEEDS!

NOW is the time to kill them. If your paths are cleaned now they will remain clean for the best part of the year. Our WEED KILLER is safe to handle.

CHEAPER THAN HOEING.

Will not harm birds or animals; is a powder; only requires sprinkling on the weeds.
1 cwt. Sacks, 21s.; 56 lbs., 11s.; free on rail, London
CLEVELAND and CO., 89, ALDERSGATE ST., E.C.
Agents wanted.

THEY'RE NOT STICKY.

Beacon Oilskins are quite free from any stickiness, and, what is more important, they never fail to keep out the hardest rain or sleet. Hundreds of farmers, gamekeepers, and other outdoor men, women, and children wear them because they bring weather comfort. You ought to wear them if you want to keep dry in any deluge. The Beacon Booklet will help you to choose the style you need. Children's Coats from 16s. 6d., Men's from 25s., Ladies' Smart Oilskins, 28s. 6d. Long Leggings from 5s. Sou'-westers, from 3s. Your money back if they don't satisfy you entirely. Send a postcard to-day for our Free Booklet of "Weather Comfort." — Send now—before you forget—to BARBOUR'S, LTD., 66, BEACON BUILDINGS, SOUTH SHIELDS. (2)

"PESTITE" kills wireworms, rook worms, cockchafer grubs, Julus worms, and other soil pests; also "club root" and other fungoid diseases. Price: 28lbs. 5s. 6d., 56lbs. 7s. 6d., 112lbs. 10s. 6d., 1 ton £8, all carriage paid, from G. LANG & SONS, LTD., Hounslow, Middlesex.

FOWLER'S LAWN SAND.

ESTABLISHED in 1875.

For destroying Daisies, Dandelions, Plantains, Ribbed Grass, Thistles, and other weeds on Lawns, Croquet Grounds, Bowling Greens, Parks, etc., at the same time acting as a fertiliser, and improving the growth and colour of the grass.

Many preparations are on the market under this name, but no article differs so much in value. **Fowler's Lawn Sand** has exceeded all others in money's worth generally.

To be had from the Trade generally.

Prices:

Tins, 1/6, 3/9, 7/-; Casks, 28 lbs., 10/-; 56 lbs., 18/-; 112 lbs., 34/-.

Sole Manufacturers—
CORRY & Co., Ltd.,
LONDON, S.E.1.

A NEW DISCOVERY

Wood Preservative
In Soluble Powder Form.

"ESITOL"
Regd.

Slate Green, Yellow, Blue-Black, Red.

A'1 Guaranteed Fast Colours.

1-lb. Tin of Powder dissolved in water makes 2 Galls. of liquid Preservative, sufficient to cover 100 sq. yds. of timber.

"Esitol" Wood Preservative
The only Wood Preservative on the Market in Soluble Powder form.

AGENTS WANTED.

Price 4/6 per 1-lb. Tin.

ESITOL CHEMICAL CO. (P Dept.)
ESITOL HOUSE, D'ARBLAY ST., SOHO, LONDON, W.

LITTLE'S WEED DESTROYER
(Liquid).

Double Strength.
Gallon Drum makes 60 Gallons.

MORRIS, LITTLE & SON, LTD., DONCASTER

SEED POTATOES
Scotch and Yorkshire grown.

ALL THE LEADING VARIETIES.

SEND FOR LIST.

ISAAC POAD & SONS,
Seed Potato Growers, YORK.

SANKEY'S FAMOUS GARDEN POTS
The BEST and Cheapest.

State quantity of each size required and have "carriage paid" quotation ("carriage" frequently amounts to half value of goods), or write for Price List, free.
SPECIAL POTS of all descriptions. Bulb Bowls and Fern Pans from 2d. each.

RICHARD SANKEY & SON, LTD.
Bulwell Potteries, *NOTTINGHAM.*

An Ipswich Cry
Oyez! Oyez! Oyez!

ALL ye who may be suffering grievous disappointment through not being able to obtain the 'RANSOMES' LAWN MOWER of your choice may take comfort in the sure knowledge that the world-famed

"Ransomes" Lawn Mowers

are being produced as rapidly as facilities will allow, and notwithstanding the limited nature of the present supply, these celebrated Machines will be procurable again in larger quantities in the near future. Do not, therefore, be persuaded into purchasing an inferior Mower, as the Best is always worth waiting for.

RANSOMES
SIMS & JEFFERIES
LTD.
ORWELL WORKS, IPSWICH.

Harrods
SEED POTATOES
SCOTCH VARIETIES

Do not consider you have well stocked your garden if you have not included the following:

	112 lbs.	56 lbs.	14 lbs.
Majestic Maincrop	40/-	21/6	5/6
Lochar ,,	18/9	10/6	3/-
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THE

Gardeners' Chronicle

No. 1689.—SATURDAY, MAY 10, 1919.

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THE MARKET FRUIT GARDEN.

THE Blackthorn winter came with a vengeance this year, being marked by a blizzard on April 27 and 28. Quite a lot of snow fell, and it remained on the ground for several hours, which, needless to state, is a very unusual occurrence at so late a date in this southern district (Sussex). A similar blizzard was experienced in 1911, but that was quite early in the month. Fortunately fruit bloom is late this year. Only the earliest-blooming Plums—Black Diamond and Monarch—were in full blossom at the time; but several others had some of their bloom expanded and the setting of these flowers will be awaited with anxiety. Naturally it was very much knocked about by the strong wind, but no actual injury to important organs could be detected. Fortunately the temperature was not particularly low at the time, no more than 1 deg. of frost being recorded whilst the blizzard raged. Apple and Pear bloom was still in the cluster stage, and presumably safe, though the surrounding foliage was torn, and now has a scorched appearance. Probably the early Plum bloom was in more danger on the night of the 25th, when 4 deg. of frost were registered; but it is quite likely that the thermometer did not register this low figure for more than a few minutes. So far as can be seen, the bloom of Black and Red Currants and Gooseberries was not injured by frost or snow, but the tops of early Potatos were discoloured.

April was a cold month almost throughout, frost being experienced on twelve occasions. The rainfall also was above the average, 2.92 ins. falling on 13 days at my station. There were very few "growing days," which was no doubt fortunate, in view of the severe conditions to which vegetation was exposed at the close of the month. At the time of writing the weather has become more seasonable, and a warm rain is falling. It is to be hoped, therefore, that the greater part of the fruit blossom will open in conditions that are favourable to pollination.

Late Bloom and Insect Pests.

This is a late season, but not so backward as 1917, which was exceptional. In that year there were no fruit trees of any sort in full bloom before the early part of May. This year the blossoms of the earliest Plums were fully open on April 19, and of Cherries on April 30; but no Pears or Apples expanded a single blossom up to the end of the month. This is a hopeful sign, as late blooming favours a big crop. Insect pests also are late in putting in an appearance. Apple suckers were first seen on April 20, and these were numerous by the end of the month, by which time many young caterpillars of the Winter Moth group were to be found. Probably there are many more caterpillars yet to be hatched, but at present they are far fewer than in the past two years of severe caterpillar plagues. Not an aphis was to be seen up to the last day of April, when a solitary specimen was discovered on an Apple tree, after examining hundreds of bloom clusters. This, however, is not very unusual; and the aphis attack may develop rapidly when the weather becomes warmer. Probably it is too much to hope that these pests have been killed by severe weather, although I know that newly-hatched aphides do succumb fairly easily to frost if exposed on the outside of the buds. After the blizzard I spent several hours examining the trees in the hope of finding that insect pests had been killed by the snow, which was driven into the bloom clusters. I did find a few caterpillars and Apple suckers which had perished presumably from this cause, whilst others looked decidedly sluggish; but the majority were alive and well. If they can stand such an ordeal they will surely survive anything in the way of weather to which they are likely to be exposed.

Cost of Spraying.

Spraying had not been started by the end of April, none of the Apple bloom clusters having reached quite the right stage. It is of little use to spray whilst the buds are short-stalked and cling together so that the insect pests can be found only by forcing the buds apart with the fingers. It is best to wait until the buds have separated, so that the wash can get down amongst the pedicels. It is impossible to catch all varieties at just the right stage where there is much ground to be got over; but I would leave some until after the petals have fallen, rather than waste time and material by spraying during a stage at which it is practically impossible to reach the insects. In some years aphides may be found on the outside of the buds some time before the cluster stage is reached, and then it is worth while to spray early for these alone; but such cases are exceptional. Although I believe that it pays to do plenty of spraying, materials are now so dear that there is no temptation to do work that is of doubtful utility. At present prices of chemicals, the cost of some of the usual washes, per 100 gallons, works out as follows:—

	s.	d.
Caustic soda (20 lb. per 100 gals.)	12	6
Lime-sulphur (winter strength)	10	0
ditto (summer strength)	5	0
Arsenate of lead (4lb. per 100 gals.)	6	0
Nicotine (8oz. per 100 gals.)	7	6
Soft soap (8lb. per 100 gals.)	5	0

I find that to drench a mature Apple tree of average size, as one would with a winter wash or an aphis wash, requires rather more than a gallon of fluid. Where the trees are planted 12 feet apart each way, and are practically meeting overhead, the amount of wash required is about 400 gallons per acre (302 trees). When using arsenate of lead or lime-sulphur at summer strength, with which much lighter spraying, through a fine nozzle, is desirable, I assume that 200 gallons would suffice for an acre, though I have yet to work this out exactly in practice. On the basis of these figures the cost of spraying an acre of fruit trees this year, giving the minimum number of applications likely to be required, is about as follows:—

		£	s.	d.
Winter spraying with caustic soda:	400 gallons	2	10	0
Spraying for aphis, etc., before the blooms open, with soft soap and nicotine:	400 gallons	2	10	0
Spraying for caterpillars and fungus diseases with arsenate of lead and lime-sulphur (summer strength) after fall of bloom:	200 gallons	1	2	0
Second spraying with lime-sulphur for diseases:	200 gallons	0	10	0
		£6	12	0

Labour, fuel for power sprayer, and horse work for carting water would bring the cost up to £10 per acre at least; and with hand sprayers it would certainly be more. Some varieties of Apples do not require spraying for fungous diseases, but against this must be put extra sprayings for aphides and caterpillars, which are always required for some varieties.

Prevention of Aphis Attacks.

Spraying against Apple aphides in spring, particularly the most destructive species, the Rosy or Leaf-curling Aphis (A. malifoliae), is so often unsatisfactory that growers would give much to find a preventive of attack. In the *Journal* of the Board of Agriculture for April, Professor F. V. Theobald suggests spraying in autumn after the fruit has been gathered. It is generally known that the Rosy aphis leaves Apple trees for some other host plant during the latter part of the summer, but returns for egg-laying in the autumn, at which season this species of aphis also is depositing its eggs on the trees. After various experiments carried out during the last fifteen years, Professor Theobald concludes that spraying in October appears to be the most satisfactory method of control. The egg-laying forms of the three usual species of Apple aphis, which are found in the trees in autumn, do not at that season curl up the leaves, but are fully exposed and easily killed if the trees are thoroughly sprayed. Moreover, as risk of scorching the leaves is of little account so late in the year, paraffin emulsion can be employed, which is more potent and normally cheaper than the washes commonly used in spring. The suggestion, coming from such an authority, is worth trying, particularly for young trees, which are often seriously stunted and distorted by Aphis malifoliae (formerly named A. sorbi).—*Market Grower.*

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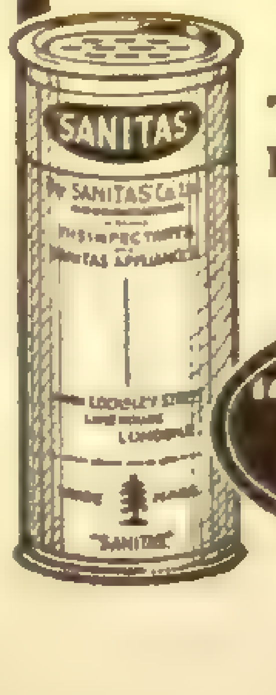

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CONIFERS AT LEONARDSLEE.

The following is a list of Coniferae growing in the open air at Leonardslee, Horsham, Sussex, in April, 1919, with names of authorities, principal synonyms, and habitat:—

Ginkgo biloba, Linnaeus. (syn. Salisburia adiantifolia, Smith). Maidenhair tree. Japan.
Cephalotaxus drupacea, Siebold and Zuccarini. Japan.
—— —— var. pedunculata, Miguel. (syn. Taxus harringtonia, Knight.) Japan.
—— —— var. fastigiata, Pilger. (syns. Podocarpus koraianus, Hort. Cephalotaxus pedunculata var. fastigiata, Carrière; and Taxus japonica, Hort.). Japan.
—— Fortunei, Hooker. N. China.
—— —— var. robusta.
Torreya californica, Torrey. (syn. Torreya myristica, J. D. Hooker). Californian Nutmeg. California.
—— grandis, Fortune. China.
—— nucifera, Siebold and Zuccarini. Japan.
Phyllocladus asplenifolia, Hooker, f. (syn. Phyllocladus rhomboidalis, L. C. Richard—not A. Richard). Adventure Bay Pine. Tasmania.
Taxus baccata, Linnaeus. Common Yew. Europe, N. Africa, W. Africa.
—— —— var. adpressa.
(syn. Taxus tardiva, Parlatore).
—— —— var. aurea.
—— —— var. fastigiata.
—— —— var. —— aurea.
—— cuspidata, Siebold and Zuccarini. Japanese Yew. Japan
—— —— var brevifolia.
Dacrydium Franklini, Hooker, f. Huon Pine. Tasmania.
Podocarpus alpina, R. Brown. Tasmania.
—— acutifolia, T. Kirk. New Zealand.
—— chilina, Richard. Chile.
(syn. Podocarpus andina, Hort.—not Poeppig).
—— macrophylla, D. Don. China and Japan.
—— nivalis, Hooker, f. New Zealand.
—— nubigena, Lindley and Paxton. Chile.
—— Totara, G. Benn et D. Don. New Zealand.
Prumnopitys elegans, ♂ ♀ Philippi. (syn. Podocarpus Poeppig.) Chile.
Saxegothaea conspicua, Lindley. Prince Albert's Yew. Chile.
Juniperus bermudiana, Linnaeus. Bermuda.
—— californica, Carrière. California.
—— Cedrus, Webb and Berthelot. Canary Isles.
—— chinensis, Linnaeus, Chinese Juniper. China
(syn. Juniperus neaborensis, Hort.)
—— —— var. aurea.
—— —— var. japonica, Vilmorin.
—— —— var. sphaerica, Lindley.
—— communis, Linnaeus. Common Juniper. Europe, Asia, N. America.
—— —— var. aurea, Carrière.
—— —— var. canadensis, Loddiges.
—— —— var. fastigiata. (syns. var. hibernica, Loddiges; var. succica, Miller.)
—— —— var. hemisphaerica, Parlatore.
—— —— var. nana, Loudon.
—— drupacea, ♂ ♀ Labillardière. Syrian Juniper. Greece, etc.
—— excelsa, Bieberstein. Asia Minor, etc.
—— —— var. stricta, Rollinson.
—— formosana, Hayata. (syn. Juniperus taxifolia, Masters—not Hooker.) China.
—— litoralis, Maximowicz. (syn. Juniperus conferta Parlatore). Japan.
—— macrocarpa, Sibthorp and Smith. Greece.
—— occidentalis, Hooker. N. America.
—— —— var. Burkei.
—— Oxycedrus, Linnaeus. S. Europe.
—— —— var. macrocarpa—not Sibthorp.
—— pachyphloea, Torrey. Chequer-barked Juniper. N. America.
—— phoenicea, Linnaeus. S. Europe.
(syn. Juniperus Lycia, Loudon.)
—— procera, Hochstetter. East Africa.
—— procumbens, Siebold. Japan.
—— pseudo-Sabina, Fischer and Meyer. Himalayas.
—— recurva. Buchanan-Hamilton. Himalayas.
—— rigida, Siebold and Zuccarini. Japan.
—— Sabina, Linnaeus. Common Savin. Europe.
—— —— var. prostrata. Persoon. N. America.
—— —— var. tamariscifolia.
—— scopulorum, Sargent. (syn. Juniperus fragrans, Knight and Perry.) N. America.
—— squamata, Buchanan-Hamilton. United States.
—— taxifolia, Hooker and Arnott. Bonin Islands.
—— tetragona, Schlechtendal. United States.
(syn. Juniperus sabinoides, Nees—not Grisebach.)
(syn. Juniperus mexicana, Springel—not Schlechtendal.)
—— thurifera, Linnaeus, Incense Juniper. S. Europe, N. Africa.
—— —— var. gallica, De Coincy. S. France.
—— virginiana, Linnaeus. Red Cedar. N. America.
—— —— var. glauca, Knight.
—— —— var. keteleeria.
—— —— var. pendula, Knight
—— —— var. Schottii, Gordon.
—— —— var. tripartita, R. Smith.
—— wallichiana, Hooker, f., Black Juniper. Sikkim.
Fitzroya patagonica, Hooker, f. ♂ ♀ Patagonian Cypress. Patagonia.
Cupressus arizonica, Greene—not Hort. Arizona Cypress. Arizona.
(syn. Cupressus glauca, Hort.)
—— cashmeriana. Royle
(syn. Cupressus funebris var. glauca, Masters.)
—— formosensis, A. Henry. Formosa.
—— funebris, Endlicher. Chinese weeping Cypress. China.
—— glabra, Sudworth. Arizona.
(syn. Cupressus arizonica, Hort.—not Greene.)
Cupressus goveniana, Gordon. Gowen's Cypress. California.
—— lawsoniana, Murray. Lawson's Cypress. N America.
—— —— var. argentea.
—— —— var. ericoides.
—— —— var. lutea.
—— —— var. Allumi.
—— —— var. erecta viridis.
—— —— var. intertexta.
—— —— var. tamariscifolia.
—— —— var. nana.
—— —— var. filifera.
(Syns. Cupressus fragrans, Kellog. Cupressus nutkanus, Torrey. And Chamaecyparis Boursieri, Carrière not Decaisne.)
—— lusitanica, Miller. Cedar of Goa. Mexico.
—— —— var. Benthami, Carrière. Mexico.
(syn. C. knightiana, Knight and Perry.)
(syn. Cupressus thurifera, Schlectendal—not Humbold.)
(syn. Cupressus Benthami, var. knightiana, Masters.)
—— macnabiana, A Murray. Macnab's Cypress. Sierra Nevada.
—— macrocarpa, Hartweg. Monterey Cypress (syn. Cupressus lambertiana, Gordon). California.
—— —— var. lutea.
—— —— var fastigiata.

FIG. 110.—SAXIFRAGA LILACINA: FLOWERS ROSY-LILAC.
(See p. 224.)

Cupressus nootkatensis, Lambert. Yellow Cypress (syn. Thujopsis borealis, Carrière). N. America.
—— obtusa, Koch. Hinoki Cypress. (syn. Retinispora obtusa, Siebold.) Japan.
—— —— var. aurea.
—— —— var. aurea Crippsi.
—— —— var. nana
—— —— var. filicoides.
—— —— var. lycopodioides, Carrière.
—— —— var. tetragona aurea.
—— pisifera, Koch. Sawara Cypress. Japan.
—— —— var. aurea.
—— —— var. ericoides.
—— —— var. filifera.
—— —— var. plumosa.
—— —— var. plumosa aurea.
—— —— var. squarrosa, Masters.
—— sempervirens, Linnaeus. S. Europe
—— —— var. fastigiata.
—— —— var. pendula.
—— Sanderi (syn. Juniperus Sanderi, Hort., perhaps a form of Cupressus obtusa?)
—— thyoides, Linnaeus. White Cedar (syn. Chamaecyparis sphaeroidea, Spach.) E. N. America.
—— —— var. Cupressus leptoclada, Masters. (syn Retinispora leptoclada. Gordon.)
—— torulosa, Don. Himalayan Cypress. Nepal.
—— —— var corneyana, Carrière.
—— —— var majestica.
Thuja dolabrata, Linnaeus. fil. (syn Thujopsis dolabrata, Siebold). Japan.
—— —— var. nana, Siebold. (syn. Thujopsis laetevirens, Lindley).
—— —— var. variegata.
—— japonica, Maximowicz.—Japanese Arbor-vitae (syn. Thujopsis Standishi, Gordon). Japan.
—— occidentalis, Linnaeus. Arbor-vitae (syn. Thuja plicata. Hort.—not Don). N. America.
—— —— var. ericoides.
—— —— var. Spathi.
—— —— var. ellwangeriana, Carrière.
—— —— var. ericoides, Hort. (syn. Retinispora dubia, Carrière.)
—— —— var. pendula (syn. filiformis).
—— —— var. plicata, Masters. (syn. sibirica, Hort.—not Thuja plicata, Don).
—— —— var. vervaeneana.
—— —— var. wareana.
—— orientalis, Linnaeus. (syn. Biota orientalis.) Endlicher. China.
Thuja orientalis Linnaeus. var. aurea.
—— —— var. compacta.
—— —— var. pendula, Siebold and Zuccarini.
—— plicata, D. Don. Red Cedar. N.W. America.
(syn. Thuja Lobbi, Hort.)
(syn. Thuja gigantea, Nuttall.)
(syn. Thuja Menziesi, Douglas.)
—— —— var. gracilis.
Libocedrus chilensis, Endlicher. Chile.
—— decurrens, Torrey. Incense Cedar (syn Libocedrus gigantea, Low). Oregon.
—— macrolepis, Bentham. China.
—— tetragona, Endlicher. Chile.
Fokienia Hodginsi, Henry and Thomas. China.
Sciadopitys verticillata, Siebold and Zuccarini. Umbrella Pine. Japan
Athrotaxis cupressoides, D. Don. Tasmania.
(syn. Athrotaxis imbricata, Maule.)
(syn. Cunninghamia cupressoides, Zuccarini.)
—— laxifolia, Hooker fil. Tasmania.
(syn. Athrotaxis doniana, Maule.)
—— selaginoides, D. Don. Tasmania.
(syn. Athrotaxis alpina, Van Houtte.)
(syn. Athrotaxis gunneana, Carrière.)
(syn. Cunninghamia selaginiodes, Zuccarini.)

Edmund Loder.

(To be continued.)

NOTICES OF BOOKS.

SCHOOL AND HOME GARDENING.

The title of this book* is rather misleading, for it is almost entirely devoted to school gardening, and only deals with home gardening in so far as the instruction given in school encourages the young to garden at home.

To those who have to do with school gardens the book will provide an interesting account of the work as carried out in America, and some chapters such as "Exercises with Soil," "Lessons with Trees," and the chapter on beautifying the school buildings and grounds contain useful suggestions.

It is not, however, a book to put in the hands of a beginner, for in some matters our friends across the Atlantic would seem to be behind us in their ideas, *e.g.*, the planning of a school garden. Again, neither the methods nor the standard of cultivation are applicable to this country, for, apart from the different crops grown, the plough is substituted for the spade, and the operation of trenching is not referred to in the book. Moreover, there are statements such as the following:—"Young fruit trees should be fed abundantly with fertilisers rich in nitrogen," and on the same page, "phosphoric acid produces stem and root growth," whilst "potash . . . causes the early formation of fruit."

The book is well printed, profusely illustrated, and provided with a good index.

* "School and Home Gardening," by Kary Cadmus Davis, Ph.D., Pp. 353; figs. 160; J. B. Lippincott Company, Philadelphia and London; Price 4s. 6d. net.

THE ALPINE GARDEN.

THE GRECIAN VIOLET.

THE popularity of the Grecian Viola gracilis (see Fig. 109) has been unchallenged since the plant was given an Award of Merit by the Royal Horticultural Society in 1908. For planting big slopes in the rock garden and for making an intense violet carpet in open spaces, beds and flower borders, this wonderful little perennial Viola is of the utmost value. Some of the Aubrietias are more vivid when massed, but Viola gracilis has a deep, rich tone, which is glorious for massing and contracting. Its culture is of the simplest. A deep soil, preferably on a slope between cool, outcropping rocks, plenty of sunlight and an open situation are the main essentials of successful cultivation.

Animals and chemical manures seem quite unnecessary aids to successful culture. In heavy loam or clay soils (where this Viola seems quite at home), it is a good plan to incorporate an occasional dressing of leaf-mould, sand and old mortar rubble, which not only renders the soil more adaptable to the Viola's needs, but also more workable.

In hot situations V. gracilis is often burnt to the ground level during the heat of summer, but with the advent of rain and cooler conditions a fresh crop of green growth is soon produced, which makes low hillocks of foliage for the winter months and assures a great display of blossoms as soon as the spring days arrive.

It was stated at the introduction of V. gracilis that it did not produce seed, but this was soon proved quite erroneous. It is advisable, however, to raise new stocks so far as is possible from cuttings, as seedlings are apt to be a little variable at times. The number of fine Violas which can claim V. gracilis as one parent is very considerable, and many striking subjects for the rock garden are to be found among them. The hybrids, however, need more space than I have at my disposal in this article, so I will confine myself to some of the varieties of V. gracilis.

The first to appear was V. g. grandiflora, true to type in colour, habit, foliage, and height, but larger in all its parts and with flowers almost round, the "butterfly" form having vanished. Lord Nelson appeared at a somewhat later date, but there is a brighter and more purple tone in it, which makes for a warmer effect in the sunlight than V. g. grandiflora produces. The habit of Lord Nelson is, however, somewhat more diffuse and spreading. The first distinct colour variation was Marjorie, a tiny, pale, primrose-coloured gem, which is slightly smaller than V. gracilis itself, but a charming little plant. Golden Fleece is similar to the last-named, save that it is a brighter yellow and a good contrast to the type. Aurea is butter-yellow and a favourite wherever grown, but as yet somewhat rare in gardens. Rarer still are the miniature Golden Realm and Golden Gracilis; the latter is the richest in colour, but it has none too vigorous a habit. V. gracilis minuta, which was in the hands of Messrs. Bunyard a few seasons back, is an exceptionally tiny form, which, as I remember it, had flowers of an opal-mauve shade, and no larger than an ordinary Violet; I do not know whether this plant was perpetuated, but it was certainly an interesting subject. Exquisite, a tiny pale blue form, appeared some time ago, but was too frail to flourish over a long period. Blue Jacket, however, fared much better and found its way into many gardens. It is a lovely Viola, the colouring is grand, and it is far more effective than V. gracilis itself.

Viola gracilis alba is very beautiful and floriferous. It has vreamy-white flowers, but so far as I am aware, it has not yet been placed in commerce, war conditions preventing its appearance at an earlier date. Inspiration is a charming, long-stemmed variety, with blossoms of a pronounced lavender tone and a bright golden eye, which makes it quite a distinct contrast to the tiny, white-eyed V. gracilis.

Violas should always be extensively planted in sunny rock gardens, and the varieties and hybrids of Viola gracilis are certainly the most beautiful and effective forms to plant. *P. S. Hayward, Clacton.*

FIG. 109.—VIOLA GRACILIS: FLOWERS DEEP VIOLET.

SAXIFRAGA LILACINA.

REPRESENTATIVES of the Himalayan species of the genus Saxifraga in cultivation are few in number, and consist chiefly of members of the large leaved or Megasea section. This region is the home of many fine species yet to be introduced. Saxifraga lilacina (see Fig. 110) is a totally distinct type of plant, one that forms dense, cushion-like tufts of crusted foliage similar in habit to the well-known European S. caesia, but not so white, while the flowers remind one of those of S. oppositifolia. This combination of encrusted foliage and rose-coloured flowers is uncommon, the European species with this kind of leaf having mostly white or yellow flowers, exceptions being S. media and S. Grisebachii, which have small red flowers.

Seeds of S. lilacina were collected at a high elevation in Hazara, Western Himalaya in 1899, and received at Kew in the spring of 1900 from the Government Botanic Garden, Saharunpur. A few germinated, and the seedlings formed small tufts which first flowered in March, 1904. The seeds were received under the name of S. ramulosa, a yellow flowered species, and S. lilacina does indeed bear some resemblance in habit to that species, but differs from it in having rosy-lilac flowers. The leaves are densely packed on short stems; they are short and fleshy, concave on the upper side, with 2-4 chalk pits on the margin near the apex. The rosy-lilac flowers are borne singly on stems one inch long, these stems being glandular and furnished with two or three small leaves.

The plant is quite hardy in this country, and grows well under moraine treatment, in which the roots receive plenty of moisture. It is also an excellent pot plant for the alpine house, flowering early in March. The plant illustrated received an Award of Merit at the meeting of the Royal Horticultural Society on March 25, when shown by Messrs. R. Tucker and Sons, Oxford.

THE BULB GARDEN.

HERMODACTYLUS TUBEROSUS.

WHEN Curtis described this plant as "a species of Iris, readily distinguished from every other by its quadrangular leaves" (see p. 206), Iris reticulata had not yet been introduced into cultivation from the Caucasus. When they first appear the leaves of these two plants are indeed almost indistinguishable, but when fully grown it will be found that the leaves of Hermodactylus taper slightly from the base upwards, while those of Iris reticulata are of the same diameter throughout.

Another point of similarity between these two plants is to be found in the seeds, which, when nearly mature, seem to consist of two spheres packed closely together in a single envelope. One sphere is white, and shrivels away almost to nothing as the seed ripens, while the other is a pale pinkish brown and dries into the light brown seed.

The distinction between a Hermodactylus and an Iris is to be found in the seed-vessel. In Irises this is always divided into three divisions by membraneous walls, but in the Hermodactylus there is no such internal division. In all Irises, so far as I know, the division into three is always complete, except in Iris pumila, where in the ripe capsule the membraneous walls seem to be torn apart at the base, though they remain joined together as usual at the tapering apex.

Hermodactylus tuberosus owes its botanical name to the fact that its rootstock consists of one, two, or three tubers, joined together at one end like so many fingers. Dactylus is the Greek word for a finger, but there is no legend to tell us why the tubers were supposed to represent the fingers of Hermes. The new growths proceed from the tips of these tubers. It is interesting to remember, too, that seedlings first produce tubers so small as to resemble minute bulbs, and it is only as they get older that these tubers become oblong.

Its name of Widow Iris is derived from the name La Vedova, by which it is known in Italy, where it appears from the evidence of herbarium material to be fairly common. Dried specimens of it have also been sent to me recently from Syria, though I believe it is not mentioned in the existing floras of that country. In some parts of Devonshire it has, I believe, become naturalised in the hedges, and it evidently needs a warm climate in which to grow well. Here it is very capricious. Sometimes, if I plant it in a warm corner and if the winter is mild, it flowers freely, but in the open garden neither this year nor last has it given me a single flower. It succeeds best in rich light soil.

The colour of the falls of this plant varies a little. It may be a dense, velvety black, but I have had examples in which it was a dark greenish brown. The flower is honey-scented. *W. R. Dykes, Charterhouse, Godalming.*

soil a good soaking immediately after potting but care must be taken to afford water only when necessary afterwards. Place the plants in a warm frame, and shade them from bright sunshine. Another sowing of Primula sinensis may be made now in well-drained, shallow pans filled with finely-sifted loam, leaf-mould and sand. Soak the compost before sowing, and cover the seed with a very light dusting of soil. Place the seed-pans in a warm house and cover each with a sheet of glass, shaded with paper, until germination takes place.

Hippeastrum (Amaryllis).—All Hippeastrum bulbs which have finished flowering should be encouraged to make as much growth as possible. If a house containing arrangements for providing bottom heat pit is available, plunge the pots to the rim in the hotbed and maintain a mild bottom heat. Failing such conditions grow the plants in a house where daily syringing is practised, such as a Peach house. While growth is vigorous afford liquid manure frequently; but when growth has fully developed, stop feeding, gradually withold water, and fully expose the plants to sunlight.

Campanula pyramidalis.—The Chimney Bellflower is very useful for conservatory decoration, and specimens now coming into flower should not be allowed to become dry at the roots. The regular removal of faded flowers will prolong the flowering period. Seeds may be sown now to provide plants for flowering next year; sow in well-drained pans filled with finely sifted, sandy soil, and soak the soil thoroughly before sowing the seed. Cover the seeds lightly with fine soil, cover the pans with glass and paper, and place them on a shelf in a warm house. After germination has taken place remove the glass covering, and gradually harden the seedlings with a view to finally placing them in a cold frame when potted into small pots.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Tomatos.—The early batch of Tomato plants will now be fruiting freely, and the roots must not suffer for want of water, but at the same time avoid using much stimulating liquid manure, as this induces a thick, soft, unfruitful growth. All lateral growth should be rubbed out at an early stage, and if the plants have attained the necessary length of stem all further extension should be restricted. Gather the fruits when coloured, and store them in a cool room; continue to pollinate the flowers daily. Keep a sharp look out for white fly and, if noted, take prompt measures to destroy the pest by fumigating the house twice or three times at intervals of three or four days. Air should be freely admitted whenever the weather is favourable.

Early Peaches and Nectarines.—Where the early Peach house is furnished with established trees of the early-ripening varieties of Peach and Nectarine, the fruits will be in an advanced state, and (with the exception of Lord Napier Nectarine, which should be lightly shaded when grown near the glass, as the fruits are apt to scorch from the effects of bright sunshine, especially after a dull period) all should be as fully exposed to the sunlight as possible. The usual method of adjusting the fruits in position by means of wood slips needs to be carefully carried out or the fruits will be disfigured, either by undue pressure or by partially resting on the edge of the wood; the latter should be quite two inches wide. To obtain good size, finish, and flavour, liberal ventilation must be afforded in the later stage of growth, leaving the house open until late in the afternoon on warm, sunny days, and if the weather is mild a little ventilation may be permitted at night. Less atmospheric moisture is needed, but there should be no lack of moisture at the roots. The borders should be carefully examined, as after being damped frequently the surface soil will be moist enough, but deeper down it may be the reverse. When watering, give liquid stimulant in some form or other, preferably soot-water or a suitable artificial stimulant; but, whatever kind is applied, it should be quick acting. Thoroughly cleanse the trees of insect pests before the final stage of ripening is reached. Peaches gathered before they are fully ripe, and stored in a cool room for a few days are better in flavour than those that are permitted to remain upon the trees until they fall.

Successional Trees. — Badly placed weakly growths should be removed. A final thinning of the fruits should be made before stoning commences. If the weather is dull and cold, syringing should be discontinued, as a saturated atmosphere during such periods only encourages the development of weak growth and thin foliage. In sunny, mild weather, plenty of air is required, and the house should be closed sufficiently early in the afternoon to render artificial heat unnecessary until late in the evening. In the late house, thinning of the fruits should be done with care, as it is not advisable to reduce the crop to an average one until it can be seen with certainty which fruits are perfectly set.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford. Wrotham Park, Barnet, Hertfordshire.

Pansies and Violas. — When propagating Pansies and Violas use the young, flowerless shoots springing up in the centres, dibble them in firm, sandy soil, and keep them well supplied with moisture until roots have formed. In many gardens Violas are planted thinly amongst Roses, where they make a good display during the summer and autumn months.

Box Edging.—Clip and trim all Box edgings and plant new edgings if necessary. Plant thinly, deeply, very firmly, and afford water should the weather prove very dry before the newly planted Box is thoroughly rooted.

Planting.—Although it is still too early to plant out of doors tender plants which have been propagated under glass, there should be no delay in removing many forward subjects to cooler places, such as rough frames, where they can be duly hardened and rendered fit for transferring to their summer quarters by the end of the present month.

Ivy-leaved Pelargoniums.—Zonal and Ivy-leaved Pelargoniums, Verbenas, and several other plants, if sufficiently strong, will be all the better if placed in cold frames, matted over during the night, to gradually harden. This will allow more room for other young plants less forward and more tender, such as Alternantheras, Irisines, and Coleus.

Asters and Stocks.—As soon as Aster and Stock seedlings are large enough, prick them off into shallow boxes, drained and filled with a sweet sandy compost. Water sufficiently to keep the soil moist, stand the boxes under glass and shade the plants in sunny weather till they have made fresh roots. Zinnias should receive similar treatment.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Brussels Sprouts.—The early batch of Brussels Sprouts raised in boxes and pricked out in frames has provided good plants, and by this date they should be quite hardened and ready for their final quarters. Select a piece of ground that was trenched and manured early, so that it will now be firm. Scarify the surface, set the plants in lines three feet apart, and allow 30 inches between the plants. Give water at the time of planting, and place cinder ashes around each plant if slugs are troublesome. Sutton's Dwarf Gem, Exhibition and the Wroxton are excellent varieties.

Runner Beans.—During the coming week it should be quite safe to sow the main crop of Runner Beans. Draw drills four inches in depth on ground that has been heavily manured and trenched. Work into the bottom of the drills a slight dusting of superphosphate of lime, place the seeds in double lines one foot apart, cover them with three inches of soil and on this scatter some burnt garden refuse. The rows should not be less than eight feet apart.

Beetroot.—Maincrop Beet may now be sown on ground previously occupied by Celery. Proceed by giving an ample dressing of wood-ash and finely-sifted lime or mortar rubble. Fork this into the surface soil, then level and rake it smooth. Draw drills 1 inch deep and 18 inches apart. Blood-red, Pineapple, and Sutton's Black are excellent varieties for deep soils, and Veitch's Intermediate for shallow soils. To obtain specimen Beet suitable for exhibition, bore holes 3 feet in depth and 18 inches apart; fill them firmly with finely-sifted loam, leaf-soil and road grit in equal parts, and sow three or four seeds in each station.

Salsafy.—Sow seeds in well-pulverised soil in lines 15 inches apart. Scorzonera requires the same treatment. Thin the crops when ready, to 6 inches apart.

French Beans.—Make a sowing to meet the demand and thin the plants to one foot apart in the rows.

New Zealand Spinach.—Select a warm position for a row of this vegetable and sow the seeds an inch deep in well-worked soil.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Oncidium.—There are few more ornamental Orchids than the various Brazilian Oncidiums, and there are certainly no flowering plants more worthy of consideration. The plants are fairly easy to establish, but, being so free-flowering, they become exhausted under artificial conditions, especially where the flower-spikes are allowed to remain on the plants too long. Under these latter conditions it is most difficult to keep the plants in a satisfactory condition more than a few years. The late summer and autumn-flowering kinds, O. varicosum, O. Forbesii, O. crispum, O. tigrinum, O. Gardeneri and O. Mantinii, having rested since flowering last year, are making new growths, and as these will soon push forth young roots from their base any repotting that may be necessary should be given immediate attention. The potting compost should consist of good A1 or Osmunda fibre and Sphagnum-moss in about equal parts, chopped up and mixed well together, and some crushed crocks and charcoal added to it. Good drainage is essential, and only a moderate thickness of material is required, but this should be made moderately firm about the roots of the plants. After potting, water the material well and then allow it to become dry before giving a fresh supply. When the roots are permeating the new compost and the young pseudo-bulbs are forming, a full supply of water must be allowed until the latter are fully developed. These Oncidiums are all accommodated in the cool intermediate house, and I find they succeed best suspended near the roof-glass, and where they may have the benefit of all available light. Light is most essential to their welfare, especially during the late summer and autumn months when they are completing their pseudo-bulbs and pushing up their flower-spikes.

Lycaste.—Lycaste Skinneri and its varieties are now making new growth, and the plants will need more moisture at the roots than hitherto. Lycastes do not need an annual repotting, provided a substantial rooting material is employed, but any plants requiring a shift should be attended to now. L. aromatica, L. cruenta and L. Deppei usually flower at this season, the flower buds and new growths appearing together; these may be potted now, or after the flowering stage, the former course being preferable. All Lycastes should be grown in very well-drained receptacles and the pots should not be over-large. For soil, make use of a similar compost to that advised in a former calendar for Anguloas making it firm about the roots of the plants. In the summer months the Odontoglossum house is warm enough for these Orchids, but in the autumn they are better removed to a slightly warmer position where the temperature does not fall below 50°.

TULIPA TURKESTANICA AND T. BIFLORA.

These two small, early-flowering species of Tulip appear to be seldom grown and yet they are worth a sheltered, sunny corner in the rock garden where their flowers will appear sometimes as early as the middle of February and sometimes not till a month later, when the season is exceptionally severe and backward. Both are interesting for they have branching stems six to eight inches in height and T. turkestanica, at any rate, is capable of bearing as many as ten flowers (see Fig. 111). The flowers are small, but open out widely in the sun to a flat star-shaped form and so produce an effective display.

At first sight the two species seem very similar and hard to distinguish from each other. They both produce two or at most three narrow leaves from 5 to 10 inches in length, and ½ to 1 inch broad, with the edges held erect so as to form a narrow channel. The upper surface is of a greyish green, while the under face is darker and not at all glaucous. The edges of the leaves as well as the stems bear minute hairs, and, if in T. biflora the edges appear to be more usually wavy than T. turkestanica, this character is hardly constant and cannot be relied upon to separate the two species.

The bulbs of the two species are very similar, though the inner side of the coats of T. biflora is perhaps rather more thickly covered with hairs of a more downy or woolly nature than those that line the neck of the bulb of T. turkestanica.

In both species the outer segments of the flower are much narrower than the inner, and are of a greyish green colour with a certain admixture of dull purple which is more conspicuous in T. turkestanica than in T. biflora. The inner segments of both have a coloured ridge running up the centre of their white, outer surface. In T. biflora this ridge is green, but purplish in T. turkestanica. In both species the edges of the lower part of the inner segments are fringed with minute hairs. The inner surface of all the segments is white with a yellow centre and, though in T. turkestanica this yellow colour is a sharply-defined, pointed patch that barely covers the lowest third of the segments, in T. biflora it extends about halfway up the segments and then fades gradually into the white.

Other points of difference are to be found in the stamens. In both the bases are thickly set with hairs, but, whereas in T. biflora the filaments bear scattered hairs all over them, in T. turkestanica there is none on the upper part. In T. biflora the anthers and pollen are a creamy-yellow shade, while in T. turkestanica the anthers are dark red-brown, and the pollen brownish.

The number of flowers produced seems to vary in proportion to the size of the bulb. In T. biflora there may be either one, two, or three flowers, while T. turkestanica produces any number from one to ten. It is even capable of producing one branch and flower from the axil of the lower leaf, though it is more usual for all the flowers to be borne above the upper of the two leaves.

The cultivation of both these Tulips is easy, provided that the bulbs are lifted annually when the foliage withers, and not replanted until as late as possible in November, though they should not be kept out of the ground when once they have shown signs of beginning to grow again. The soil should be light, well drained and rich, and not deficient in lime. *W. R. Dykes, Charterhouse, Godalming.*

ORCHID NOTES AND GLEANINGS.

BRASSO-CATTLEYA FAIR ROSAMOND.

From the Duke of Marlborough's gardens, Blenheim, Woodstock, Mr. J. T. Barker, the Orchid grower, sends a very large and handsome flower of a new cross between Brasso-Cattleya Digbyano-Schröderae and Cattleya Mossiae. The flower, which is eight inches across, has petals two and a half inches wide, both sepals and petals being blush white with a slight lavender shade. In the broad, fringed lip C. Mossiae is clearly indicated by the markings at the base running into the chrome-yellow disc as in C. Mossiae. The lip is white, with a blush tint in front; the fleshy column is pure white. The bloom is very fragrant.

BRASSO-CATTLEYA SPECIOSA.

Brasso-Cattleya speciosa, raised by crossing B.-C. Digbyano-Mendelii Fortuna and a white Cattleya Schröderae, is also sent by Mr. Barker. The influence of C. Mendelii has given expansion and improvement to the white form of Brasso-Cattleya used, but although both of the parents have white flowers, the blush pink of C. Mendelii is again in evidence in the progeny. The lip partakes much of C. Mendelii, the fringing being in this case much reduced. The disc is yellow, and there are faint purple lines at the base.

FIG. 111.—TULIPA TURKESTANICA: INNER SURFACE OF THE SEGMENTS WHITE WITH A YELLOW CENTRE.

The Week's Work.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Disbudding Fruit Trees.—All fruit trees trained to walls are greatly benefited by judicious disbudding, and the size and quality of the fruits are also enhanced thereby. Disbudding may be described as a form of pruning, and it obviates the necessity of much winter pruning. No shoot should be allowed where there is not sufficient room for its leaves to develop and obtain full exposure to light. Remove the shoots when they are just big enough to be gripped between the finger and thumb, and disbud only a few at a time. Young trees should have their leading shoots carefully disbudded as it is at this time the foundation of a shapely tree is laid.

Thinning Peach and Nectarine Fruits.—If the season is at all favourable Peach and Nectarine trees set an abundance of fruits which should be thinned severely. Thinning should commence as soon as the fruits are as large as a good-sized Pea seed, and the work should be performed gradually and at intervals of a few days. Some varieties will perfect more fruits than others, but a great deal depends upon the condition of the trees. A young and vigorous tree will perfect quite a third more fruits than a weakly specimen. Very frequently too many fruits are left on a tree and the overcropping causes exhaustion. Generally speaking, if two fruits are left to a square foot a heavy crop is allowed, and only with small-sized varieties should this number be exceeded. The final thinning should be done when the fruits are about the size of a small Walnut, and the aim should be to leave the best-shaped and best-placed fruits to ripen.

Apricots.—Apricot fruits may be left closer together than those of Peaches and Nectarines; in the case of large varieties two fruits to the square foot will be ample, but with medium-sized varieties from four to six fruits per square foot may be left, provided the trees are healthy and vigorous. Apricot trees must not be over burdened, however, and weak trees should be at all times cropped sparingly. It is a mistake to allow the fruits to remain until well advanced and then remove them all at once, as this causes the trees to put forth an amount of energy they cannot sustain over many years.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Poinsettia.—The old Poinsettia plants, after being rested and placed in a warm house, soon give a supply of cuttings, which should be taken off with a heel of old wood, and inserted singly in small pots. Plunge them in a propagating case or under a bell-glass, over bottom heat, and when rooted shift them into larger pots and place on a shelf near the roof glass. Old plants to be prepared for another season's growth should be cut back to two eyes, and placed in heat. As soon as a little growth has been made have the old soil shaken from the roots, and re-pot them in fresh compost.

Cineraria.—Cinerarias of the radiata and stellata sections are the most useful types for decorative purposes, and a sowing of these should be made now for early winter use. Sow the seeds in well-drained pans or boxes filled with finely-sifted, light soil; water the soil before sowing, cover the seeds lightly, and place the pans in a cool greenhouse. Afford shade at all times and always grow Cinerarias in cool conditions.

Primula.—Seedlings of Primula obconica, when ready for their final potting into large pots, should be placed in a compost of good loam, leaf-mould, sharp sand, a little rubble or wood-ash, and some dried cow manure. Give the

in response to the recent appeal of the President, Lord Ernle.

Farina Production.—Before the war all farina used in this country came from Germany, Holland and Japan. Farina is largely used in the textile trades for the making of dextrine, gums, glucose and many other chemical products. The manufacture of it produces various bye-products of value to agriculture, consisting of fertilisers and cattle food. Four large farina mills have been erected at King's Lynn, Boston and Hull, and Monikie in Scotland, which it is estimated will be able to supply the home demand and render this country independent of farina of foreign origin. The King's Lynn mill, at Alexandra Dock, King's Lynn, is already working, and using approximately 2,000 tons of Potatos per week.

Pyrus ioensis flore pleno.—In the beauty of the individual flowers Pyrus ioensis flore pleno (see Fig. 112) is the finest of all the Crabs; they are ordinarily 1½ to 2 inches in diameter and some measure over 2½ inches. As may be seen from the illustration they are double, and the numerous petals are of a delicate, soft shade of rose pink. To the charm of colour is to be added that of a delightful violet-like perfume, so that on the whole this Crab is very attractive. The typical P. ioensis is a small, deciduous tree growing 20 to 30 feet high, with downy branchlets and leaves, the branching rather loose and open. The leaves are narrowly ovate, coarsely toothed, and, on the virgin shoots of the year, 3 to 5 inches long and about two-thirds as wide; on the flowering twigs they are smaller. The flowers develop in clusters of six or seven, the five petals are cupped, but although they have the same colour and fragrance as those of the "double" variety they are much smaller and less striking. The fruit has no great beauty, being almost globular, about 1 inch wide, yellowish brown, with pale dots, the flesh hard and very harsh to the palate; it is, however, fragrant. Pyrus ioensis belongs to a well marked group of three North American Crabs, the other two being P. coronaria and P. angustifolia. In gardens, this double-flowered variety has been called by both the two last names as well as its own, and under them is still offered in catalogues. P. coronaria differs in its leaves being broad at the base, sometimes heart-shaped, those of P. ioensis being wedge-shaped. The true P. angustifolia is well distinguished by its smaller fruits and glabrous or nearly glabrous leaves. P. ioensis has a more western distribution in a wild state. The double-flowered variety was first distributed by Messrs. Bechtel, of Staunton, Illinois, in 1891, and in the United States is known as the "Bechtel Crab." It is the latest to flower of the Crabs, and its blossom does not open until late May and early June, by which time the tree is in full leaf and an object of great beauty.

FIG. 112.—PYRUS IOENSIS FLORE PLENO.

London Gardens Guild.—The London Gardens Guild was formed in 1914 to encourage the cultivation of the hitherto unused front and back gardens in the County of London. It was at first intended to encourage the cultivation of plants other than vegetables, but the urgent need for food production compelled the Guild to take up the vegetable side of gardening. The result of the latter experiment was a complete surprise, for the crops obtained were of high quality. Now that the war is over it is hoped that flower cultivation will be generally adopted, although in gardens which may be especially suitable for the cultivation of vegetables encouragement will still continue to be given in this direction. The work of the Guild is restricted to the County of London, but inquiries have been received from, and advice given to, provincial towns which were anxious to establish similar societies. In the event of serious unemployment, the Guild has in readiness a scheme for the cultivation of the unused front gardens in London, the work of preparation to be performed by the unemployed. This scheme has received the approval of the Local Government Board, and the responsible authorities of the Prince of Wales's Fund. A working committee of the Guild is now in the course of formation, consisting of a representative from each borough in the County of London. Central committees are being formed in every borough. The number of entrants in the competitions for the year showed a big decrease over that for the previous year, but the area covered showed a large increase. The decrease was due chiefly to men being called away by the Military Service Act and to women being too busily engaged on war work. Notwithstanding this, most of the gardens which were newly placed under cultivation in 1917 are still being carried on. The total number of entries for the competition was 403. Walworth with 120, South Lambeth Schools with 50, and Marylebone with 30 contributed the largest numbers of entrants. Eighty lectures have been given by the secretary throughout London, many of which were illustrated by lantern slides. The Settlement House at 61, Penrose Street, Walworth, has been furnished and renovated for use as a hostel. During 1918 it was the scene of a number of gatherings, social and educational, the garden parties in the summer being especially enjoyable. The gardens attached to the Settlement House have been used for the purpose of experimental work. An effort has been made to cultivate plants hitherto rarely seen in the London area. It has been found exceedingly difficult to get many plants to survive the winter, and this applies especially to Alpine and rock plants. Among flowering plants which have been a success are Gladioli, Lilies, Irises, Auriculas, many herbaceous perennials, especially the newer types, and Michaelmas Daisies. Dahlias and hardy Chrysanthemums are also very successful. A notable acquisition is Polygonum Baldschuanicum, sometimes called the Climbing Knot Weed, which flourishes over arches and trees and other supports in Walworth. Hardy fruits, such as Apples, Red and Black Currants and Gooseberries are also being tried, but the unfavourable season last year makes it impossible at present to pass judgment on them.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, MAY 12—
United Hort. Ben. and Prov. Soc. Com. meet. Bath Gard. Soc. meet.

TUESDAY, MAY 13—
Roy. Hort. Soc. Coms. meet. Nat. Tulip Soc.'s Combined Show. Lecture by Mr. Vincent Banks at 3 p.m. on "Bottling and Drying Fruits and Vegetables."

SATURDAY, MAY 17—
Brighton Hort. Soc meet.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 52.5°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, May 7*, 10 a.m.: Bar., 30; temp., 51°. Weather—Fine.

The Cultivation of the Potato. Potato growers will find a wealth of information in the supplement* to the *Journal of the Board of Agriculture* devoted to the Cultivation, Composition and Diseases of the Potato. The opening pages of the Supplement – a copy of which should be procured and perused by all gardeners—are devoted to a statement of the value of the Potato as a food crop. It is pointed out that with the exception of the Sugar Beet the Potato stands first among food crops in that it produces more human food per acre than any other crop. The recognition of this fact by Germany enabled that country to continue the war longer than would have otherwise been possible, and it is estimated that during the war the Potato formed from one-third to one-quarter of the diet of the German civilian population. In illustration of the importance attached by Germany to the Potato crop, it is recorded that, before the war, of every 100 acres of cultivated land in Germany 10 were under Potatos, whereas in British cultivated land each 100 acres contained on the average only two acres of Potatos.

The high food production of the Potato may be judged by the following figures of the number of persons who may be supported by the produce of 100 acres:—If the crop is used directly as human food, 100 acres of Potatos support 420 persons. If half is fed to pigs and half used for human food, 100 acres of Potatos support 255 persons, 100 acres of Wheat support 230 persons, 100 acres of Barley support 180 persons, and 100 acres of medium grass, producing beef, support 15 persons. It is, moreover, an interesting fact that recent experiments have shown that the dietetic value of the Potato is greater than was formerly supposed, for although the quantity of nitrogenous food substance which it contains is not great, the nutritive quality of the proteins of the Potato is remarkably high.

The enhanced importance of the Potato during the war led the Food (War) Committee of the Royal Society to undertake an investigation into the composition of British-grown Potatos with respect to which there was but little data available. The analysis of many samples of Potatos showed that there was a certain measure of variation in composition, and that of late varieties Arran Chief and Evergood stood highest in nitrogen content and Up-To-Date lowest. In early varieties Great Scot is ahead of all others. A curious fact is brought out by the analysis of Potatos grown in eastern and western districts of England. In each variety (Arran Chief, King Edward VII., Great Scot and British Queen) the percentage of dry matter is higher and that of nitrogen lower in the eastern-grown than in the western-grown Potato.

So much has been said recently in praise of the Potato that it is as well to remember that there are certain disadvantages attaching to it, *i.e.*, its bulkiness, lack of keeping quality, wastage in clamp and uncertainty owing to disease. As a set-off against these disadvantages, however, are to be mentioned its ease of cultivation, its suitability for growing in newly broken up grass land and for planting near towns where sparrows take too heavy a toll of grain crops, and also its amenability to late planting. After balancing advantage and disadvantage the Supplement concludes that the Potato is the most valuable of all spring crops and a close second to autumn sown Wheat. The place of the Potato in crop rotation is subject to no fixed rule. In the early districts of Ayrshire and Cornwall Potatos are grown in the same land year after year, but are followed by autumn catch crops such as Broccoli, Rape or Italian Rye Grass. In the Fen districts they may be planted every three years, or they may occupy a part of the root "break" and usually follow a Corn crop. Although farmyard manure is generally applied to the Potato crop, nevertheless good yields may be obtained by the use of artificials alone—*e.g.*, 2 cwt. of sulphate of ammonia, 5 cwt. of superphosphate, and 2 cwt. of sulphate of potash.

With respect to varieties, the Supplement mentions favourably May Queen, Duke of York, Ninety-fold, Epicure, Sharp's Express and Eclipse among the first earlies; British Queen (although often very susceptible to blight), Great Scot, King George V. and Royal Kidney among second earlies; King Edward and Evergood as early maincrop varieties; Arran Chief (which though excellent in other respects is very susceptible to wart disease), President (a disease-resistant variety, but susceptible to leaf curl and therefore not to be grown except with annual change of seed), Up-to-Date and similar varieties, Langworthy, Golden Wonder and What's Wanted, Irish Queen, Lochar and Templar among maincrop (late) varieties.

Importance is properly attached to change of seed and to the use of Scotch and Irish seed, and records are given showing the advantage of new seed over once-grown and the yet smaller yield of twice-grown seed. Other subjects dealt with in the part of the Supplement devoted to cultivation are storing and boxing seed, pitting or clamping, planting time, lifting and spraying.

The concluding part of the Supplement is devoted to diseases of Potatos, but a consideration of this important subject must be deferred to a subsequent occasion. Enough has been said to justify the observations made at the commencement of this review that this account of the Potato should be studied by all those interested in its cultivation or use.

* Journal of Board of Agriculture Supplement, No. 18, March, 1919. 6d. post free.

British Carnation Society.—A re-union dinner and concert will be held by the British Carnation Society at the Holborn Restaurant, on Wednesday, May 21, at 6.45 p.m. Mr. J. S. Brunton will preside.

Bradford Chrysanthemum Show Abandoned.—The Bradford and District Chrysanthemum Society, being unable to obtain a suitable hall in which to hold its exhibition, has decided to abandon the show for 1919.

Mr. E. H. Wilson appointed Assistant Director of the Arnold Arboretum.—On April 14th last the Board of Overseers of Harvard College appointed Mr. E. H. Wilson Assistant Director of the Arnold Arboretum, in succession to the late Mr. Charles E. Faxon. Mr. Wilson is eminently fitted to fill this important position, for he has a most extensive and varied knowledge of plants, and as a plant collector in China and other parts of the East has enriched our gardens with a wealth of new flowering plants, trees, and shrubs. Mr. Wilson was formerly engaged in the Botanic Gardens at Edgbaston, under the late Mr. Lathom, and the knowledge of plants he acquired there and subsequently at Kew was of inestimable value to him in his several plant-collecting expeditions. He is the author of several works, dealing mainly with new plants of the Far East, and is a valued contributor to this journal. It is a signal honour for British horticulture that the important post of Assistant Director in this celebrated American botanic garden has been given to an Englishman.

Guide-Lecturer at Kew.—Lord Ernle, President of the Board of Agriculture, replying to a question asked by Lord Sudeley in the House of Commons, said he was strongly of opinion that an official guide ought to form a part of the regular establishment at Kew Gardens. The educational facilities afforded there were great, and advantage should be taken of them in the interests of the public. As soon as the sanction of the Treasury had been received an appointment would be made, and notice of it would be given. It was hoped that the experiment in its new form would be even more successful than in the old, and that the results would be such as to warrant its permanent continuance.

Land Settlement for Ex-Service Men.—According to the Board of Agriculture, 10,250 ex-service men in England and Wales have so far applied through the local authorities for small holdings under the Land Settlement Scheme. About 4,000 civilian applicants are also reported. The ex-service men ask for 188,266 acres, the civilians for 64,273 acres. The total amount of land asked for by ex-service men and civilians is 252,539 acres, and the total number of applicants 14,250. Since December 20 last, County Councils in England and Wales have acquired or agreed to acquire 14,354 acres of land for settlement purposes. The Councils propose to acquire under schemes now being considered by the Board of Agriculture a further 84,932 acres. About 150 landowners have offered approximately 30,000 acres direct to the Board

because employers who think about the matter at all know that it is to their advantage as well as to the advantage of their workers that the latter should be in a union. *An Old Gardener's* contention that "the remuneration does not solely consist of the money paid" does not help things, because very often a dilapidated cottage is used as an excuse for the payment of a dilapidated wage. It will interest *W. M. G.* to know that we have a much better weapon than the strike at our disposal, and if he is a gardener and cares to join the union he can learn what that weapon is. One thing is certain, that gardeners will not obtain improved conditions so long as they are in a state of isolation and cut adrift from the rest of organised workers. If it is in the interest of employers to form a huge association, representing hundreds of millions of pounds' worth of capital, surely it ought to be in the interests of the workers to do likewise. Let me assure *An Old Gardener* and other critics that no official of the British Gardeners' Association is living in luxury on the funds of the union. No one except the General Secretary and staff is in receipt of wages. Branch secretaries, whether loud voiced or otherwise, work for love, and we are grateful to them. *Cyril Harding.*

Cauliflowers and Broccoli.—The list of Cauliflowers and Broccolis enumerated by *John Dunn* on page 199 of *The Gardeners' Chronicle* for April 26th is an interesting one, but appears to be somewhat incomplete, as practically all the French Cauliflowers are omitted, while in Brocolis one fails to find the Cornish and the Angers strains which, as now developed, easily cover the first three months of the year; Perkins' Leamington, an early April variety indispensable alike to the market and private grower; Cattell's Eclipse and Wrench's St. Magnus, the finest Kentish selections of the June type. As regards the French and northern varieties of Cauliflower, All the Year Round, an improved type of the Half-Early Paris, with erect leaves, very large pure white heads of remarkably fine grain, hardy, quick-growing and adapted both for forcing and open-air culture at any time of the year, deserves special mention. A later form of the same variety, slightly larger but in other respects identical, and known by the Paris market gardeners as Triomphe, is equally recommendable. Lenormands, for size, weight and hardness; and Reliance (Le Cerf), for its heat-resisting qualities; and Walcheren, for size, hardiness, and reliability, are too well known to need further description, while a really choice strain of the Early Dwarf Erfurt, the parent of many popular varieties (including the Danish Snowball), is very hard to beat. The Mediterranean varieties omitted include Algiers Giant Early, Eclipse, Maltese Giant, and Metropole, which, with Veitch's Autumn Giant and Late Italian Giant, will keep our tables well supplied with large solid heads of the finest quality and most attractive appearance from August to February, at which time the Cornish and Anjou Broccolis are ready to cut. It is, of course, possible that some of the foregoing may have been included by Mr. Dunn under other names than those mentioned above. The cultural notes in the concluding paragraph of Mr. Dunn's article are extremely valuable. *Seedsman.*

Richmond Park (see p. 166).—So far as I am aware, neither Henry VIII. nor any succeeding monarch found a favourite retreat in Sheen Lodge. Henry VII. built his splendid palace at Richmond, which previous to his time was called Shene, where he spent a great part of his time and he died there. Henry VIII. lived for some time in the Palace, and so also did Queen Elizabeth and King Charles I., who formed the New Park, as it was called then, or Richmond Park, as it is called now. The date of the enclosure is given as 1636. Queen Anne gave a lease of the park for 99 years to the Hydes. King George I., fond of shooting, bought out the terms of the last Earl of Clarendon, and appointed Sir R. Walpole's son Ranger of the Park. The King gave orders for a shooting lodge to be erected for his use in the Park, and this now forms the central portion of the White Lodge. Meantime, the King, being fond of Walpole's punch, used to adjourn with Walpole to his house on the hill at Richmond. The King knew no English, and Walpole spoke no German; hence Morley, in his *Life of Walpole*, says: "There are few more curious pictures of conviviality under difficulties than that of George I. after a morning's hunting at Richmond—drinking punch and talking dog Latin with Walpole all the afternoon." George II. and George III. both hunted in the Park, but they resided at Richmond Lodge and at Kew, so we must rule out Sheen Lodge as being the favourite retreat of any English monarch. At all the carriage entrances to the Park a special plan of the Park, drawn by the Ordnance Survey, is displayed, and the area of the Park, including Petersham Park, is given on that plan as 2,469 acres, which is well over the 2,350 acres mentioned in the note on page 166. *Hugh Findlay.*

Shamrock.—I have pleasure in replying to Mr. Nicholson's query (page 208) as, since landing in the Green Isle, forty years ago, the "Chosen leaf of bard and chief" has been of peculiar interest to me. Then, situated in Kildare, I enlisted the services of a local authority to procure the "True Shamrock" *-magna est veritas* —and this proved to be Trifolium repens, there sworn by as the original plant honoured by St. Patrick. Years after, located in south County Dublin, I found folks swearing at T. repens as an impostor; Dublin would have none of it, but T. minus was the genuine and only "Dear little Shamrock of Ireland." On that conflicting evidence antique lore was sought on the subject, and the following led to the inference expressed in my note (to which Mr. Nicholson refers)—viz., Sir Henry Piers in Vallencey's *Collecteana Rebus Hibernica*, states: "Between May Day and harvest, butter, new cheese curds, and shamrock are the food of the meaner sort." This would apply to the Wood Sorrel, then abounding, when Ireland was covered with woods, as being an agreeable salad herb, which the Trefoils are not. The *Irish Hudibras*, 1689, says of the Irishmen:—

"Shamrogs and watergrass he shows,
Which was both meat and drink and close."

But most conclusive of all, perhaps, is that wherein Fynes Morrison, writing of his countrymen says: "They willingly eate the herbe Shamrock, being of a sharpe taste." The *Irish Hudibras* also states:

"Within a wood near to this place
There grows a bunch of three-leaved grass,
Called by the boglanders Shamrogues,
A present for the Queen of Shogues" (spirits).

This is all the evidence I have at the moment, but, summed up, I cannot but think it pretty clearly points to Oxalis Acetosella, the Wood Sorrel, then abundant, but now rarely met with, so far at least as my observation goes; and the cause which led to its disappearance, viz., the clearing of Ireland's woods and forests, favoured the Trefoils, and consequently the use of the latter as the emblem. *K., Dublin.*

Big Bud Mite (see pp. 141, 156, 183, 209).—I am not surprised that Mr. C. W. Mayhew (p. 209) finds that Boskoop Giant did not long remain immune from this pest. With me it ceased to be resistant several years ago, and is now so badly infested that the last of the bushes will be grubbed next autumn. I am sorry to read that he does not find Seabrook's Black quite immune, as I am planting that sort largely. This year I found only about half-a-dozen big buds on about half an acre of bushes that have been planted three years. I believe that, although not absolutely immune, Seabrook's Black is the best mite-resister available at present. I find Goddard's Monarch very good in this respect, keeping fairly free from mite, though growing close to badly infested Boskoop Giant bushes. *Market Grower.*

Phytophthora Disease of Tomatos (see p. 188).—I was at one time troubled with this disease, but since using fresh loam cut from the turf-heap, mixed with Vaporite at the rate of one forty-eight pot full to each five barrow-loads of soil, and washing the pots with chlorate of lime —one quarter of a pound to eighteen gallons of water—my Tomato plants have been free from the disease. *C. S.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

APRIL 8.—*Present:* Messrs. E. A. Bowles (in the chair), W. C. Worsdell, W Hales, J. Fraser, and F. J. Chittenden (hon. sec.).

Hybrid Freesias.—Mr. DALRYMPLE brought a large number of forms of Freesia which his brother, Mr. H. Dalrymple, had raised at Bartley, near Southampton. The range of colour was extraordinary, from yellow and bronze to pink and purple. A Certificate of Appreciation was unanimously recommended to Mr. Dalrymple for work in raising these new Freesias.

A Multiple Flower of Narcissus.—From the same source came a flower of Narcissus Minnie Hume, with double the number of parts normally present.

Bamboos at Gunnersbury and Enfield.—Mr. BOWLES showed specimens to illustrate the manner in which Bamboos had suffered from the weather during the past season, while Mr. HUDSON brought others from Gunnersbury in the best of condition. The climatic conditions in the two localities, though so near, must have been markedly different. Mr. Hudson attaches great importance to planting Bamboos in moist soil, never on high banks.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

APRIL 3.—*Present:* The Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, A. Burns, J. Evans, A. Hanmer, J. Howes, A. J. Keeling, W. Pickup, J. Thrower, and H. Arthur (secretary).

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum crispo-Solum var. Perfection (crispum × c. Solum). and *Odm. Ebony maximum* (Thompsonianum × King Arthur); *Odontioda Illustris var. marginata* (Odm. illustrissimum × Oda. Charlesworthii), and *Oda. albo-rubra* (Odm. Rawdon Beauty × Oda. Chanticleer), and *Oncidioda Cooksoniae superba* (C. Noetzliana × Onc. macranthum), from P. SMITH, Esq.

Odontioda Deliverance (parentage unknown) and *Odm. ardentissimum var. Doris; Odontioda Rajah West Point var.* (Oda. Lambeauianum × Odm. Rio Tinto), and *Cattleya Queen Mary*, from S. GRATRIX, Esq.

AWARDS OF MERIT.

Odontoglossum crispum West Point Ruby, Cattleya Schröderae var. Distinction, and *Lycaste Skinneri Royal Beauty*, from S. GRATRIX, Esq.

AWARD OF APPRECIATION.

Odontoglossum amabile var. Cleopatra (crispo-Harryanum × Franz Masereel), and *Odontioda Brunette* (Odm. Vuylstekeii × Oda Zephyr), from S. GRATRIX, Esq.

GROUPS.

A Silver-gilt Medal was awarded to S. GRATRIX, Esq., Whalley Range (gr. Mr. J. Howes); and a Silver Medal to Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. E. Burns), for collections.

APRIL 17.—*Present:* Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, W. W. Field, J. Howes, A. Keeling, J. Lupton, D. McLeod, and H. Arthur (secretary).

AWARDS.

FIRST-CLASS CERTIFICATES.

Laelio-Cattleya Moonbeam var. Oriflamme (C. Schröderae × L.-C. G. S. Ball), and *Odontoglossum crispum xanthotes West Point var.*, from S. GRATRIX, Esq.

Odontioda Gladys magnifica (Odm. Pescatorei × Oda. Bradshawiae), and *O. aurea var. Beauty* (luteo-purpureum Vuylstekeii × Charlesworthii), from P. SMITH, Esq.

Horticultural Club.—The Annual Dinner of the Horticultural Club will take place on Tuesday, May 20, at 6.30 p.m., at Anderton's Hotel, Fleet Street, E.C. After dinner there will be a musical programme.

British Gardeners' Association.—The Annual Conference of the British Gardeners' Association will be held at the Imperial Hotel, Birmingham, on Whit Monday, June 9, when a large attendance of delegates is expected. The Union has enrolled over 2,000 members during the past few weeks, and formed many new branches.

Kew Guild Annual Meeting and Dinner.—The annual dinner of the Kew Guild will be held on Wednesday, May 21, at 7.15 p.m., at the Dean Hotel, 83-89, Oxford Street. It will be preceded by the annual general meeting at 6.30. Members who intend to be present at the dinner are asked to notify the Secretary, Mr. A. Osborn, 191, Kew Road, Richmond, Surrey.

Plant-Breeding Institute for Wales.—At the half-yearly meeting of the Governors of the University College, Aberystwyth, it was announced that Mr. Lawrence Phillips, of Llanstephan House, Radnorshire, had offered the College £10,000 for the purpose of founding a plant-breeding institute for Wales in connection with the agricultural department of the College, and guaranteed a further sum of £1,000 a year for ten years towards the maintenance of the institution. It was also reported that Mr. R. G. Stapleton, who was for some years connected with the College in the capacity of advisory botanist, had been appointed to the Chair of Agricultural Botany at the College and director of the plant-breeding institute. Professor Marshall pointed out that this generous and far-sighted gift by Mr. Lawrence Phillips would do much to foster the study of problems connected with grasses and the growth of cereals in Wales, and thereby increase production from the soil.

Retirement of Mr. M. Biggs.—After a period of forty-three years' service as gardener at Garnstone Castle, Weobley, Herefordshire, Mr. M. Biggs is retiring. During this time he was for 24 years gardener to Mr. Reploe, and for 19 years in the service of Sir Joseph Verdin, Bt. Mr. Biggs was at one time foreman at Eastnor Castle, Ledbury, under the late Mr. Coleman. He is succeeded at Garnstone by his only surviving son, Mr. G. M. Biggs.

Gardeners' Royal Benevolent Institution.—As most of our readers are aware, this useful gardening charity has, in the past, derived a considerable portion of its income from its Festival Dinners, but owing to the exigencies of the times, these annual festivals had to be abandoned, and for the past four years the funds of the institution have suffered a very considerable decrease in consequence. Apart from this fact, vast sums of money have been contributed by the charitable to the various war funds, so that the older institutions have seen their annual income fall very considerably below those of pre-war times. Now that peace is again in sight, the Committee has decided to hold the dinner as usual this year, and the Grocers' Company has kindly placed their fine hall in Prince's Street, E.C., at the disposal of the Committee for the holding of the dinner on June 19. The fact that Sir Harry Veitch has consented to preside on this occasion should make the dinner a great success for, apart from the fact that he has been so long and honourably associated with horticulture, gardeners will wish to give him the fullest measure of support, seeing that he is of their profession and has the esteem of everyone both in commercial and private gardening. Sir Harry Veitch has been associated with this worthy gardening institution for many years, and has held the office of Treasurer for not fewer than thirty-three years. There could be no more fitting object for a gardeners' War Memorial than the placing of the funds of this and its sister charity, the Royal Gardeners' Orphan Fund, on a sound basis, as has been suggested by several correspondents in these pages. The Gardeners' Royal Benevolent Institution stands urgently in need of support, and the Committee was only able to recommend the election of fifteen candidates from an approved list of fifty-eight applicants at the last election. At the present time 262 persons are in receipt of annuities for life at an annual cost of nearly £5,000, and others on the waiting list are temporarily assisted from the Victorian Era Fund. We appeal to all interested in gardening to assist the Gardeners' Royal Benevolent Institution. We shall be happy to receive contributions at this office, and trust that our readers will make a liberal response

Inheritance of Characters in the Culinary Pea.—So long ago as 1908 Lock summarised our knowledge of the genetics of the genus Pisum, and since that date much research of considerable interest and value has been published. Students of genetics should therefore be grateful for a summary bringing together the results of recent research into the inheritance of the characters of the genus. Such a summary has been prepared by Mr. O. E. White.* The summary contains some useful references to pre-Mendelian workers—to Knight, for example, who observed but did not explain the phenomenon of the dominance of tallness over dwarfness, and of purple flower colour over white. To Knight also was due—according to Sherwood—the introduction of marrowfat (wrinkled) Peas. The genus Pisum is remarkable in respect to the fertility which obtains between the so-called species. Of species of Pisum the *Index Kewensis* recognises 7, viz., P. arvense, P. elatius, P. formosum, P. fulvum, P. humile, P. Jomardii, and P. sativum. It is doubtful, however, whether they are all true species; for example, P. arvense, P. elatius, and P. Jomardii (Egyptian) are very similar to one another and, moreover, when crossed they yield fertile hybrids. Again, P. arvense and P. sativum are so similar that the former is perhaps to be regarded as a subspecies of the latter. P. formosum is distinguished from these species by its perennial habit and its lack of tendrils, and P. fulvum again is distinct by reason of its rusty, cream-coloured flowers and black-coated seeds. The only known case of sterility between "species" crosses of Pisum concerns P. humile, the Palestine Pea, which, used by Mr. Arthur Sutton in crosses with the culinary Pea (P. sativum) failed in some cases to give seed. Mr. White's summary is fairly complete, but it is curious that he should have failed to give an account of what is the most interesting work done of recent years—that concerning the curious wild-looking "rogues" well known to growers, and the genetics of which has been worked out so ably by Prof. Bateson and his colleagues. In another contribution† by the same author, the number of genetic factors which have been investigated in Pisum is computed to be 35, so that no fewer than 70 characters in this plant have been shown to depend on factors which behave in inheritance in a Mendelian manner.

Publications Received.—***Notes on Manures for April.*** Reprinted from the Journal of the Board of Agriculture, Vol. XXV., No. 12, March 1919. From the Rothamsted Experimental Station, Harpenden, Herts. ***The Characteristics of Citrus Canker and its Eradication.*** By Ethel M. Doidge, M.A., D.Sc. Union of South Africa. Department of Agriculture. Bulletin No. 3, 1918. Obtainable from the Librarian, Department of Agriculture, Pretoria. Price 1d. Pretoria: The Government Printing and Stationery Office. ***Breeding Experiments with North African and South African Ostriches.*** By Prof. J. E. Duerden, M.Sc., Ph.D. Union of South Africa. Department of Agriculture. Bulletin No. 7, 1918. Obtainable from the Librarian, Department of Agriculture, Pretoria. Price 1d. Pretoria: The Government Printing and Stationery Office. ***Pea and Bean Weevils.*** By S. H. Skaife, B.A. Union of South Africa. Department of Agriculture. Bulletin No. 12, 1918. Obtainable from the Librarian, Department of Agriculture, Pretoria. Price 3d. ***Plant Immigrants.*** U.S.A. No. 148, August, No. 149, September, 1918.

* Studies of Inheritance in Pisum. II. The Present State of Knowledge of Heredity and Variation in Peas. Proc. of the American Philosophical Society, 56, 1917

† Inheritance Studies in Pisum. Journ. of Agric. Research, xi, 4, 1917.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Finnochio (p. 222, May 3).—The important sowing of this vegetable should be made in July. When full grown, after earthing up as usual, the plants may be stored under shelter in earth, and are available during much of the winter. *H. E. Durham.*

The National Gladiolus Society.—It was a great surprise to me to learn that the winding-up of the above Society was in contemplation. That the flower is gaining in popularity cannot be doubted, judging from my limited experience. I wrote to two trade growers for some corms a short time back and received in each case a letter of regret stating that all stock was sold or replanted. I hope Mr. Bliss will be successful in creating fresh interest in the Society on the lines he suggests. Your long and interesting report of the Midland Daffodil Society's show at Birmingham clearly proves what can be done with proper co-operation between the trade and the amateur. *A Lover of the Flower.*

Damage by the Blizzard.—The snowstorm on Sunday, April 27, inflicted terrible damage here, in some respects worse than the one in February, for though it did not injure so much the old Oaks and Elms as the one earlier in the year, it punished the shrubs and trees of 20 to 40 years old, which I have planted myself, far more severely. It is curious that Aldenham should have suffered more heavily from the two snowstorms of 1919 and the one of 1918 than it has done during the rest of the last 35 years put together. This has been for us, though not for others, one of the worst winters ever experienced; it is true that the February fall of snow was in some respects a blessing in disguise, for, great as was the damage it inflicted, it more than made up for this by saving the lives of hundreds of shrubs when our thermometer registered 33° of frost. In the case of this last snowfall, however, there is nothing to counterbalance the mischief, which has been greatest among the genera of Pyrus and Crataegus. I will give a few instances out of many plants which have become a total wreck: Crataegus orientalis, planted 70 years ago by my grandmother, and a beautiful lawn specimen; Celtis australis, Pyrus Malus floribunda, Pyrus betulifolia, Euonymus verrucosus. All these trees were from 30 to 40 years old, and were choice examples; now not one of them has an unbroken bough left. The amount of labour that will be involved all over the garden in removing broken branches and pruning is appalling. Though others have not suffered so badly as the trees above named, yet there is hardly one which has escaped scot free. I do not think it is too much to say that three successive winters like that of 1918-9 would practically wipe out my life's work; however, that is not likely to happen, and *Bonne mine à mauvais jeu* is a good saying. *Vicary Gibbs, Aldenham House, Elstree.*

Gardeners' Hours and Wages (see pp. 128, 144, 157, 169, 183 and 196).—Your correspondent, *W. M. G.*, seems to be worried about the possibility of a strike of gardeners. Let me hasten to assure him that we are achieving our aims without resorting to the weapon of the strike. I am very glad to say that we are getting reports from all over the country that employers are adopting our standard of hours and wages, and in some cases are even going beyond it. It is my experience that if the matter is put to employers in the right way, there is very little difficulty in getting what we ask. Our greatest enemies are not employers, but critics of the type of *W. M. G.* I thank *An Old* and *An Old Gardener.* I thank *An Old Gardener* for his letter, which has caused intense amusement among our branches and members generally, and would be taken more seriously if the personal note were left out. Any individual should know that trades unions fix a minimum wage and not a maximum, and the suggestion that all classes of gardeners should receive equal pay does not come from our side. We do not wish to force employers to engage our members. There is no necessity for that,

No. VIII., of the Act of 1842 provides as follows: "The profits arising from lands occupied as nurseries or gardens for the sale of the produce shall be estimated according to the rules contained in Schedule D, and the duty shall be charged at the rate contained in that schedule; and when the said duty shall have been so ascertained the same shall be charged under Schedule B as profits arising from the occupation of lands."

On the other hand, the Act of 1887 provides that any person occupying land for the purpose of husbandry only may elect to be assessed under Schedule D instead of under Schedule B, subject to his giving notice to the surveyor within two calendar months after the commencement of the year of assessment. This involves the question of the meaning of the word "husbandry," which I will refer to later. Your readers will recollect that by the Finance Act, 1918, assessments under Schedule B are to be made on the basis of an amount equal to twice the annual value of the land; provided that if the land is not occupied for the purposes of husbandry only, or mainly for that purpose, this provision is to be limited to an amount equal to the annual value instead of to twice the annual value (unless the Board of Agriculture should certify that the use of the land other than for the purpose of husbandry is unreasonable).

It seems clear, therefore, that whatever may be the practice adopted by surveyors in some localities, nurseries are, strictly speaking, assessable to income-tax under Schedule D (profits), except perhaps in so far as they are devoted to the purposes of husbandry.

Excess Profits Duty.

The question of whether nurseries are liable to pay excess profits duty also turns upon the question of the meaning of the word husbandry. It will be seen later that Mr. Justice Sankey's view is that husbandry might be defined as "tilling the soil and producing from it commodities for human consumption." This raises an interesting question in the case of nurseries which during the war have devoted a portion of the land to the production of food, and it would certainly seem from the expressions used by the learned judge that, where it is possible to separate the purely nursery business from the business of growing food, a grower can claim to be exempted from excess profits duty in respect of that portion of his profits which has arisen from food production. Mr. Justice Sankey was, however, careful to add the following qualification: "I can conceive of cases where two branches of the business of a person or a company are so interlaced that it is impossible to separate them, and, although I express no definite opinion on the point, it may be that in those circumstances if the main branch of the business is subject to excess profits duty the whole business is subject to the duty on the ground of the impossibility of separating the main branch from the rest of the business. There, again, the decision would depend very much on the facts of the case, . . . but it might be more difficult to arrive at a decision where the one business is ancillary and incidental to the other in such a way as to make them nearly inseparable." In this connection certain well-known nurseries naturally come to mind where the greenhouses are devoted to growing or "nursing" on a considerable scale such diverse horticultural produce as Palms, pot flowers, Tomatos, and Grapes. In such establishments it would seem that for a short distance they are devoted to the business of husbandry, but a little further on they are metamorphosed into nurseries, and so on alternately! (Incidentally these establishments involve a further debateable point as to whether they should be described as nurseries or whether they are in fact market gardens. So far, however, as the questions of income-tax and excess profits duty are concerned the well-known cases of Smith *v.* Richmond and of Purser *v.* the Worthing Local Board are of little assistance, as they relate to the wording of quite different Acts of Parliament in connection with rating.)

Definition of Husbandry.

Over 25 years ago the Courts held that husbandry was not confined to ordinary farming, but that it included the cultivation of a market garden. The case recently decided by Mr. Justice Sankey now appears to carry the matter a step further. The facts of this case were set out in the *Gardeners' Chronicle* of April 5th last, and need not be repeated here, but it will be recollected that the action referred to the profits of certain manufacturing chemists, who successfully claimed exemption from excess profits duty in respect of their cultivation of land for the purpose of growing medicinal and other herbs to be treated in their factory. On behalf of the Crown the Attorney-General contended that, in exempting husbandry from excess profits duty, Parliament only intended the word to apply to the ordinary farming class, and he pointed out that the Act of 1887, referred to above, used the word husbandry, but the marginal note to such Act reads "*Farmer* might elect to be charged under Schedule D," and there is a similar marginal note to the Act of 1890. He also contended that in the Income Tax Acts the word husbandry has always been taken to mean ordinary farming, and that Chambers' Dictionary defines husbandman as "a working farmer who labours in tillage" and husbandry as "the business of a farmer, tillage"; while the Oxford English Dictionary states that a husbandman is "a man who tills or cultivates the soil, a farmer," and that husbandry means "tillage or cultivation of the soil (including also the rearing of livestock), agriculture, farming." He further contended that the growing of herbs was merely a subsidiary business to that of the chemical factory in question. On the other hand the Hon. W. Finlay, K.C., contended on behalf of the chemists that husbandry included "everything connected with the growing of crops." In reply, the Attorney-General urged that the chemical manufacturers had substantially only one business, and that an auxiliary branch of that business could not be separated from the rest for Revenue purposes.

In delivering judgment Mr. Justice Sankey expressed the view that it was not very useful to refer to dictionary definitions of husbandry, but he could not support the contention that husbandry meant merely farming. In his opinion husbandry was a term of very wide signification, and he went on to say: "Though I am not prepared to hold that a man who tills and cultivates the soil is in all circumstances a husbandman or a man engaged in husbandry, I can see no distinction between a man who does so in order to produce food for human consumption and a man who does so in order to produce medicines and drugs for human consumption. Beyond that, the question whether a man is engaged in husbandry is very much a question of fact and of degree, and such questions are for the Commissioners. . . . I think that the respondents were engaged in husbandry, i.e., *in tilling the soil and producing from it commodities for human consumption.*"

The remarks of the learned judge in connection with the interlacing of two separate branches of a business might also interest nurserymen who have devoted a portion of their land to food production during recent years. The following extract from the judgment throws considerable light on the point: "I can conceive of cases where the two branches of the business of a person or a company are so interlaced that it is impossible to separate them, and, although I express no definite opinion upon the point, it may be that in those circumstances, if the main branch of the business is subject to excess profits duty, the whole business is subject to the duty on the ground of the impossibility of separating the main branch from the rest of the business. There, again, the decision would depend very much on the facts of the case. The case where an individual carries on two separate businesses, of which one is liable to the duty and the other is not, is a simple one; but it might be more difficult to arrive at a decision where the one business is ancillary and incidental to the other in such a way as to make them nearly inseparable. The same considerations apply in the case of a company as of an individual. . . . If a company were engaged in two separate businesses it might be clearly liable to pay excess profits duty on one business and not on the other. The difficulty only arises where the two businesses converge and one business is ancillary to the other. But the difficulty is largely one of fact, and *where it is possible to separate the businesses there is nothing in law to prevent this from being done*, and in the result one of the businesses may not be subject to duty."

It would appear that the Crown has not taken steps to appeal in this case.

The definition of "husbandry" referred to above raises a further question as to how far it might prove of assistance to seedsmen. For instance, in growing vegetable seed for sale seedsmen are perhaps not strictly growing food for human consumption, but as they are certainly growing the seed for such food, it would seem unreasonable to draw so delicate a distinction to their detriment. In fact, the growing of the seed is clearly a vital part of the process of growing food for human consumption. *H. M. V.*

A company has recently been formed at Calstock, Devon, under the title of "The Tamar Valley Chip Basket Factory, Ltd." The company will acquire large buildings near Calstock Railway Station for the purposes of a chip basket factory, and up-to-date machinery is being installed. The new company will manufacture baskets, boxes, barrels, and other packages used in fruit transportation.

Gardeners employed in the nursery and garden trade in and about the city of Edinburgh resolved, at a meeting held recently, to ask for an increase of wages from 9½d. to 1s. 6d. per hour, with time and half for overtime. It is proposed that the increase should take effect from May 1, and it was decided to send a copy of the resolution to the Edinburgh and District Master Gardeners' and Nurserymen's Association. It was also resolved to form a union of employees, and of those present upwards of 70 were enrolled as members.

CROPS AND STOCK ON THE HOME FARM.

Meadow Hay for Cows.

Cowkeepers, especially those who are butter producers, know the value of high quality meadow hay for improving not only the quantity but also the quality of milk. The smaller, finer grasses, known as "bottom grass," add greatly to the value of the crop in point of quality, and are obtained as a result of the liberal use of farmyard manure, basic slag, superphosphate and sulphate of ammonia. The authorities at the Rothamsted Experimental Station recommend the use of nitrate of ammonia as a spring dressing for crops.

A mistake all too commonly made is that of deferring too long the cutting of the grass for hay, thus allowing the taller and coarser growing grasses to become matured, with a corresponding loss of nutriment to the animals. Meadow hay is also reduced in quality by allowing it to lie too long after being cut, so that it loses the power of becoming sufficiently heated in the rick, which is so important in obtaining high quality.

When meadow grass is cut and the weather is favourable it should be almost kept "in the air" for two days, when it will be ready to be put into a rick. Many people spoil their hay by trying to save labour; they simply cut the grass, allow it to lie in the swathe, pull it together with a horse rake, and cart it. The result is the top side is "sweated" and the under side is yellow.

Potatos.

The planting of main crop Potatos is unusually delayed this season owing to the unfavourable weather, especially on heavy land. No time should be lost in getting the sets planted. If the land has been deeply ploughed it should be further worked by cultivator or scarifier, harrowed and rolled if necessary to obtain a desirable surface. A quick method of planting is to use three ordinary ploughs and

Odontoglossum King George V. (parentage unknown), and *O. crispum Joyce Hanmer* (F. K. Sander × Maud Rochford), from A. HANMER, Esq.

Cattleya Trianae var. Lady Leon, from Sir H. LEON, Bart.

AWARDS OF MERIT.

Laelio-Cattleya Moonbeam, L.-C. Armenica, and *L.-C. Balliae magnifica*; *Odontioda Orphanae* (parentage unknown), and *Cattleya Evelyn Sander magnifica* (Dusseldorfii × Trianae alba), from S. GRATRIX, Esq.

Dendrobium Brouchartii, and *D. nobile var. Sanderae*, from Capt. HORRIDGE.

Brasso-Cattleya Maronii Bridge Hall var., from Mrs. BRUCE and Miss WRIGLEY.

Cymbidium Marshal Foch, from Col. Sir J. RUTHERFORD, Bart.

Odontoglossum crispum Empindale (Rossendale × Empress of India), from P. SMITH, Esq.

Laelio-Cattleya Elinor var. Edith (L. Coronet × C. Schröderae), from Sir H. LEON, Bart.

AWARDS OF APPRECIATION.—FIRST CLASS.

Odontoglossum var. Violet Gem (parentage unknown), from Col. Sir J. RUTHERFORD, Bart.

BOTANICAL CERTIFICATES—FIRST CLASS.

Coelogyne nervosa. *Angraecum Leonis*, and *Promenaea Crawshayana*; from Sir H. LEON, Bart.

Oncidium concolor albens Haddon House var., from P. SMITH, Esq.

CULTURAL CERTIFICATES.

Miss EDITH WATSON (who has had charge of the Orchid section for Sir H. Leon, Bart., during the latter period of the war), for a fine example of *Angraecum Leonis*.

Mr. CONINGSBY, for *Dendrobium nobile* and *D. Cooksoniae*.

Mr. LUPTON, for a *hybrid Cymbidium*.

GROUPS.

A Silver-gilt Medal was awarded to S. GRATRIX, Esq., Whalley Range (gr. Mr. J. Howes); a Large Silver Medal to Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. A. Burns); and Silver Medals to Col. Sir J. RUTHERFORD, Bart., M.P., Blackburn (gr. Mr. J. Lupton), and Capt. HORRIDGE, Bury (gr. Mr. Coningsby), for groups.

Obituary.

Sir Frank Crisp, V.M.H.—British horticulture has sustained a severe loss in the death of Sir Frank Crisp, which occurred on April 29, after an illness lasting for about a fortnight, at Friar Park, Henley-on-Thames. Sir Frank had not enjoyed good health for the past two years, but he had a strong constitution, and the news of his death came as a grievous surprise to his many friends. He was a native of Bungay, Suffolk, where he was born on October 25, 1843, the only child of John Shalders Crisp of that parish. He was educated at University College, London, and chose the profession of a solicitor, eventually becoming a partner in the firm of Messrs. Ashurst, Morris, Crisp and Co., Throgmorton Avenue, E.C. His firm specialised in matters appertaining to Company Law and Sir Frank was regarded as one of the very first solicitors in the City of London and the highest authority on Company Law. He was a member of the Board of Trade Committee, under Lord Davey's chairmanship, which recommended important amendments to the Companies' Acts, and during the war Sir Frank was appointed one of the three Commissioners to inquire into the question of the Army Hut Contracts. Early in his professional career he resided at Henley-on-Thames, and eventually built Friar Park in the midst of some of the most beautiful scenery in the upper reaches of the Thames. The gardens at Friar Park are amongst the most remarkable in the country, and contain features which are to be found in no other place. The rock garden is world famous, and is stamped by an originality of design that makes it an object of great interest to all who see it. The stone of which the rock garden was formed was brought from the Leeds district; no fewer than seven thousand tons were employed and many of the stones weigh each so much as six and a half tons. The rockery is crowned by a representation, built to scale, of the famous peak of the Matterhorn (see *Gard. Chron.*, October 23, 1909, fig. 122). A stream commences at one of the highest points, and winding and twisting, tumbles down until it reaches a little pool at the base. One of the entrances to the famous caves is from the rockery, and in these subterranean passages are "conceits" and surprises in which Sir Frank Crisp took an almost boyish delight; for the garden was made to express the man: his large mindedness, his real love of beautiful effect, and his whimsicality. The series of tiny mediaeval and legendary gardens was unique, being faithful copies of ancient pictures displaying the painstaking spirit of a bygone age. But it must not be imagined that Friar Park includes only surprises and oddities: the gardens, indeed, include many delightful features. The lake, with its banks clothed with beautiful flowers and shrubs, and its small bridges leading through colonies of Water Lilies and other aquatics, is very charming, and so is the Japanese garden with its stone lanterns, stepping stones, and other appurtenances connected with a garden of this style. The shrubberies, flower borders, rosary, herb

THE LATE SIR FRANK CRISP, BART., V.M.H.

garden, Rhododendron dell and beautiful lawns are all excellent features well maintained, and there are numerous glass-houses, some of which are devoted to the cultivation of Orchids. It was Sir Frank Crisp's great delight to welcome all who cared to visit his remarkable gardens and grounds, and the place was open for inspection every week at a nominal charge, the proceeds of which were devoted to the Gardeners' Royal Benevolent Institution, the Royal Gardeners' Orphan Fund and local charities, each of which received a very considerable amount each year from this source. Sir Frank Crisp, although one of the busiest of men, found time to take an active part in the work of botanical and horticultural societies. At the time of his death he was President of the Horticultural Club; from 1881 to 1906, Vice-President and Treasurer of the Linnean Society of London; and from 1878 to 1889, Honorary Secretary of the Royal Microscopical Society. For his work in connection with horticultural science and practice, he was awarded the Victoria Medal of Honour in Horticulture by the Royal Horticultural Society early in the present year. The funeral took place at Henley-on-Thames, on Saturday, the 3rd inst., and it was evident from the aspect of the town that the inhabitants had lost a worthy citizen and one they held in high esteem and honour. The Reverend E. M. Radford officiated at the service in the Parish Church, at which the Mayor and Corporation attended in state. The large building was filled with mourners, including representatives of the many societies and institutions with which Sir Frank was connected. Amongst those present were Mr. Justice Eve, Mr. H. R. Blaker (representing the Law), Sir David Prain (President of the Linnean Society), and Mr. G. F. Tinley (representing *The Gardeners' Chronicle*, and Honorary Secretary of the Horticultural Club).

E. Horne.—We announce with deep regret the death of Mr. E. Horne, late gardener to Rosalind, Countess of Carlisle, at Castle Howard. Mr. Horne died on April 23, aged 55. He was previously for seven years at Graymount, Belfast, six years at Cornhill, Biggar, Lanark, and twelve years at Netherhall, Cumberland. He was a skilful cultivator of Sweet Peas and Chrysanthemums, and won many prizes for these flowers. He leaves a widow, two daughters and one son, Mr. G. Horne, gardener to Mr J. C. White, Craigavid House, Co. Down.

Charles Blick.—We regret to announce the death of Mr. Charles Blick, of Warren Nurseries, Hayes, Kent, which took place on the 30th ult. The deceased appeared to be in his usual good health on Tuesday, April 29, but he had a stroke during the evening and passed away the following day without regaining consciousness. Mr. Blick was famous in horticultural circles as a clever raiser and cultivator of Carnations. For over twenty years he was head gardener to the late Mr. Martin R. Smith, at Warren House, Hayes, and during that period they created a new enthusiasm for border and show Carnations by raising large numbers of handsome and robust varieties of the finest form and colour, to which no fewer than four gold medals and sixteen silver cups were awarded. After the death of Mr. Martin Smith in October, 1908, Mr. Blick commenced business on his own account and formed the Warren Nurseries, where he continued his work as a raiser of Carnations, and during the last three years of his life he also carried out the duties of head gardener to Lady Laidlaw, at Warren House, during the absence of Mr. J. Brown, who was with His Majesty's Forces in Serbia. On the occasion of the investiture of H.R.H. the Prince of Wales at Carnarvon Castle, Mr. Blick had the honour of supplying the bouquets, and H.M. Queen Mary graciously accepted the two baskets of Carnations and named the two new varieties Queen Mary and King George, the former salmon-rose and the latter pure white. One of Mr. Blick's most recent and successful novelties is the pure white Malmaison variety which bears his name. Mr. Blick was 63 years of age, and he leaves a widow, who is almost an invalid, a son and four daughters to mourn his loss. The remains were laid to rest at West Wickham on the 3rd inst.

TRADE NOTES.

Nurseryman, in the issue of April 12, raises some very difficult points with regard to the assessment of nurseries, but the kindly terms in which he invites me to contribute some notes on the subject tempt me to venture upon ground on which one might well hesitate to tread in view of the many Acts of Parliament which bear upon the matter, and the unsatisfactory way in which some of them are worded.

Nurseryman invites me to state my views, principally on three points, namely: (a) The assessment of nurseries for income-tax purposes; (b) the excess profits duty; and (c) the legal definition of the word "husbandry." These three questions raise distinct considerations, and I will endeavour to deal with them in turn, so far as is possible within the limits of an article. The subject, of course, is one the full consideration of which would need an entire volume.

INCOME TAX.

It would be both valuable and interesting if the income-tax recovery agent whom *Nurseryman* mentions would explain his reason for doubting whether nurseries are properly subject to assessment under Schedule D (profits) instead of under Schedule B (occupation of land), as in the case of farmers. Section 63,

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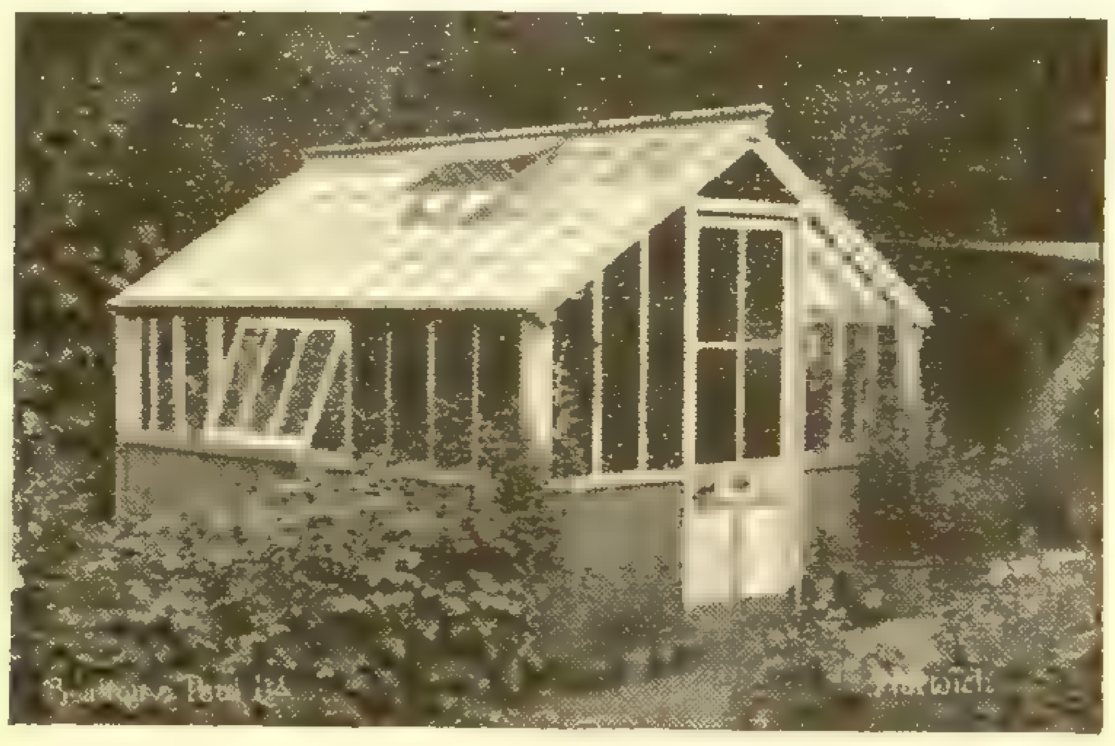

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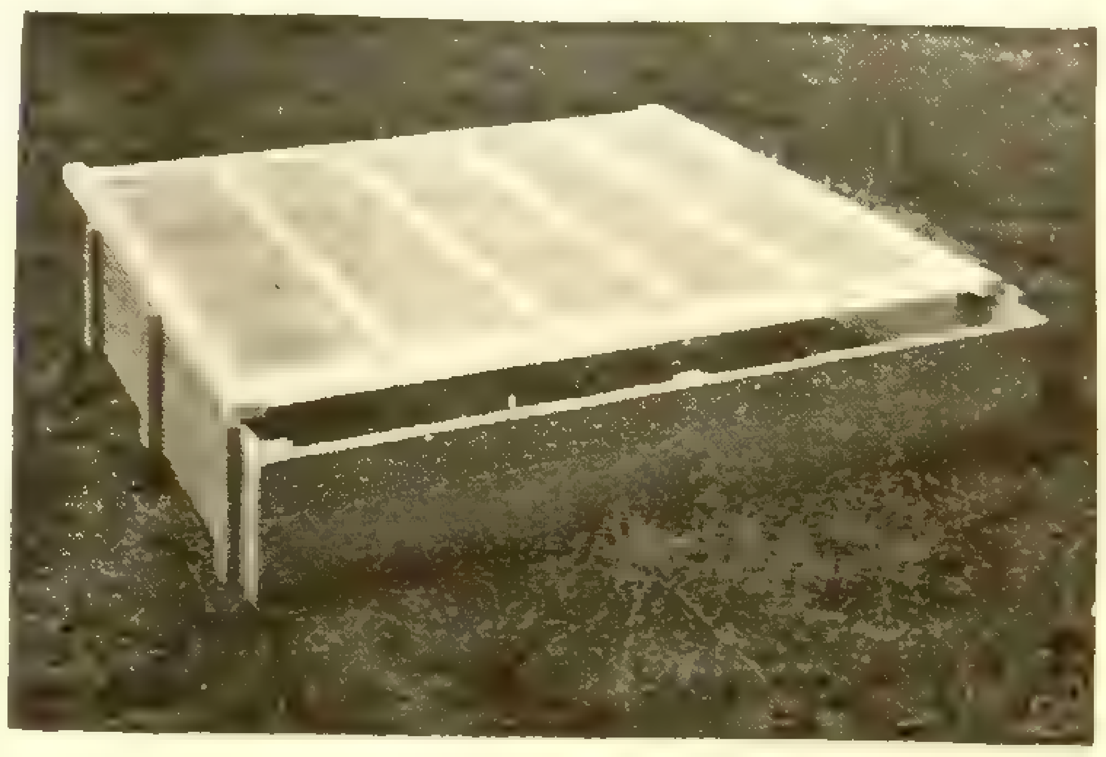

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Fig. 1.

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Fig. 2, A Quality.

Fig. 2, A or B Quality.

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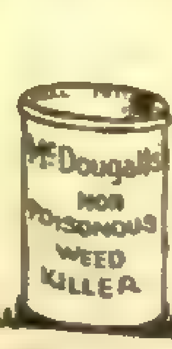

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MARKETS.

COVENT GARDEN, May 7.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	12 0–18 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentia ...	18 0–24 0
Cinerarias. 48's. per doz. ...	24 0–27 0	—— 60's ...	15 0–18 0
		—Cocos	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum—cuneatum, 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
—elegans ...	9 0–10 0	—32's	24 0–36 0
Asplenium, 48's, per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	—large 60's ...	4 0– 5 0
— nidus, 48's ...	12 0–15 0	—small 60's ...	3 0– 3 6
Cyrtomium, 48's ...	10 0–15 0	— 72's per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d		s. d. s. d
Arums— — (Richardias), per doz. bl'ms.	8 0–10 0	Narcissus Poeticus, per doz. bun.	9 0–10 0
Azalea, white, per doz. bunches	10 0–12 0	Orchids, per doz :— —Cattleyas ...	18 0–24 0
Camellias, 12's-18's per box ...	4 0– 5 0	—Cypripediums	6 0– 8 0
Carnations, per doz. blooms, best American var.	3 6– 6 0	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
Daffodils, single per doz bun.		— white, per doz. bunches ...	12 0–15 0
— Emperor ...	8 0–10 0	Roses, per dozen blooms—	
— Victoria ...	5 0– 6 0	—Lady Hillingdon	4 0– 6 0
Gladiolas, Peach Blossom, per doz. bun. ...	42 0–48 0	—Liberty ...	6 0– 8 0
		—Melody	4 0– 6 0
Gypsophila, per doz. bun ...	9 0–12 0	—Mme. Abel Chatenay ...	4 0– 6 0
Heather, white, per doz. bun.	6 0–10 0	—Ophelia ...	5 0– 8 0
Iris, per doz. bun.—		— Richmond, var.	4 0– 6 0
		—Sunburst ...	6 0– 8 0
—Spanish, White	60 0–72 0	—White Crawford	6 0– 8 0
— — Blue ...	60 0–72 0	Sweet Peas, per doz. bun.—	
— — Mauve ...	60 0–72 0	— white	12 0–24 0
Ixia, Scarlet, per doz. bun. ...	6 0– 8 0	— coloured ...	12 0–24 0
		Stock, Dbl. White	10 0–15 0
Lilac, white, per bunch, 6's ...	4 0– 6 0	Tulips, per doz. blooms—	
Lilium candidum, per doz. blms....	4 0– 6 0	—Darwins, in var.	3 0– 6 0
		— mauve ...	6 0– 8 0
Lily-of-the-Valley, per bun. ...	4 0– 6 0	— white	4 0– 6 0
		— yellow... ...	5 0– 6 0
Myosotis (Forget-Me-Not), per doz. bun. ...	6 0–12 0	Violets, single, per doz. bun. ...	5 0– 8 0
Narcissus ornatus, per doz. bun. ...	2 6– 3 6	Violas, per doz. bun.	4 0– 6 0

REMARKS.—A shortage of white flowers constitutes the same difficulty for florists as last week. Daffodils are now finishing and prices for best blooms have fallen to 6s. and 7s. per dozen bunches. Pheasant's Eye Narciss (Ornatus) is being replaced by Narcissus Poeticus. A few boxes of these latter blooms are arriving from Guernsey and Scilly and a good supply from home growers should be offered in a few days. There is still a satisfactory number of Carnations and Roses and the prices for these flowers are the same as those of last week. A few boxes of Gladiolus Peach blossoms are arriving in excellent condition. Spanish Irises remains a limited supply. Sweet Peas are being offered in white, pink and mauve colours but larger supplies would be welcomed. Gypsophila is the leading line in French flowers just now, although the supplies are very irregular. Enquiries are already being made for double white Narcissus; these blooms will be greatly appreciated by most buyers in spite of the high prices that are likely to be made for the first few consignments. With the exception of Smilax, all foliage is lower in value. As much as 5s. to 8s. per bunch of 6 trails was paid for Smilax this morning, (May 6).

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Belgian Peaches, each	1 6– 3 0	Nuts— — Brazils (new). per cwt.	85 0– 90 0
Grapes :—		Pineapples. each	6 0–12 6
—Blk. Hamburgh, per lb. ...	10 0–12 6	Strawberries. per lb.	5 0–10 0
—Muscats, per lb.	30 0–40 0	Worthing Figs, per doz	6 0–24 0
Grape Fruit, pr. cse.	45 0 —		
Melons, each ..	12 6–15 0		

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Artichokes— —Globe, per doz.	3 0 4 0	Mustard and Cress, per doz. punnets	1 0– 1 3
Asparagus, English and Continental per bundle ...	2 6–12 0	New Turnips, per bunch	1 6– 2 0
		Peas, per lb. ...	2 0– 2 6
		Parsley, per ½ bus.	6 0– 7 0
Beans, French, per lb.	2 0– 3 0	Parsnips, per bag	5 0– 7 0
		Potatos, new, per lb.	0 9– 0 10
— Broad (French) per pad ...	6 0– 7 0	Radishes, per doz. bunches ..	2 6– 3 0
Beetroot, per bus.	5 0– 6 0	Rhubarb, forced, per doz. ..	1 9– 2 3
Cabbage per doz.	3 0– 5 0	—natural, per doz.	4 6– 6 0
Carrots, per bag ..	11 0–12 0	Savoys, per tally ..	14 0–16 0
— New, per bun.	1 3– 1 6	Seakale. in boxes (6-8 lbs.) per lb.	0 8– 1 0
Cauliflowers, per doz	4 0– 6 0		
Celery, per doz. ..	36 0–48 0	Shallots, per lb. ..	0 6– 0 8
Chicory, Belgian, per lb. ..	0 10– 1 0	Spinach per bus.	3 0– 4 0
Cucumbers, per flat	24 0–28 0	Spring Onions, per doz. bunches ...	4 0– 6 0
Endive, per doz. ..	1 0– 2 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box.. ..	Controlled
Garlic, per lb. ..	0 5– 0 7		
Greens, per bag ..	6 0– 9 0		
Herbs, per doz. bun.	4 0– 6 0		
Horseradish, per bun	5 0– 8 0		
Leeks, per doz. bun.	3 0– 4 0	— English. per lb.	3 0– 3 6
Lettuce Cabbage and Cos per doz.	1 6– 6 0	Turnips, per bag	4 0– 5 0
Mint, per doz. bun.	4 0– 6 0	Vegetable Marrows, each	0 10– 1 3
Mushrooms per lb.	3 6– 4 6	Watercress, per doz.	0 8–0 10

REMARKS.—Supplies of hot-house fruits available include—Black Hamburgh and Muscat, of Alexandria Grapes, Melons, Figs, Peaches and Strawberries. There are also Pears from Cape Colony of the varieties Winter Nelis, Calabash and Doyenné du Comice. Other fruits on sale are Bananas, Oranges, Pineapples, Grapes and Peaches from Belgium. There are fair quantities of both English and Continental-grown Asparagus. Mushrooms are slightly more plentiful, and there is a fair supply of Seakale. The supplies of Rhubarb, Vegetable Marrows, Cucumbers, Peas, Dwarf Beans new Potatos and Tomatos show an increase daily.

GARDENING APPOINTMENTS.

Mr. A. A. Killick, for 2 years and 9 months in His Majesty's Forces, and previously for 9 years Gardener to Sir RALPH BLOIS, Bart., Cockfield Hall, Yoxford, Suffolk, as Gardener to Wellingborough Urban District Council at Swanspool House Gardens, Wellingborough.

Mr. W. Brewer, for the past 2½ years Gardener to CHAS. BEWES, Esq., Gnaton Hall, Yealmpton, Plymouth, as Gardener to Mrs. F. BUSH, Eastington Park, Stonehouse, Gloucestershire.

Mr. W. Cole, for the past 28 years Gardener to the late E. B. FOSTER, Esq., Clewer Manor, Windsor, Berkshire, as Gardener to Sir RICHARD HARRISON, Ashton Manor, Exeter, Devon. (Thanks for 3s. 6d. for R.G.O.F. box.—EDS.)

Mr. H. W. Reynolds, for the past 5½ years Gardener to Sir RALPH HARE, Bart., Gressenhall, East Dereham, and previously at Southfield Park, Loughboro', as Gardener to Dr. C. A. P. OSBURNE, F.R.H.S., The Grove, Old Catton, Norwich.

Mr. W. Parry has resumed his duties as Gardener to Col. FERGUSSON-BUCHANAN at Auchentorlie, Bowling, Dumbartonshire, after nearly 3 years with His Majesty's Forces.

Mr. A. Shambrook, previously Gardener for many years to late Rev. H. BUCKSTON, Sutton Hall, Derby, as Gardener to H. T. ANAR, Esq., West Parkfield, Kedleston Road, Derby. (Thanks for the 2s. for R.G.O.F. box.—EDS.)

Mr. E. Mills, for 4 years Gardener to JOSEPH FISHER, Esq., Higham, Cockermouth, as Gardener to Major TEMPEST, Broughton Hall, Skipton.

Mr. Albert Godden, lately returned from Ruhleben Camp, formerly Foreman at Beaufront Castle Gardens, Hexham, Northumberland, and at Schloss Glenicke, Potsdam, and New Palais, Sansoucci, Germany, as Gardener to J. H. B. NOBLE, Esq., Ardkinglas, Cairndow, Inverary. (Thanks for 5s. for R.G.O.F. box.—EDS.).

Mr. John McWhan, for 4½ years in the R.A. in France, and previously Foreman at Curraghmore Gardens, co. Waterford, as Gardener to the Earl of LISTOWEL, Convamore, co. Cork.

Mr. Ernest Key, recently demobilised from the Grenadier Guards, previously for 5½ years Gardener to L. H. DE LANGLEY, Esq., as Gardener to Major ROBB, Clayton Holt, Hassocks, Sussex. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. F. G. Bunyan, late 1st Hertfordshire Regt., and previously employed at Ware Park Gardens, Ware, and Bengeo Lodge, Hertford, as Assistant Instructor in Horticulture at the Y.M.C.A. Training Centre for Discharged Soldiers, Barnardiston Hall, Haverhill, Suffolk. (Thanks for 1s. for R.G.O.F. box.—EDS.).

Mr. G. M. Biggs, after 2½ years with H.M. Forces, and previously Gardener for 9 years at Rockingham Castle, Uppingham, as Gardener to Sir J. VERDIN, Bt., Garnstone Castle, Weobley, Herefordshire.

Mr. W. C. Yeoman, for the past 7 years Superintendent of Marsden Park, Nelson, Lancashire, under the Nelson Corporation, has, on the retirement of Mr. J. Hacking, been appointed Superintendent of all the public parks and open spaces at Nelson.

CATALOGUES RECEIVED.

F. G. LAWSON, 20, The Crescent, Truro—Second-hand Gardening Books.

JAMES G. COMMIN, 230, High Street, Exeter—Second-hand Books.

AUSTRALIA.—C. A. NOBELIUS & SONS, Nurserymen, Gembrook Nurseries, Emerald, Victoria, Australia—Fruit Trees and General Nursery Stock.

THE

HORTICULTURAL

DIRECTORY &

YEAR BOOK

FOR 1919.

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SITUATIONS VACANT.

PRIVATE.

Continued from page iii.

WANTED, LEADING HAND in Kitchen Garden; single. State experience and wages (no bothy) to W. LOW, Euston Gardens, Thetford.

ASSISTANT GARDENER, understanding Hothouse and Kitchen Garden, required for country house; cottage provided.—Give particulars and state terms asked, to Mr. NOYCE, Bangors Park, Iver, Bucks.

WANTED, two JOURNEYMEN, one Inside, one Outside; wages 30s., bothy, &c.; 5s. extra for duty.—Apply J. C. IRELAND, Lynford Hall Gardens, Mundford, Norfolk.

WANTED, two JOURNEYMEN, one for Fruit and Plant Houses, the other for Outside chiefly for Kitchen Garden; bothy and vegetables; state full particulars as to wages; duty every third week.—WM. GAIGER, Spring Grove Gardens, Bewdley.

WANTED, JOURNEYMAN for Inside.—State age, experience and wages required, with bothy, to H. WILSON, Cole Orton Gardens, Leicester.

WANTED, INSIDE JOURNEYMAN, at once. Wages 33s. per week, bothy, milk and vegetables; one o'clock Saturdays.—J. ALEXANDER, Godinton Gardens, Ashford, Kent.

WANTED, two JOURNEYMEN for Flower and Kitchen Garden; wages 30s. per week, with bothy, etc.—Particulars to, C. H. WHEELER, Swinton Gardens, Masham, Ripon.

WANTED, a good JOURNEYMAN for inside; 30s. per week, bothy, milk, and vegetables; duty and overtime paid.—Apply, W. WENMAN, The Gardens, Hickleton, Doncaster.

WANTED, JOURNEYMEN (Outside); 30s., bothy, vegetables, potatos, etc; seven in bothy; 1 o'clock Saturdays.—H. R. WHITELAW, Hever Castle Gardens, Eden Bridge, Kent.

WANTED, JOURNEYMAN for Pleasure Grounds; wages 30s. weekly, bothy, etc.—T. WARRINGTON, Foliejon Park, Windsor, Berks.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; state wages required with bothy, also age and reference; 1 o'clock Saturday.—Apply, H. PICKSTOCK, The Gardens, Maer Hall, Newcastle, Staffs.

WANTED, JOURNEYMAN GARDENER for Plant and Fruit Houses.—Apply to J. ELDER, Hursley Park, Winchester.

WANTED, JOURNEYMAN for Inside; good experience in Fruit and Plant culture; lodgings found.—Apply, stating wages and experience, to W. WARD, Canford Manor Gardens, Wimborne, Dorset.

WANTED, JOURNEYMEN for Inside/Out, immediately; wages 30s., with bothy, duty extra.—Apply, age, references, to J. SLADE, Gwernyfed Gardens, Three Cocks, Breconshire.

WANTED, two JOURNEYMEN for outside; wages 30s. per week (bothy, milk and veg.).—Apply to J. ALLEN, Calwich Gardens, Ashbourne, Derby.

WANTED, an active JOURNEYMAN for Fruit and Plant Houses; wages 30s. per week, bothy, vegetables, and attendance; 1 o'clock Saturdays; duty extra.—State experience to DAVID GIBSON, The Gardens, Belvoir Castle, Grantham.

WANTED, three active JOURNEYMEN for Pleasure Grounds and Kitchen Garden; wages 30s. per week, bothy, vegetables, and attendance; 1 o'clock Saturdays.—Apply, stating experience, to DAVID GIBSON, The Gardens, Belvoir Castle, Grantham.

WANTED, first JOURNEYMAN, Inside and Out; understands Vines and Peaches; duty every third Sunday; wages £1 12s., no bothy.—Apply, D. GARDNER, Birch Grove House Gardens, Chelwoodgate, nr. East Grinstead, Sussex.

WANTED, two good JOURNEYMEN for Outside; wages, 30s. per week, and bothy (3s. for Sunday); 1 o'clock Saturday; state references.—J. S. KELLY, Claremont Gardens, Esher.

WANTED, two JOURNEYMEN for Inside and Out.—Please apply, stating age, experience, and wages required with good bothy, etc., to WALKER, The Gardens, Locko Park, Derby.

WANTED, two JOURNEYMEN for Inside and Out.—State age and particulars to J. V. MACDONALD, The Gardens, Whetstone, Edgbaston, Birmingham.

WANTED, FIRST and SECOND JOURNEYMEN, for Plant and Fruit Houses; wages 30s. and 26s., bothy, milk and vegetables; duty and overtime paid. State age and experience.—W. KINGSWOOD, The Gardens, Norman Court, Salisbury.

WANTED, two JOURNEYMEN for Herbaceous Borders, Rookeries, etc.; wages 33s. weekly, bothy, milk and vegetables; duty paid extra.—E. BERRY, The Gardens, Pains Hill, Cobham, Surrey.

WANTED, IMPROVER (Inside), 25s. per week, with bothy, etc.—Full particulars to F. W. LARNER, Brodsworth Gardens, Doncaster.

WANTED, IMPROVER (Inside); 26s. per week, 7d. per hour overtime; bothy and vegetables.—Particulars to, M. SARGENT, Hay Green Gardens, Kingston Hill, Surrey.

WANTED, good reliable MAN for Pleasure Grounds, with experience of Rock and Herbaceous plants; also two JOURNEYMEN; bothy and vegetables.—Apply, stating wages and all particulars, to J. BARNARD, Mostyn Hall Gardens, Mostyn, Chester.

WANTED, good MAN well up in his work, for Herbaceous and Rose Borders.—Apply, CROOKE, Kidbrooke Park, Forest Row, Sussex.

WANTED, good MAN for Fruit Trees, Roses and Lawns, take duty; £2; single owing to house scarcity.—GARDENER, Feltham Lodge, Feltham.

WANTED, good MAN, mainly Pleasure Grounds, Tennis, used to scythe; also one for Kitchen Garden; no bothy.—Please state age, wages, experience, E. PLATT, The Cottage, Fitzroy Park, Highgate, N.

WANTED, an experienced MAN (single), for Rock Garden and looking after bees. Bothy, with heating, light and attendance.—State experience, age and wages to HEAD GARDENER, The Lodge, Pasture Wood, Abinger, near Dorking.

WANTED, experienced MAN for Inside and Out; good plant grower; unmarried; duty third week; wages 32s., with bothy, coals, vegetables.—Apply, HEAD GARDENER, Nonsuch Park, Cheam, Surrey.

WANTED, single MAN with general knowledge of Gardening, Inside and Out, over two others; wages £2 per week.—Apply, with refs., G. BANNISTER, The Priory Gardens, Mill Hill, N.W.7.

WANTED, MAN used to Horse-Mower for Pleasure Grounds. Also Man for Pleasure Grounds; wages 35s. and 30s. respectively with bothy.—Apply, J. W. WOODCOCK, Buckland Gardens, Bwlch, R.S.O., Breconshire.

WANTED, single man for Kitchen Garden and Pleasure Grounds; wages 35s. (no bothy); four other kept; 1 o'clock Saturdays.—W. FAWDRY, Wray Mill, Wray Common, Reigate, Surrey.

WANTED, YOUNG MAN, about 24, for Kitchen Garden and Outside; good refs.; state wages and experience; no bothy.—G. W., Brockley Hall, Brockley, S.E.4.

WANTED, YOUNG MAN for Herbaceous Borders and Kitchen Garden; wages 27s., bothy, vegetables and attendance. State age and experience.—A. GIBLETT, Hall Barn Gardens, Beaconsfield.

YOUNG MAN (not under 17) wanted for chiefly Outside Gardening, and to assist at times with Sunday duty.—Apply to HEAD GARDENER, Wyfold Court, near Reading.

WANTED, YOUNG MAN with some knowledge of Herbaceous and Rock Plants; applicants kindly state age, experience, wages, and whether single or married.—Address, HEAD GARDENER, Oaklands, Almondsbury, nr. Bristol.

WANTED, strong YOUNG MAN for general garden work; experience necessary; no bothy.—State wages and particulars to W. H. SHAW, The Gardens, Champions, Limpsfield, Surrey.

WANTED, WOMAN GARDENER, under thirty, Public or High School girl, not necessarily trained; good wages; board and lodging found; twenty miles London. — Apply, GREGORY, Great Fosters, Egham, Surrey.

WANTED, CARPENTER-ELECTRICIAN to run electric light plant and for general repairs to house, farm and estate; painting, glazing, etc.; cottage and garden found.—Apply, stating experience and wages required, to C. JONES, Digswell Estate Office, Welwyn, Herts.

GARDEN LABOURER (demobilised soldier might suit) required at once; must be steady and reliable; wages 30s., cottage provided. State experience, references required, MOORE, Appleby Hall, Ashby de la Zouch, Leicestershire.

HANDY MAN wanted, House and Estate Carpentering and general repairs; wages 45s. per week; last man stopped six years.—H. F. STALLARD, Esq., Heddon Court, New Barnet.

WANTED, GARDEN LABOURER; wages 32s., with good cottage and garden; 1 o'clock Saturdays.—State age, family and experience to W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED at once, good GARDEN LABOURER, wages £2 2s. weekly; half-day Saturday.—Apply, with particular and stating age, to D. REDPATH, Maesruddud, Blackwood, near Newport, Mon.

TRADE.

GARDENERS awaiting situations may obtain temporary employment until suited; good wages.—Apply, JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village, N.6.

WANTED, for two or three months, a first-class TOPIARY EXPERT; must be a practical working man; good wage paid. — Apply, JOHN WATERER, SONS & CRISP, Ltd., The American Nurseries, Bagshot, Surrey.

PROPAGATOR wanted; good wages to competent man; used to raising Spring Bedding and Herbaceous Plants.—Apply, TOOGOOD & SONS, The King's Seedsmen, Southampton.

WANTED, PROPAGATOR for a choice collection of Trees, Shrubs, Conifers, etc., new Chinese Plants, Alpines, etc.; also to take charge of a specimen Rock and Water Garden, Herbaceous Borders, etc. A permanent situation for a keen, capable man.—References, wages and all particulars to HILLIER & SONS, 95, High Street, Winchester.

TOMATO GROWER wanted for market work; State age, experience and wages required to CHATTOCK & ROBERTSON, Solihull, Birmingham.

WANTED, WORKING FOREMAN for small quantity of glass, with knowledge of Herbaceous Plants and Floral work; must be energetic.—Apply, with copy of testimonials and wages required, to P. E. J., Box 27, 41, Wellington Street, London, W.C.2.

WANTED, LANDSCAPE FOREMAN with good experience.—Apply, giving full particulars, references, and wages required, GEO. JACKMAN & SON, Woking Nurseries, Surrey.

KNIFESMAN WANTED, good budder and grafter, mainly for fruit trees and roses. Replies must state wage, experience, age, married or single, when disengaged.—W. W., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED at once, exerienced TOMATO HAND; good wages, and fare paid.—MANAGER, Pabo Nurseries, Conway, N. Wales.

WANTED, SINGLE YOUNG MAN for Tomato, Cucumber and general Nursery work, mostly under glass; hours, 54; wages, 35s.; overtime 9d. hour.—R. FERGUSON, The Nurseries, Northolt, Southall, Middlesex.

WANTED, experienced NURSERY HAND for Chrysanthemums and Tomatos.—ICETON, Putney Park Lane, Putney, S.W.

PRACTICAL SINGLE MAN wanted for Greenhouses, Tomatos, Bedding Plants, etc.—The Nurseries, 334, Romford Road, Forest Gate, E.7.

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WANTED, by old-established firm in North Midlands, Young Men ASSISTANTS for growing Roses, Fruits and General Nursery Stock, also MEN for Jobbing Work and under Glass. Wages 1s. hour. State age, experience and which vacancy applicants can fill.—C., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, at once, REPRESENTATIVE to Travel for a leading Wholesale House in the Seed Trade. Apply K., Box 15, 41, Wellington Street, Covent Garden, W.C.2, with fullest particulars as to experience, references, salary required, etc.

SEED AND NURSERY TRADE.—Wanted, for West of Scotland, smart Young Man for Counter.—State age, experience and wage to D. G. P., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FLORIST; must be expert in making up; permanency.—Apply, giving full particulars of experience, wages, etc., to WOOD AND INGRAM, The Old Nurseries, Huntingdon.

WANTED, first-class FLORIST; preference to person experienced in Seeds, Plants, Sundries; applications with references and wages required; profit sharing adopted.—J. SLATER, Seedsman, etc., Skipton.

HANDY MAN, Carpentering, Painting, Glazing; permanent work.—Apply, stating age, experience, and wages required, to WILLS AND SEGAR, Royal Exotic Nursery, Onslow Crescent, South Kensington, S.W.

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PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS, and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

LORD LUDLOW highly recommends E. ABBOTT as Head Gardener; life experience; four years here; age 34; married (one child).—Address E. ABBOTT, Lubenham, Market Harborough.

JOHN S. DUGDALE, Esq., K.C., 29, Eaton Square, London, S.W.1, can highly recommend his HEAD GARDENER, who has been with him 12 years; first-class gardener; excellent organiser and manager; would undertake estate management; age 45, married; 31 years' experience in first-class establishments; 19 years as Head.—Blyth Hill, Coleshill, Birmingham.

C. DALBY, Greenham Lodge Gardens, Newbury, wishes to recommend W. RAWLINGS to any Lady or Gentleman requiring a HEAD GARDENER; experienced in all branches; age 30; married (one child); small attached farm not objected to.—Further particulars apply either to above, or W. RAWLINGS, Arborfield Cross, Reading.

THE EARL OF JERSEY can highly recommend W. J. SHORT (married, no family) as a thoroughly capable HEAD GARDENER; he has had charge of the gardens at Middleton Park for the last three years, during the temporary absence on military duty, of the permanent Head Gardener, who is now demobilised; he was 12 years in previous situation, and has excellent testimonials.—Apply in first instance to, MR. W. D. LITTLE, Estate Office, Middleton Park, Bicester, Oxon.

MRS. H. GRAHAM, Barford House, Warwick, highly recommends her late HEAD GARDENER; life experience in all branches; excellent references; age 38; married (one child); discharged from Army.—F. BOSWORTH, 11, Prospect Road, Birchington, Kent.

GARDENER (HEAD) seeks engagement, age 34; married (no children). 16 years' practical experience all branches; well recommended; HEAD previous to enlistment in R.A.S.C., M.T.—D. F., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

A. R. CUMMINS seeks appointment as HEAD GARDENER; thorough practical experience in all branches of Modern Horticulture; excellent testimonials from Brocklesby Park, Gatton Park and Brussels; age 31; married (three children.—2 Mount Pleasant, Mitcham Road, Croydon.

MRS. PALMER, Marlston House, near Newbury, wishes to very highly recommend her Head Gardener, now demobilised, A1; thoroughly trustworthy and most energetic; capable manager for large establishment; life experience in all branches; age 41; married (no family).—F. WESTRON, address as above.

MR. E. RICKS, Bignell Gardens, Bicester, Oxon., wishes to highly recommend his late General Foreman as Head Gardener; thoroughly experienced in all branches; demobilised; age 32; married (no family).—Apply, A. GOWING, Bignell Gardens, Bicester, Oxon.

MR. C. PAGE, Dropmore Gardens Maidenhead, wishes to recommend his late Foreman, S. Seale, as Head Gardener, where four or more are kept; life experience in all branches; demobilised; age 36; married (one child).—S. SEALE, 66, Abbott's Road, Southall.

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GARDENER (HEAD), demobilised, seeks situation; age 35; practical life experience in all branches, Inside and Out, in good establishments; good references; state wages.—W. KING, c/o Woodcote, Grove House Gardens, Coulsdon, Surrey.

HEAD GARDENER; thorough Fruit and Plantsman, etc.; would take large place to work for market; reasonable wages and commission.—F G., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD); thoroughly experienced in the management and upkeep of a large establishment; first-class references; 8 years head of 10 men; served B.E.F.; age 41; married (one child).—FRENCH, Lower Hare Park, Newmarket.

GARDENER (HEAD) where several are kept; life experience, gained in large establishments, of all branches; Inside and Out; also Forestry; first-class refs.; age 40.—E. ROSE, Beecher House, Enville Road, Kinver, Nr. Stourbridge.

GARDENER (HEAD); fourteen years' general experience in large establishments; age 31; married (two children); disengaged when suited.—J. AYERS, 6, Barmouth Cottages, Rickmansworth.

HEAD GARDENER or GARDENER-BAILIFF.—Advertiser offers his services to any lady or gentleman; life experience in all branches and the management of a large establishment; good organiser of labour account; 14 years' highest references; married; age 48.—B. BRIDGER, 47, Temple Road, South Croydon.

GARDENER (HEAD) where four or more are kept; 20 years thorough practical allround experience, including Orchids; age 40; highest references; married (no family); demobilised.—PERKINS, 101, Flax Road, Melton Road, Leicester.

GARDENER (HEAD), life experience, seeks situation with lady or gentleman who require a practical and thoroughly competent man in all branches; previous to Army service, six years head gardener at Pyt House, Tisbury, Wilts.; highest ref.; age 39; married (no family) — H. MARTIN, Lodge Farm, Colne Engaine, Essex.

GARDENER (HEAD or SINGLE-HANDED); life experience; abstainer; last situation 17 years; married (no children); cottage required; good reference.—Apply, G. P., 2, Sidney Villas, Carlton Avenue, Colman's Estate, Westcliff-on-Sea.

ORCHID GROWER or HEAD GARDENER where Orchids are one of the leading features; expert in raising and growing Orchids; 15 years' experience in first-class places; highly recommended; 4½ years' Army service; last place sold while on active service; age 34; married (one child).—C. RUSHTON, Bremhill, Calne, Wilts.

MR. F. R. PELLY highly recommends thoroughly experienced HEAD WORKING GARDENER, competent in all branches of his work; has been in his service 4½ years; 15 years previously as Head.—MURRAY, Hockwold, Brandon, Norfolk.

C. F. LIPPINCOTT, Esq., wishes to highly recommend his Head Working Gardener, where three or more are kept; thoroughly experienced in Fruit, Flowers and Vegetables, etc.; Inside and Out; six years as Head; experience gained in good establishments; good manager, age 35; married.—CROUCHER, The Old Lodge Gardens, Ashford, Middlesex.

COL. LESLIE WILSON, M.P., highly recommends W HALL, demobilised, as Head Working Gardener for first-class establishment; life experience in all branches; age 42; married (three children, 11, 9, 4).—35, Milton Road, Wokingham, Berks.

MR. DUVALL, Agent to T. E. Brooke, Esq., highly recommends F. GARRETT, as HEAD WORKING GARDENER, or GARDENER BAILIFF; thoroughly competent; Carnations, Orchids, Fruit, early and late forcing; age 52; excellent references.—F. GARRETT, Ponfield Gardens, Hertford.

LORD ASHCOMBE, Denbies, Dorking, Surrey, highly recommends G. ALLAN as HEAD WORKING GARDENER; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

GARDENER (HEAD WORKING), where two or three are kept; Carnations and Fruit a speciality; married (no family); age 49; can be well recommended; disengaged.—ELLIS, nr, Earley Station, nr. Reading.

GARDENER (HEAD WORKING) or good Single-Handed, with help; life experience in all branches; well recommended; good references; age 36; married (one boy, 4 years). Please state wages.—W. MILLER, Barnardiston Hall, Haverhill, Suffolk.

GARDENER (HEAD WORKING); life experience in all branches; experienced Fruit Packer for Market; personally recommended by last employer, age 34; married; disengaged; capable manager of men—FULLER, 80, Grenfell Road, Maidenhead, Berks.

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GARDENER (HEAD WORKING) thoroughly experienced in all branches, Inside and Outside; references from good establishments; age 33; married; one in family.—T. ELLIS, Fulbeck, Grantham.

GARDENER (HEAD WORKING) where two or more are kept; 20 years' practical experience in all branches, both Inside and Out; married (one child); well recommended; age 35.—H. MILES, 66, Mill Lane, Carshalton.

GARDENER (HEAD WORKING or good SINGLE-HANDED with help; age 39 years; married (one boy, 4 years); just demobilised; good references; state wages.—L. FLITNEY, Ellesborough, Butlers Cross, Bucks.

GARDENER (HEAD WORKING) two or more; life experience all branches; age 41; married (no children; demobilised; wife could attend poultry.—ROWSELL, 36, Dimsdale Place, Letchworth, Herts.

GARDENER (HEAD WORKING), or good SINGLE-HANDED with help; life experience; age 53; good references; married.—NEWTON, Park Lodge, Bedwell Avenue, Essendon, Hatfield, Herts.

GARDENER (HEAD WORKING) where three or more are kept; life experience Inside and Out; well recommended; recently demobilised; at present temporarily engaged; married; age 43; Kent preferred.—BARNETT, 59, Fernside, Bolney, Haywards Heath.

ENERGETIC HEAD - WORKING GARDENER seeks re-engagement; thorough practical experience in all branches; good references; age 28; married (no family).—JOSEPH COLLINS, 22, Highfield Road, Chertsey, Surrey.

GARDENER (HEAD WORKING) where two or three are kept; life experience in all branches; age 46; married (two children).—LOW, Woolham, Bampton, Devon.

GARDENER (HEAD WORKING), or good Single-handed, with help; just demobilised; life experience in all branches both inside and Out; good references; married (four children); age 37.—S. CLARK, Mill End, Sandon, Royston, Herts.

GARDENER (good SINGLE-HANDED or otherwise); age 38; life experience in all branches; married (one child); good references.—J. BAKER, 9, George Street, Worthing, Sussex.

GARDENER (SINGLE-HANDED); married; 30 years' experience; seeks situation and cottage with private family.—H. FINCH, 3, Grand Parade, Coombe Lane, Norbiton, Surrey.

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GARDENER (SINGLE-HANDED or SECOND); life experience Inside and Outside; well recommended; age 37; married; please state wages with cottage.—C. PERRY, Theydon Mount, Nr. Epping, Essex.

GARDENER (SINGLE-HANDED or with help); life experience Inside and Out; 8 years in last two situations; age 38; married; good personal references if desired; total abstainer.—TAYLOR, 38, Maybury Gardens, Willesden Green, N.W.

SINGLE-HANDED or otherwise; life experience; abstainer; Churchman; age 42; married (girl, 9 years); good references; 6 years last place, 7 previous; demobilised. — PARKER, Bishopstone, Shrivenham, Berks.

GARDENER (SINGLE-HANDED or UNDER), in good establishment; age 35; married; well recommended by employer previous to 1914; London district preferred; disengaged.—BAINES, 84, Fanshaw Avenue, Barking.

GARDENER (SINGLE-HANDED), just demobilised; experienced Inside and Out; excellent references; age 30; married.—Apply, C. WAY, 20, Margaret Street, Cavendish Square, London, W.1.

GARDENER (SINGLE-HANDED); life experience, Inside and Out, requires place in Lancashire; married (no children); age 45; wife could be useful in house; please state wages. — Yours truly, E. WILLIAMS, Springfield Cottage, Preston New Road, Blackburn.

MR. E. G. PRETYMAN, M.P., desires to recommend his General Garden Foreman, G. Briars, to any lady or gentleman requiring the services of a competent gardener.—Orwell Park, Ipswich.

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GARDENER (demobilised) seeks re-engagement; 18 years' experience Melons, Cucumbers, Vines, Peaches, Stove and Greenhouse Plants, Perpetual Carnations, and the general routine of Outside Gardening; good refs.; married, age 35.—E. HEWITT, 75, Kollam Road, Southsea.

GARDENER; Kitchen Garden and Pleasure Ground, some knowledge of Inside work; married (no children); life experience.—W. BROWN, Porters Wood Lodge, Whittlebury, Towcester, Northants.

GARDENER where another kept; or good SINGLE-HANDED; age 39; married; 20 years experience; just demobilised.—Apply W. CROW, Park House, Stanmore, Middlesex.

GARDENER seeks situation; practical experience, Inside and Out; 20 years as Head; long reference; age 47; abstainer.—PETERS, Old House Edge, West Hoathly, Sussex.

GARDENER seeks situation as LEADING HAND in Kitchen Garden or UNDER; married (one child); good references.—S. G. HUNT, Orchard Cottage, Pimpeine, Blandford, Dorset.

GARDENER (INSIDE) seeks situation as First Journeyman; 10 years' experience; two years in last place as first journeyman; excellent references; demobilised; near London preferred; please state wages, etc.; bothy preferred.—H. BONIFACE, Side Street, Heathfield, Sussex.

GARDENER (experienced), demobilised, seeks situation, with cottage and garden provided; 14 years last place; home counties preferred.—State particulars, ARCHER, 6, Puckle Lane, Canterbury.

GARDENER, experienced Inside and Out; age 25; married; good references; demobilised.—DOGGETT, Bailey Road, Westcott, Surrey.

GARDENER (demobilised) seeks situation in Pleasure Grounds, or Inside and Out; six years' experience; good references; single; age 26; please state wages, with bothy.—G. T. STANTON, Castle Hill, Builth Wells, Breconshire.

KITCHEN GARDENER or Pleasure Ground Foreman; good practical experience; good references; married (one child, nine).—W.E., Hazel Cottage, Station Road, Worplesdon, Guildford, Surrey.

GARDENER (SECOND INSIDE or KITCHEN GARDEN FOREMAN); experience gained in good establishments; held same position; age 37; two girls, 10 and 8).—P. CHAPLIN, Medmenham, Marlow, Bucks.

GARDENER (SECOND) demobilised, age 29, single, seeks situation Inside; good references.—B. HOBBS, Houghton Grange, nr. Huntingdon.

YOUNG MAN seeks situation as UNDER-GARDENER; good reference; married when suited. —G. D., 7, Lower Ham Road, Kingston-on-Thames.

FOREMAN (Inside and Out), well up in all branches; 12 years' good experience gained in first-class establishments; age 28; single; height, 5ft. 8½in.; near London preferred.—W. LOVELOCK, 111, Park Street, Hereford.

FOREMAN (INSIDE or GENERAL); single; age 41; abstainer; first-class man; life experience; good Propagator, Decorator, Fruit and Plantsman, including Orchids; Army discharge; at liberty when suited; distance no object.—HORTICULTURE, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

PLEASURE GROUNDS FOREMAN requires Situation; excellent references; long practical experience in notable establishments; married (no family); cottage required.—W. WALLER, Lodge, Stag Road, Iver Heath, Bucks.

FOREMAN (KITCHEN GARDEN or GENERAL); 15 years' experience in extensive gardens, pre-war; excellent references; age 31; single; demobilised; please state wages, etc.; bothy preferred.—F. RICKARDS, 23, Sherborne, nr. Northleach, Glos.

FOREMAN GROWER or MANAGER; demobilised; life experience in Peaches, Tomatos, Cucumbers, Bedding Plants, Chrysanthemums, Hydrangeas, Marguerites and Roses; age 30.—AYLWARD, Buchan Hill Gardens, Crawley, Sussex.

FOREMAN, Inside or Inside and Out; good experience in all branches; age 32; demobilised; married (one child age 4).—F. HAZELDINE, 204, Queen's Road, Battersea, S.W.

GARDENER (FOREMAN or GENERAL), or would take lead in Kitchen Garden and Pleasure Grounds; life experience; Army discharge; married (no family).—B. ELKINGTON, Charlton, near Banbury.

SITUATION required as LEADING HAND on Pleasure Grounds, or Inside; life experience; age 29; please state wages, with bothy.—NEWNHAM, Brown's Farm, Stubbington, Fareham, Hants.

JOURNEYMAN (Inside, under Foreman) seeks situation; five years' experience, chiefly Inside; age 22; demobilised; good references; bothy preferred.—C. VERNON, Dahlia Cottage, Puriton, Bridgwater, Som.

JOURNEYMAN, Inside or Inside and Out; good references; age 24; demob.; near London preferred.—H. DAY, 47, Victoria Place, Epsom.

SECOND JOURNEYMAN, Fruit and Plant Houses; 3 years' experience; age 18.—T. HADWELL, Abberley Village, nr. Worcester.

YOUNG MAN wanted for the Gardens; Inside and Out.—MRS. ANDERDON WESTON, Holme Grange, Wokingham.

YOUNG MAN seeks situation to help in Kitchen Garden and Pleasure Grounds; single; age 31; good references.—NORRIS, Holme Grange Gardens, Wokingham, Berks.

YOUNG MAN (23) seeks situation as Journeyman in Pleasure or Kitchen Gardens; little experience under glass; Somerset or adjoining counties preferred; also bothy; good ref.—V. BURNELL, Bay Villa, Adsboro', nr. Taunton, Somerset.

MRS. FORWOOD highly recommends G. BRUTON to anyone requiring a thoroughly capable Man; life experience in all branches; ten years as Head Working; demobilised; aged 35; married (three children).—BRUTON, Frimhurst, Frimley Green, Surrey.

MAN (married, one child) desires situation, Inside or Out; some experience; understands duty; unable do mowing or digging.—W. BRISTOW, 3, Fairford Grove, S.E.11.

LADY GARDENER desires engagement in private establishment under head gardener; Inside and Outside; help with poultry; previous experience.—Apply, TOWN, Kingston House Gardens, Abingdon, Berks.

LADY GARDENER, well educated, experienced (pre-war), skilled Tomatos, 2 years Fruit and Plant houses, left through place being sold, also good Outside experience, desires post (private or market garden).—GILBERT, 45, Allison Road, Acton, W.3.

TWO WOMEN GARDENERS seek post together; good references; Inside and Out; bees, poultry, drive pony; home counties preferred.—G. C., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

CARPENTER (HORTICULTURAL), single, seeks post, on private estate work preferred; 20 years' experience.—J. J. HENDERSON, 6, Railway Street, Bath.

HOUSE and Estate CARPENTER desires re-engagement on Gentleman's Estate; used to routine of House, carpets, blinds, floor polishing, etc.; also general repairs of estate, farms, cottages, carpentry, painting plumbing, h. and c. water, paper-hanging, distempering, glazing; life experience; present berth tour years; excellent references; age 41; married. —Write, HOUSE CARPENTER, Box 23, 41, Wellington Street, Covent Garden, W.C.2.

TRADE.

MANAGER seeks re-engagement in Market Nursery; age 48; life experience in Grapes, Peaches, Tomatos, Cues., Carnations, Chrysanthemums, Ferns, Hardy Fruits and Vegetables, and expert with Sweet Peas and Herbaceous Plants; horticulturist.—HUNTERSDALE, Virginia Water, Surrey.

MANAGER.—Mr. HENRY CORDER, Nurseryman and Seedsman, Bridgwater, desires to recommend G. F. Evans for the above post He is thoroughly reliable and has good knowledge of the Seed, Nursery and Florist business.—Address, 15, High Street, Bridgwater.

MANAGER (WORKING); 33 years' practical experience in Grapes, Cues., Toms., Carnations, Chrysanthemums; first-class Florist; Flowers, Ferns, Palms, Bedding Plants, etc.; early and late forcing; good organiser of labour; first-class references.—HORTUS, Box 14, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER requires engagement; Rock and Alpine Plant Nursery preferred; demobilised; full qualifications and experience.—H.E., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, MANAGERSHIP of Branch Shop; keen interest taken; active; disengaged when suited.—A. B., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER or MANAGING FOREMAN, age 40; life experience Cucumbers, Tomatos, Chrysanthemums, Bedding Stuff, Fern Raising, and Growing Mushrooms, Vegetables, etc.; at present in charge of about four acres of glass; seeks change by June 1.—"ALL-ROUND," Box 15, 41, Wellington Street, Covent Garden, W.C.2.

NURSERY MANAGER or FOREMAN; life experience in the management of large quantities of glass, producing for up-to-date nurseries.—LONDON, Box 27, 41, Wellington Street, Covent Garden, W.C.2.

WORKING MANAGER or FOREMAN (just demobilised) requires situation in Market Nursery; 15 years' experience in Tomatos, Grapes, Peaches, Ferns, Carnations, etc.; first-class references; age 35; single.—For further particulars apply to WILSON, 29, St. Kilda's Road, Stoke Newington, N.16.

MANAGER or FOREMAN requires engagement; married; 33; life experience, Cucumbers, Tomatos, Chrysanthemums, Grapes, Bulb Forcing, General Produce.—Offers to S., 28, St. Andrew's Road, Portslade.

MANAGING FOREMAN (WORKING), thoroughly experienced in Grapes, Cucumbers and Tomatos for Market; good references.—C. J., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

MANAGING FOREMAN (WORKING); life experience in Toms., Cues., Chrysants., Roses, Bedding stuff, Herbaceous Plants and Bulbs; age 41; highest references.—G. L., 12, Clifton Road, Ramsgate, Kent.

FOREMAN (WORKING); life experience in Fruit Trees, Roses and Shrubs; expert budder and grafter; age 32; married; state wages.—H. H., Box 23, 41, Wellington Street, Covent Garden, W.C.2.

GROWER or CHARGE HAND. — Advertiser seeks situation as above; Tomatos, Chrysanthemums, Grapes, Carnations, Lilies, Bedding Stuff; good references.—GROWER, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

CUCUMBER and TOMATO GROWER seeks position as FOREMAN; 15 years with leading growers for London Markets; competent propagator and grower; able to lead and control labour; age 40; married.—C. ANDERSON, Bedford Road, Willington, Beds.

SITUATION required as ROSE GROWER (Outdoor); thorough experience; able to take charge of men; also experience in stool ground (deciduous plants); good testimonials from leading nurserymen.—H. KEMP, Holly Cottage, Brampton, Huntingdon.

DEMOBILISED SOLDIER, well educated, seeks situation in Nursery, Market Garden, or Private Garden; has had slight experience; highest references character; home counties preferred.—FRANCIS, 8, Chepstow Place, Bayswater, W.

SEED TRADE.—SHOPMAN (demobilised), 25, seeks situation; experienced in all branches (wholesale and retail); Floral and Nursery stock; good refs.—S. A., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

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On view morning of sale and catalogues had.

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Within easy reach of Teddington Station, L. & S.W.R. Electric trams pass the Nursery. Clearance Sale of Bedding Plants, the Nursery having been disposed of

MESSRS. PROTHEROE & MORRIS have been instructed by Mr. D. Anderson to Sell by Auction, on the premises, the Nursery, Hampton Road, Teddington, on

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PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1686 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

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AGRICULTURAL EDUCATION.

APPLICATIONS are invited for the post of ASSISTANT COTTAGE-GARDENING INSTRUCTOR. Candidates must be active, well educated, and have a good knowledge of the scientific principles and practice of Gardening in all its branches. Experience in lecturing and demonstrating to adults and in conducting and supervising school gardens will be considered an advantage.

Salary £200 to £250, according to qualifications and experience. Forms of application can be obtained from the Agricultural Organiser, Sessions House, Maidstone, and should be returned by May 20. They should be accompanied by copies of recent testimonials and not more than two references.

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WANTED, GARDENER under Gardener-Bailiff (four in all), for Hampshire, near Petersfield; a reliable hard-working and obliging married man, with experience of Fruit, Plant-houses and Outside Gardening; capable of taking charge (with two under); liberal wages, cottage and fuel.—Applicants to apply by letter to Mr. HATTON, Gardener-Bailiff, East Hill Farm, East Liss, Hants, stating age, wages required, and full details of past experience.

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WANTED, FOREMAN or good JOURNEYMAN for Inside. Bothy, milk and vegetables; 1 o'clock Saturday, duty every third week.— State age experience, and wages required to, F. BARK, Rooksnest Park, Godstone, Surrey.

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WANTED, two experienced JOURNEYMEN for Fruit and Plant Houses. Also one for Pleasure Ground; bothy, milk and vegetables.—Apply, stating full particulars and wages required, WILLIAM TURNHAM, Greenlands, Henley-on-Thames.

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Continued on page ix.

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Many preparations are on the market under this name, but no article differs so much in value. **Fowler's Lawn Sand** has exceeded all others in money's worth generally.

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STRONG PLANTS NOW IN 3½ in. POTS. *LIST FREE.*

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Gardeners' Chronicle
No. 1690.—*SATURDAY, MAY* 17, 1919.

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RUNNER BEANS.

THE Runner Bean is a vegetable of great utility, and may be advantageously grown by all. To obtain the best results in crop and quality, abundant supplies of food and moisture are necessary, or the pods will be tough and flavourless. The Runner Bean is able to assimilate a large amount of plant food, and the results depend on the amount available in the soil. In this respect it differs from certain other crops of the kitchen garden. Onions, for example, grown on excessively rich soil, are not so fine in quality as when planted in moderately fertile ground, whilst roots of the culinary Pea will not tolerate animal manure in quantity. The Runner Bean is able to take full advantage of a rich rooting medium, and provided with plenty of manure it will grow rampantly and produce large quantities of its valuable pods.

By way of experiment, I have planted Runner Beans on manure heaps where they have thriven amazingly, the only difficulty being that sometimes the blooms dropped off instead of setting, but this was entirely rectified by two applications of sulphate of potash, at the rate of one ounce to one gallon of water. But I do not recommend growing the plants in rank manure only, for not only is such an extreme course unnecessary, it is obviously wasteful of manure. Fair crops may sometimes be obtained from plants grown in unmanured ground in average seasons, but if a period of drought occurs the crop will be poor and the pods tough and stringy.

For many reasons the trench system is undesirable; in heavy, damp soils, the trench acts as a drain in rainy weather, and the sinking caused by the decomposing manure causes many of the roots to become broken. It is a much better plan, if the necessary labour is available, to spread the manure over the ground and trench the land, placing most of the manure at the bottom of the trenches as the work of digging proceeds.

The root system of the Runner Bean develops to a large extent, laterally, and, on shallow soil, during wet weather, innumerable roots may be seen penetrating the surface for some distance from the plant. These roots generally perish in times of drought.

Deep cultivation should be practised to encourage the roots to grow into the moist soil below, where they will be safe from drought and the effects of hot sunshine. Generally, surface mulchings of manure are inadvisable on account of encouraging surface rooting, it being better to stir the surface soil frequently to create a dry mulch of dusty soil which the roots will not enter.

Surface mulchings may be advantageously applied in certain circumstances such as on heavy, wet soils where the ground is liable to crack, and which defy hoeing after a period of rain.

Many growers maintain that a light, dry mulch is beneficial during hot weather, a point I concede, provided the drought continues. In our variable climate it is impossible to forecast the weather for any considerable length of time; long periods of wet weather frequently follow drought. In such conditions the driest of light mulchings become sodden, and partly decay; the roots invariably enter such material and this entails the provision of another mulch for protection when drought returns. The only way of preventing this trouble is to remove the mulch when rains falls, a process too laborious for most gardeners to undertake. On light soils a light, dry mulch is easily obtained by frequently stirring the surface, a process which involves less labour and at the same time destroys weeds.

Water should not be applied unless absolutely necessary, as watering encourages roots to grow near the surface, even when the ground is thoroughly saturated. When water is applied, the soil should be saturated for a goodly depth below the surface. For supporting Runner Beans stakes, wire netting, twine, and twine netting, are all useful, the choice depending on circumstances. The support should be secured firmly to stout poles at the ends of the rows, and if necessary at intervals between, and they should be placed in position before planting the seedlings or sowing the seeds. *E. Janes.*

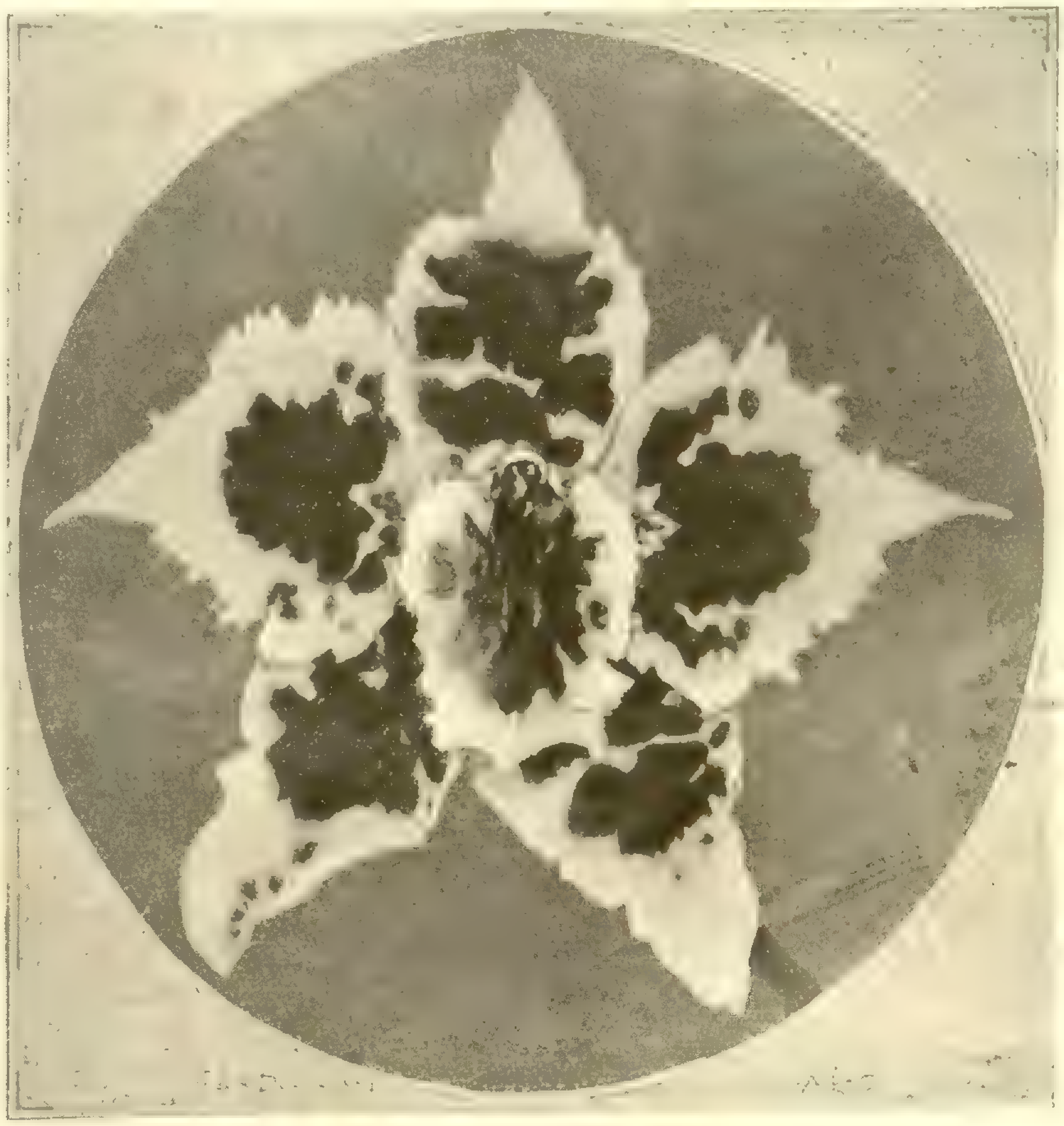

FIG. 113.—ODONTOGLOSSUM CRISPUM VAR. PITTIANUM, KNOWN AS THE "THOUSAND GUINEA" ODONTOGLOSSUM.
(See page 236)

FLORISTS' FLOWERS.

HERBACEOUS CALCEOLARIAS.

AMONG the many beautiful flowering plants that are raised annually from seed for conservatory decoration, none is more showy than the Herbaceous Calceolaria.

To obtain a good display of flowering plants during May and June great care must be taken with their cultivation. It is not that they call for extraordinary attention, but once they receive a check they never appear to get over it however careful the grower may be in trying to remedy the defect. On the contrary, they quickly respond to intelligent treatment.

For ordinary purposes the early part of June is a suitable time for sowing the seed. Well drained pans should be filled with a light, open compost and the seeds sown thinly. If the pans are placed in a cool, moist house or frame the seedlings will appear in about eight days, when they should be placed close to the roof glass, but shaded from direct sunshine. Later they should be transferred to boxes and grown in a cold frame. Do not discard the smaller plants, as generally these give the most

brightly-coloured flowers. Before the seedlings become crowded in the pans pot them in 3-inch pots and stand the pots on a bed of ashes in a frame. Attend carefully to necessary details, and ventilate the frame freely in fine weather. Keep the surrounding of the plants moist, and shade them from hot sunshine. Transfer them to 5-inch pots when they are large enough, using a slightly heavier compost than before, with coarse sand freely added to keep it open. Do not make the soil very firm when potting. After repotting keep the frame closed for a few days, and shaded rather heavily in bright weather.

Towards the end of September remove the plants to a heated pit, and keep them growing steadily in a temperature of between 45° and 50°. Careful watering is essential during dull days. Let the frame be freely ventilated in suitable weather, and keep aphides in check. The plants will make good progress with the turn of the year, and in February the final potting should be done. Employ a fairly rich and open compost, using 7 inch pots for the best plants. With careful watering until the roots are active in the new soil healthy growth will follow with the lengthening days, and when the flower spikes begin to push up light feeding with concentrated fertilisers will be beneficial.

Before removing the plants to the conservatory let the whole stock be fumigated on two nights in succession to destroy any aphides that may be present on them. *F. T.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM CRISPUM.

IGNORING all side issues it can definitely be said that Odontoglossum crispum, first discovered by Hartweg in 1841-2 in the province of Bogota, New Granada, but not imported until after 1863, when Weir, Blunt and Schlim, in separate interests, made the journey simultaneously, is the most beautiful Odontoglossum and the one whose advent had the greatest and most satisfactory results in gardens, whether it is considered for its beauty and wonderful variation as an introduced plant, or for the important part which it has played in the hands of the hybridiser.

The species, shown as O. Alexandrae, was first exhibited before the Royal Horticultural Society on April 18, 1865, and, although there were many plants in the country it failed to show its real character on account of its requirements not being then so well understood as they have been later. In its season, O. crispum is one of the best represented Orchids in gardens; it is beautiful in all its forms, and shows such amazing variation that about two hundred varieties have been considered to be sufficiently distinct by the Orchid Committee of the Royal Horticultural Society to warrant the giving of awards, the variation being from the pure white, which is regarded as the typical form and entitled to specific rank, to the heavily blotched varieties in which colour predominates, and which a few years ago were eagerly sought by collectors and realised at auction hundreds of pounds each. High prices were given not only on account of the beauty of the specimen, but because each of the best forms was unique.

In the hands of the hybridist over one hundred direct crosses between it and other species and hybrids have been made, and further crossing of the progeny has resulted in O. crispum being the beautifying factor, in some degree, in the greater part of the wonderful collection of Odontoglossums and Odontiodas in our gardens to-day.

But the puzzle has always been why Odontoglossum crispum should vary in beauty and colour more than any other Odontoglossum.

In *The Gardeners' Chronicle* of June 27, 1903, p. 410, the late Mr. Norman C. Cookson asked, "When is a crispum not a crispum?" and stated a case, the discussion of which was continued occasionally under various headings, but no definite solution was arrived at. The theory generally accepted is that the white form is the type species, while the blotched forms—which seem too pronounced to be due to polymorphism—have resulted from a crossing with some other species in the remote past, but which cannot be reconciled with any of the species or numerous hybrids now growing naturally with O. crispum, and which may have passed away in the great process of evolution and elimination which is always going on in nature.

An interesting point is that in the different localities in which O. crispum is found, the quality of all the plants varies, those found in the Pacho district (alt. 7,500-8,000 feet) being the best, the typical white form from that region being still the first favourite. The Velez and Fusagasugá types differ sufficiently to be recognisable by expert collectors, but the greatest departure from the recognised type is seen in O. crispum Lehmannii (see Fig. 114), discovered by the late F. C. Lehmann near Santiago and Putamayo, in dense woods in the Pasta district, on the Eastern Andes, at 5,800 to 7,400 feet. This is the smallest form, and varies probably more than any other. As with the other sections, the white forms, often on branched spikes, are the commonest, spotted forms less frequent, and heavily blotched varieties occasional. The lip, which is the most reliable botanical feature, is markedly different from that of the other types; so much so that were it not for the connecting white forms and the fact that it was named by its discoverer (one of the most competent authorities), its standing

FIG. 114.—ODONTOGLOSSUM CRISPUM LEHMANNII.

as a distinct species would be open to consideration. It is noteworthy that in all the rather widely separated localities in which O. crispum is found the same remarkable variation occurs, and must either have originated in the same disturbing agency in each locality or spread from a common centre.

A glance at the illustrations now given, selected from a large number, shows that speculation as to the specific standing of O. crispum is to be easily accounted for, but not so readily solved. Seedlings raised at home prove the stability of the white type, which has been raised true and thus produced in finer form than imported varieties. The spotted forms, crossed, also give blotched forms, with an occasional white one; a reversion which occasionally occurs in batches of crosses of Odontoglossum and Odontioda having O. crispum in their ancestry, and which strengthens the suggestion that the white form is a true species.

Some plants raised between two blotched O. crispums have produced varieties scarcely distinguishable from O. eximium (crispum × ardentissimum), and among O. eximium itself forms appear which would pass for O. crispum. But these and similar experiences bring us little nearer to the solution of the difficulty.

Nevertheless, taking it for what it is, we must be thankful for this grand Odontoglossum, which is as much a favourite to-day as it was when it first displayed its beauties in gardens fifty years ago.

A reasonable suggestion as to the production of coloured varieties among plants of the original white O. crispum, without crossing with another species, is that they originated in peloric forms in which the petals and sometimes the sepals have the blotching which is generally more or less highly developed on the lip, many instances of which have been recorded from imported plants. Once the colour was transferred from the lip to the other segments its development among the innumerable seedlings would naturally tend to produce such coloured forms as we now see. Transference of colour from the lip to the outer segments, without peloric change, in garden hybrids also has often been more than suspected in the case of productions with darker sepals and petals than either of the parents, the colour resembling, however, the labellum of one or both. *J. O'Brien.*

TREES AND SHRUBS.

CONIFERS AT LEONARDSLEE.

(*Continued from page* 225.)

Sequoia gigantea, Decaisne. Wellingtonia. California.
(syn. Wellingtonia gigantea, Lindley.)
—— sempervirens, Endlicher. Redwood. California.
—— —— var. albospica.
(syn. Taxodium sempervirens, Lambert.)
Glyptostrobus heterophyllus, Endlicher. Chinese Water Pine. China.
(syn. Juniperus aquatica, Roxburg.)
(syn. Thuya lineata, Poiret.)
(syn. Thuya pensilis, Staunton; also Lambert.)
(syn. Taxodium japonicum heterophyllum, Brongniart.)
Cryptomeria japonica, D. Don. Japan.
—— —— var. araucarioides.
—— —— var. monstrosa.
—— —— var. spiralis, Siebold and Zuccarini.
—— —— var. elegans, Veitch. Japan.
Taxodium distichum, L. C. Richard. Deciduous Cypress S. United States.
—— —— pendulous variety.
—— —— var. pendulum, Carrière.
—— —— (syn. Glyptostrobus pendulus, Endlicher.)
—— —— (syn. Taxodium distichum imbricarium, Sargent.)
—— —— syn. Cupressus disticha imbricaria, Nuttall.
Cunninghamia sinensis, R. Brown. China.
Araucaria imbricata, Pavon. Chile Pine. Monkey Puzzle. Chile.
Tsuga albertiana, Sénéclauze. Western Hemlock. W. N. America.
(syn. Tsuga heterophylla, Sargent.)
(syn. Tsuga mertensiana, Carrière—not Sargent.)
—— brunoniana, Carrière. Himalayan Hemlock. Himalayas.
(syn. Tsuga dumosa, Sargent.)
—— —— (10293) var. chinensis? Franchet? China.
—— chinensis, Pritzel. China.
(syn. Tsuga yunnanensis, Masters, 1906—not Masters, 1902.)
—— canadensis, Carrière. Canadian Hemlock. Canada.
—— —— var. pendula.
—— caroliniana, Engelmann. Carolina Hemlock. S. United States.
—— diversifolia, Masters. Japanese Hemlock. Japan.
(syn. Abies Tsuga var. nana, Hort.)
—— pattoniana, Sénéclauze. Patton's Hemlock, W. N. America.
(syn. Tsuga hookeriana, Carrière.)
(syn. Tsuga mertensiana, Sargent.)
—— Sieboldi, Carrière. Siebold's Hemlock. Japan.
(syn. Abies Tsuga, Siebold.)
Picea alba, Link. White Spruce. N. America.
(syn. Picea canadensis, Britton.)
(syn. Picea laxa, Sargent).
—— albertiana, S. Brown. W. N. America.
—— asperata, Masters. China.
—— —— var. notabilis, Rehder and Wilson. China.
—— —— var. ponderosa, Rehder and Wilson. China.
—— bicolor, Mayr. Japan.
(syn. Picea alcockiana, Carrière.)
—— —— var. acicularis, Maximowicz.
—— balfouriana, Rehder and Wilson.
—— breweriana, S. Watson. Brewer's Weeping Spruce California.
—— complanata, Masters. W. Szechuan, China.
—— Engelmanni, Englemann. W. N. America.
—— —— var. glauca.
—— excelsa, Link. Common Spruce.
(syn. Abies Picea, Miller.)
(syn. Pinus Abies, Linnaeus.)
—— —— var. clanbrassiliana, Carrière.
—— —— var. Craustoni, Hort.
—— —— var. Eremita, Carrière.
—— —— var finedonensis, Hort.
—— —— var. inverta, Hort.
—— —— var. monocaulis, Nordlinger.
—— —— var. pygmaea, Carrière.
—— —— var. Remonti, Hort.
—— —— var. virgata, Jacques.
(syn. denudata, Carrière.)
—— heterolepis, Rehder and Wilson. China.
—— Glehni, Masters. Japan
—— jezoensis, Carrière. Japan.
(syn. Abies jezoensis, Siebold and Zuccarini.)
(syn. Picea ajanensis, Fischer.)
—— —— var. hondoënsis, Mayr.

Picea Koyamai, Shiras. Japan.
— Maximowiczii, Regel. Japan.
— montigena, Masters. China.
— Morinda, Link. West Himalayan Spruce. Himalayas
(syn. Picea smithiana, Boissier.)
(syn. Abies Khutrow, Loudon.)
— nigra, Link. Black Spruce. N. America.
(syn. Picea mariana, Britton.)
— Omorika, Bolle. Servian Spruce. Servia.
— orientalis, Carrière. Oriental Spruce. Asia Minor.
— polita, Carrière. Tigertail Spruce. Japan.
— pungens, Engelmann. N. America.
(syn. Picea parryana, Sargent.)
(syn. Picea commutata, Hort.)
— — var. glauca.
— purpurea, Masters. China.
— retroflexa, Masters. China.
— rubra, Link. (syn. Picea rubens, Sargent). Red Spruce. N. America.
— sargentiana, Rehder and Wilson. China.
— schrenkiana, Fischer. (syn. Picea obovata var. schrenkiana, Carrière). Siberia.
— sitchensis, Trautvetter. Sitka Spruce (syn. Abies Menziesii, Lindley). W. N. America.
— spinulosa, A. Henry. East Himalayan Spruce. Himalayas.
(syn. Abies spinulosa, Griffith.)
(syn. Picea morindoides, Rehder.)
Cedrus atlantica, Manetti. Atlas Cedar. N. Africa.
— — var. glauca.
— Deodara, Lawson. Deodar. Himalayas.
— — var viridis.
— Libani, Barrelier. Cedar of Lebanon. Palestine.
— — var. argentea.
Larix americana, Michaux. Tamarack. N. America.
(syn. Larix microcarpa, Desfontaines.)
(syn. Larix pendula, Lambert—not Salisbury.)
— dahurica, Turczaninow. (syn. Larix davurica Trautvetter). Siberia.
— — var. japonica, Maximowicz. Japan.
— europaea, De Candolle. Common Larch (syn Larix decidua, Miller). (syn. Larix larix, Karsten). Europe.
— Griffithii, Hooker, fil. Himalayan Larch. Himalayas.
— kurilensis, Mayr. Kurile Larch. Kurile Islands.
— leptolepis, Endlicher. Japanese Larch (syn. Larix Kaempferi, Sargent—not Carrière). Japan.
— pendula, Salisbury. Hybrid between Larix europaea and Larix americana.
(syn. Larix europaea var. pendula, Forbes.)
(syn. Larix dahurica, Henry and Elwes in part.)
— Lyallii (?), Parlatore. Lyall's Larch. N. America.
— occidentalis, Nuttall. West American Larch. W. N. America.
— olgensis, A. Henry. Olga Bay, Manchuria.
— Potanini, Batalin. Chinese Larch. W. China.
— Principis-Rupprechti. Rehder and Wilson. N. E China.
— sibirica, Ledebour. Russian Larch. Siberia.
(syn. Larix europaea var. sibirica.) Loudon.
(syn. Larix altaica. Nelson.)
(syn. Larix decidua var. sibirica, Regel.)
— thibetica, Franchet.
— 6747 and 10185 : thibetica (?).
Pseudolarix Fortunei, Mayr. Golden Larch. Japan.
(syn. Pseudolarix Kaempferi, Gordon.)
(syn. Larix Kaempferi, Carrière—not Sargent.)
Keteleeria davidiana, Beissner. China.
— Fortunei, Carrière.
(syn. Abies Fortunei, Masters; also Murray.)
(syn. Abietia Fortunei, Kent in Veitch's Manual.
Abies amabilis, Forbes. White Fir (syn. Abies grandis, A. Murray—not Lindley). British Columbia.
— balsamea, Miller. Balsam Fir. E. N. America.
— — var. hudsonica, Englemann. New Hampshire, U.S.A.
— bracteata, Nuttall. Santa Lucia Fir. (syn. Abies venusta, Koch). California.
— cephalonica, Loudon. Greek Fir. Greece.
— cilicica, Carrière. Cilician Fir. Cilician Taurus.
— concolor, Lindley. Colorado Fir. Colorado.
— — var. Wattezi.
— — var. violacea, Masters.
— Faberi, W. G. Craib.
(syn. Keleteeria Faberi, Masters.)
(syn. Abies Delarayi, Wilson—not Franchet.)
— faxoniana, Rehder and Wilson. China.
— firma, Siebold. Japanese Fir. (syn. Abies bifida, Siebold and Zuccarini). Japan.
— Forresti, W. G. Craib. China.
— Fraseri, Poiret. Fraser's Balsam Fir. S.E. United States.
— grandis, Lindley. Giant Fir. W. N. America.
— holophylla, Komarov. Manchuria.
— homolepis, Siebold and Zuccarini. Nikko Fir. (syn. Abies brachyphylla, Maximowicz). Japan.
— — var. umbellata, Wilson. Japan.
— lasiocarpa, Nuttall—not Hort. Rocky Mountain Fir Colorado.
(syn. Abies subalpina, Engelmann.)
(syn. Abies bifolia, Murray.)
— — var. arizonica, Lemmon. Arizona.
— lowiana, A. Murray. Californian Fir. California.
(syn. Abies lasiocarpa, Masters—not Nuttall.)
(syn. concolor var. lasiocarpa, Beissner.)
(syn. Abies concolor var. lowiana, Lemmon.)
(syn. Picea parsonsiana, Barron.)
— magnifica, A. Murray. Red Fir (syn. Pinus amabilis, Parlatore, in part), California.
— Mariesii, Masters. Maries' Fir. Japan.
— nephrolepis, Maximowicz. Manchuria.
(syn. Abies sibirica var. nephrolepis, Trautvetter.)
— nobilis, Lindley. Noble Fir. W. N. America.
— — var. glauca.
— nordmanniana, Spach. Caucasian Fir. Caucasus.
— numidica, De Lannoy. Algerian Fir. Algeria.
— pectinata, De Candolle. Common Silver Fir. Europe.
— — var. pyramidalis.

Edmund Giles Loder, Leonardslee, Horsham, Sussex.

(*To be concluded.*)

NOTICES OF BOOKS.

THE AMERICAN ROSE ANNUAL.

The fourth volume of *The American Rose Annual** opens with a pleasantly written article by Mrs. Wright, already known to the public as the "Commuter's Wife," followed by Dr Van Fleet, who considers "Fragrant Roses" and their several perfumes. It is interesting to note that he thinks the name Rosa cinnamomea derived rather from the colour of the twigs than from the perfume of the flower, and it is certainly true that the flowers of the species met with in this country have no Cinnamon perfume; the Musk Rose also he seems to regard as misnamed. His general conclusions as to perfume correspond fairly well with those of M. Jules Gravereaux, who gave much study to the subject, but many will be surprised to read that he found the flowers of the Rosa gallica hybrid Mrs Curzon (presumably that known in this country as Lady

Fig. 115.—Odontoglossum crispum Rosemary : a fine white variety in Sir George Holford's collection.
(See page 236).

Curzon, introduced by Turner in 1902) to give "almost double the relative yield" of attar of Rose perfume, the average yield being 1 lb. to 3,000 lb. of fresh petals.

Crown canker is rapidly becoming a serious trouble to the Rose grower, and Prof. L. M. Massey pursues his investigation in this disease, dealing, in his article in the present volume, with its attack on greenhouse Roses.

An attempt to estimate the comparative value of different varieties of Roses by recording the number of flowers produced in the course of the season occupies the attention of several contributors. This method was suggested by Capt. G. C. Thomas in *Practical Book of Outdoor Rose Growing,* who himself gives tables recording his own observations. Mr Mulford, Mr A P Greeley, of Washington, and Mr A W Greeley, of Wiscasset, give the results recorded by them respectively, and they are sufficiently striking, while the last named observer shows graphically the quantity of Roses cut alongside of a temperature curve, and in another set of curves a comparison of the production of the five best H.P.'s, H.T.'s and Tea Roses, affords very sound reasons for growing all three classes.

The difference between the 200 blooms recorded as produced by a Rose named Mme. Eugene Marlitt and the five given to Lieut. Chaure by Mr A. P. Greeley is certainly very great and we would like to know whether disbudding was practised, as without it many Roses are of small account.

The varieties found by the three observers to produce more than 70 flowers per plant in the course of the season are as follows:—

Mr A P Greeley: Mme Eugène Marlitt (?), 200; George Elgar (Poly. pom.), 185; G Nabonnand (T.), 144; Leonie Lamesch (C.), 131; Eugenie Lamesch (C.), 101; Lady Ursula (H.T.), 99; Ecarlate (H.T.), 87; Lucullus, 71.

Mr. A. W. Greeley: Mrs. A. R. Waddell (H.T.), 84; Mme. Jules Bouche (H.T.), 81; La Tosca (H.T.), 80; Gruss an Teplitz (H.T.), 79; Harry Kirk (T.), 76; Frau Karl Druschki (H.P.), 71; Betty (H.T.), 71.

Mr. Mulford: Gruss an Teplitz, 170; Reine Marguerite d'Italie, 143; Miss G. Clark, 128; Isabella Sprunt, 104; V. R Coxe, 83; Dr. Grill, 81; Irish Brightness, 80; Mary Countess of Ilchester, 77; Marie Lambert, 76; Gloire Lyonnaise, 71.

This method of comparison is interesting and capable of some development, but must clearly be limited by the method and purpose in and for which the Roses are grown. Thus, it would

* *The American Rose Annual*: Edited by J. Horace McFarland. Price (to non-members) $2. J. Horace McFarland Company, Mount Pleasant Press, Harrisburg, Pennsylvania.

obviously be unfair to compare by this standard a bush of Marie van Houtte or Comtesse du Cayla allowed to grow freely, and practically unpruned, with an exhibition H.T. such as Mrs. Theodore Roosevelt or Mrs. A. Coxhead, which is cut to the ground every season. Again, are all blooms to be counted, or only those that are sufficiently good to be typical of the variety when reasonably well grown? These are details, no doubt, but notwithstanding their importance the Editor of the *American Rose Annual* is to be congratulated on breaking new ground and doing good work.

The matters referred to above are far from exhausting the *Annual*, which contains many short articles not only from America, but from all parts of the world, and also a preliminary list of American raised Roses. *White Rose.*

JOTTINGS OF AN ALLOTMENT GARDENER

The author of this little book* has a style of his own, and has produced a chatty, readable work, yet one which is brimming over with practical information. We do not subscribe to all his views, e.g., the manurial value of sulphate of iron, or the advisability of allotment holders manufacturing their own chemical manures, even "when acids are cheap again." In the main, however, the advice is sound, and the book may be recommended to allotment holders as both interesting and instructive.

PLANT PRODUCTS AND CHEMICAL FERTILISERS.

THIS book † is one of the "Industrial Chemistry" series, and we cannot do better than use the author's own words in describing it: "No particular effort is made to give encyclopædic completeness of information, but the aim has been to give a fair conspectus of a large subject, with an appended bibliography for those who are able to pursue their studies further. . . . The volume covers the cycle from factory to fertiliser, from fertiliser to field, and from field to factory once more." In this work the author has supplied a much-felt want in providing agricultural and horticultural students with a text-book on the chemistry of plant products and fertilisers. The book is divided into four parts, which treat of fertilisers, soils, crops, and the production of meat. The parts are again subdivided into sections which deal with the separate branches of the subject in the manner of a special article or monograph. The book is rendered still more valuable by the references to important papers and standard works, and thereby acts as a guide to the standard literature on the subject.

The style of the book is very good and the type and paper excellent. The index is good—perhaps its greatest fault is that it is too complete, for turning up Bachelor of Science on page 220 we find that "One Bachelor of Science is farming on his own account, another is managing on behalf of a big company." Again, we look up the page referring to Spain and find that it is one of a number of countries where experiments have been made in the cultivation of the Soy Bean.

* *Jottings of an Allotment Gardener*, by E. T. Ellis, pp. 144. *Times* Printing Co., Ltd., High Street, Mexboro'. Paper covers, 1s. 6d. nett.

† *Plant Products and Chemical Fertilizers*, by S. Hoare Collins, M.Sc., F.I.C., pp. 236. London: Baillière, Tindall and Cox, 8, Henrietta Street, Covent Garden, 1918. Price, 10s. 6d. nett.

FIG. 116.—MAGNOLIA KOBUS FLOWERING ON WALL AT KEW.

MAGNOLIA KOBUS.

MAGNOLIA KOBUS, a Japanese species, is hardy in the South of England. Professor Sargent, who found it growing in the forests of Hokkaido, in Japan, describes it as a tree growing some 70 to 80 feet high. The flowers are creamy white in colour, slightly fragrant, and some four to five inches in diameter. When crushed, the young branches are also fragrant.

At Kew, M. Kobus usually produces its flowers from the beginning to the middle of April, but, as the flower buds open in succession, it is generally in flower for about a month. The subject of the illustration was planted many years ago against a wall, but failed to flower until recently. This failure was no doubt due to the fact that the tree was kept too closely pruned, as since it has been allowed more freedom it has flowered with increased profusion each year.

In common with all the early flowering Magnolias, the flowers of this species are apt to become damaged by inclement weather, therefore, although hardy in the open, it is well worth the shelter of a wall, especially a high one, where it may have room to develop into a good specimen. *J. C.*

The Week's Work.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Carnations.—Perpetual-flowering Carnations are most serviceable plants at this season for flowering under glass. They require careful attention just now, and if not shaded from bright sunshine the flowers do not develop their finest colours. Souvenir de la Malmaison varieties should be liberally supplied with water at the roots, and be fed frequently with a concentrated fertiliser. Fumigate the plants occasionally to prevent attacks of green fly. Damp the benches and floor of the house, afford plenty of air and attend to the tying of all young growths. Flowering plants of perpetual Carnations should frequently be supplied with a liquid fertiliser, and if any plants are required for another year's flowering, re-pot them about the beginning of June. Plants raised from cuttings inserted last autumn should now be shifted into their flowering pots in a compost of three parts best loam, one part rubble and wood ash and a 6-inch pot full of Carnation manure to each barrowful of these ingredients. Pot firmly, place the plants in a cool house on a foundation on ashes and spray them lightly on fine days, but water the roots carefully until the plants make new growth. Spring struck cuttings should now be ready for placing in 5-inch pots.

Specimen Flowering Plants.—For greenhouse and conservatory decoration Fuchsias may be potted into larger receptacles, the soil to consist of two parts loam and one part leaf-mould, with some dried cow manure and sand. Retain and regulate the side growths, pinch out the point of the shoots and train them as pyramidal specimens. Young plants raised from cuttings inserted last autumn may now be potted into 7-inch pots. Select straight-stemmed plants for standards, stake them and remove all side growths. Those chosen for pyramids should also be staked, but the side growths should remain. Ivy-leaved Pelargoniums may also be either trained as specimens, standards or pyramids, potted in good fibrous loam and a little bone meal and placed in a light airy house. When re-established allow an abundance of air and sunshine and pinch out the flowers and the points of the shoots until specimens of a desired shape and size are obtained.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cattleya citrina.—This beautiful dwarf Cattleya, commonly known as the Mexican Tulip, should be flowering now, and the blooms last three or four weeks in perfection. This Orchid, in its natural habitat, is found growing at a high elevation, and consequently does not require much heat under cultivation. It must, however, have a large amount of light, with abundance of air. While it will succeed in the cool house during the warmer months of the year, a position in the cool-intermediate house is best for the plants. The peculiar habit of this species necessitates the plant being suspended head downwards, as in no other way can it be induced to grow. Plants should be securely and firmly fastened to a block of wood or a teak-wood raft, the latter being preferable, as a little rooting material can then be packed between the bars, which helps to conserve the moisture about the roots. During its inactive period this species bears drought with impunity, but when the flower buds show themselves, and during the season of active growth it should have a liberal yet not excessive supply of water.

Phalaenopsis.—After the long, cold and dull season experienced, it will be necessary to watch these plants rather closely now the weather is brighter, otherwise the foliage will suffer. I

am not sure that a little dull weather in spring is any disadvantage to these and many other Orchids, for the very bright weather sometimes prevalent in April is very trying after the winter and apt to occasion heavier shading than is desirable in the interest of the plants. In most instances Phalaenopsis plants will have commenced to make new roots, therefore fresh rooting material should be provided. It is essential that ample drainage be afforded, using clean crocks and lump charcoal for the purpose, and over this clean fresh Sphagnum-moss, with a little Osmunda, or A1 fibre, added for the stronger growing kinds. Until the plants are rooting freely in the new compost water must be applied sparingly, but when they are in full growth, during the summer months, more liberal waterings will be necessary. So long as the rooting material is allowed to dry before a fresh supply of water is given, little harm can come to them by watering in summer. It is when the material is soaked with moisture for several days in succession, and when the weather is dull, that harm accrues. I do not favour growing these Orchids under heavy shade and in a close, stuffy atmosphere, as much better results are obtained with more light and free ventilation on all suitable occasions. A position close to the roof glass, in the warmest house, should be chosen for Phalaenopsis, where a temperature of about 70° by day and about 60° by night may be afforded. Phalaenopsis delight in a high day temperature, from sunheat, if moisture and fresh air are afforded. In these conditions the growth will be active and free, and of a harder, more vigorous nature than that produced in stuffy and heavily shaded houses. Moreover, insects will not be so likely to attack the plants.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Early Vines.—Where the vines were started in December last, the fruits of sudh varieties as Black Hamburgh, Buckland Sweetwater and Foster's Seedling will be hastening to maturity. The house should be freely ventilated whenever the weather is suitable, and a dry, buoyant atmosphere maintained, this being one of the principal factors towards perfect colouring and flavour in Grapes, but unless there is healthy root action and good foliage perfect finish cannot be obtained. Vines which are free from red spider and thrip will probably remain so until the bunches are cut, when the vines may be thoroughly cleansed again.

Mid-Season Vines.—Vines started into growth early in the year are making rapid progress and should receive every encouragement possible to maintain healthy, clean growth. Having been thinned once, it is advisable to again examine the bunches of Grapes and remove an odd berry here and there where necessary. The varieties which most need attention are those whose berries are borne on short, stiff footstalks. Admitting air and regulating the amount of necessary fireheat require great care and watchfulness during this month in particular, as the temperature rises and falls quickly if there is a cold wind with occasional bursts of sunshine, and much mischief may result if the attendant is not on the alert to manage the ventilators accurately and promptly. During spells of dull, cold weather, atmospheric moisture should be considerably reduced and no more fireheat used than is absolutely necessary to keep up the minimum temperature required.

Late Vines.—When tying down the strong growths of Lady Hutt, Appley Towers, Black Alicante and other late Grapes a certain amount of patience must be exercised and the operation carried out by degrees, otherwise there is a danger of the growths breaking away from the spurs. Early stopping of the shoots at the desired length should be attended to daily. Keep a sharp look out for red spider, and if this pest is detected sponge the affected leaves after sunset. It is so much better for the vines and the crop to check the spread of this pest by this means than to have recourse to more stringent measures, such as sulphur vapourising, which is liable to cause further mischief if it not carefully carried out. Healthy vines and a good show of bunches are apt to lead the grower into the fatal mistake of overcropping. It is far better to undercrop than overcrop, as in the first case there will be every probability of securing a well-finished crop of fruit without endangering the future welfare of the vine. Overcropping, on the contrary, will result in badly finished bunches, and, with late Grapes, this error will be very pronounced. What constitutes a full crop is most difficult to define, and requires a personal and intimate knowledge of each and every vine.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

American Blight.—This troublesome pest is generally found where the bark of fruit trees is rough or has been damaged, and if it is not checked it causes a swollen growth and a knotted appearance of the stem. American Blight is very easily spread, and when it attacks the roots it is most difficult to eradicate. Old trees that are very badly infested should be cut out and burnt. On trees easy of access the colonies of the pest should be lightly touched with a little paint brush dipped in paraffin, care being taken to treat only the infested areas. Methylated spirits or boiled linseed oil are also effectual. Where the trees are large they should be syringed with a mixture of 1 lb. soft soap and half a pint of paraffin to 8 gallons of water. The water, or part of it, should be boiling, and the soap churned to a lather before adding the paraffin. The mixture should be used while warm, kept well stirred, and applied in the evening. Where the roots of trees are infested they should be bared as much as possible and washed with a soft-soap mixture, fresh soil being afterwards put on and the old soil burnt. Soap suds and liquid manure applied to the roots appear to be good preventives of American Blight on the roots

Mildew on Fruit Trees.—Mildew is often allowed to get too strong a hold on fruit trees before it is attacked, and often it is only when the mischief is severe that it is noticed. It shows in the form of a white powder on the young and tender leaves and shoots; it will sometimes attack the blossom and prevent the flowers expanding properly, thus injuring the crops. After the extreme weather we have experienced a mildew attack may be expected. It is advisable in bad cases to remove the badly infested shoots and leaves. Spraying with sulphide of potassium at the rate of one ounce of sulphide to two gallons of water will destroy mildew. Directly mildew is seen spraying should be done in the evening, three times a week, and when the infection is stopped the trees should be well syringed with clean water. Another good specific is made of soft soap, 4 oz.; flowers of sulphur, 3 oz.; and 3 gallons of water.

General Remarks.—We had 10° and 8° of frost respectively on April 27 and 28, with snow, rain and hail on the morning of April 28. Gooseberry and Currant trees were frozen. I had the bushes syringed with cold water before the sunshine reached them, and though many blooms were open little damage appears to have been done.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford. Wrotham Park, Barnet, Hertfordshire.

Calceolaria. — When planting out bedding Calceolarias, see that the roots are thoroughly soaked with water prior to lifting them. Plant very carefully and afford them a good mulching of leaf-mould or decayed manure in hot weather.

Wallflowers.—Sow seeds in drills on a well prepared border, and when large enough transplant the young seedlings, 9 inches apart, into an open spot, having previously deeply dug and manured the site. If given a good open position from the start, Wallflowers will develop sturdy plants. Cloth of Gold, Blood Red, Vulcan, Purple Queen, Faerie Queen, and Sutton's Darkest of All are good varieties.

Pentstemon.—Pentstemons should be planted out where they are to bloom. There are many useful varieties that will make a brilliant display if planted in good soil and watered freely in dry weather; Southgate Gem and Middleton Gem are especially useful and attractive varieties.

Window Boxes.—The filling of both window boxes and hanging baskets for summer display should now be taken in hand. See that all are scrupulously clean, well-drained, and filled with good soil pressed firm. Tastes differ as to the arrangements of plants. Small Fuchsias, Heliotropes, Pelargoniums, Marguerites, Ivy leaved Pelargoniums, Tropaeolums and Lobelias may be employed with good effect. Always plant the hardier kinds in boxes to be placed on the north side of the house, and in shaded positions. All may be forwarded in a little warmth till well established. Boxes that are filled with spring flowers may remain untouched for the time being, but suitable plants should be prepared and forwarded to be in readiness for them later on.

Roses.—The growth of Roses has been very slow, and therefore liable to insect attacks. Keep a careful look out for these pests, and use means for their destruction at the earliest possible moment. The larvae of the Rose sawfly are very troublesome and somewhat difficult to destroy. Hand-picking should be constantly practised, and repeated syringings given with nicotine wash or other effectual insecticides.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Thinning Seedling Vegetables.—Mistakes are frequently made through insufficient thinning of seedling vegetable crops, and the result is weak and poorly grown specimens. Parsnips should be left 9 inches apart at the final thinning. Thin Carrots to 3 inches apart at the first thinning, and delay the final thinning till all danger from fly or slugs is over. The later thinnings of Carrots will be appreciated for cooking. Onions need not be so severely thinned, and if left 2 inches apart in a zigzag line they will produce a heavy crop of fair-sized bulbs. Early Turnips of the Milan type need a final thinning to 4 inches apart, as they are pulled alternately when an inch and half in diameter. The later Turnips should be thinned to 6 inches apart, the alternate plants being used when just large enough. After thinning is completed give the crops a dusting of soot or burnt garden refuse and ply the Dutch hoe between the rows.

Frame Cucumbers.—As frames become empty they should be relined with fresh stable litter to maintain a steady bottom heat, and provided with suitable soil for Cucumbers. Place one plant in the centre of each light; stop the leading growth when 6 inches in length; syringe the foliage on sunny days, and maintain a warm atmosphere.

Lettuce.—Thin Lettuce plants as early as possible, and plant the thinnings for successional supplies. The space allowed should be governed by the variety, but from 6 to 12 inches apart is a good distance. After June arrives it is well to rely on sown Lettuce only, as transplanted seedlings are inclined to run to seed prematurely. During a hot, dry summer very little trouble is experienced in germinating small seeds if the drills are drawn rather deeper than usual and a dressing of old potting soil is given and the drills watered before sowing.

Planting.—Various vegetables that have been raised in boxes will need every care. Bring the soil into a fine tilth for their reception, plant firmly, and give them copious waterings. Should the weather be hot and dry after they are established in their permanent quarters rely on a frequent use of the hoe to promote growth and retain moisture.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, May 20.—
Royal Horticultural Society's Exhibition in the grounds of Chelsea Hospital (three days). Annual dinner of the Horticultural Club at Anderton's Hotel, Fleet Street, E.C., at 6.30 p.m.

WEDNESDAY, May 21.—
British Carnation Society's dinner at the Holborn Restaurant at 6.45 p.m. Annual meeting of the Kew Guild at 6.30 p.m., and annual dinner at 7.15 p.m., at the Dean Hotel, Oxford Street, W.C.

SALES FOR THE ENSUING WEEK.

WEDNESDAY.—
Orchids, by Protheroe & Morris, 67-68, Cheapside, at one p.m.

THURSDAY.—
Bay Trees, Palms, and Aspidistras, by Protheroe & Morris, at 3 p.m.
Clearance sale of Bedding Plants at the Nursery, Hampton Road, Teddington, at 12 o'clock, by Protheroe & Morris.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 54.2°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, May* 14, 10 a.m.: Bar., 29.9 temp., 69°. Weather—Bright sunshine.

The Chemistry of Succulence. The succulence of certain kinds of desert vegetation is among the most striking phenomena presented by plants. It occurs, of course, not only among the plants growing in hot dry deserts, but also among plants which exists in "physiologically" dry conditions, that is, conditions which though they may include a rich supply of water, offer it under such circumstances that the plant is unable to absorb it sufficiently to meet its normal wants. Thus succulents occur among seaside plants, and in their case the succulence is ascribed either to the necessity imposed on the plant to limit its water-absorption so as not to absorb an excess of saline material or to the difficulty of drawing in supplies of water only obtainable from the salt solution of sea-water. In any case, botanical science remained content for a long while in recognising in succulence a means or adaptation whereby the plant was able to survive and flourish in the abnormal circumstances of its environment. Evidently, however, this is but the beginning of wisdom, and there remain to answer the more interesting questions concerning the mode of origin of succulence.

That the succulent habit does reduce the water requirements of plants which possess it is, of course, easily proved, and it is a common experiment of the botanical laboratory to show that a fleshy stem or leaf of one of the succulent members of the Cactus family gives off water many dozens of times more slowly than does the leaf of an ordinary plant. It is also noteworthy and part of the "adaptation" that succulent plants are specially rich in mucilage. The presence of considerable quantities of gummy substances undoubtedly enables the cells to hold water very strongly, and hence the plant as a whole presents a great resistance to desiccation.

The most recent observations* appear to point in a very simple chemical explanation of the occurrence in the cells of certain desert plants of mucilaginous substances which confer in their turn high resistance to desiccation. According to these observations, when cells containing sugars (polysaccharides) undergo loss of water, the sugars are reduced to substances known as pentosans, of which substances plant mucilages are largely composed. Now it is well known sugars do not swell to any noteworthy extent when they take up water; pentosans, on the contrary, do swell in the presence of water, and hence as and when they are produced in plant cells under the influence of desiccation they are able to take up and hold fast the water supplied to them by the roots. The chemical origin of succulence would thus seem to be an automatic one: Desiccation—leading to the formation of pentosans with great power of imbibing water and hence of resistance to desiccation. A further suggestion is made by the authors based on the discovery of Professor Richards that Castilleja and Erigeron—both desert species, include in either case some individual plants with thin and some with thick leaves, and that the thickness or thinness is correlated with the water supply of the plants—a fact, indeed, that may be observed by anyone growing a succulent in a greenhouse. Prof. MacDougal and Mr. Spoer find that in the thin-leaved Castilleja plants the sap is about twice as acid as is that of the succulent-leaved plants, and hence advance the suggestion that it is among these orders of plants which are capable of producing sap with a high degree of acidity that succulence is possible.

Horticultural Club.—Lord Lambourne, C.V.O., has consented to accept the office of President of the Horticultural Club in succession to the late Sir Frank Crisp, Bart. He will preside at the annual dinner of the club, to be held on Tuesday next, the 20th inst., at Anderton's Hotel, Fleet Street, E.C., at 6.30 p.m. Those intending to be present are asked to notify the hon. secretary, Mr. G. F. Tinley, 41, Wellington Street, Strand, W.C.2.

The Gardeners' Royal Benevolent Institution.—The Prince of Wales has accepted the office of President of the Gardeners' Royal Benevolent Institution. King George, who is Patron of the Fund, formerly held the Presidential office, as also did the late King Edward.

* *The Origin and Physical Basis of Succulence in Plants*, by D. T. MacDougal and H. A. Spoer. Annual Report of Director of Department of Botanical Research, Carnegie Institution of Washington. Year Book No. 17.

The Chelsea Show.—Although the Royal Horticultural Society's great exhibition at Chelsea on Tuesday, Wednesday and Thursday next in the grounds of the Royal Hospital, Chelsea, will not be so large as those held in pre-war years, everything points to the show being a great success. All the usual features will be included, and rock gardens will be arranged, as in the past, in the open. The large tent used on former occasions will not be erected this year, but there will be ample tenting to accommodate such plants as need protection. It is expected that the displays of Orchids, Roses, Carnations and Tulips will be, if not so extensive as formerly, of high quality. The premier award, in addition to gold, silver and bronze medals and diplomas will be the Coronation Cup offered for the best exhibit from an amateur. The Society has determined to make the Show as educative as possible, and there will be exhibited fungous pests, models of garden operations, a unique collection of museum cases of actual specimens of insect pests; garden literature, diagrams of food values, the composition of various foods and the influence of stocks on the growth of trees, whilst lessons in spraying and an explanation of different sprayers and spray materials will be given. Lectures will be delivered by Dr. Frederick Keeble, F.R.S., on "Horticultural Education and Research," and by Dr. Rendle, F.R.S., on "The Educational Aspect of some of the Plants shown," while there will be a conference on "Increasing Home-grown Fruits," under the auspices of the R.H.S. and the Chamber of Horticulture. Many of the horticultural societies are taking advantage of the occasion, as will be seen from the list of appointments for the week, to hold their annual meetings and dinners on the first and second days of the exhibition.

Horticulture for Ex-Service Men.—A number of ex-service men have expressed a desire for instruction in fruit and vegetable growing. To meet the requirements of these men the Horticultural Division of the Board of Agriculture opened on Monday, the 12th inst., a training centre at Shippea Hill, near Lakenheath, Suffolk.

Cardiff Gardeners Unite.—The gardeners of Cardiff and district have formed a branch of the National Union of General Workers and drawn up a scale of working hours and wages. The branch has fixed the number of working hours per week as 48; wages vary from £3 10s. per week for a head gardener, where four or more are kept, and a foreman in a nursery or market gardens, to 16s. weekly for garden boys of fourteen years of age. Mr. John Julian, the chairman, informs us that the branch has more than 100 members, and embraces many of the qualified gardeners of the district. The secretary is Mr. C. Harris, 3, Voke's Row, Bridge Street, Llandaff.

From Horticultural Buildings to Aeroplanes.—Many of the larger horticultural sundries firms took up, during the war, the manufacture of munitions of one kind and another, and the well-known Norwich firm of horticultural builders, Messrs. Boulton and Paul, turned their attention to the making of aeroplanes, in which they have been eminently successful. Now that the war is over, although they have resumed their former business, the aircraft department is to be continued, and Messrs. Boulton and Paul have entered a twin-engined biplane for the Transatlantic flight. They consider that the aeroplane has a great future before it, even considered from the purely business point of view, and they have already commenced to use one of their own two-seater machines as a vehicle for the conveyance of one of their sales managers. Some of the largest importers of cut blooms from the Continent are already making inquiries as to the possibilities of aeroplane transport, and nurserymen who formerly purchased their greenhouses from the Norwich firm may continue their patronage in this new venture of the firm.

The Report of the National Fruit Growers' Federation.—The report for the period ending December 31, 1918, is prefaced by a message to fruit growers from Lord Ernle, President of the Board of Agriculture, in which testimony is given of the public-spirited manner in which

fruit growers accepted the irksome regulations which the war and the need for securing food supplies imposed upon them. A statement is also given of the assistance rendered by the Federation in the inquiries necessary before fruit prices could be fixed on anything like a reasonable basis. The difficulties, and in some cases hardships, attendant on any attempt to fix prices are now, however, nothing but a memory, and there is every reason for fruit growers to look forward to complete freedom of control so far as price fixing is concerned. The report concludes with a contribution from the Food Production Department of the Board of Agriculture, in which reasons are given for entertaining a hopeful view as to the prospects of fruit growers in the immediate future. The subject is one of such importance that the opinions expressed in this contribution are referred to below. The report concludes with a table showing the acreage of fruit in England and Wales in the years 1913 and 1918. From the latter it appears that whereas there has been an increase of 10,000 acres of Apples, the areas under other fruits have either remained fairly constant (Pears, Plums, and Cherries) or have undergone large reductions. Thus, Strawberries have been reduced owing to war conditions from 21,672 acres to 13,143, Raspberries from 7,043 to 6,537, and Currants and Gooseberries from 26,845 to 22,735 acres.

The Food Production Department on the Future of Fruit Growing.—Fruit growers established throughout the British Isles are displaying a general feeling of uneasiness as to their prospects in the future. There is a fear amongst them that the prices realised by home-grown produce will fall rapidly during the next few years until a point is reached when they are insufficient to cover the high cost of production and at the same time give a reasonable profit. They are afraid of over-production and gluts, partly as a result of the increase in fruit holdings by means of the various schemes of land settlement now before the country, but mainly owing to the resumption of unrestricted imports from abroad. This note is written in the hope that the arguments which it puts forward may allay these fears and may reassure all those connected with the home-grown fruit industry by indicating the directions in which the prospects for the future are promising. The fruit trade in the British Isles can be divided into two distinct parts, each of which requires separate consideration—viz.: (1) Apples and Pears, (2) Stone Fruits (Plums and Cherries) and Soft Fruits (Strawberries, Raspberries, Red and Black Currants and Gooseberries). *Apples and Pears:* Prior to the War vast quantities of these fruits were imported from abroad, with the result that during the war, when imports were restricted, the demand has been several times greater than the home-grown supply, even in years like 1917, when the crop was an excellent one. British growers do not always realise the fact that the demand for Apples and Pears in this country has been fostered and developed by the countries exporting to our markets. These countries have developed the markets for these fruits, first by attractive advertisements and then by maintaining a steady supply of fruit of standard quality, package and mark. In 1913, £2,230,370 worth of Apples were imported by the British Isles, the actual quantity was 3,257,419 cwts., giving an average value of about 13s. 4d. per cwt. or 4s. 9d. per bushel of 40 lbs. Unfortunately we are unable to compare production in this country with the imports from abroad, as the necessary statistics of home-production are not available. However, we know the following salient facts: That (1) the average quality of fruit grown in this country at the present time is not so good when it reaches the market as that of the fruit imported from abroad. (2) The varieties, quality, packages, and mark of home-grown produce are not standardised in the same way as the imported produce; with the result that British produce suffers. (3) The cost of production and marketing at home are in the main lower than in foreign countries, and hence the British grower is in a very favourable position in this respect. (4) The British grower of Apples and Pears has the finest market in the world at his own door if he will only adopt up-to-date methods and supply the markets with what they require. It will be patent to all that the present acreage devoted to Apples and Pears in this country is inadequate to supply the existing demand. Approximately 10,000 more acres are required to make this country self-supporting as regards these commodities alone. It is not suggested that it is possible for this country to become completely self-supporting in this respect, yet it is evident that the industry can increase very considerably before there is any chance of over-production, provided that quality is maintained. *Stone Fruits and Soft Fruits:* The situation as regards these fruits is somewhat as follows: Firstly, owing to their more perishable nature, they have a more restricted market than Apples and Pears. For this reason a risk of gluts must always exist, especially in seasons when the crop ripens rapidly and the marketing period is short. There seems, however, very little likelihood of a considerable fall in prices for several years to come. The poor prices made by stone fruits in the past have been very largely due to heavy foreign imports at low prices; on the other hand, low prices for soft fruits have been mainly due to over-production in this country, occasionally accentuated by heavy foreign imports. The present day position as regards these fruits is very reassuring, and there seems little likelihood of any gluts of soft fruits for the next five years at least. In fact, there seems little likelihood of present prices falling to any considerable extent. The 1918 acreage of soft fruits shows very considerable decreases on 1914. So much so that it must be several years before even the pre-war level of production is reached. Further, it is safe to assume that the consumption of fruit for direct domestic use—i.e., dessert, cooking and home preserving purposes—has increased during the war owing to the higher standard of living now found in many households. But the greatest insurance of all against possible gluts is the fact that the demand for jam in this country has increased in an amazing manner during the war. At the present time it is more than 150 per cent. greater than in pre-war days. Jam makers at the present time want to be in a position to

FIG. 117.—TWO PESTS OF THE ROSE.

Brown Rose Grub (Spilonota roborana).

(See page 242.)

The Common Tortrix Moth (Tortrix (Pandemis) ribeana).

resume their export trade, which in 1914 was valued at £387,892. They are, however, at a loss to know where the raw fruit is to come from to manufacture even our own requirements, still less to provide for export. There is, in fact, a world shortage of jam fruit. For this reason alone fruit growers should feel assured as to their prospects, at any rate for the period already mentioned. The British fruit grower has now a brilliant opportunity of placing his industry on the footing which it deserves. Enterprise in facing the present stiuation, together with organisation and combination amongst growers, are required to effect improvements which everybody admits are necessary and long overdue. The Horticultural Advisory Committee recently appointed by the President of the Board of Agriculture should prove a valuable aid to the growers in developing the fruit industry of this country.

Publications Received.—***Administration Report of the Forest Department of the Madras Presidency for the twelve months ending 30th June, 1918.*** Madras: Printed by the Superintendent, Government Press, 1919. Price 1s. 6d. ***Smut in Oats and Barley.*** Board of Agriculture and Fisheries. Leaflet No. 328. ***Copper Sulphate: Its Uses in Farming and Gardening.*** The Mond Nickel Company, Ltd., Horticultural Section, 39, Victoria Street, London, S.W.1.

ERYTHRONIUM.

This beautiful genus of bulbous plants consists of about fifteen species, the headquarters of which are in Western North America. Only one species in found in Europe, and one in Siberia. The species have nearly all been in cultivation at various times, but the number in gardens at the present time is probably less than a dozen. They are all delightful subjects for the woodland garden, and flower in the early spring. They may be planted in the lower and shadier parts of the rock garden, and enjoy a deep, light soil composed chiefly of leaf-mould, with plenty of moisture without stagnation. Offsets are produced freely by many species, and they are readily increased in this way. Another method of propagation is by means of seeds, but it takes some four years or more to raise flowering plants from seed. The best garden species are:—

Fig. 118.—Erythronium californicum: flowers cream coloured.

E. americanum (Yellow Adder's Tongue). A low growing species from Eastern North America, with beautifully marbled leaves and yellow flowers with recurved segments. In a moist, peaty bed amongst low growing plants the plant spreads freely.

E. californicum. This species (see Fig. 118) has been long known under the name of E. giganteum, which has also been applied to forms of E. revolutum. It is a handsome species from the dry slopes of Northern California, along the coast range. Strong plants will develop as many as five to eight flowers on each stem. The flowers are cream coloured, and the petals have an orange base, often with a maroon band. E. californicum, with its richly-mottled leaves, is very similar to E. citrinum, but differs in having a long, deeply-cleft style, the latter species having a short club-shaped one.

E. Dens canis (Common Dog's Tooth Violet). This European species is well known, and has beautifully marbled foliage and flowers varying in colour from rosy-purple to white. It is one of the best Erythroniums for naturalising in woodlands and shady places. E. sibiricum, which is sometimes accorded specific rank, is probably only a stronger and more handsome form with rich, purple-coloured flowers.

E. grandiflorum. Differing from most of the others by having green unmottled leaves, this species has bright yellow flowers. It is not so robust as some, and should be planted deeply in light, sandy loam amongst other low growing plants. The true E. giganteum is a robust form of this species.

E. Hartwegii. This plant has mottled leaves, and bears two or three flowers on each scape. The blossoms are pale yellow, and have an orange base. This species is a native of California.

E. Hendersonii. One of the most distinct species, with the handsome mottled leaves of E. californicum, and light purple flowers having a very dark purple centre, above which is a zone of yellow. It is a hardy and vigorous plant from Southern Oregon.

E. revolutum (see Fig. 119). The many forms of this species make up a handsome group, comprising some of the most beautiful members in the genus. As a rule the leaves are not so darkly mottled as in E. californicum, but they are broader and more robust. Generally the stems are one flowered but very sturdy, and often grow a foot tall. The members of this group are found wild on the borders of woods in heavy clay soils that are sometimes wet all the winter. But they will also thrive in lighter and drier soils. The type of the species has large, white or purple tinged flowers, which turn darker with age. The variety Johnsonii is a most exquisite rose-coloured form, whilst the variety Watsonii has cream-coloured flowers with a greenish shade, and often with a red band across the base.

All the above-named species are excellent plants for growing in pans for the alpine house. They come into flower early, and last for some time in perfection. In a north frame, potted in light rich soil and with plenty of moisture when in full growth they are easy to manage. *W. I.*

THE ROSARY.

TWO ROSE PESTS.

Two troublesome insect pests of the Rose are illustrated in Fig. 117 (see page 241).

Tortrix (Pandemis) ribeana, the Common Tortrix moth, is, as the English name implies, a common insect and attacks, besides Roses, Hazel, Cherry, Elm, Walnut, Apple, Plum and Currants. The front wings are yellowish brown with three well-defined markings of a darker shade outlined by dark brown. At the base of the wing near the attachment there is one patch with the edge roughly parallel to the wing margin, in the middle is an oblique stripe having a bulge in the middle, and on the costa of the wing towards the apex a roughly semi-circular spot. The hind wings are dark grey, and both wings are edged with hairs or cilia of a deep brown tinge. The prevailing colour, therefore, is brown. The moth, which measures rather more than two-thirds of an inch across the expanded wings, is common in Great Britain and usually appears in June and July, being often seen at dusk. The eggs are laid in July, and remain over the winter without hatching. The caterpillars may be found on Rose bushes in May and June, and are often very troublesome. In colour they are olive green, slightly paler towards the sides, with small black dots, visible through a lens, on each segment. The black dots bear fine hairs which

are not very obvious in the young stages. On the segment immediately behind the head is a dark dorsal plate. When full-fed the caterpillar measures two-thirds of an inch in length. The damage this caterpillar does is considerable. Not only does it eat holes in the leaves, but it also spins the leaves together and seriously hinders the proper development of the growing points. This injury is characteristic of the Tortricidae, and it is from this peculiarity of rolling the leaves together that the Latin name is derived. When touched or shaken the caterpillars wriggle actively backward and finally leave their home in the rolled-up leaves and drop to the ground, taking good care, however, to leave a rope of silk behind issuing from the silk glands in the mouth and attached to the plant at the other end. By this means they are enabled to attain their position when the danger has passed. Their depredations are not confined to the leaves, but they also bore into the developing flower bud, completely ruining the promise of the flower.

Spilonota (Notocelia) roborana, though not so common as the moth described above, is all too common for the Rose grower. It attacks Roses and also various species of Rubus besides Oaks and White Thorn. The forewings are white mixed with grey, with well-marked brownish spots on the wing edge. There is a dark brown basal patch near the wing attachment and a black triangular spot below the middle line towards the far margin of the wing, often with another black spot close above it. The far edge of the wing has brownish markings on a leaden grey background. The hind wings are whitish grey and the wing-expanse nearly two-thirds of an inch. Like the Common Tortrix, the wings are bordered with fine hairs or cilia.

The life history of the Brown Rose Grub is very similar to that of the moth just described. The adult appears in July and lays her eggs, which remain unhatched over the winter. In May and June the caterpillar appears. It is reddish-brown, with a light brown head and a black plate immediately behind. The damage done and its general behaviour is similar to that of the Common Tortrix. These two caterpillars are difficult to control owing to their living in the rolled-up leaves. On a small scale much good may be done by actively shaking the bushes, when many will drop to the ground, where they may be destroyed. Some, however, will remain in the rolled-up leaves, and especially in the growing points, and these may be dealt with by pinching the growing points between the finger and thumb. It is fairly easy to regulate the pressure so that the caterpillars are killed without injuring the growing tissues.

On a large scale, where hand methods are impossible, some good may be done in the early stages by spraying with lead arsenate paste at the rate of one pound to twenty gallons of water. The spraying should be thorough, as the larva will not eat sprayed foliage if it can find unsprayed, and it must be remembered that young unsprayed foliage is constantly being developed from the growing point. *A. H. Lees, Agric. and Hort. Research Station, Long Ashton, Bristol.*

THE MARKET FRUIT GARDEN.

GARDEN TRACTORS IN THE ORCHARD.

THE hoeing of fruit plantations this spring has, up to the time of writing, been practically money thrown away. No doubt it does some good to break the surface of the ground, but for weed-killing, which is the main object, the labour has been wasted, rain having reset the weeds almost immediately. This kind of thing must necessarily occur frequently in an industry which depends so much on the weather, and it ought to be taken into account by those who complain that agricultural wages still compare badly with those ruling in other industries. The factory hand can always be employed profitably; not so the farm worker. On many days since the beginning of this year it has been necessary to find make-shift, and quite unprofitable, jobs under cover simply to keep the men employed. But to return to the subject of hoeing. The heavy expense of keeping a gang almost continually at this work during the spring and summer, and at digging whenever the weather allows during winter, makes one long for new implements that would dispense with most of this hand labour.

As mentioned in some of my previous notes, I am satisfied that the fruit farm plough is a good substitute for digging wherever the trees allow of its use. I am now concerned to find an equally efficient alternative to hoeing. The horse cultivator is used, of course, wherever possible; but there are many places where the horses do too much damage to bloom and fruit. What is wanted is a tractor that is very low in build, light, and capable of turning on an ordinary headland

In the hope of finding such a machine as I have indicated, I recently attended a demonstration of an American-made garden tractor, at which large numbers of market growers were present. This implement is low, and is handled like a plough, the operator walking behind to control it instead of riding as in the case of a farm tractor. Such an implement could, of course, work close up to the trees, wherever a stooping man could contrive to get along. So far it fulfilled requirements: and most of the onlookers agreed that the idea is good. But this machine will have to be greatly improved before it will be widely adopted in this country. The chief fault is inadequate power. On loose, level ground it manages fairly well, though it is apparently very difficult to keep it straight; but on anything like a hard surface it makes a mere scratch. On hilly ground, such as some of mine is, it would probably be less.

It may be stated, however, we have the right idea here; and it is evident from the interest shown by fruit-growers and market gardeners that the makers will reap their reward if they are able to overcome the faults mentioned. One of the useful lessons taught us by the war is the great value of mechanical appliances, and their value is indeed great now that labour is scarce and dear. *Market Grower.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Big Bud Mite (see p. 231.—I should be glad to hear of any observed infection of the ornamental Currants (so-called American Currants) with big bud. *D.*

——I am obliged to Mr. A. H. Lees for so kindly sending me the pamphlet in regard to the experiments which have been carried out at Long Ashton with Black Currants and the Big Bud Mite pest which affects them. A perusal of this report shows that the methods adopted at the Somersetshire station are not effective, and I would recommend him to try the sprayings which I detailed in my last note. I observe in his reply to your correspondent *G. L.* (see p. 183) that he states: "Success has been claimed for repeated applications of a contact wash during the growing season. This, however, necessitates six to ten separate sprayings, and therefore is not economically possible, except in the case of nursery stock or in private gardens." I venture to disagree with Mr. Lees on this point. One of the largest and most important firms of fruit tree nurserymen make the following statement in their catalogue when recommending spraying at the times I noted in my last letter. They state: "Several large growers of Black Currants have completely eradicated this pest from their plantations by adopting this treatment." They further state that the remedy is simple, and not very costly, and for large plantations a knapsack sprayer is advised. I draw the attention of Mr. Lees to this statement. The spraying, even in the case of large plantations, is easily done, and I submit that it is not practical on the part of Mr. Lees to say that "it is not economically possible." The fruits of the Black Currant are worth money, and a good, clean crop will pay for a series of sprayings. *George M. Taylor, Edinburgh.*

FIG. 119.—ERYTHRONIUM REVOLUTUM: FLOWERS WHITE OR TINGED WITH PURPLE. (See page 242.)

What is a Broccoli?—The subject may be summarised with the question, "When is a Broccoli not a Broccoli, but a Cauliflower?" At any rate in English literature or practice no

definite lines seem to be laid down in the direction of making distinction between the two. Eventually it comes to the name printed upon the seed packet, which is hardly scientific even in the twentieth century. If we look to the dictionary we find no mention of Broccoli in Cotgrave (1650), and "Colly flory or Cypres Colewort," "Colli-florie or Colewort flowers" are given as equivalents of "Choux fleuris, fleurs and floris." The Oxford Dictionary derives Brocooli, or Brocoli, from the diminutive of "brocco," a shoot or stalk, and meaning Cabbage sprout or top, and defines it as a more robust and hardy variety of the Cauliflower, from which the white forms are hardly distinguishable. From the quotation from Pope (1732), "On Brocoli and mutton round the year," it is clear that the vegetable in variety must have been known then in this country. Turning to the French, Littré gives a similar derivation for "Brocoli" (which he spells with one "c"), "Chou d'Italie, petit rejeton que le tronc d'un vieux chou pousse après l'hiver." He gives an interesting quotation from Olivier de Serres (sixteenth century), showing that then the Cauliflower was hardly established in France; rather a contrast to the present time, for in 1907 two hundred tons a day were cut in the St. Omer district alone! He says, "Outre lesquels les Cauli flori (choux fleurs), ainsi dits des Italiens, encore assez rares en France, tiendront rang honorable au jardin pour leur délicatesse." One sometimes sees the prefix "cauli" derived from the Latin *caulis*, as meaning a stalk, but apparently this word was also used for the Cabbage itself. At the present time the terms Chou fleur and Chou Brocoli are commonly used, apparently an introduction since Littré wrote. It would seem likely that the earlier sorts of Broccoli must have been of the type which we know as "Sprouting Broccoli," from the white sorts of which the larger headed kinds may have arisen; such forms as Sutton's Bouquet may be a kind of halfway between the two forms. Vilmorin-Andrieux ("*Les Plantes Potagères*," 1904) distinguishes the Chou Broccoli from the Chou fleur as being endowed with longer vegetative period, so that instead of developing the head in the year of sowing it passes the winter and then "turns in" in the spring. Further, he describes the Broccoli as having usually more numerous leaves which are stiffer, and narrower than those of the Cauliflower. Also bare petioles, stronger and whiter veins, and in France usually smaller heads than the allied vegetable. Certainly there is a greater variation in the forms and shapes of the leaves of varieties which come under his definition of Broccoli, both in regard to shape and flatness than is the case amongst Cauliflower varieties that I have grown; also his remark concerning bareness of petiole is not borne out. There is a further sub-classification (given, for instance, by Vercler) of a more horticultural nature, and that is a division into a group with a harder or firmer texture of head and one with a tenderer or softer texture. If our horticultural authorities would establish some defined lines for grouping and sub-grouping the varieties it would make for progress. If we accept Vilmorin's main definition, the form we know as "Michaelmas White" and its immediate congeners should be called and staged as Cauliflowers and not as Broccoli. Thinking to get more vigorous plants by earlier sowing, I sowed this variety in September; it cropped about June. Sown in December and January, it cropped in July; sown in March or April, as usual, it crops about October; its cycle is about seven months. Some difficulty may arise in the case of other varieties which, after spring sowing, come into cut about Christmas, but much might be done in differentiation by trial sowings at different periods by those who are able to undertake trials on the large scale, and so, at any rate, attempt to introduce more law and order. No doubt others will sometimes have met with spring-sown individuals which did not form heads until a second winter had passed and another spring had arrived. This has happened to me in a few instances, but one usually has to clear the ground: although the plants are enormous the heads I have had have not been large. *H. E. Durham.*

SOCIETIES.

ROYAL HORTICULTURAL.

May 13.—A warm and brilliant day favoured the combined meeting of the Royal Horticultural Society and the British Carnation Society at the London Scottish Drill Hall, Buckingham Gate, on the above date. The exhibition was a very fine one, Carnations being the leading feature (see report of British Carnation Society), but Tulips were well represented, Orchids fairly numerous, Rhododendrons very brilliant, and alpines and flowering shrubs bright and interesting.

There was a large attendance of Fellows and visitors throughout the day, and the prospects of the Chelsea Show next week formed a general topic of conversation.

The Floral Committee granted four Awards of Merit and nine Medals; the Narcissus and Tulip Committee, one Gold Medal; the Fruit and Vegetable Committee made no award; and the Orchid Committee gave one Award of Merit and one Medal.

Floral Committee.

Present:—Messrs. Henry B. May (in the chair), S. Morris, G. Reuthe, John Heal, Geo. Harrow, John Green, W. Howe, J. F. McLeod, J. Jennings, J. W. Moorman, Chas. Dixon, John Dickson, Arthur Turner, Chas. E. Shea, James Hudson, E. H. Jenkins, E. F. Hazelton, C. R. Fielder, Chas. E. Pearson, Herbert Cowley, R. C. Notcutt, and A. J. Jackman.

Awards of Merit.

Rhododendron Gillii.—A gorgeously beautiful Rhododendron obtained by crossing R. Aucklandii with R. Thomsonii. The blooms are broadly campanulate, and the five-limbed spreading mouth is slightly waved. The colour is bright pink, with a heavy flushing of carmine-scarlet at the tips of the segments. The leaves are about 2½ inches broad and 8½ inches long, dark green above and pale green beneath. The flowers are carried in fine trusses, five to ten together.—Shown by Messrs. R. Gill & Son.

Trifolium uniflorum.—An interesting, low growing plant, suitable for the rock garden or moraine. The small, trifoliate, green, grey-marked leaves are borne at the ends of long, slender foot-stalks that are prostrate for half or more of their length. The flowers are small, bright rose, with whitish wings, short-stemmed, single and erect. They are clustered about the centre of the plant, and there may be as many as 30-50 open at the same time.—Shown by Messrs. W. Wells & Co.

Primula Auricula O'Bristii.—A showy and strong growing plant that may be described as a very finely formed and robust yellow alpine Auricula. The ample leaves suggest a robust constitution. The flowers are an inch and a quarter across, flattish, with wavy margins to the segments. There were 20 fragrant flowers in the larger truss. We understand this is a wild alpine form of P. Auricula, and that it comes true from seed.—Shown by Mr. T. Temple West, Gatton Point, Redhill.

Ramondia serbica (Nataliae) alba.—A charming alpine and a pure white-flowered counterpart of the type illustrated in *Gard. Chron.*, April 26, 1919 (Fig 93).—Shown by Mr. T. Temple West, Gatton Point, Reigate.

Groups.

Roses exhibited by Messrs. B. R. Cant & Sons were greatly admired; Mdme. E. Herriot, Cupid, Lady Pirrie, Golden Ophelia and Covent Garden were outstanding varieties, the last being in fine condition, its bright crimson and fragrant blooms attracting much attention (Silver Flora Medal). The Rev. J. H. Pemberton exhibited his new bedding Rose named Joan, a cream-coloured, pink-flushed dwarf variety, said to be good in autumn, but, as shown, rather a weak grower. A beautiful group of Roses was arranged by Mr. Elisha Hicks, who exhibited lovely flowers of climbing Lady Hillingdon, Mrs. Elisha Hicks (very fragrant), Joanna Bridge, Mrs. George Norwood, Mdme. E. Herriot, Rosa Moyesii, and R. Hugonis, the latter a charming, free-flowering buff-coloured species (Silver Banksian Medal).

Messrs. R. Gill & Son contributed a handsome group of Rhododendrons associated with vases of Embothrium coccineum, and Pieris formosa. Of the Rhododendrons some of the finest were R. Falconeri, R. Roylei, R. campylocarpum, R. Aucklandii (very fine), R. Beauty of Tremough, R. Gillii (see Awards), and the charming, light, pearly pink R. Richard Gill (Silver Banksian Medal). A considerable number of interesting plants were to be seen in Mr. Reuthe's group; we noted Magnolia Lennei, Viburnum Carlesii, Camellias, Rhododendron Falconeri, the purplish mauve R. Albrechtii, and the neat little R. glaucum (Bronze Flora Medal).

Messrs. Reamsbottom & Co. sent a selection of their brilliant-hued St. Brigid Anemones (Bronze Flora Medal). Saxifrages, a fine strain of yellow Polyanthuses, Aubrietias and Violas were largely shown by Mr. G. W. Miller (Bronze Banksian Medal). Mr. Clarence Elliott's small exhibit included about fifty plants of Primula Ruby, a neat P. viscosa hybrid, with ruby red and white-eyed flowers and a group of Gentiana verna flowers of the most vivid blue (Bronze Banksian Medal)

Spring flowering trees and shrubs were shown by Messrs. J. Cheal & Sons, who staged freely blossomed branches of Pyrus Malus floribunda, P. Niedzwetzkyana, Cydonias in variety, Prunus serrulata pendula, P. Aoium flore-plena, Amelanchiers, Spiraea arguta, Genista purgans, Magnolia Lennei and Berberis Darwinii (Silver Banksian Medal.)

Blue, pink and white Hydrangeas, with Verbenas and Ivy-leaved Pelargoniums and Calceolarias were arranged with ferns by Messrs. H. B. May & Son (Silver Banksian Medal). The Beacon strain of Primula obconica, with large flowers carried in large trusses on stout stems, was exhibited by Messrs. Bufford & Patrick, Ditchling.

Orchid Committee.

Present:—Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. secretary), W. Bolton, Arthur Dye, Pantia Ralli, Frederick J. Hanbury, R. A. Rolfe, Walter Cobb, W. H. Hatcher, and Fred. Sander.

Award of Merit.

Odontioda Zampa Rosslyn variety (*Cooksoniae × Coronation*) from H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood). A pretty and attractively coloured hybrid, in which the O ardentissimum in Oda. Cooksoniae influences the shape, the O. Pescatorei in O. ardentissimum being clearly defined in the labellum of the hybrid. The plant bears a strong spike of finely-formed flowers, the ground colour of which is bright rose, the inner two-thirds of the segments being red, with a thin white band between the blotches. The lip is blush white with a strong yellow crest, around which are some reddish-purple markings.

Groups.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver Flora Medal for a group with the elegant scarlet Epidendrum radicans and plants of the now rare E. Wallisii, and other of the slender-stemmed Epidendrums at the back. Specially attractive in the group were the new Odontoglossum The Tiger, a very large flower of the white Pacho type; O. crispum var. Avalanche and the very dark O. General Allenby. In the centre were the handsome new Brasso-Cattleya Princess Mary (B. C. Digbyano-Schröderae × C. chocoensis alba), with a fine pure white flower having a deep orange disc to the fringed white labellum, the pure white Cattleya Mary Sander, Miltonia Charlesworthii in two very large varieties, and a selection of rare species, including Chondrorhyncha Chestertonii, Bulbophyllum Lobbii, pink Cynorchis, Cypripedum glaucophyllum and Odontoglossum crispum Oakfield Sunrise (see Fig. 120), with two spikes, the seemingly abnormal flowers displaying in the quaintly coloured petals a marked

step between the white type and the blotched forms, to which reference is made on page 236.

A. J. HOLLINGTON, Esq., Forty Hill, Enfield (gr. Mr. W. May), showed Laelio-Cattleya San Juan (C. Mendelii × L.-C. Aphrodite) a pretty flower nearest to L.-C. Aphrodite, with white sepals and petals tinged with lilac, and purple lip with a yellow disc.

Narcissus Committee.

Present:—Messrs. Peter R. Barr (in the chair), W. Poupart, H. V. Warrender, W. B. Cranfield, Geo Munro, jun., J. Duncan Pearson, Rev. J. Jacob, and Miss E. Willmott, and C. H. Curtis (hon. secretary).

The large exhibit of May flowering and Darwin Tulips arranged by Messrs. BARR & SONS was awarded a Gold Medal. It was a fine effort, and if the flowers were a little on the small side they were wonderfully fresh, clean and bright. Some improvement in the association of the colours might have been made from the point of view of general effect. Among the finer varieties were Airs Kennicot, Klopstock, Le Rêve, Miss Jekyll, Clara Butt, fulgens, Rose Tendre, Garibaldi, May Queen, Solfaterre, Psyche, the very attractive Sunlight, Velvet King, and Phyllis.

The Rev. G. H. ENGLEHEART displayed about a dozen and a half of new Narcissi, chiefly poeticus varieties of excellent size and form, but all unnamed.

Fruit and Vegetable Committee.

Present:—Messrs. C. G. A. Nix (chairman), Jas. Cheal, W. Bates, A. R. Allan, F. Jordan, W. J. Jefferies, H. Markham, A. Bullock, Owen Thomas, Geo. F. Tinley, W. H. Divers, A. E. Vidler, G. Reynolds, and Rev. W. Wilks.

A dish of Onion Giant Zittau, raised from seed sown in March, 1918, was exhibited by Mr. S. HARRINGTON, Faulk Bourne, Witham, Essex. The bulbs were flattish and of medium size, and represented a portion of a crop of two hundredweight grown on a two-rod plot. Mr. EDWIN BECKETT, Aldenham House Gardens, brought some very fine specimens of Dumelow's Seedling (Wellington) Apples. The fruits were of a higher colour than usual, and in splendid condition for so late in the season. The Rev. W. WILKS, Shirley, brought cooked Rhubarb Tobolsk for the Committee to taste. The variety is one of the very darkest in colour, and is dwarf in habit, while the flavour is, in the opinion of many, superior to that of any other variety of Rhubarb.

SCOTTISH HORTICULTURAL.

MAY 6.—The monthly meeting of members was held at 5, St. Andrew Square, Edinburgh, on this date. Mr. Fife, the President, occupied the chair, and there was an attendance of 65 members.

Dr. John H. Wilson, St. Andrews University, gave a lecture, illustrated by lantern slides and a fine collection of dried plant specimens, on the scenery and vegetation of Australia He had had opportunity of making notes in all the six states of the Commonwealth. Australia, he said, had suffered very little geological change for an extremely long period. The plants which had originally found a home in it had had ample time to develop characters which differentiated them from those of neighbouring geographical regions, Australia being the only home of certain groups, while in many cases it was the headquarters of groups which were represented by very few species elsewhere. The isolation in respect of endemic species was most pronounced in the western and south-western parts of the continent. In Queensland, and in the eastern side, there was a fair sprinkling of species which were to be met with in regions with which presumably there had existed a land connection in remote times. In seeking explanation of the problems bearing on the peculiarities of the native vegetation, climatological factors had to be added to the geographical and geological ones, and of those rainfall was of the greatest importance. Australia was very poorly provided with mountain chains, and the centre of the continent was a desert. The heaviest rainfall occurred on the coastal regions. In most parts with heavy annual rainfall the fall was apt to be torrential at times, with alternating periods of severe drought. The vegetation in most parts of the continent was characterised by features showing adaptation to withstand protracted desiccation. In Queensland grand coastal forest was being ruthlessly destroyed to make room for Pineapples and Oranges. The rainfall being ample, and the climate subtropical, the vegetation of the regions in question was luxuriant, rich and varied. Plants familiar to us in greenhouses at home were to be found in numbers, including several favourite Palms and Ferns. The Stag-horn and Bird's-nest Ferns clung in masses high up on the stems of Eucalyptus and other trees. In journeying, one crossed at points the track of Allan Cunningham, the botanical explorer, whose name was intimately associated with many of our garden plants. To the forester the giant trees, such as the Hoop Pine (Araucaria Cunninghamii), were of special interest. Caution had to be observed when the innocent-looking Laportea (Nettle Tree) overhung the narrow road ways through the forests. There was much in the flora of both New South Wales and Victoria of interest to gardeners. In the Botanic Gardens at Sydney and Melbourne, but especially in the former, one could realise in some measure the floral wealth of the respective states, and appreciate the aesthetic possibilities arising from the introduction of plants from other countries. In Tasmania the traveller found the climate more like that of our own. The flora included nearly seventy native plants which were identical with British species. On Mount Wellington, near Hobart, a mountain of over 4,000 ft., the vegetation was particularly interesting. The moorlands were quite devoid of Heaths, but heather-like plants (Boronia, &c.) were abundant. Many of the plants recalled the wanderings of the great Scottish botanist, Robert Brown, who had explored the district. The Huon forests of Blue-gum and Stringy-bark (Eucalyptus) trees were composed of magnificent timber. In the more open parts there was a fine undergrowth of Tree-ferns and flowering shrubs, many of which added beauty to indoor gardening at home. Nothing could exceed the charm of the Tree-ferns, with their fronds festooned with white Clematis. Returning to Victoria, Mildura, a settlement in the Murray River, was visited. There the native vegetation, designated "bluebush," consisted of plants adapted to assimilate saline substances by the roots. Irrigation with fresh water from the Murray River rendered the soil suitable for the successful cultivation of fruits. The banks of the Murray River were clothed for a long distance with grey-leaved Gum-trees, a class of vegetation seldom out of the picture anywhere in Australia. Great tracts were covered with "Mallee Scrub," the name being applied to branching Eucalyptus which did not assume the form of trees. At Adelaide, as in many other places, noteworthy instances were met with of the danger of introduced plants becoming weeds. There the Globe Artichoke was to be seen in masses boldly decorative in full flower. In New South Wales the Sweet Briar was a pest; in Victoria the perforated St. John's-wort, and in Queensland the Prickly Pear. At Albany, in Western Australia, the botanist again followed the steps of Robert Brown, who in 1802 spent three weeks at St. George's Sound. The scrub on the shore near the town was an open thicket of highly interesting plants, mostly shrubs provided with means of defying drought, the leaves being much reduced in size, or dry and hard. The flowers were unusually showy. In damper portions of the ground the pitcher plant, Cephalotus, found a home. It occurred nowhere else but in that corner of Australia. Examples of the curious Trigger plants (Stylidium) were noted, a family represented in Western Australia by no fewer than over sixty species, nearly all endemic. The so-called Christmas tree (Nuytsia) was a splendid object when in full bloom, being a mass of glowing orange colour. At points well within the State sand plains were encountered. It was astonishing to find tracts which seemed to be deserts clothed with an exceedingly robust and varied vegetation, obviously adapted for subsisting on a minimum supply of water. Our gardens are indebted to the Australian flora for many highly attractive plants, and at one time a much larger variety was grown. Round many of them clung the memory of the daring and enthusiasm of the early explorers of Australia.

The exhibits were:—Seedling hybrid Daffodils from Mr. William Cuthbertson, J.P., V.M.H., Maitland Lodge, Duddingston; Greenhouse Rhododendrons from Mr. D. Macdonald, Trinity Cottage Gardens, Edinburgh; Rhododendrons from Mr. J. Billton, Melville Castle Gardens, Lasswade; and Cinerarias from Mr. J. W. Sword, Inveralmond Gardens, Cramond.

FIG. 120.—ODONTOGLOSSUM CRISPUM "OAKFIELD SUNRISE."
(See page 244.)

BRITISH CARNATION.

MAY 13.—The twenty-third show of perpetual-flowering Carnations, which was held at the Drill Hall on this date, was especially successful in regard to the high quality of the exhibits. Competitors were comparatively few, but the fine trade exhibits of splendid blooms contributed greatly towards making a memorable show. No certificate was awarded to a novelty, but the three British raised seedlings which the Misses PRYCE and FYFE staged in Class 2 show that home raisers can produce new varieties of the highest quality. All are of good form, and possess the indispensable quality of fragrance. Isobel Felton is a pure white variety, and of that delightful round shape that appeals alike to the old-style florist as well as present-day decorators. Scarlet Dragon possesses glowing colour, and Alison is a charming soft pink. It would add to the value of future shows if the scope of each class was indicated on the class cards.

OPEN COMPETITIVE CLASSES.

Mr. C. ENGLEMANN, Saffron Walden, was the only exhibitor in Class 1, but he was deservedly awarded the George Monro, Jun., Challenge Cup for a splendid collection which included ex-

ceedingly good vases of Carola, Scarlet Carola, Coquette and Cierce. Mr. Englemann was also awarded the American Challenge Cup for 12 blooms each of three American novelties. He showed Belle Washburn, deep scarlet, Matchless, white, and Peerless, light cerise; but it must be confessed that these are no advance on standard varieties. The Brunton Cup, offered for 12 blooms of three British novelties, was won by the Misses PRYCE and FYFE, Birchgrove, who staged splendid vases of Scarlet Dragon, Alison and Isobel Felton, the three varieties we have already referred to. Mr. ENGLEMANN, who was second, had a splendid vase of Variegated Carola.

AMATEURS' CLASSES.

There was only one group of Perpetual-flowering Carnations, but it was an especially good one, and deserved the Lord Howard de Walden Challenge Cup, which was awarded to C. A. CAIN, Esq. (gr. Mr. F. Pateman), The Node, Welwyn, Herts. The plants were well-grown and healthy, and the blooms of first size, the outer row of Carola being especially attractive.

The best vase of Pink Sensation was arranged by Mr. M. SARGENT, gardener to D. Stoner Crowther, Esq., Hay Green, Kingston Hill, and the first prize for a vase of 12 blooms in three varieties was awarded to C. A. CAIN, Esq., for an equally good display.

NON-COMPETITIVE EXHIBITS.

Mr. C. ENGLEMANN set up an amazingly fine exhibit, both as regards size and quality. Rarely have so many generous vases of splendid blooms been shown. Where all were so excellent it becomes difficult to make special mention, though the vases Carola and its scarlet and fancy sports, Salmon Enchantress, White Wonder, and the glowing scarlet Mars may be named as being the very best of the perpetuals, though Mrs. C. F. Raphael, the popular perpetual Malmaison, was most magnificent (Gold Medal).

Messrs. STUART LOW & Co. made a speciality of the fragrant perpetual Malmaison varieties, and included charming vases of Hon. Charlotte Knollys, Mrs. Myles Kennedy, and the fancy Mephisto, though their perpetuals were also of great merit (Silver Gilt Medal).

A very tasteful arrangement was made by Messrs. KEITH LUXFORD & Co., new exhibitors at these shows. Their vases of Enchantress Supreme and White Wonder were particularly good (Silver Medal).

Messrs. W. CUTHBUSH & SON included fresh and good examples of Mrs. C. F. Raphael, Lady Ingestre and Marmion, while Messrs. ALLWOOD BROS. made an especial feature of Wivelsfield Beauty, a pale yellow, delicately flaked with salmon, and the fancy Marian Willcox (Silver Medal). Misses PRYCE and FYFE had a beautiful arrangement of such sorts as Maisie, Carola and Malcolm (Silver Gilt Medal).

NATIONAL TULIP.

MAY 13.—The annual show of the National Tulip Society, which was held in conjunction with the R.H.S. Meeting at the Drill Hall on this date, was very poor from almost every point of view. Undoubtedly the date was too early for many growers. There were only two exhibitors, and the arrangements, even for the few exhibits that were forthcoming, were not at all satisfactory. The society cannot hope to increase either its membership or influence when there is nothing to inform the visitor as to the objects and scope of the various classes, nor any indication that it is the show of a separate society.

Mr. W. O. SULLIVAN, Tooting Common, was awarded the first prizes in Classes 1 and 6, and there was no other amateur exhibitor. The first class was apparently for 12 vases of Darwin Tulips, and Class 6 appeared to be for 6 vases of Darwin and Cottage varieties mixed. The best Darwins were Marconi, William Pitt, and Velvet King.

Messrs. BARR & SONS were awarded the first prize for three vases of Rembrandt Tulips; they showed good examples of Caracalla, Lola and Rasotra. This firm had also a good non-competitive exhibit of Tulips.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

The monthly meeting of this Society was held at the R.H.S. Hall, on the 12th inst. Mr. C. H. Curtis presided. Three members were allowed to withdraw double the amount of their interest from their deposit account, amounting to £3 11s. 4d., and one member over the age of 70 years withdrew £60 6s. 7d. from his deposit account. The sick pay for the month on the ordinary side amounted to £69 8s. 4d., and on the State section to £26 8s.; while maternity claims came to £4 10s.

The financial statement was read by the treasurer, who reported that the trustees had invested a further £500 in War Bonds. The secretary also reported that the Society's books for the State section had been audited by the Government auditors up to March 31, 1919. The next committee meeting will be held on June 2, at 7 p.m.

Obituary.

H. J. Mash.—We regret to learn that Mr. H. J. Mash, of Messrs. Mash and Austin, Covent Garden, died on Sunday last, at Cookham Dene, Cookham. The deceased gentleman was as widely known in commercial horticultural circles for his generosity and kindly disposition as for his great business ability. He was sixty nine years of age, and had retired from active participation in business. The remains were laid to rest at Cookham on Thursday, the 15th inst.

TRADE NOTES.

A well attended private meeting of fruit growers, under the auspices of the Chamber of Horticulture, was held at the Central Hall, Westminster, on Friday, the 9th inst. Mr. W. G. Lobjoit, J.P., presided. In the course of a free discussion on the regulation of imports the views of growers, distributors and retailers were well represented, and the following resolutions were carried unanimously:—(1) "That measures be taken so to regulate imports of foreign fruit and vegetables as to prevent the forcing down of prices of home-grown produce to unremunerative rates: a process which in the past has frequently resulted in waste, and has discouraged production." (2) "That it is essential in periods of maximum production that special low railway rates be fixed for the conveyance of produce loaded in bulk; and that no restrictions upon the sending of produce from one part of the kingdom to any other part of the kingdom should be established." (3) "That the railway companies be requested to increase facilities for the transport of fruit and vegetables by providing fast and regular goods services for the conveyance of produce to market centres, and that where fast trains are impossible to arrange, preference shall be given to all perishable fruit and vegetables." These resolutions have been referred to the Chamber of Horticulture.

Messrs. Thomas Methven and Sons, Edinburgh, have again been entrusted with the floral decorations at Holyrood Palace during the residence of His Grace the Lord High Commissioner.

ANSWERS TO CORRESPONDENTS.

ADDRESS WANTED.—Will Mr. J. Coombes, the contributor of the article on the Cultivation of the Pear in France, kindly send his present address to the Publisher of the *Gardeners' Chronicle*, 41, Wellington Street, London, W.C.2.?

AN ENQUIRER: *Tomato House.* If you propose to erect a Tomato house for commercial purposes we suggest that one about 200 feet long and 30 feet wide would be most suitable, and on the whole most economical for working. Longer and wider houses entail much extra labour, and also greater endurance on the part of the cultivator than a smaller house. Each side should have ventilators along the top about 6 ft. to 8 ft. apart, and there should also be several along the sides, as it is important to secure free circulation of fresh air, not only to assist better pollination of the flowers, but to make the stem and leaf tissues firm and hard, and therefore more disease-resisting. The best position for the house to run would be north-east and south-west, so as to catch the sun for the longest possible period, and also to offer less resistance to the south-westerly gales, which, in some districts, do great damage in blowing out the glass and tearing off the ventilators when the houses run east and west. As to cost, at the present time it would probably cost from £350 to £400 to build a Tomato house 200 ft. long and 30 ft. wide. If a boiler and pipes are added another £100 or more would probably have to be spent. On this question, however, it would be better to obtain an estimate from one of the recognised horticultural builders, whose addresses will be found in our advertisement columns.

INTUMESCENCE ON VINE LEAVES: *B.* The warty appearance of the under sides of the vine leaves is due to the extravasation of sap through the skin of the leaf. The cause is to be found in some physiological disorder, aggravated probably by a too close and warm atmosphere. Pay careful attention to ventilation, and begin to admit air very early in the morning on warm days.

NAMES OF PLANTS: *F. P. Dickson.* (1) Ilex aquifolium var. scotica; (2) I. a var. ciliata; (3) I. a. var. maderensis; (4) I. a. var. donningtonensis; (5) Phillyrea decora. *T. C. S.* (1) Amelancher canadensis; (2) Acer japonicum var. laciniatum; (3) Grevillea rosmarinifolia; (4) Pyrus floribunda var. Halleana. *Miss P.* So far as can be determined from such a poor specimen, the plant is probably Primula rotundifolia. *T. H.* Ribes aureum. *C. E. D.* The Carnation is apparently a small flower of the perpetual-flowering variety named Carola.

PLANTS FOR HANGING BASKETS: *Huddersfield.* Basket plants suitable for hanging under a verandah include Ivy-leaved Pelargoniums, Asparagus Sprengeri, Fuchsias, especially those of a drooping habit, Mrs. Roberts being one of the best for this purpose; Lobelias with a spreading habit, such as Sapphire; Petunias, Begonias, and Campanulas.

ROSES INJURED BY INSECTS: *T. H. E.* The Roses are attacked by a species of thrips, and the brown discolouration of the petals is characteristic of the damage caused by those insects. The black insect referred to is the winged adult stage, but besides these there are nymphs and larvae to be found between the petals. These two stages are almost colourless and practically invisible to the naked eye, but have a large part in the damage caused to the bloom. Since they shelter within the petals an ordinary fumigation is apt to fail to kill them all, and it would be thus advisable to try another fumigation, using as large a concentration as the Roses will stand and, above all, allowing the longest possible time for the vapour to penetrate. Ordinary insecticides are not likely to do much good, since they will only reach insects feeding on the outsides of the petal. A second fumigation should be made ten days after the first in order to kill any larvae that have hatched from unkilled eggs. Beware of using carbolic preparations on green plant tissue, as they are very liable to cause scorching.

Communications Received.—J. C.—E. T. G.—V.—W. B.—W. V. de W.—E. R.—T. S. C.—A. R.—W. B.—S. A.—J. H.—L. G. P.—A. H. L.—A. W. D.—S. A.—J. G. J.—R. H. L.—H. G.—J. S.—M. F. F.—W. T.—M. F. W.— H. F.—H. M.—G. P. M.—J. W. M.—J. W. I.

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MARKETS.

COVENT GARDEN, May 14.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d.
Asparagus plumosus	12 0–15 0	Cyclamens ...	30 0–36 0
— Sprengeri ...	12 0–18 0	Genistas, 45's, per doz.	18 0–24 0
Aspidistra green	30 0–60 0	Marguerites white	15 0–18 0
Boronias, 48's, per doz.	30 0–36 0	Palms, Kentia ...	18 0–24 0
Cinerarias. 48's. per doz. ...	24 0–27 0	—— 60's ...	15 0–18 0
		—Cocos	24 0–36 0

REMARKS.—Bedding plants and other garden plants in boxes are in great demand. Asters, Pelargoniums (Geraniums), Petunias, Stocks, Violas, Pansies, Marguerites, Salvias and Antirrhinums sell freely. Tomato plants in small pots are also meeting with a good demand. Choice flowering plants include Acacias, Genistas, Marguerites, white and coloured Stocks, Mignonette, Calceolarias, Schizanthus, Pelargoniums and Fushsias.

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum— cuneatum, 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
—elegans ...	9 0–10 0	—32's	24 0–36 0
Asplenium, 48's, per doz	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	—large 60's ...	4 0– 5 0
— nidus, 48's ...	12 0–15 0	—small 60's ...	3 0– 3 6
Cyrtomium, 48's ...	10 0–15 0	— 72's, per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arums— — (Richardias), per doz. bl'ms.	8 0–10 0	Narcissus Poeticus, per doz. bun.	4 0– 5 0
Carnations, per doz. blooms, best American var.	3 6– 6 0	Orchids, per doz:— —Cattleyas ...	18 0–24 0
Daffodils, single per doz bun.		—Cypripediums	6 0– 8 0
— Emperor ...	8 0–10 0	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
— Grande ...	5 0– 6 0	— white, per doz. bunches ...	12 0–15 0
Gladiolas, Peach Blossom, per doz. bun. ...	36 0–42 0	Roses, per dozen blooms—	
Gypsophila, per doz. bun ...	12 0–15 0	—Lady Hillingdon	4 0– 6 0
		—Liberty ...	4 0– 6 0
Heather, white, per doz. bun.	6 0–10 0	—Melody	4 0– 6 0
Iris, per doz. bun.—		—Mme. Abel Chatenay ...	3 0– 5 0
—Spanish, White	60 0–72 0	—Ophelia ...	4 0– 6 0
— — Blue ...	60 0–72 0	— Richmond, var.	4 0– 6 0
— — Mauve ...	60 0–72 0	—Sunburst ...	4 0– 5 0
Ixia, Scarlet, per doz. bun. ...	6 0– 8 0	—White Crawford	4 0– 6 0
Lilium candidum, per doz. blms....	4 0– 6 0	Sweet Peas, per doz. bun.— — white	12 0–24 0
Lily-of-the-Valley, per bun. ...	3 0– 4 0	— coloured ...	12 0–24 0
Myosotis (Forget-Me-Not), per doz. bun. ...	6 0– 9 0	Stock, Dbl. White	9 0–10 0
Narcissus ornatus per doz. bun. ...	1 6– 2 6	Tulips, per doz. blooms— —Darwins, in var.	1 6– 2 0
— flore plena (double white) per doz. bun.	10 0–12 0	— mauve ...	3 0– 4 0
		— white	1 6– 2 6
		— yellow... ...	1 6– 2 6
		Violas, per doz. bun.	4 0– 6 0

REMARKS.—Daffodils have finished quickly with the sunny weather; small consignments of these flowers, chiefly the variety Emperor arrived from Scotland during the past week. Narcissus Ornatus is now replaced by N. Poeticus from home growers, including Cornwall and the Channel Islands. The first consignment of Narcissus flore plena (double white) arrived on Friday and Saturday last, and were greatly appreciated by florists; the blooms were soon sold at 1s. and 1s. 3d. per bunch. Gypsophila elegans from home growers is selling freely and several baskets of this flower arrived from France last week-end but the spikes were in bad condition and quite unsaleable. Roses and Carnations are well supplied in the usual sorts, Spanish Irises are increasing in quantity, also Sweet Peas and Gladioli, including a few bunches of Blushing Bride variety. Gardenias are taking the place of Camellias which are now finished; the former are packed in boxes containing 12 to 18 blooms, the "twelves" being selected blooms. Darwin Tulips were almost a glut last week-end.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
English Peaches per doz.	9 0–36 0	Nuts— — Brazils (new). per cwt.	85 0–90 0
Belgian Peaches, per doz. ...	9 0 24 0	Pineapples. each	5 0–15 0
Grapes:— —Blk. Hamburgh. per lb. ...	7 0–12 0	Strawberries per lb.	6 0–10 0
—Muscats, per lb.	15 0–20 0		
Grape Fruit. pr. cse.	45 0 —	Worthing Figs, per doz	5 0–24 0
Melons, each ..	7 0–10 0		

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Artichokes— —Globe, per doz.	4 0 6 0	Mustard and Cress, per doz. punnets	1 0– 1 3
Asparagus, English and Continental per bundle ...	1 0–24 0	New Turnips, per bunch	1 3– 1 6
Beans, French, per lb.	2 6– 3 6	Peas, per lb. ...	3 0– 3 6
— Broad (French) per pad ...	4 0– 6 0	Parsley, per ½ bus.	6 0– 7 0
Beetroot, per bus.	5 0– 6 0	Parsnips, per bag	5 0– 7 0
Cabbage per doz.	4 0– 6 0	Potatos, new, per lb.	0–10 1 0
Carrots, per bag..	11 0–12 0	Radishes, per doz. bunches ..	2 6– 3 0
— New, per bun.	1 3– 1 6	Rhubarb, forced, per doz. ..	3 6– 4 6
Cauliflowers, per doz	8 0–10 0	—natural, per doz.	8 –0 10 0
Chicory, Belgian, per lb. ..	0 10– 1 0	Seakale, in boxes (6-8 lbs.) per lb.	0 8– 1 0
Cucumbers, per flat	26 0–28 0	Shallots, per lb. ..	0 6– 0 8
Endive, per doz. ..	1 0– 2 0	Spinach per bus.	3 0– 4 0
Garlic, per lb. ..	0 8– 0 9	Spring Onions, per doz. bunches ...	4 0– 5 0
Greens, per bag ..	6 0– 7 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box.. ..	Controlled
Herbs, per doz. bun.	4 0– 6 0	— English, per lb.	2 3– 3 0
Horseradish, per bun	5 0– 8 0	Turnips, per bag	4 0– 5 0
Leeks per doz. bun.	3 0– 4 0	Vegetable Marrows, each	0 10– 1 0
Lettuce Cabbage and Cos per doz.	1 6– 6 0	Watercress, per doz.	0 8–0 10
Mint, per doz. bun.	3 0– 4 0		
Mushrooms per lb.	3 0– 3 6		

REMARKS.—About 300,000 cases of Tasmanian Apples are due to arrive this week. English hot house fruits now on offer consist of the following: Black Hamburgh and Muscat of Alexandria Grapes; Peaches, Figs, Melons and Strawberries. Belgian Grapes and Peaches are also on offer. Rhubarb is fairly plentiful, and is being sold at record prices. The season for Continental Asparagus is closing but English Asparagus is much more plentiful, notably from the Worcester district. English Tomatos are an increased quantity, and the market is well supplied with Cucumbers. Cabbages and Cauliflowers are scarce. Mushrooms are a fairly good supply.

THE WEATHER.

THE WEATHER IN SCOTLAND.

The opening days of April were cold, but on the 4th the temperature rose considerably and maintained a fairly high level till the 26th, when there was a sudden drop, which culminated in the severe blizzard of the 27th. On the latter day snow fell continuously from 10.15 a.m. to 2 p.m. (G.M.T.), and was followed on the 28th by a northerly gale with sleet and rain. The rainfall for the month was 2.20 inches distributed over 12 days of precipitation; of these 7 were official "rain days." The heaviest fall was that of the 27th with 0.69 inch. Of sunshine we had in all 134.1 hours, being an average of 4.47 hours per day and a percentage of 31.9; the 20th was the brightest day with 11 hours. For the month the mean barometric pressure was 29.87 inches with a highest of 30.73 inches on the 20th and a lowest of 28.90 inches on the 15th. Temperature—the highest maximum was 62° on the 18th, and the lowest minimum 23° on the 2nd The lowest maximum was 40° on the 27th, and the highest minimum 48° on the 7th and 19th, while the mean maximum and minimum were 52° and 36° respectively. From these data we obtain a mean temperature of 44°, a mean range of 16°, and an absolute range of 39°. On seven nights the temperature fell below 32°. For the dry bulb thermometer the mean was 45.5°, and for the wet bulb 42.2°, giving a relative humidity of 77 per cent. On the grass the mean minimum was 31°, with the lowest of 19° on the 27th; there were 14 nights of ground frost. At one foot deep the soil temperature rose from 36° to 44° and then fell to 43°. The prevailing winds were westerly. *James Malloch, Director of Studies, Training College Gardens, Kirkton of Mains, near Dundee.*

GARDENING APPOINTMENTS.

Mr. J. Chilcott, for four years previous to the war Gardener to G. A. PALEY, Esq., Ampton Hall, Bury St. Edmunds, and for 4½ years with the colours, as Gardener to Mrs. ROBERTSON, "Dogleap," Limavady, co. Derry.

Mr. E. T. Griffin, for 9½ years Gardener to E. HUNTLEY HOOPER, Esq., Shelly Hill, Christchurch, Hampshire, as Gardener to Admiral PUREFOY, Shalstone Manor, Buckingham.

Mr. James M. Webster, after three years with His Majesty's Forces and previously Gardener to Professor ARCH. BARR, LL.D., "Westerton of Mugdock," Milngarie, as Gardener to G. A. CLARK HUTCHISON, Esq., Eriska, By Ledaig, Oban.

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SITUATIONS VACANT.

PRIVATE.

Continued from page iv.

WANTED a good reliable MAN, married or single, for Pleasure Grounds; with experience of Rock Herbaceous Plants, water garden, etc.; used to scythe; comfortable place, present man here 14 years; no children; state age, wages asked, with house, milk; references and particulars.—GARDENER, The Ivy House, Godstone, Surrey.

WANTED, married man for Pleasure Grounds; wages 35s. per week, rooms, milk, and veg.—Apply, D. BARNARD, The Manor House, Effingham, Surrey.

WANTED, strong, active MAN about 24 to take charge of Glass, a good knowledge of perpetual Carnations essential; bothy; duty paid; hours 7.30 to 5, Saturdays 12.—Apply, stating wages and references, J. JONES, Knoyle House Gardens, Salisbury.

WANTED, an intelligent YOUTH to interest himself mainly in the growing of Chinese Plants from seed.—Apply, with particulars, to A. J. COBB, Duffryn Gardens, near Cardiff.

GARDENER'S ASSISTANT wanted in London; must be strong, intelligent, and willing, and have had some experience in gardening; wages 30s. per week; no bothy.—Particulars to, GARDENER, 5, Zenobia Mansions, Queen's Club Gardens, London, W.14.

WANTED, YOUTH about 17, Inside and Out. Bothy and vegetables; duty paid; 1 o'clock Saturdays.—Particulars to F. P. DICKSON, Yeaton Parry Gardens, Shrewsbury.

WANTED, two LADY GARDENERS for Outside, no bothy; 3s. 6d. allowed for room; State wages.—A. GODDEN, Ardkinglas, Cairndow, Inveraray, Argyleshire, Scotland.

LADY GARDENER wanted for 1½-acre garden in Finchley; Lawns, Flower and Vegetable Gardens, and cool greenhouses; one man under her; fully trained lady without further experience might suit.—Apply, stating age, experience, and salary, etc., to MRS. WILSON, Beechwood, Eastern Road, Fortis Green, N.2.

WANTED, active middle-aged WOMAN as HOUSEMAID; no cooking; two ladies; country; comfortable home; liberal board; good wages, which please state.—Mrs. TAYLOR, Hazelholt Park, Bishops Waltham.

TRADE.

WANTED, HEAD WORKING GARDENER; about four miles from Leicester; cottage.—State wages required and references.—H. BURN, Landscape Gardener, Carisbrooke Road, Leicester.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village, N.6.

WANTED, for two or three months, a first-class TOPIARY EXPERT; must be a practical working man; good wage paid. — Apply, JOHN WATERER, SONS & CRISP, Ltd., The American Nurseries, Bagshot, Surrey.

WANTED, PROPAGATOR for a choice collection of Trees, Shrubs, Conifers, etc., new Chinese Plants, Alpines, etc.; also to take charge of a specimen Rock and Water Garden, Herbaceous Borders, etc. A permanent situation for a keen, capable man.—References, wages and all particulars to HILLIER & SONS, 95, High Street, Winchester.

TOMATO GROWER wanted for market work; State age, experience and wages required to CHATTOCK & ROBERTSON, Solihull, Birmingham.

WANTED, HEAD WORKING FOREMAN; must be thoroughly experienced in Grape, Peach and Tomato growing for markets on a large scale.—State experience, age and wages required, to E. BOURGAIZE & CO., Leigh Vineries, Wimborne, Dorset.

WORKING FOREMEN for Landscape Gardening; good Men wanted; good wages and permanent work offered.—H. BURN, Landscape Gardener, Carisbrooke Road, Leicester.

WANTED, WORKING FOREMAN for small quantity of glass, with knowledge of Herbaceous Plants and Floral work; must be energetic.—Apply, with copy of testimonials and wages required, to P. E. J., Box 27, 41, Wellington Street, London, W.C.2.

WANTED, a thoroughly practical and up-to-date WORKING FOREMAN, for a high-class Fruit farm.—Apply, Apples, Box 9, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FOREMAN for Municipal Market Gardens; good worker and understand his duties; wages £3 3s. weekly; also Bowling Green and Tennis Court charge; hands must thoroughly understand their work.—Particulars to JOHN T. HAYES, Parks Superintendent, Cyfarthfa Park, Merthyr Tydfil.

ORCHIDS.—Experienced seedling GROWER; splendid opportunity for good worker; Belgian preferred.—C., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

MEN WANTED for Landscape work; 11d. per hour.—Apply by letter, stating experience, to JENSEN & MILNE, Finchley Lane, Hendon, N.W.4.

WANTED, SINGLE MEN JOURNEYMEN, chiefly for Landscape Work.—H. BURN, Landscape Gardener, Carisbrooke Road, Leicester.

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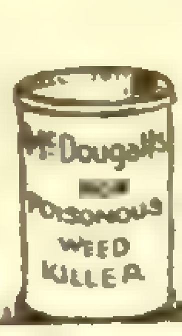

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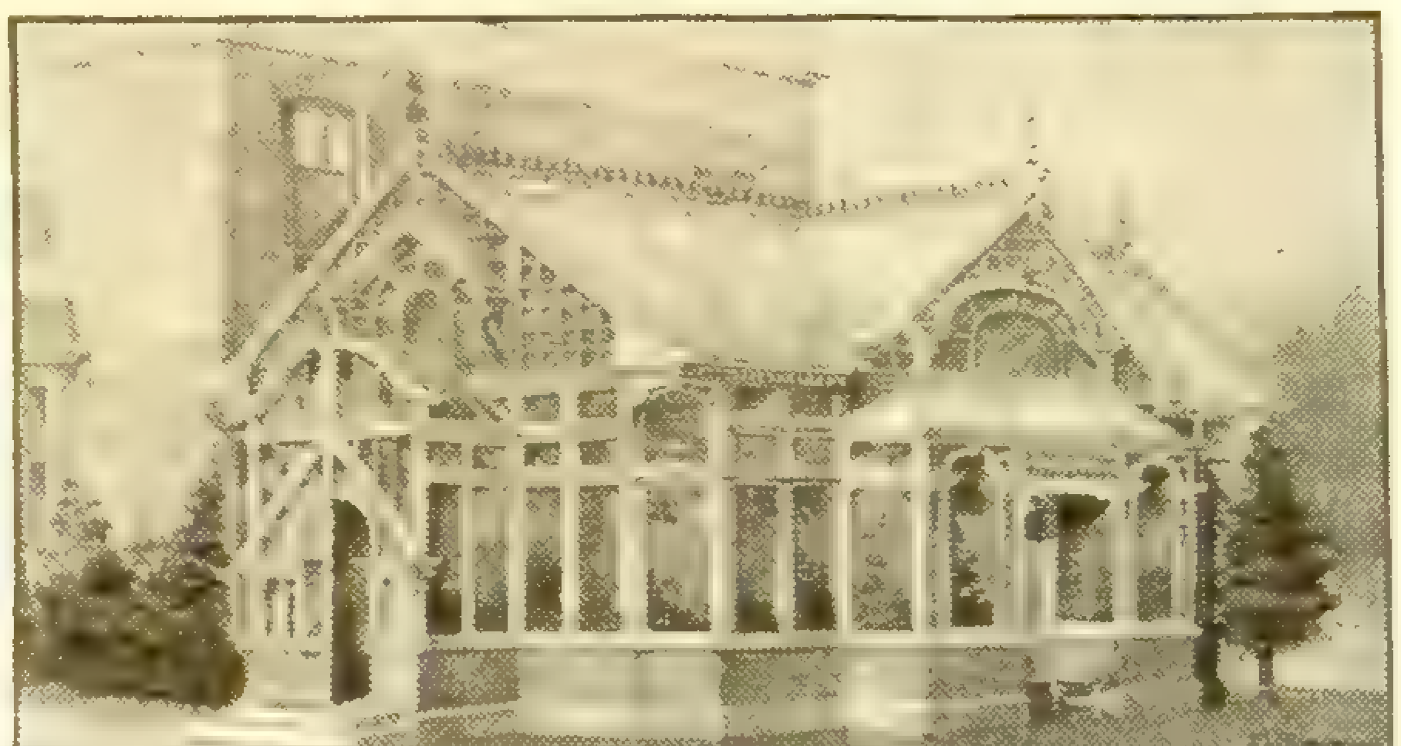

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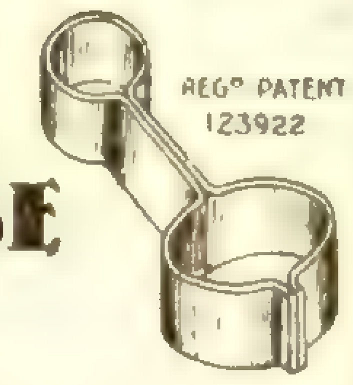

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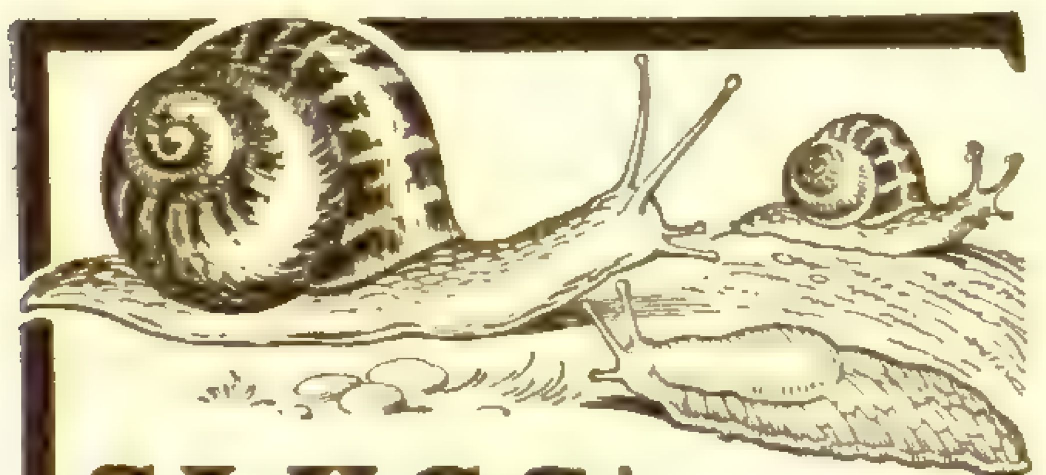

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THE

Gardeners' Chronicle

No. 1691.—*SATURDAY, MAY* 24, 1919.

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HORTICULTURAL LIBRARIES IN THE UNITED STATES.

AMONG the libraries in the U.S.A. which have specialised on horticulture, that of the Massachusetts Horticultural Society is probably the most widely known, but while it is the sole example of a large library devoted exclusively to this subject, there are other notable collections, and that of the United States Department of Agriculture at Washington must be a close second in the importance of its horticultural resources, if indeed it does not actually contain the largest number of books relating to the subject.

While it comprises an exceptionally fine collection of works relating specifically to agriculture and gardening, it is essentially a scientific rather than an agricultural library in the limited sense, being very rich in the sciences fundamental to agriculture, such as botany, chemistry, bacteriology and entomology. Hence it follows that many works appropriate to a purely horticultural library are classed by the Department of Agriculture with special sciences, and do not count as part of its horticultural collection, which may consequently appear less important than is actually the case. Many works, such as the herbals of Gerarde, Dodoens, Clusius and others, are found in the botanical classes of the Department Library, as are also such illustrated books without texts, as the *Theatrum Florae* (1622), and various monographs of genera, like Miss Willmott's *Rosa* and W. R. Dykes' *Iris*. It is difficult to single out from the horticultural literature any groups which are particularly noteworthy, but special mention should perhaps be made of the nursery and seed trade catalogues, of which the Department of Agriculture has a valuable and rapidly growing collection, probably second only in importance to that of the Massachusetts Horticultural Society, and which is being constantly and extensively used in the horticultural work of the Department. While it contains few originals of very early issues, it does include a photostat copy of Robert Furber's, supposed to be the first trade catalogue ever separately published; also photostats of the first one known to have been issued in the United States, that of William Prince, published August, 1771, and of one from a less well-known dealer, Minton Collins, of Richmond, Virginia, whose broadside list of "Garden and grass seeds" was issued January 24, 1793. The latter year is also the date of a little 16mo catalogue of "Fine double hyacinth and other curious flower roots and seeds, imported chiefly from Holland, France, America, Italy, Botany Bay, etc., by John Mason, Orange Tree, 152, Fleet Street," which turned up among some miscellaneous pamphlets a short time ago. Of horticultural periodicals, the Department has an excellent working collection; though still lacking, or having incomplete sets of a number of important Continental journals, it has most of the English, as well as the American ones. One of the most complete sections of the library is that devoted to pomology, which has apparently been built up with considerable discretion and foresight since an early period in the history of the library, as it contains nearly all the important works, and exhibits few serious omissions.

While it is the primary aim of the library to meet the vast current requirements of the scientific and statistical researches of the Department, it has kept clearly in view the fact that its collections, located at the nation's capital and fostered by the Government, should properly comprise all literature relating to agriculture and horticulture. With this end in view the library has latterly been making a special effort to acquire the agricultural classics, and while it does not pretend to buy incunabula, and is in no position to compete with wealthy private collectors for the possession of specially fine editions, it has obtained a goodly number of 16th century books: several editions of the *Scriptores Rei Rusticae* and *Geoponika*; of Herrera and Crescenzi, as well as many of the latter's Italian successors: Gallo's *"Dieci [—vinti] giornale dell' agricoltura"*; Clemente; Bussato; Porta's *"Villae libri XII"*; Sansovino; Vettori on the Olive; Soderini on the Vine, etc. Another work which ought to be included in this group was not actually published until 1776; the *"Discorso dell' agricoltura di Giovambatista Tedaldi"* (1495-1575), which is in the Library of Congress. The Department Library has also what is probably the fullest collection of early American agricultural works.

No account of the Library of the United States Department of Agriculture would be quite complete without mentioning its relation to the Library of Congress, which lends to the various Government libraries with great liberality, and maintains a delivery service in Washington whereby any books needed from there can be brought to one's desk almost as promptly as if located in the Department Library itself. While the books on agriculture and gardening form but a relatively small proportion of the total collection of the big national library, their number is actually very considerable, and includes not only the majority of books published in the United States, but also many rare old agricultural treatises, particularly those by early English writers. Owing to their accessibility these collections may be regarded as complementing those of the Department of Agriculture, which accordingly makes it a general practice when buying old books for their historical or bibliographical interest (as compared with those directly bearing on current scientific research), to avoid duplicating editions already located in the Library of Congress, and this practice is to a considerable extent reciprocal. It is obviously in the interest of efficiency that the different libraries of a given city or section should specialise so far as possible in respect to works not in general demand, and there are many instances of this kind of co-operation in American cities. By depending on the Library of Congress very largely for works of general or diversified interest, the Department of Agriculture is enabled to define its own scope more consistently and more fully develop the collections along its own special lines. There is one field of horticultural research in particular in which it is enormously indebted to the Library of Congress, namely, collateral information on the origin, introduction and naturalisation of plants, which is to be found in the literature of history, biography, geographical description and exploration, as well as the highly important sources to be sought in personal maunscripts and old state documents. In the field of periodical literature and the publications of learned societies, the collections of the Department are very largely supplemented by those of other libraries in the city of Washington.

No one, however, who knows the Department library through extended use can regard it solely as a collection of books. While the Librarian, Miss C. R. Barnett, gives great care to book-buying as a vital part of the whole scheme, the central idea of the library, clearly shown in all its manifold relations, is that of service; every facility is developed to make its collection of use and value to its users, with the result that the latter acquire implicit confidence in the library's ability to supply all their needs, and rarely does it occur that a book or reference is required which the library cannot in some way supply, though perhaps not without some lapse of time in case of works difficult to identify, or which must be borrowed from a distant city. Moreover, as in all modern library work there is frequent demand for information not even to be had in print, it is evident that the sphere of the Department of Agriculture Library is by no means limited to the literature it contains, but is a vital factor in innumerable activities of the Department.—*M. F. Warner, Bureau of Plant Industry, Dept. of Agriculture, Washington, D.C.*

RUBUS GIRALDIANUS.

Amongst the numerous species of Rubus introduced by Mr. E. H. Wilson from China, R. Giraldianus (see Fig. 121) is one of the most effective and distinct. It is the best of the white-stemmed Brambles and may be recommended to those who like curious and bizarre winter effects in the garden. It may be necessary sometimes to explain that the whiteness is due to a waxy exudation on the bark. The plant illustrated in Fig. 121 is growing in a border of Chinese Rubi at Kew and I remember passing by it one day when a learned young man was informing his companion that a plant had been whitewashed to kill the insects, and she remarked how ugly the process had made it. It is but another instance of how one's conception of beauty is influenced by the association of ideas. This white or glaucous coating of the stems is not uncommon among Rubi; the Himalayan R. biflorus, which previous to the introduction of this species was the best we had of this type, has been in cultivation one hundred years or more, and R. leucodermis was introduced by David Douglas, in 1829, from Western N. America. Our native Dewberry, R. caesius, has the same character to a slight extent. But none of these has the graceful habit of R. Giraldianus. The stems are biennial and the full whiteness of the bark is acquired by their first autumn; they remain white all the winter but the waxy bloom begins to wear off in the spring. The plants flower in June, the blossoms being small, purple, and of little beauty; the fruits are black and ripen early. After fruiting, these stems, being of no further use, should be cut out, leaving only the new virgin ones of the year, as seen in the picture, which will flower in their turn the following season. The fertile fruits give plenty of seeds, making the propagation of this Rubus easy. *W. J. Bean.*

NEW OR NOTEWORTHY PLANTS.

FORSYTHIA SUSPENSA var. ATROCAULIS. REHDER.

Until they were spoilt by the snow and wind of Sunday, April 27, the Forsythias were making a wonderful show at Kew, the best we have had for some years. Among them was a new variety of F. suspensa, to which the name atrocaulis has been given by Mr. Rehder. The most distinctive character of this variety is to be found in its young shoots, which are of a dark purplish hue, as indicated by Mr. Rehder's name. The flowers, too, are distinct in having the four corolla lobes noticeably broader than in the type. On some plants at Kew they are fully $\frac{3}{8}$ inch wide, and they differ also in being somewhat shorter and more rounded at the apex. The colour is not quite the same as in the old suspensa, being of a more primrose shade. On the whole this is a very pleasing addition to the Forsythias, and well worth cultivating, for these plants bloom at a time when flowers are scarce out-of-doors.

Forsythia suspensa atrocaulis was discovered by Mr. E. H. Wilson in 1907 in Western Hupeh, when collecting for Harvard University, and is no doubt in British gardens under his No. 637. I think that Wilson introduced to the Coombe Wood nursery the same or a very similar form.

The old, beautiful and popular F. suspensa has long been represented in gardens by two forms: (1) the type with very slender pendulous branches, and (2) a form of stiffer, more erect growth. The latter has been distinguished as var. Fortunei, and it represents the form to which the new atrocaulis belongs. Sir F. W. Moore informs me that this new Forsythia has been very attractive at the Botanic Gardens, Glasnevin. *W. J. B.*

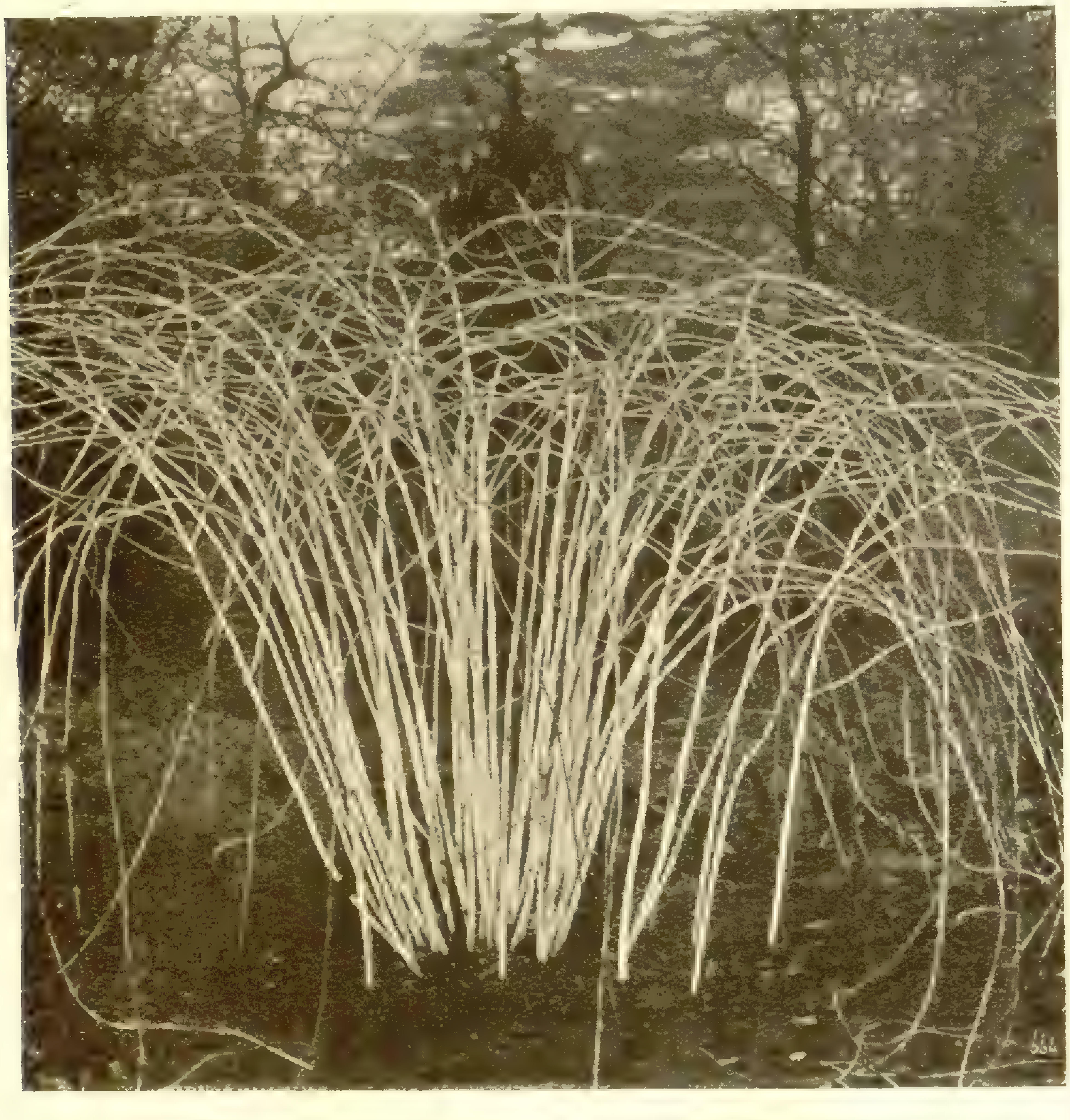


Fig. 121.—Rubus Giraldianus: a white stemmed species.

NOTICES OF BOOKS.

EDUCATIONAL GARDENING.

*Educational Gardening** is a well-written and practical book eminently suitable for teacher and scholar alike. The author does not depart from the orthodox course adopted in many treatises on the same subject. It is written in plain, simple language which beginners can understand, and contains much information necessary to successful flower, vegetable and fruit culture. The chapter on manures is helpful, but we should like to have seen the importance of the uses of lime enlarged upon; the reason why certain manures (given in the list on p. 57) should not be mixed would doubtless prove of use to both scholar and teacher. The chapter on winter handiwork is excellent, as detailed instructions and illustrations are given for making many useful garden requisites and ornaments; it would be extremely useful to children in school where carpentry and school gardening are taught to link the two subjects together and engage the children upon making labels, Potato boxes, spade-cleaners, pergolas, and garden frames.

The headings of the various chapters (if they may be so called) need revising, for under "Potash Manures" we find nitrogenous manures mentioned. Here we also see that "Sulphate of potash is purified Kainit"; such a statement is apt to prove very misleading to the scholar. The index is good, though we see no mention of sulphate of potash on p. 28 as given in the index.

THE BOOK OF THE ALLOTMENT.

When we saw the author's name we expected this little book† to be good, and it is. Though small it covers the whole field of allotment gardening, and the directions are everywhere clear, concise, and thoroughly sound. The illustrations are numerous, good, and well chosen, and there is a useful index. The appendices, relating to seasonal gardening operations, quantity of seeds needed for given areas, and insect pests and diseases and remedies, are especially useful to those for whom the book caters especially. We can thoroughly recommend this little book as one of the best we have seen on allotment gardening.

PRACTICAL GARDENING.

This book on gardening‡ is intended for American amateurs with small gardens, and it shows that some of the methods practised in that country are very primitive. The first few chapters are general ones, after which there are some twelve on vegetables, five on fruit, and a calendar at the end. Ornamental plants are not dealt with.

With regard to vegetable culture there are several plates showing crops, and one is impressed by the poor standard of cultivation. In one case a row of Onions is shown with the tops bent over to ripen the bulbs, and we read in the explanatory note that "many of the bulbs measured *two* inches in diameter." We are advised to harvest the bulbs by "pulling or raking" them out. In the chapter on Potatoes sprouting the "seed" is only recommended if an early crop is desired, and "hilling up should be practised only where the soil is stiff and the tubers are planted near the surface."

In the section on fruit, Black and Red Currants are dealt with together, and no distinction is made in the propagation, pruning, or cultivation of the two kinds.

There are plenty of illustrations, but we do not think they are well chosen. Moreover, the explanatory notes are mixed up in several cases, *e.g.*, the notes numbered 27, 29, and 73 obviously refer to Figs. 28, 30, and 74 respectively.

* *Educational Gardening*, by Robert Hogg, pp. 155. London: Messrs. A. Brown and Sons, Ltd., 5, Farringdon Avenue, E.C. Price, 3s. 6d. nett.

† *The Book of the Allotment*, by C. F. Lawrence pp. 165, figs. 53. Evans Bros., London.

‡ *Practical Gardening*, by Hugh Findlay, B.S.A., pp. 388, figs. 76. D. Appleton and Co., New York and London.

ORCHID NOTES AND GLEANINGS.

NOTES ON LYCASTE.

Among the various tropical Orchids few are more attractive than the species of Lycaste. Several years ago Mrs. Cockerell brought three forms from Guatemala, and we have had abundant opportunity to study their characters, as they flowered each season in the greenhouse. The plants were purchased in Guatemala City, but were brought from the surrounding country by the natives. The most interesting and beautiful is the one known in horticulture as Lycaste Skinneri var. alba. After comparing the living plants with typical L. Skinneri, flowering at the same time, I came to the conclusion that the so-called variety alba was a distinct species. It apparently occurs wild, and in spite of assertions to the contrary it certainly has distinct structural as well as colour characters. The lateral lobes of the lower petal or lip are much larger in Skinneri than in alba; while the bract of Skinneri is much shorter, not reaching the middle of the upper sepal. I wrote to Mr. R. A. Rolfe concerning the matter, and he discussed the question briefly in *Orchid Review*, 1915, p. 224. He did not believe that alba could be a distinct species, and I hesitated to combat his opinion, although he presented no decisive evidence. As it still seems to me at least probable that the white form should be separated, I offer a brief description from our material:

Lycaste alba sp. nov.—Scapes light green, 4.25 mm. thick; posterior bract sheathing, the sides infolding, so that the long apical part is hollow, apex tapering, sharply pointed, base 10.5 mm. wide, the back very obtusely keeled, length of bract about 72 mm., light green; anterior bract represented by a small projection about 2 mm. long, pointed with a membraneous appendage; sepals pure white, upper erect, about 75 mm. long and 36 broad, lanceolate ovate, obtusely pointed, keeled beneath apically; lateral sepals similar, faintly greenish apically beneath, about 77 mm. long and 38 broad, meeting below and slightly overlapping to form a gibbous chin; the upper sepal goes 24 mm. beyond tip of bract; petals pure white, the lower one (lip) suffused with orange at extreme base; lateral petals about 50 mm. long and 30 broad, the broad apices curled over backward; lip with a broad downwardly directed median lobe, lateral lobes hardly developed, basal part bulbous; column with anthers about 28 mm. long, very stout, the rounded apex very faintly suffused with purple; the four pollinia bright orange, on a clear white stalk; callus of lip very thick, about 7.5 mm. broad, suboval, pale orange tinted. The flowers are not sticky or aromatic.

In addition to the above and the true L. Skinneri Lindley, we have Lycaste cruenta Lindley, belonging certainly to a distinct section of the genus. The sepals are very sticky on the outer side, and the flowers have a strong aromatic odour. It is also peculiar in that one of each pair of pollinia is about a third smaller than the other. The following description of the flower is from life:

Lycaste cruenta, Lindley.—Scapes about 14 cm. long; bracts 4-5, dark red brown, sheathing, loose, pointed, uppermost about 22 mm. long; flowers erect, about 40 mm. long, brilliant orange, with the broad sepals pale yellow-green; sepals about 50 mm. long and 24 broad, oblong, rather obtusely pointed, bearded at base within; petals shorter than sepals, more ovate, with a larger apical angle, lightly speckled with crimson at base; lip abundantly spotted with crimson within, but the extended, downwardly curved median lobe not speckled, its apical margin slightly irregularly crenulate but not fimbriate; column about 16 mm. long and 7.5 broad, flattened, but thick, dark crimson at base, the contiguous part of the lip also crimson, and at the base of the lip on the outer side is a transversely elongate crimson patch. *T. D. A. Cockerell, Boulder, Colorado.*

ODONTOGLOSSUM THE TIGER.

At the meeting of the Orchid Committee of the Royal Horticultural Society of April 29 last, H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), received an Award of Merit for Odontoglossum The Tiger (see Fig. 122), a hybrid between O. Lawrenceanum (Rolfeae × triumphans) and O. Stella (sceptum × triumphans). The cross is especially interesting in that it suggests a means of vastly improving a dominating species florally by indirect means. The principal species indicated is O. triumphans, and the hybrid retains its features, but progresses beyond the famous O. triumphans Lionel Crawshay in a remarkable degree. The O. Harryanum in O. Rolfeae is to be traced, but the O. Pescatorei in that hybrid is not in evidence. The colour of O. sceptum harmonises with that of O. triumphans. The ground colour is yellow, the markings red-brown, a few purplish lines appearing at the base of the lip.

NEW HYBRIDS.

(Continued from March 22, p. 136.)

Hybrid.	Parentage.	Exhibitor.
Brasso-Cattleya Cowanii	Thorntonii × Madame Ch. Maron	P. Smith, Esq.
Brasso-Cattleya Fair Rosamond	B.-C. Digbyano-Schröderae × C. Mossiae	Duke of Marlborough.
Brasso-Laelio-Cattleya Decia	B.-C. Digbyano-Schröderae × L. purpurata	Stuart Low & Co.
Cattleya Princess Ileana	Luddemanneana alba × Myra Peeters	Flory and Black.
Cattleya Rajah	Enid × Empress Frederick	Stuart Low & Co.
Cypripedium Medusa	Hera Euryades × Godefroyae leucochilum	G. H. Smith, Esq.
Cypripedium, Mrs. Wm. Pickup	Thisbe × Alcibiades	W. Pickup, Esq.
Laelio-Cattleya Ardens	L. Latona × L.-C. Charlesworthii	Stuart Low & Co.
Laelio-Cattleya Golden Dawn	Trimyra × Lydia-Myra	Charlesworth & Co.
Laelio-Cattleya Hymen	C. Schröderae × L.-C. Ardens	Stuart Low & Co.
Laelio-Cattleya Nubia	C. General Pau × L.-C. Black Prince	Stuart Low & Co.
Laelio-Cattleya Patti	Adelina × luminosa	C. J. Lucas, Esq.
Lowiara Paul	Sophro-Laelia Psyche × Brasso-Laelia Mrs. M. Gratrix	Col. Stephenson Clark.
Odontioda Ariadne	Oda. Coronation × Odm. Conqueror	Armstrong & Brown.
Odontioda Chapman	Bradshawiae × seedling unrecorded	Mrs. N. C. Cookson.
Odontioda Cyclops	Oda. Bradshawiae × Odm. Mars	Armstrong & Brown.
Odontioda Jupiter	Oda. Coronation × Odm. eximillus	Armstrong & Brown.
Odontioda Lady Patricia Ramsay	Odm. Lambeauianum × Oda. Coronation	Armstrong & Brown.
Odontioda Lady Veitch	Oda. Cooksoniae Orchidhurst variety × Odm. Mars	Armstrong & Brown.
Odontioda lutescens	Oda. Schröderiana × Odm. crispum xanthotes	Charlesworth & Co.
Odontioda Nada	Oda. Red Cross × Odm. eximium	Charlesworth & Co.
Odontioda Orestes	Oda. Coronation × Odm. percultum	Armstrong & Brown.
Odontioda Princess Bibesco	Oda. Chantecleer × C. Noezliana	Sir Jeremiah Colman.
Odontioda Rajah	Odm. Rio Tinto × Oda. Lambeauiana	Sanders.
Odontoglossum Ajax	amabile × Promereus	Armstrong & Brown.
Odontoglossum Ashtonii	amabile × hybrid unrecorded	E. R. Ashton, Esq.
Odontoglossum crispeva	crispum × Eva	C. J. Lucas, Esq.
Odontoglossum Goveri	maculatum × Chieftain	R. G. Thwaites, Esq.
Odontoglossum Hyphen	splendidum × Pescatorei	Mrs. N. C. Cookson.
Odontoglossum Pyramus	Louise × C. Empereur	Charlesworth & Co.
Odontoglossum Mauve Queen	Lambeauianum × Triton	Mrs. Bischoffsheim.
Odontoglossum Myra	crispo-Harryanum × Aireworth	Stuart Low & Co.
*Odontoglossum Philomene var. Mauretania	var. Mauretania Rolfeae × percultum	Charlesworth & Co.
Odontoglossum Safron	Fascinator × Adrianae	Pantia Ralli, Esq.
†Odontoglossum Vardar	mirificum × eximium	Flory and Black.
Odontoglossum Ebony	King Arthur × Thompsonianum	P. Smith, Esq.
Odontoglossum The Tiger	Lawrenceanum × Stella	H. T. Pitt, Esq.
Oncidioda Oakwoodiensis	Onicidium Mantinii × C. Noetzliana	Mrs. N. C. Cookson.
Sophro-Laelio-Cattleya Pittiae	S.-L.-C. Marathon × C. Maggie Raphael alba	H. T. Pitt, Esq.

* Shown at R.H.S., March 11, as Odm. Mauretania.
† Recorded in error at R.H.S., April 29, as Oda. Chantecleer × Odm. eximium.

TREES AND SHRUBS.

CONIFERS AT LEONARDSLEE.

(Continued from page 237.)

Abies Pindrow, Spach. Himalayan Fir (syn. Abies webbiana var. Pindrow, Brandis). Himalayas.
— — var. brevifolia.
— — var. intermedia.
— Pinsapo, Boissier. Spanish Fir. Spain.
— sachalinensis, Masters. Kurile Isles and Saghalien.
— — var. nemorensis, Voss. Saghalien.
— sibirica, Ledebour. Siberian Fir. Siberia.
(syn. Abies Pichta, Forbes.)
(syn. Abies Semenovi, Fedtschenko.)
— squamata, Masters. China.
— Veitchii, Lindley. Veitch's Fir. Japan.
— — var. olivacea, Shirasawa. Japan.
— Vilmorini, Masters. (A. Pinsapo × A. cephalonica).
— webbiana, Lindley. Sikkim Fir. Sikkim.
Pseudotsuga Douglasii, Carrière. Douglas Fir. W. N. America.
(syn. Pseudotsuga mucronata, Sudworth.)
(syn. Pinus taxifolia, Lambert.)
(syn. Abies taxifolia, Poiret.)
(syn. Picea Douglasii, Link.)
(syn. Tsuga Douglasii, Carrière).
(syn. Abietia Douglasii, Kent. Veitch's Manual.)
— — var. macrocarpa, Mayr. S. California.
— — var. glauca.
— — var. Stairii.
— japonica, Beissner. Japan.
— chinensis, Dode. China.
— Forrestii, W. G. Craib, f. Yunnan.
Pinus albicaulis, Engelmann—not Kaage and Schmidt. White bark Pine. W. N. America.
— aristata, Engelmann (syn. Pinus balfouriana, var. aristata, Engelmann). Rocky Mountains.
— Armandii, Franchet. Armand's Pine. W. China.
— Ayacahuite, Ehrenberg. Mexican White Pine. Mexico.
— balfouriana, Balfour. Foxtail Pine. Sierra Nevada.
— banksiana, Lambert. Jack Pine. E. N. America.
(syn. Pinus hudsonica, Parlatore).
(syn. Pinus divaricata, Dumont de Courset.)
— Buonapartea, Roezl. (syn. Pinus Veitchii, Roezl). Mexico.
— Brutia, Tenore. Calabrian Pine. Calabria.
(syn. Pinus pyrenaica, Carrière—not Gordon.)
(syn. Pinus halepensis var. Brutia, Henry.)
— bungeana, Zuccarini. Lace bark Pine. China.
— Cembra, Linnaeus. Arolla Pine. Central Europe.
— — var. sibirica, Loudon. Siberia.
— cembroides, Zuccarini. Three-leaved Nut Pine. S. California.
(syn. Pinus albicaulis, Haage and Schmidt.)
(syn. Pinus llaveana, Schlechtendal.)
(syn. Pinus osteosperma, Engelmann.)
— contorta, Loudon. Beach Pine. W. N. America.
(syn. Pinus inops, Bongard—not Aiton.)
(syn. Pinus Bourseri, Carrière.)
(syn. Pinus macintoshiana.)
(syn. Pinus Bolanderi, Parlatore.)
— Coulteri, D. Don. Coulter's Pine (syn. Pinus macrocarpa, Lindley). W. N. America.
— densiflora, Siebold and Zuccarini—not Franchet. Japan.
— echinata, Miller. Short-leaved Pine. E. United States.
(syn. Pinus variabilis, Lambert.)
(syn. Pinus mitis, Michaux.)
(syn. Pinus virginiana var. echinata, Du Roi.)
(syn. Pinus Taeda var. echinata, Linnaeus.)
— edulis, Engelmann. Two-leaved Nut Pine. New Mexico.
— excelsa, Wallich. Himalayan Blue Pine. Himalayas.
— flexilis, James. Limber Pine. W. N. America.
— gerardiana, Wallich. Gerard's Pine. Himalayas.
— Greggi, Engelmann. (syn. Pinus pseudo-patula, Rovelli). Mexico.
— halepensis, Miller. Aleppo Pine. S. Europe.
— — var. eldarica, Medwejew. Caucasus.
— Hartwegi, Lindley. Hartweg's Pine. (syn. Pinus Montezumae var. Hartwegi, Engelmann.) Mexico.
— Jeffreyi, Vasey. Jeffrey's Pine. (syn. Pinus ponderosa var. Jeffreyi, Vasey). California.
— koraiensis, Siebold and Zuccarini. Corean Pine (syn. Pinus mandshurica, Rupprecht). Corea.
— lambertiana, Douglas. Sugar Pine. W. N. America.
— Laricio, Poiret. Corsican pine. Spain, Corsica, &c.
(syn. Pinus Laricio var. corsicana, Loudon.)
(syn. Pinus Laricio var. poiretiana, Antoine.)
— — var. calabrica, Loudon. Calabria.
— — var. austriaca, Loudon. Austria, &c.
(syn. Pinus austriaca, Höss.)
(syn. Pinus nigricans, Host.)
(syn. Pinus Laricio var. nigricans, Parlatore.)
— — var. pallasiana, Endlicher. Crimea, &c.
— — tenuifolia, Parlatore—not Salisbury. Pyrenees.
(syn. Pinus monspeliensis, Salzmann.)
(syn. Pinus pyrenaica, Gordon—not Carrière.)
— leiophylla, Schiede. Smooth-leaved Mexican Pine. Mexico.
— leucodermis, Antoine. (syn. Pinus Laricio, var. leucodermis, Christ.) Bosnia, &c.
— monophylla, Torrey. One-leaved Nut Pine. (syn. Pinus fremontiana, Endlicher.) Lower California.
— montana, Miller. Mountain Pine. Central Europe.
— — var. uncinata rostrata, Antoine. Pyrenees.
— — var. rotundata, Willkomm. Alps.
— — var. Pumilio, Willkomm. Jura, Bosnia.
— — var. Mughus. Willkomm. E. Alps.
— Montezumae var. rudis, Shaw. Mexico.
— Monticola, Don, Western White Pine. W. N. America.
— muricata, Don, Bishop's Pine. California.
(syn. Pinus edgariana, Hartweg.)

Pinus murrayana, Balfour. Lodge Pole Pine. Sierra Nevada.
(syn. Pinus contorta var. murrayana, Engelmann.)
—— Nelsoni, Shaw. Mexico.
—— palustris, Miller. Long-leaved Pitch Pine. S. United States.
(syn. Pinus australis, Michaux.)
—— parryana, Engelmann. Lower California.
(syn. Pinus quadrifolia, Sudworth.)
—— parviflora, Siebold and Zuccarini. Japan.
—— patula, Schlechtendal and Chamisso. Mexico.
—— Peuke, Grisebach. Macedonian Pine. Macedonia.
—— Pinaster, Aiton. Maritime Pine. S. Europe.
(syn. Pinus maritima, Lamarck.)
—— —— var. Hamiltoni, Gordon.
—— —— var. three-leaved, from Beauport Park.
—— Pinea, Linnaeus. Stone Pine. S. Europe.
—— ponderosa, Douglas. Western Yellow Pine. W. N. America.
(syn. Pinus benthamiana, Hartweg.)
(syn. Pinus parryana, Gordon not Engelmann.)
—— —— var. scopulorum, Engelmann. Nebraska, Colorado.
—— pseudo-strobus, Lindley. Mexico.
—— pumila, Regel. Manchuria, Saghalien.
(syn. Pinus Cembra var. pumila, Pallas.)
(syn. Pinus pygmaea, Fischer.)
(syn. Pinus mandshurica, Murray.)
—— pungens, Lambert. Hickory Pine. E. N. America.
—— radiata, Don. Monterey Pine. California.
(syn. Pinus tuberculata, Don—not Gordon.)
(syn. Pinus insignis, Douglas.)
—— resinosa, Aiton (syn. Pinus rubra, Michaux). Red Pine. E. N. America.
—— rigida, Miller. (syn. Pinus Taeda var. rigida, Aiton). E. N. America.

Pinus Sabiniana, Douglas. Digger Pine. N. California.
—— sinensis, Lambert. China, Kiangsi.
(syn. Pinus Thunbergi, Franchet—not Parlatore.)
(syn. Pinus densiflora, Franchett—not Siebold and Zuccarini.)
(syn Pinus densiflora var. tabuliformis, Masters.)
—— —— var. yunnanensis, Shaw. (syn. Pinus yunnanensis, Franchet). China, W. Szechuan.
(syn. Pinus Wilsoni, Shaw.)
—— —— var. densata, Shaw.
(syn. Pinus densata, Masters.)
(syn. Pinus prominens, Masters.)
—— Strobus, Linnaeus, Weymouth Pine. E. N. America,
(syn. Pinus tenuifolia, Salisbury—not Parlatore.)
(syn. Pinus americana, Miller's Dictionary.)
(syn. Pinus alba canadensis, Provancher.)
—— —— var. nana, Knight.
—— sylvestris, Linnaeus. Scots Pine. Europe.
—— —— var. globosa, Hort.
—— —— var. rigensis, Desfontaines.
—— Taeda, Linnaeus. Loblolly Pine. E. United States.
—— Teocote, Schlechtendal and Chamisso. Mexico.
—— Thunbergi, Parlatore—not Franchet. (syn. Pinus massoniana, Siebold and Zuccarini—not Lambert), Japanese Black Pine. Japan.
—— torreyana, Parry. (syn. Pinus lophosperma, Lindley. California.
—— tuberculata, Gordon—not Don. Knob-cone Pine. California.
(syn. Pinus attenuata, Lemmon.)
(syn. Pinus californica, Hartweg.)
—— virginiana, Miller (syn. Pinus inops, Aiton). Jersey Pine, Scrub Pine. E. N. America.

Conifers dead—probably killed by cold in winters 1916 1917 and 1917-1918. 23° of frost February 3, 1917, 21° on December 19 and 20, 1917, and 21° on January 9, 1918:

Phyllocladus trichomanoides.
Juniperus monosperma.
Dacrydium cupressinum
Podocarpus dacrydioides.
—— ferruginea.
—— latifolia.
Callitris cupressoides.
—— robusta (lived ten years).
Picea obovata.
Abies religiosa.
Pinus Montezumae; type
—— longifolia.
—— oocarpa.
—— Pringlei.
—— rigida var. serotina
Widdringtonia Whytei

Conifers killed or much injured in one part of the grounds, but alive in other parts:—

Juniperus californica.
—— procera.
—— pachyphloea.
Podocarpus acutifolia.
Pinus leiophylla.
—— halepensis.
—— patula.
—— pseudo-Strobus.
—— Teocote
—— torreyana.
Libocedrus microlepis.

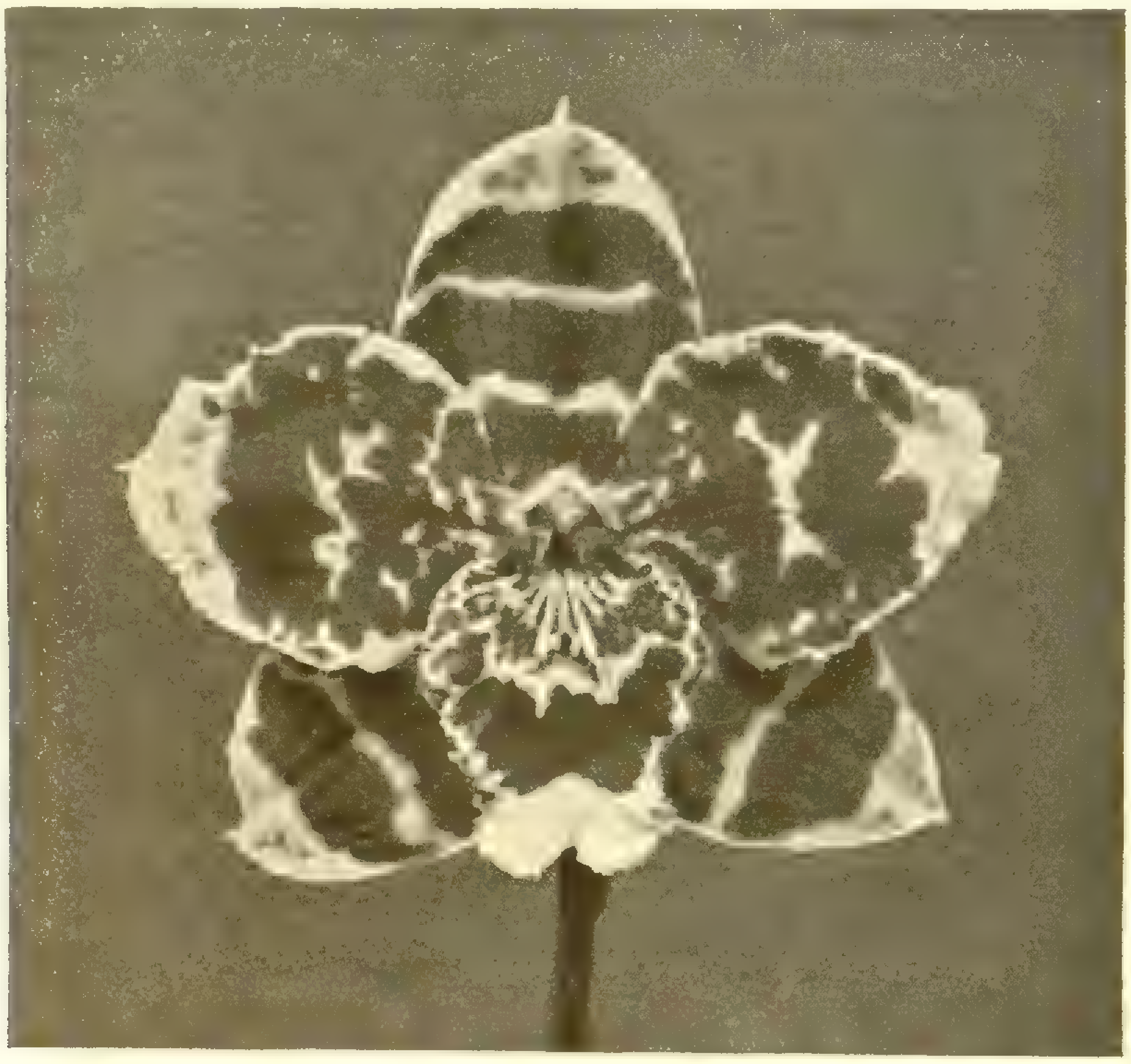


FIG. 122.—ODONTOGLOSSUM THE TIGER: REDDISH-BROWN MARKINGS ON YELLOW GROUND.
(See page 249.)

The following are doing well here, although they have a bad mark against them in Veitch's Manual, being mentioned as either too tender or otherwise unsuitable to ordinary English climate:—

Juniperus bermudiana.
—— Oxycedrus.
—— Cedrus.
Pinus Ayacahuite. This seems quite hardy, but P. Buonapartea is tender and has been killed. These two are often confused—Shaw does not separate them.
Pinus palustris grows slowly.
Pinus Montezumae var. rudis and var. Hartwegi seem hardy, but the type is tender and has been killed.
Pinus resinosa.
Pinus Taeda
Tsuga brunoniana.
Abies webbiana and Abies sachalinensis have not been cut with spring frosts.
Abies Mariesii.
Abies balsamea.
Athrotaxis cupressoides.
—— laxifolia.
—— selaginoides.
Libocedrus tetragona seems hardy, but grows slowly.
Fitzroya patagonica.
Saxegothaea conspicua.

The following were planted before the big frost of 1895, when the thermometer fell to 4°:

Abies concolor lasiocarpa	Griffithii.
—— lowiana.	Libocedrus decurrens.
—— nobilis	Picea excelsa.
—— magnifica.	—— Morinda
—— nordmanniana.	—— nigra.
—— Pinsapo.	—— orientalis.
Araucaria imbricata.	—— spinulosa (morindoides.
Cedrus atlantica.	Pinus Cembra.
—— Deodara.	—— excelsa.
—— Libani.	—— Laricio.
Cryptomeria japonica.	—— —— austriaca.
—— —— elegans.	—— montana.
Cupressus lawsoniana.	—— Pinaster.
—— nookatensis.	—— sylvestris.
—— thyoides.	Pseudo-tsuga Douglasi.
—— torulosa.	Sequoia gigantea.
Juniperus chinensis.	—— sempervirens.
—— excelsa.	Taxodium distichum.
—— occidentalis.	—— —— pendulum.
—— Sabina.	Taxus baccata.
—— —— prostrata.	—— —— adpressa.
—— virginiana.	Thuja dolabrata.
—— wallichiana.	—— plicata (Lobbi).
Pseudo-larix Fortunei.	—— occidentalis.
Larix americana.	—— orientalis.
—— europaea	Tsuga canadensis.
	—— pattoniana.

Where the specific name of a plant is the name of a person and ends in a consonant (except when it ends in "er"), those who wish to conform strictly to the principles of nomenclature adopted by the Vienna Conference may write the termination "ii" instead of a single "i," as

Picea Maximowiczii,

and they may also substitute

Larix decidua for Larix europæa

as the scientific designation of the common European Larch.
Edmund Giles Loder, Leonardslee, Horsham, Sussex.

NOTES FROM IRELAND.

THE spring show of the Royal Horticultural Society of Ireland, fixed for April 10, had, perforce, from unforeseen circumstances, to be abandoned at the last moment. It is proposed to hold a show in conjunction with the Royal Dublin Society's agricultural function at Ballsbridge, Dublin, in June.

Tuesday, April 22, which found Daffodils in the mature flush of their vernal beauty, was ushered in by six degrees of frost at the Royal Botanic Gardens, Glasnevin, and the many thousands of these bulbous flowers were spoiled. The rock garden at Glasnevin is now very beautiful and interesting with early alpines, most notable, perhaps, being such exquisite little alpine Primulas as P. ciliata superba, P. ciliata purpurea, P. marginata, P. pubescens alba, and the miniature, almost microscopic, P. Giraldiana. Tulipa Fosteriana gave a patch of vivid, intense colour. The softer-hued Primula rosea is planted in masses at a distance from the Tulip, so that their colours did not clash.

Primula rosea, in little colonies fringing the pool, an intake from the Tolka, which does so much for the Glasnevin grounds on the lower level, flashing its rose-carmine back from the water in which it is mirrored, brooks no rival. There it reigns for a season, supreme, superb, alone. A little later the spacious, informal bog bed on the south side of the pool will be the cynosure of all interested eyes.

Vegetation in the Dublin district is backward, although Pears and Plums are bedecked with blossom, the outcome of which is, to say the least, doubtful. The veteran Jargonelle Pear tree, planted in 1815 by Sir Phillip Crampton on the front of the house, 14, Merrion Square, is blooming bravely. This famous Pear tree has had a distinguished career, and Dr. John Hamilton, residing at 14, Merrion Square, in 1873 wrote that 1,700 Pears were gathered from it that year, while two years earlier the estimated crop was over 4,000 fruits. The roots of the old tree are buried down in the basement, and the secret of the tree's fertility seems to have lain in an ancient sewer into which the roots had penetrated, and were found by Dr. Hamilton in masses resembling "bundles of birch-broom." *K. Dublin.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Mites on Red Currants.—In certain buds of Red Currants grown at Long Ashton, I have found in some numbers of mites having a great resemblance to those of Eriophyes ribis, the mite that causes Big Bud in Black Currants. There is some reason to think that E. ribis may be much more common on Red Currants than is generally supposed, and I am therefore venturing to appeal to your many readers for material. Big Buds are not caused, as in the case of the Black Currant, but attacked buds generally fail to shoot in the spring. All buds of any size, therefore, that are at the present time dormant, are suspect, and I should be greatly indebted if any of your readers would send me any such apparently dead buds from the Red Currant. The most likely place to find such buds is at the base of the last year's wood growth. *A. H. Lees, Agricultural and Horticultural Research Station, Long Ashton, Bristol.*

Variability in Plants.—I recently sowed some Fuchsia seed, which I had saved last year. The bulk of the seedlings have normally the opposite leaves of dicotyledonous plants. But one was tricotyledonous, and is regularly developing whorls of leaves in threes. Can any reader inform me if this is a common occurrence? I can find nothing to correspond with it in examination of a fair collection of Fuchsias to which I have access. I can only discover that in botanical articles the Fuchsia is described as having "usually opposite leaves." If it is abnormal, how will it affect the question of botanical classification? If the Fuchsia is classed as a dicotyledonous plant, where will a tricotyledonous Fuchsia come in? What is its bearing upon problems of biological variation? Here is a variation that seems to go back behind the rank of species, behind the rank of orders, and to take its rise in the very primitive and initial constitution of plant life. I have a tricotyledonous Fuchsia seedling. Apart from its exhibition value, what is, if any, the biological import of it? *E. Judson Page, A.R.C.Sc., Inter B.Sc. (Lond.), Exeter.*

Gardeners' Hours and Wages (see page 230).—*W. M. G.*, like many other writers on the subject, fails to advise how any rate of hours and wages can be enforced. He also fails to appreciate what is being done in that direction. As he states, with matters as they are, "no one can," thereby excusing himself. But is it right that he should practically condemn the B.G.A. in its effort to make such a thing possible while he offers no solution to the problem? He, like previous writers, agrees that unity is necessary, and at the same time turns his back on the Association, which is doing most in that direction. The secretary realises he cannot enforce the adopted standard of hours and wages with the membership of the Association so few. What he desires is to place the principle of the B.G.A. before gardeners generally. Young men, gardeners in pre-war days, on demobilisation naturally require some guide to conditions with regard to hours and wages prevailing at the moment. With their assistance in joining the Association, things might be enforced. I believe if every gardener who knows of the B.G.A. were to join the same it would then be sufficiently strong for action. *W. M. G.* declares "It is not right to ask gardeners to subscribe to the funds" until enforcement of the adopted standard is possible. He is surely short-sighted or narrow-minded; someone must build before any can find shelter: is he to stand by until the building is over? Were every gardener a member of the B.G.A. the surplus in the profession would still remain. A vacancy might have its hundreds of applicants, but none would plead for the situation at such a wage as 30s. All would ask the same standard wage, and the best man should win. Again, if the head were a B.G.A. man and wished a foreman at 40s. he would not be faced with the fact that he himself had only 38s. He would have the standard wage for a man in his position. *W. M. G.* asks, "If all come out for better pay, will the B.G.A. house and keep them?" yet he declines indirectly to subscribe to the funds to assist in doing so. In closing he admits unison is essential before higher wages can be demanded. He then casts his eyes heavenward and talks of a better future, whereas he should put his hand in his pocket and assist the funds of the Assocation which is making an endeavour in the right direction. He prefers to be a procrastinator rather than a subscriber. —*J. G. J.*

—— Two lads in the garden in which we are employed asked for more wages, yet they could not get more than 21s. per week without bothy accommodation. They secured employment at the railway works for 32s. a week and 10 hours less work. One of the labourers became dissatisfied and has gone to work on a farm for 10s. a week more wages and a house in addition. In our opinion, the cause of discontentment amongst gardeners is that the head will engage anyone whether he possesses a knowledge of gardening or not, and pay an unskilled man the same wage as a skilled man. *Four Journeymen.*

Cool Treatment of Vines. Many gardeners have been unable to give their vines the temperatures usually considered necessary in Grape culture. Here we have a large, span roofed house 100 ft. by 18 ft., in which vines of Muscat of Alexandria, Black Hamburgh, Black Alicante, Gros Colmar, Mrs. Pince and Gros Maroc were planted last December, and since then fire heat has not been employed save for the purpose of testing the boiler and pipes. The vines were bought last winter previous, and the house not being ready, they were cut back and planted out in a splendid yellow, loamy soil. The canes broke strong and grew 10 ft. long. They were very short jointed, and ripened splendidly, being in the open until lifted for transplanting in a new house in a thoroughly made border. Some of the vines were cut back to three, four and five feet. They have broken strong, and are showing plenty of fruit. I shall watch narrowly how they set fruit and how the berries finish. I shall only allow an average of two bunches on each vine. I am writing in the hope that some Grape grower will give me his experience regarding the behaviour of his vines grown in a low temperature. *J. W. Irvin, Bradley Gardens, Grimsby.*

CHELSEA SHOW.
FIG. 123.—PAEONIA WILLMOTTIANA, EXHIBITED BY MISS WILLMOTT.
(See awards by the Floral Committee, p. 258.)

Publications Received.—***Birds Beneficial to Agriculture.*** By F. W. Frohawk M.B.O.U., F.E.S. With 22 plates. London: Printed by order of the Trustees of the British Museum; B. Quaritch, Ltd., 11, Grafton Street, New Bond Street, W.1; and Dulau & Co., Ltd., 34-36, Margaret Street, Cavendish Square, W.1. Price 2s. ***Annual Report of the Director of the Department of Botanical Research.*** Carnegie Institution of Washington. (Extracted from Year Book No. 17, for the year 1918, pp. 55 to 88.) ***The Origin of Xerophytism.*** By D. T. MacDougal and H. A. Spoehr. The Desert Laboratory, Tucson, Arizona. Reprinted from The Plant World, Vol. XXI., No. 10, October, 1918. ***The Tenants' Emergency Charter under the Rent Restriction Acts.*** Oliver and Boyd. London: 33, Paternoster Row, E.C. Edinburgh: Tweeddale Court. Price 7d.

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Marrows.—During the coming week it should, generally, be safe to set Marrows in the open provided the plants have been suitably hardened. Some of the seedlings may be planted on raised beds made of leaves, stable litter, grass mowings, and the turfy edgings from grass paths. These materials will form a suitable rooting medium if well mixed. Place on the top of the heap hillocks of soil consisting of loam, leaf-mould, and burnt earth, and plant the Marrows therein at 3 feet apart. The other plants may be set in trenches prepared as for Celery, but partly filled with decayed manure, covered with 6 inches of soil. Plant at 1 yard apart. Pumpkins require similar treatment.

Tomatos.—Plants raised early in March for outdoor culture should be ready for their final quarters, if they have been exposed during the day during favourable weather, by removing the frame lights entirely. If there is doubt as to the plants being perfectly hardy, defer their planting for a few days. Outdoor Tomatos do best when they are planted against walls or fences facing south. A hard base is best for the roots, and the soil should be well rammed and over it should be placed heaps of chopped loam mixed with a little burnt earth. By adopting this plan the plants will not make rank growth, which militates against the "setting" of the blooms. Plant firmly, at 18 inches apart. Water the roots and place the stakes for support. Add light top-dressings of similar soil as the roots appear on the surface, and use manures when plenty of fruits have formed. Stop the plants early in August, and keep the side shoots pinched out as soon as they develop.

Capsicums.—These plants should now be potted in good fibrous loam, with some spent Mushroom-bed manure and a little mortar rubble added. Place the plants near the roof glass in a warm house or pit, and maintain a moist atmosphere by the free use of the syringe.

Peas.—Make frequent sowings of Peas to maintain a constant supply of pods. Plant in well prepared ground, and, when the sowings are completed, leave the surface 2 inches below the surrounding level, to allow for mulching and watering. Sow, in addition to the maincrop sorts, a late variety, such as Autocrat or Masterpiece.

Broad Beans.—Where late Beans are appreciated, a final sowing of this vegetable may be made in an open position, choosing the smaller, green-seeded varieties.

CHELSEA SHOW.

FIG. 124.—IRIS TURKOMAN, EXHIBITED BY MR. W. R. DYKES.

(See awards by the Floral Committee, p. 258.)

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD Wrotham Park, Barnet, Hertfordshire.

Rock Garden.—Any plants of an aggressive character should be restrained before they encroach upon the choice and weaker growing subjects. The latter should have the soil about their roots pricked up carefully and be given a light top dressing of suitable soil. Remove weeds and any rubbish which may have accumulated, and leave the whole neat and tidy.

Ferns.—Hardy ferns will now be growing apace. Remove old and decayed fronds and apply a top dressing of peaty compost containing plenty of grit. Little further attention will be needed beyond a good supply of water should a long spell of very dry weather set in.

Climbers.—The thinning and training of the growths of all kinds of climbers should not be neglected. The work should be carried out early to prevent the entanglement of young growths.

Herbaceous Borders.—These are now becoming gay, and the plants should be given every attention. Some will need to be staked and tied, and all should be kept free from weeds. Many kinds of plants may now be planted in borders to take the place of early-flowering subjects.

Spring Flowers.—Before these have finished their flowering season, make notes of the most useful subjects for another year's planting, as this will prove very useful and obviate much trouble later.

May Flowering Tulips.—These should always be extensively employed for spring displays. There is a wide choice of excellent varieties that will produce fine colour displays, either separately in beds or grouped in borders.

Begonias.—Begonias which were planted in cold frames should now be growing freely. Do not allow the plants to suffer from lack of moisture at the roots. During brilliant sunshine slightly shade them for a few hours daily and spray them overhead each afternoon with tepid water. Beds should be deeply dug and well enriched with thoroughly rotted manure for the reception of Begonias. Good soil and a few applications of liquid manure during the summer will suit these plants admirably.

Annuals.—These will be growing freely and need timely attention in the matter of thinning the seedlings. Never allow crowding, but thin the plants very carefully, preferably in showery weather, as the flowers will be larger and the season of beauty considerably lengthened as a result. Sowings of several kinds may be made now to provide a display later on.

Mignonette.—Thin out the seedlings of the large-flowering varieties of Mignonette. Should the weather prove dry, scatter a little soil and wood ash along the rows and give the whole a good watering; in fact, similar treatment is needed by all annuals immediately they are thinned, if the weather is hot and dry.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Orchard House.—The fruits of Apples, Pears and Plums in orchard houses will be sufficiently advanced for thinning, and trees which flowered freely and set heavy crops should receive early attention. With the exception of extension growths, pinching is best done at the earliest opportunity, that is, when the young shoots have made five or six leaves. By pinching out the points of the more forward shoots as they develop, the trees will receive no check. Where many young growths are clustered thickly together, disbudding will be necessary. If a hose-pipe is available, give the trees a thorough washing with clear water during the afternoons whenever the weather is favourable. A cool, damp atmosphere at night is congenial to the trees and assists them to swell their fruits. Aphis must be kept in check, either by spraying with an insecticide or by fumigating. Caterpillars should be destroyed by hand-picking. Admit fresh air freely on mild, sunny days.

leaving the top ventilators open a little during the night.

Trees in pots.—If the pots are filled with roots, top dress the latter with rich, turfy loam, adding manure from a spent Mushroom bed and wood ash. An increased amount of water and stimulants will be required as growth progresses. In the case of trees planted out, the borders should be well mulched with half-rotted cow manure.

Melons.—Fruits on the earliest Melon plants should be ripening. The fruits of certain varieties of Melons separate from the stem much more readily than others, and these should be cut on the first signs of separation. Healthy root action should be encouraged up to the time the fruits are ready to cut. Damping the house should be discontinued, as it is desirable to maintain a warm, dry atmosphere to develop the best flavour in Melons. Afford sufficient water to the roots to keep the soil moist.

Later Melons.—Successional Melon plants are making rapid growth and the fruits will be swelling freely. When they attain the size of a cricket-ball some support is necessary, special Melon nets being best for the purpose, although a square piece of board suspended by string is commonly employed. To prevent the fruits decaying, the board should have a hole about one inch in diameter in the middle, or it may be slightly inclined to one side, in order that moisture may not remain on it. Add a small quantity of fresh compost to the ridge when the roots grow through the surface. A mulch of manure from a spent Mushroom bed or well-rotted cow manure will be beneficial to the plants and considerably lessen the amount of water required by the roots. If large fruits are desired, feeding with liquid and artificial manures must be resorted to, but care must be exercised in regard to the quantity applied. Keep the plants free from aphis by vapourising on the first signs of this pest. Damp the bare spaces of the house on frequent occasions when the weather is favourable, closing the house early in the afternoon with plenty of atmospheric moisture. Plants in flower and others approaching that stage need immediate attention in respect of the pollination of the female blooms. Regulate the growth by pinching, in order to obtain the required number of female blooms to open at the same time. More seed should be sown for raising successional plants as circumstances require. From seed sown now the plants should yield ripe fruits in fourteen weeks in normal conditions.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Sophronitis grandiflora.—Some plants of this species have been late in flowering this season, and quite recently a few specimens were in flower here. The blossoms are among the brightest and showiest provided by Orchids, and they light up the houses during the dull days. It is a mistake to leave the blooms on the plants too long, especially on weak specimens, the tiny pseudo-bulbs not being strong enough to stand the strain. If re-potting is necessary, it is best done soon after flowering, as new roots are then formed by the partially developed growths. A compost similar to that previously advised for Cattleyas, used in rather a finer state, will suffice, putting plenty of drainage beneath it and fixing the roots firmly in the material. Sophronitis are best grown in small pans hung close to the roof glass in a cool house where the atmosphere is not liable to fluctuations, where the light is good in winter, and where they may be carefully shaded in summer.

The Cattleya House.—This house is very interesting now, as many species and hybrids of Cattleya are in flower, and others are just beginning to grow. Many plants will have been repotted, and in some instances the roots have already made considerable progress. Established plants now need a fair supply of moisture, but not quite so much as will be necessary a little later, when root and stem growth are more active. Watchfulness is essential, especially for plants growing close to the light; never allow them to remain dry for long, but always let the rooting material be somewhat dry before water is supplied. The weather is usually fickle at this season of the year, and judicious shading is very necessary. Lower the blinds before the foliage gets hot. Strict attention should be paid to ventilation; the earlier the ventilators are opened the longer may shading be delayed, as the current of air playing over the foliage keeps it cool. The amount of damping down must be governed by the weather, the bright sun and drying winds at this time of year soon drying up the moisture from floors and stages. Where the cleaning of Cattleyas was neglected during winter, the effect will now be apparent, for with the increasing temperature insects of all kinds, especially thrip and scale, will become very active and increase at an alarming rate. The plants cannot grow properly unless these pests are destroyed, as they cripple the best and strongest of growths. On the first appearance of thrip the house should be fumigated by means of one of the vaporising compounds; dipping the plants in some safe insecticide is also an excellent method of eradicating this pest. For scale, sponge the plants, afterwards fumigating or dipping them. For a few days following either operation the plants need more shading than usual, or the tender young growths may be damaged.

Potting.—The growing season of most of the spring-flowering Cattleyas, Laelio-Cattleyas and Brasso-Cattleyas commences soon after the blooms are over, and if any of the plants require repotting they should receive attention as they go out of bloom. While no harm comes to these epiphytes from allowing a few roots to ramble over the outside of the pots, it must not be forgotten that the compost is the proper place for them, and if the "leads" grow out over the rims of the receptacles the plants are weakened. When potting, the best class of material only should be used, and the roots disturbed as little as possible. Vigorous seedlings are now more or less active, and the majority of them make roots freely and soon become root bound. The repotting of any that need it should be carried out now. Seedlings approaching flowering size should be placed where they can receive the maximum amount of light, but the younger plants make better progress if they are staged by themselves where they can be afforded a little extra shade, and a moister atmosphere than the rest.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Nut Weevil.—This insect is often allowed to increase through neglect, but if the trees are kept clean and, where possible, syringed with an insecticide, it may be kept in check. The female insect generally lays her eggs in the young nuts, in most localities in May, and crawls along the shoots to do this. A good dressing of soot and lime applied to the soil before the female climbs the tree acts as a deterrent. After the eggs are laid they hatch out in about a fortnight and the grubs feed on the young nut, but they do not destroy its vitality until they are fully grown. The grub eats its way out of the nut at the end of the season. The most effective cure is to shake the trees well in August, when the infected nuts will drop. They should be gathered and burnt. If this precaution is carried out each season the trees will soon be rid of the insects.

Mulching Cherries.—Cherry trees showing signs of carrying good crops should have another thin mulch of manure over the roots and the soil afterwards well watered. It is best to apply thin mulchings and add fresh material if required, according to the crop. A tree carrying a light crop will not need heavy surface dressings of dung, provided it is in good health, for much feeding would cause it to make gross growth.

Pests of the Cherry.—The larva of the small Ermine Moth will now begin to show itself, and also various other Caterpillars. Prevention is better than cure, and I find that spraying with Quassia extract before the trees come into bloom is a good preventive of the pest and also destroys green and black Aphides. The latter is very destructive to Cherries if allowed to spread. Paris green used at the rate of 1 oz. to 15 gallons of water will kill the insects, but should not be used when the trees are in bloom. Where the pests are troublesome the trees should be sprayed before the leaf buds develop and again after the trees have blossomed, but should not be used after the fruits have commenced to swell.

Removing Surplus Shoots on the Morello Cherry.—This work should be done as soon as the shoots can be pinched by the finger and thumb. Retain the growths that are best situated for training, and rub off those on the side next the wall, also those growing at right angles from the wall. Leave only sufficient growths to fill the space without crowding. It is sometimes necessary, in order to fill vacant spaces, to stop some of the shoots, and this should be done before they have made much growth. Stop them at two joints behind the point required to be filled. In pinching and stopping some growth must, in all cases, be left beyond the fruit, or on a level with it, otherwise the fruit will not swell.

Raspberries.—Plantations of Raspberries should receive attention. Thin the suckers, removing all the weaker shoots, and leaving only sufficient new canes to fill the space allotted without crowding. Generally about six shoots to each plant are sufficient. After thinning the suckers, if the weather is hot and dry, use the grass mowings as a top-dressing to retain the moisture in the soil.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Richardia africana.—Plants of Arums now past their flowering stage and hardened off in a cold frame should be prepared for re-potting or planting out. In the latter case make a trench such as for Celery, dig in some cow manure if the soil is poor, and allow plenty of room and give the roots abundance of water as well as liquid manure. Plants to be potted may either be divided to increase the stock or shifted into pots of a larger size, and potted in a mixture of good loam, leaf-mould, dried cow manure, some wood ash and bone meal. Plants in pots require an abundance of water at the roots in summer.

Lilium.—Lilies in all conditions do best under cool treatment. The more forward plants that are showing their flower buds should be placed in a cool house, and given a support to each shoot. Provided sufficient space has been left in the pot, a top dressing of rich compost may be given; in addition the roots require frequent applications of liquid manure. Guard against aphis infesting the point of the shoots. Late summer and autumn flowering kinds, such as L. auratum, L. speciosum album, L. s. rubrum, and L. candidum, will do best for the present in their pots out-of-doors in a partially shaded situation on a base of coal ashes. As the plants develop and the flower buds appear, give the roots manure water on frequent occasions.

Cyclamen.—Plants of Cyclamen raised from seed sown last autumn and now growing in 3-inch pots may be shifted into 4½ or 5-inch pots. Use a rich compost consisting of loam, leaf-mould, sand and sifted cow manure. In potting, keep the corm at the surface of the soil, and do not make the soil very firm. The plants should be grown in a warm frame close to the glass, on an ash base that retains moisture, thus keeping the roots moist. Syringe the foliage daily until fresh roots are formed. Keep the frame close and shaded from bright sunshine. As the season advances syringe at a later hour, closing the frame for an hour and ventilating fully again in the evenings. Cyclamens are most successfully grown in a low-roofed house by themselves, where the necessary conditions of moisture can be provided.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 56.2°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, May 21, 10 a.m.: Bar., 30.1 temp., 49°. Weather—Bright sunshine.

Hampton Court Gardens. Agitation for the restoration of the flower beds at Hampton Court is again in evidence and with increased force. Our views with regard to certain alterations which the Office of Works were supposed to have decided to make were given in the issue for March 1, p. 98, and we see no reason for modifying them. There must be flower beds at Hampton Court; without them the gardens would be deprived of one of their chief attractions for the public. But we know on the best authority that it is not the intention of the Office of Works to do away with them. This is borne out by a plan of the proposed alterations which was published in *The Times* last Tuesday. According to this there were, before the war, 53 flower beds in a double row adjoining the Broad Walk and 61 in the semi-circle in front of the Palace. Owing to the war, many of these beds were turfed over, and now that there is no need for the economy which led to this reduction the intention is to re-arrange the scheme of beds on more appropriate lines. In our opinion, this course is a right one, provided that there is to be no serious reduction in the floral display. The old beds were not all well placed. For example, those under the Yew trees were not only wrong with respect to landscape art, they were also unfavourably situated with regard to the health of the bedding plants with which they were furnished. The plan published in *The Times* is convincing on this point. There were too many beds, and they produced a crowded effect which, although not objectionable perhaps to the majority of visitors, was offensive to experts. Public criticisms are not always fair, nor are they trustworthy guides to proper action. We are satisfied that so far as the flower beds are concerned the proposed alterations are such as would meet with expert approval. The proposal to widen the borders along the Palace walls at the expense of the noble Broad Walk requires careful consideration. To reduce the width of the walk by 5 ft. might not be an improvement, although it would no doubt add to the value of the border, which is narrow for its length. This border might be made effective without filling it with plants too tender to be grown in a border outside, really greenhouse or even stove plants, showy enough no doubt, but certainly not suitable for the purpose. There is available a wealth of hardy herbaceous plants, both perennial and annual, and these, if properly selected and arranged, are capable of producing a charming effect for the greater part of the year. Such plants as these should be used to furnish this border. *The Times* is incorrectly informed when it states that herbaceous border plants are effective only in the autumn; on this point every experienced gardener knows better. The proposal to petition the King to forbid improvements at Hampton Court is ridiculous. Gardening is a progressive art, otherwise these flower beds would never have been formed at Hampton Court, as we believe they have all been added within the last 50 years or so. To be logical, those who object to alterations there should insist on the gardens being restored to their form in the days of Charles II., or even to that which gave enjoyment to Henry VIII. and his Court.

Appointment.—Mr. I. Dowding, Assistant Horticultural Lecturer to the Staffordshire Education Committee, has been appointed Chief Organiser and Instructor in Horticulture to the Cumberland and Westmoreland Joint Agricultural Committee. Previous to his appointment under the Staffordshire Education Committee Mr. Dowding was gardener to the Rt. Hon. Lord Stafford, at Swynnerton Park.

Gardeners' Royal Benevolent Institution.—In response to our appeal on behalf of the funds of the Royal Gardeners' Benevolent Institution (see p. 250), we gratefully acknowledge the receipt of four guineas from the staff of Messrs. Samuel Finney and Co., Ltd., 18 and 20, Grainger Street, Newcastle-on-Tyne.

A Public Protest.—A meeting of local authorities, held at Teddington on the 16th inst., decided to send to the Government an emphatic protest against "any further spoliation of the flower beds at Hampton Court Gardens," and a demand that the beds already turfed should be restored. Sir A. Mond is to be asked to receive a deputation, and if the interview is unsatisfactory, a request is to be made to the King to receive a public petition.

Fruit Prospects in Devon.—A correspondent informs us that fruit growers in the Topsham and Exmouth districts of Devonshire are looking forward to a good fruit year. Of the earlier bush fruits, Gooseberries give evidence of a good average crop, though there are some indications of withering on a slight scale in some parts of the area. Currant bushes of all kinds are looking fairly healthy, and so far as can be judged from the blossom there is every sign of a good crop. Strawberries and Raspberries give promise of normal yields. Plums, Pears and Apples, the outstanding failures of last season, have now every appearance of being in plentiful supply this year, whilst a good harvest of Plums is almost a certainty. Growers and gardeners, whilst admitting the advantage of a late season, as is the case this year, attribute the good prospects to the universal adoption throughout the area of a thorough system of spraying in the winter and early spring.

Restoring the Gardens of Our Allies.—In response to a very urgent appeal from the British Committee of the French Red Cross a special consignment of vegetable and garden seeds has been sent by the War Relief Fund of the Royal Horticultural Society, whilst thousands of fruit trees are to be sent in the autumn. Many thousand spades and garden tools and large quantities of seeds have also been recently sent to Roumania.

Child's Death Attributed to Eating Primroses.—The three-year-old boy of a farmer in Half Morton, Dumfriesshire, has died from what the local doctor considers gastritis caused by an irritant poison. The boy had been eating Primrose flowers, and it is thought that those were the cause of the illness which ended in his death. Botanical and other works dealing with the medicinal and other virtues of the Primrose are silent on the question of the flowers being poisonous, and, of course, they were and are still employed for making wine, and have also been used in syrup.

Pentstemon Palmeri.—This species, native of the western and southern slopes of the San Francisco Mountains of Arizona, is described in *Plant Immigrants*, No. 152, Dec. 1918, as a desirable acqusition. P. Palmeri bears spikes 4 to 6 ft. high and as grown in California, may throw up flower spikes of 7 feet and bearing for a length of 2 or 3 feet large, pink flowers.

Capsid Bugs in Apple Trees.—Though the capsid bug has only in recent years done any considerable damage to Apple orchards in this country, and has not yet appeared in every fruit-growing district, it is a serious pest; and all growers should be on the watch for it in order to take timely measures to control it. There are several species of these bugs; but the only one that concerns the fruit grower is the Green Apple capsid (Plesiocoris rugicollis). It is almost always to be found on Willows, and probably has only transferred its attention lately to the Apple. The first signs of attack are given by the appearance, early in the season, of small brown spots on the young leaves; each spot marking a puncture made by the bug in order to reach the juices on which it feeds. As the leaves grow the parts round each puncture die and fall out. Later the tender shoots are attacked, and also the fruit. Many of the young Apples drop before they reach maturity, while a large proportion of what are left are deformed and rendered unfit for market. The best time to spray for capsid bugs is during the week or ten days immediately preceding the opening of the blossom; and it may be necessary to spray again after the petals have fallen. The best wash to use is a nicotine soap spray as recommended for Apple Sucker and Aphis:—Nicotine (95 per cent. purity), $\frac{3}{4}$ oz.; soft soap, $\frac{1}{2}$ lb.; water, 10 gallons.

The Royal Academy.—The pictures at this year's Royal Academy include many studies of the garden, beautifully executed, and the favourite months chosen for the sketches are May and early June. Lilies, Delphiniums, and Rambler Roses record the sunny hours of summer in England. Among the water colours is the study of a garden painted by a masterly hand, and the view taken from a great height. The name of the picture is "The Garden Path," and the artist, Sir Edward J. Poynter, P.P.R.A. A delightful piece of work is contributed by George Marks, the subject, "A Garden in Surrey." There are flowers in abundance, an arch of Lady Gay Rambler Roses, Nasturtiums, Antirrhinums, and Delphiniums, all combine to make a mosaic of colour, with an old English homestead as background. "A Garden," by Frances Drummond, has cool repose, with Fir trees and herbaceous border of Larkspurs. Cyril Ward produces a lovely effect with a tangle of Sweet Williams, Canterbury Bells and Auriculas, and Lilian Stannard is quite in her usual form with the exquisite garden path lined with Lilies, big Poppies, and Roses, with the rambling old house as centre-piece. The picture No. 706 is full of detail and brilliant colouring, with golden Lilies and Campanulas, and another sketch shows a charming gateway by G. Sheridan Knowles, with cut Yews, Laburnums, and a peacock. The still-life groups are very attractive. A blue Wedgwood jug standing on an antique leather book and filled with Wallflowers is cleverly put together. "Yellow

Roses," by Winifred Walker, an habitué of the Royal Horticultural Society's Meeting, whose work is well known to horticulturists, is a painting fresh and clear in colouring and is a study of two blooms in a stem glass, and bud on an oak table. No. 767 is a large painting of white Primulas in a metal bowl very cool and restful. Bertha Fowle has two drawings of flowers of paler tints, whilst Ann Maitland contributes a glowing subject of bright Tulips in a flowered vase, other features being a jug with rich Polyanthus, an elusive sketch of Paeonies, and a detailed drawing of Larkspurs. There are some gorgeous still-life groups in the large rooms. The picture which claims notice most is by H. Davis Richter, and is a bold study, in oils, of white Hydrangeas, Paeonies and Lilac, in a glittering brass bowl. Just above it is another fine work, "Delphiniums," by J. Ernest Foster—these flowers are portrayed in an emerald-green pottery vase, on a shimmering greeny-blue cloth. "Ranunculus," by Melton Fisher, is full of colour: and "Chrysanthemums," by Ida Mostyn, is a fine study in a silver bowl. H. Davis Richter contributes a bold sketch of wild flowers from Exmoor, and No. 337 is a charming group of Anemones. We see more wild flowers in a bowl of Buttercups, by Elizabeth Hancock; and a simple study of Autumn flowers in "A Country Bouquet." Ethel Wright's picture of "Flowers from my Cottage Garden" is a vivid mass of colour, and the smaller still-life studies show cottage flowers, Stocks, Anemones and Grapes, Paeonies by an open window, Nerines, and a fine study of a bunch of black Alicante Grapes. The garden scenes are again well represented, Alfred Parsons, R.A., showing one of his best, with Lilies in the garden of an old house, also another garden of Delphiniums and golden Lilies. Delphiniums are the favourite theme in the floral section of the pictures this year, closely run by the Wallflower.

State Aid for Agricultural and Horticultural Research.—The Government proposes (if Parliament agrees) to expend during the next five years about £2,000,000 on agricultural research and agricultural education. The scheme of the Board of Agriculture for the expenditure of the liberal funds now to be placed at its disposal for agricultural education and research will offer substantial scholarships to men who have distinguished themselves in the natural sciences at the Universities. It is believed that a number of these young men will gladly devote themselves to a special line of study if they are assured of a modest income—say, £200 per annum over a period of years, and if after these years they are given opportunities of earning reasonable salaries in research work. From the more successful of these students a certain number will be selected for employment in Universties and other institutions. The kind of research that it is proposed to encourage is already represented in this country at Cambridge, Rothamsted, Bristol, and Reading; but at present there are probably not more than forty men in England and Wales engaged on pure research in agricultural science. It is hoped that during the next decade or so the number may be raised to about 150, and the public appreciation of their value largely extended. Another feature of the Board's scheme will be the encouragement of higher agricultural education in colleges by means of grants and in other ways. A third section of the plans of the Board deals more directly with the immediate interests of the farmer, the smallholder, and the ambitious labouring man. Most of the Education Committees of the counties handle agricultural and horticultural education. As a rule they maintain a travelling staff, which advises farmers, organises classes, and so on. Adequate funds will now be available to treat these committees generously. For every £1 the local authorities expend on agricultural education they will now receive at least £2 from the State. It is believed that with this inducement the majority of the counties will set up farm schools or farm institutes where men may go for winter courses and women for summer courses, and where school teachers may be instructed in the agricultural and horticultural subjects to be taught in the new continuation schools.

CROPS AND STOCK ON THE HOME FARM.

SEED SOWING.

When sowing corn at any season of the year the surface of some land, owing to continuous rain or other causes, is so hardened that harrows, or even heavy drags, will not break the crust. Soil in such condition does not make a good seed bed and something is needed to break the surface preparatory for the drill or broadcast sowing of the seed.

With a Massey-Harris cultivator much time is saved, as with a seed box attached any quantity of seed of Wheat, Barley, Oats, Peas, Vetches or Sainfoin can be sown per acre. The machine is so arranged that the seed drops immediately in front of the coulters or tines, which bury the seed at an even depth and crack the surface soil at the same time. To obtain the desired finish, all that is required is to draw sharp tined harrows over the surface twice; in exceptional circumstances of hard clods or weeds an extra harrowing or two is necessary.

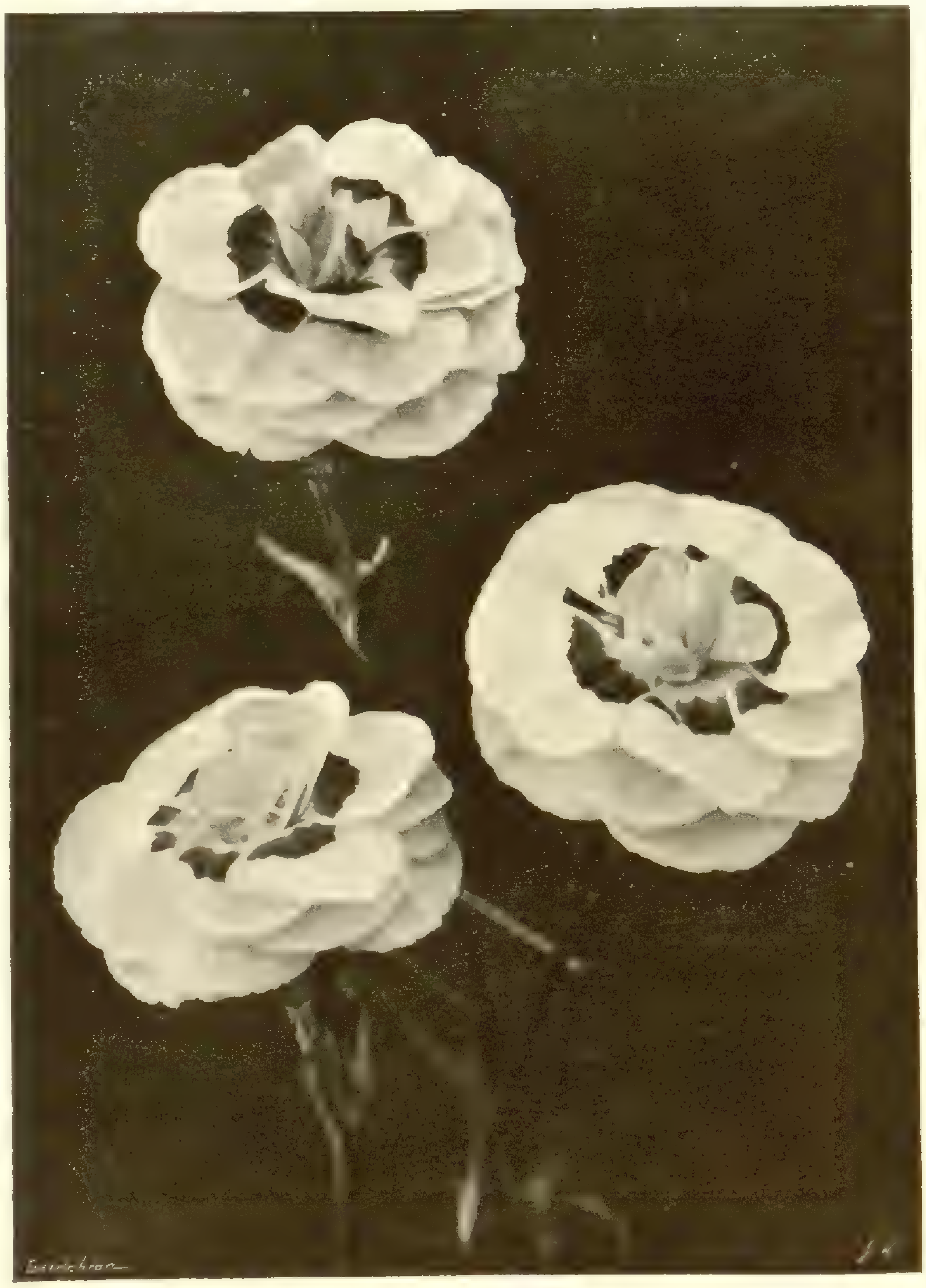
A full sized 7-feet Massey-Harris cultivator requires three horses to get over a good scope of land, say, 10 acres per day, especially where the soil is heavy, hard or weedy on the surface.

Where cereals are not drilled I regard this as the most satisfactory method of sowing them.

With an efficient, well-managed drill the seed is sown evenly and at the right depth, which ensures a more regular germination and subsequent even growth, which means a more even stage of ripening.

In the place of a drill or a Massey-Harris cultivator many persons sow their corn by hand from a seedlip. In a small way this method may answer, but where twenty acres per day is to be sown by one team I prefer a Broadcaster covering a width of 16 feet, drawn by two horses, which distributes the seed evenly over 20 acres per day. To "break in" the seed drags or harrows as the case may be are employed, giving sufficient "work" to the surface as is necessary.

For the sowing of small seeds such as Cabbage in a bed for planting; Onions, Carrots, or even Mangold in a small way, I use a small, one-coulter drill, which one man pushes in front of him sowing the seed evenly, which afterwards should be covered with light hoeing. *E. Molyneux.*



CHELSEA SHOW.
FIG. 125.—PINK MODEL, EXHIBITED BY MR. C. H. HERBERT.
(See awards by the Floral Committee, p. 258.)

ROYAL HORTICULTURAL SOCIETY.

EXHIBITION AT CHELSEA,

May 20, 21 and 22.

THE Royal Horticultural Society is to be congratulated on the great success which attended its exhibition in the beautiful grounds attached to the Royal Hospital, Chelsea, during the Tuesday, Wednesday and Thursday of the present week. The weather was gloriously fine, but the brilliant sunshine was tempered by a cool wind, so that the atmosphere inside the tents was never oppressive, whilst the arrangement of the tents made for comfort in inspecting the exhibits. The show was well attended, and on the first day Queen Alexandra, accompanied by the ex-Empress Marie of Russia and Princess Victoria, paid an early visit, whilst later in the same day the Duke of Connaught also gave the exhibition his patronage. Many Belgian, French and Dutch horticulturists were present, and they expressed surprise at the extent and importance of the show.

In these times of transport and labour difficulties it was only to be expected that the show would not be equal in extent to those of pre-war times. Rock gardens, water gardens, pergolas and similar garden features arranged in the open have, in the past, constituted some of the chief attractions of these great Metropolitan flower shows, but it is not an easy task to plant improvised rock and water gardens in a short time in places where the natural amenities must be respected. It was therefore not surprising that the outdoor exhibits of this character were of much less importance than usual, although several well-designed rock gardens were forthcoming, as may be seen from the one illustrated in Fig. 129.

With regard to indoor flowering plants, including Orchids, which are nowhere shown finer than at these spring exhibitions of the Royal Horticultural Society, the exhibits were not so numerous as usual, but the reduction of numbers only had the effect of raising the standard of quality. Messrs. Armstrong and Brown's collection of Orchids was the most artistically arranged display in the show, and was awarded the Coronation Cup, offered for the most meritorious exhibit. We missed the large exhibits of stove plants and Ferns, which have been great features in former years, but there were plenty of bright flowers, including Roses, Rhododendrons, Tulips, Sweet Peas, Irises, and Carnations, whilst hardy border flowers and alpines were prominent in almost all the tents. One of the best floral effects was designed by Messrs. James Carter and Co., who furnished one end of the largest tent with superbly flowered Cinerarias, Primulas, Streptocarpuses, Calceolarias and similar greenhouse flowers. The exhibit of scented-leaved Pelargoniums from the Hon. Vicary Gibb's gardens at Aldenham included all the choicest species in cultivation, the plants being superb specimens. The exhibits of vegetables were very few, but Messrs. Sutton and Sons' collection (see Fig 130) was superb and a subject of general comment. Nor were fruits so freely represented as were to be expected, but the collection shown by the Hon. John Ward was worthy of the high award it gained.

As stated in our last issue, the Society had determined to make the Show as educative as possible, and a large space was devoted to exhibits of an educational and scientific nature, which are referred to in our report. On the opening day Dr. Keeble, F.R.S., gave an address in the conference tent on "Horticultural Education and Research," and on the Thursday Dr. Rendle, F.R.S., gave a popular address on the "Educational Aspect of some of the Plants shown." Both these meetings were well attended. In addition, there were meetings of the Horticultural Trades' Association, the National Sweet Pea Society, and the National Tulip Society in the show grounds, so that altogether it was a busy time for horticulturists.

Orchid Committee.

Present: Sir Harry J. Veitch (in the chair), James O'Brien (hon. Secretary), H. G. Alexander, Pantia Ralli, F. Sander, Arthur Dye, H. J. Chapman, W. H. White, A. A. McBean, W. H. Hatcher, S. W. Flory, Walter Cobb, E. R. Ashton, W. Bolton, J. Charlesworth, Gurney Wilson, C. Cookson, R. G. Thwaites, J. Cypher, R. A. Rolfe, and Stuart Low.

Fifty novelties were entered to go before the Committee, and over twenty awards were given.

AWARDS.

First-Class Certificate.

Brasso-Cattleya speciosa Gatton Park variety (C. Schröderae albens × B.-C. Digbyano-Mendelii Fortuna), from Sir JEREMIAH COLMAN, Bart., Gatton Park (gr. Mr. J. Collier). One of the finest of white Brasso-Cattleya of large size and perfect form. A very charming flower in every respect.

Laelio-Cattleya Excelsior Ashtead Park variety (C. Mendelii × L.-C. Canhamiana alba), from PANTIA RALLI, Esq. (Orchid grower, Mr. Farnes). A noble flower of perfect shape, and broad in all its parts. Sepals and petals white, lip rich rosy-crimson.

Sophro-Laelio-Cattleya Anzac, var. General Birdwood (L.-C. Dominiana × L.-C. Marathon), from Messrs. CHARLESWORTH AND Co. This and the second form of S.-L.-C. Anzac next described are distinct advances in their sections, the flowers being large and brilliantly coloured. Sepals and petals rose-red, with a scarlet glow. Lip rich crimson.

Sophro-Laelio-Cattleya Anzac, var. Lutetia, from Messrs. CHARLESWORTH AND Co. A charming variety, rather smaller and lighter in colour than the preceding, but if anything better in shape.

AWARD OF MERIT.

Odontoglossum crispum xanthotes var. Princess Mary. A noble snow-white flower, with some lemon-yellow spots on the petals.

Odontioda Dulcies var. militaris. A brilliant scarlet flower, lighter in tint than Oda. Chantecleer.

Odontioda Automa var. May (Oda. Bradshawiae × Odm. Harryanum). A fine claret flower, with longitudinal whitish markings on the petals and some irregular white lines on the sepals.

Odontoglossum Doreen (eximium × Empress of India). Large, and of fine form, rich claret with lighter tips to the segments.

Odontoglossum Aphrodite var. Nora (eximium × President Poincare). Richly blotched with violet-purple, with white margins and front to the lip.

The above from Messrs CHARLESWORTH AND Co.

Odontoglossum Brownii (Mars × crispum), from Messrs. ARMSTRONG AND BROWN, Orchidhurst, Tunbridge Wells. A grand flower of a deep, claret red colour, with clearly-defined white margin and front to the lip.

Odontoglossum King Emperor (Colossus × crispum Leonard Perfect), from Messrs. ARMSTRONG AND BROWN. The plant bore two noble flowers, white with the inner two-thirds rich claret-red.

Brasso-Cattleya Aida Orchidhurst variety (C. Mendelii × B.-C. Digbyano-Mendelii), from Messrs. ARMSTRONG AND BROWN. A charming white flower, large, and of perfect form, white with chrome yellow disc to the lip.

Odontoglossum crispum Linda, from Messrs. J. and A. MCBEAN. A charming variety with finely-formed white flowers, having a few dark spots on the segments.

Odontoglossum eximium Leonora, from Messrs. J. and A. MCBEAN. A richly coloured flower of fine shape, the inner two-thirds of the segments being ruby-red.

Odontioda Thela, from Messrs. J. and A. MCBEAN.

Odontioda Joan var. illustris (Oda. Charlesworthii × Odm. ardentissimum), from Messrs. J. and A. MCBEAN. A very fine hybrid of Odontoglossum size, dark chocolate purple with rose-red lip.

Odontioda Gladys var. Invicta, from G. W. BIRD, Esq., Manor House, West Wickham (gr. Mr. Redden). One of the finest of Mr. Bird's Odontiodas, the flower being large, bright rose heavily blotched with maroon-purple.

Odontioda The Dell Duchess (parentage unrecorded), from Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill). An improvement on Oda. Coronation, the large flowers being heavily blotched with bright red with intervening white lines.

PRELIMINARY COMMENDATION.

To *Odontioda Schröderi Goliath*, with large buff flower, from Messrs. CHARLESWORTH AND Co.

CULTURAL COMMENDATION.

To Mr. FARNES, Orchid grower to Pantia Ralli, Esq., for a grand specimen of Cattleya Mossiae Arnoldiana.

GROUPS.

The Orchids well filled the whole of the side staging surrounding the large tent No. 4.

Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey (gr., Mr. J. Collier), represented the amateur Orchidists with a magnificent group, many of the best of the hybrids having been raised at Gatton Park.

The group, which was very effectively arranged, contained representatives of over 100 distinct hybrids and the finest selection of species seen at any show during the last five years. Odontoglossum crispum included ten superb and distinct varieties, Elsie, Magnum Bonum, Mary Colman, Lulu, Colmaniae, Solum, Lady Colman, Ronald, G. F. Moore, Queen Empress and F. M. Ogilvie being the best forms of that beautiful and variable species. Two forms of O. Gatton Emperor were included, the largest, the variety Augustus, having deep claret red flowers with white margin and violet lip. Extremes of O. Pescatorei were the white variety virginalis, and the spotted form Duchess of Westminster. Six distinct crosses of Brasso Cattleya had for their best the white Queen Alexandra and two handsome blush-white dissimilar forms of B. C. speciosa. The Cattleyas were some of the best coloured varieties of C. Mendelii, a selection of white Cattleyas, albinos of many species, being also present. A large and varied selection of Laelio-Cattleyas gave rich tints of rose and crimson, over which the arching sprays of Cymbidiums and scarlet Odontiodas displayed themselves effectively. The compact batch of handsome forms of Lycaste Skinneri, included delicatissima alba Purity, hellemense, and others; while the quaint Masdevallias and elegant Cirrhopetalums gave interest to one of the best groups of the year.

Messrs. ARMSTRONG & BROWN, Orchidhurst, Tunbridge Wells, at the entrance of the tent, staged a large and most tastefully-arranged group replete with rare plants and novelties. The elevated convex centre was of brilliantly coloured Odontiodas fronted by clear white

Odontoglossums, the side elevations being of richly coloured hybrid Odontoglossums with white and rose Miltonias, brilliantly coloured Laelio-Cattleyas and showy Cattleyas occupying the body of the group. Specially fine were Odontoglossum crispum Snowdrift, a very fine white; O. c. Melba, O. c. His Majesty and O. c. Invicta, richly blotched forms; O. Armstrongii var. Peerless, O. Brownii (Mars × crispum) chocolate red; O. St. Mungo and O. King Emperor, large and finely marked. Among the Cattleyas, C. Mendelii Sir Harry J. Veitch is a grand addition to the pure white forms, and Laelio-Cattleya Canhamiana splendens represents one of the best forms of that showy old favourite. A very fine form of Odontioda Henryi Orchidhurst variety (O. harvengteuse × C. Noezliana) and Brasso-Cattleya Aida Orchidhurst variety, were also specially good.

Messrs. Charlesworth and Co., Hayward's Heath, staged a very effective group, in which their magnificent strains of hybrid Odontoglossums and Odontiodas were displayed in profusion. The salient feature in the group was the masses of the fine forms of Miltonia vexillaria and hybrids of it raised by the firm. The largest, best and richest in colour still appears to be Miltonia Charlesworthii, the best forms of which have never been excelled. M. vexillaria Lyoth, fine forms of M. Bleuana and other hybrid Miltonias effectively arranged with white Odontoglossums and scarlet Odontiodas were a fine feature in the group. Among species, the old-time favourites, Vanda teres and V. suavis appeared with Coelogyne Dayana, whose long drooping sprays of brownish flowers always attract attention. Five new handsome Odontiodas were included, with Sophro-Laelio-Cattleya Anzac var. Lutitia, and some new Odontoglossums were also shown.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, commenced on the other side with a very effective display, in which most of the leading kinds in flower now were represented. In a selection of Miltonias there was a very fine form of M. vexillaria Lyoth; Sophro-Laelio-Cattleya Pandora had rich, bright red flowers with dark crimson lip; Laelio-Cattleya Helius, with pale-yellow flowers and rose-tinted lip; and L.-C. callistoglossa magnifica had large and richly-coloured flowers, the lip being very broad and darkly coloured, were all very fine.

Messrs. Mansell and Hatcher, Rawdon, Yorkshire, staged a large and well arranged group, the centre consisting of handsome Odontoglossums and Odontiodas in rich colours, relieved by the white Odontoglossums beside them; Odontioda Brewii, Rawdon var., was the finest dark one. Miltonias were also finely shown in the group with excellent Cattleyas, Laelio-Cattleyas, and Brasso-Cattleyas. Among species, the scarlet Renanthera Imschootiana and the green and black Coelogyne pandurata were noted.

Messrs. J. and A. McBean, Cooksbridge, continued with an excellent group, in which the Odontoglossums and Odontiodas, for which the firm are famous, were well displayed. The central plant at the back was Cymbidium Lowianum arching over scarlet Odontiodas and white Odontoglossums. On each side were raised masses of finely-coloured Odontoglossums with brilliant scarlet Masdevallias, the yellow and brown Oncidium McBeanianum and showy Miltonias. Specially fine was the new Odontoglossum eximium Leonora, of fine shape and colour, and O. crispum Linda, a model white with a few dark spots on the petals. This and the group of Messrs. Armstong & Brown were the best arranged Orchid exhibits.

Messrs. Flory & Black, Orchid Nursery, Slough, had an extensive and well arranged group of fine specimens, among the Laelio-Cattleyas being a good selection of L.-C. Fascinator and other showy hybrids. Among the novelties the best were Laelio-Cattleya H. T. Pitt (L.-C. Bella × C. Enid), a grand flower adhering closely to the Cattleya in form and with broad rose-coloured sepals and petals and a rich crimson front to the lip. Cattleya The Bride (Warscewiczii alba Firmin Lambeau × Dusseldorfii Undine), a fine pure white, the spike bearing three flowers; Cattleya Empress Frederick var. Vesuvius, of brilliant colour, and Odontoglossum Miriam (parentage unrecorded), one of the largest and best in form, the broad segments bearing large rosy-mauve blotches with thin intersecting white lines, the front of the lip being white, were included.

Messrs. J. Cypher & Sons, Cheltenham, staged a fine group in which were an unusually large number of fine specimen plants, one of the many good forms of Laelio-Cattleya Fascinator having six spikes bearing together twenty-two flowers. Several of the smaller specimens had four to five flowers on a spike, and L.-C. Bedouin and others were equally well bloomed, as also were forms of Laelia purpurata and showy Cattleyas. The pale yellow Dendrobium Dalhousianum luteum and other Dendrobiums, barbigerum, whose motile labellum always attracts attention.

Messrs. Sanders, St. Albans, showed a group of the favourite Cymbidium insigne Sanderi, introduced by Messrs. Sanders, who received a F.C.C. for it, February 14, 1905, as Cymbidium Sanderi, and later three varieties each obtained F.C.C.'s. This fine form was instrumental in producing many of the handsome hybrid Cymbidiums of to-day, while as an easily-grown, free-flowering Orchid of elegant habit few can excel the type parent. In 1906 a form collected by a Continental explorer was introduced but proved very inferior to the original, and hence the best type has often the varietal name Sanderi attached.

Pantia Ralli, Esq., Ashtead Park, Surrey (Orchid grower, Mr. Farnes), staged a pretty group of splendidly-grown Cattleyas, Odontoglossums and Odontiodas, the front centre being a brilliant scarlet group of Sophronitis grandiflora, with the fine yellow Odontoglossum aureola and O. crispum aureum Holdeni, the richly-coloured O. c. Black Knight, the quaintly-marked O. c. Lady Jane and the allied O. c. Oakfield Sunrise. The specimen Cattleyas and Laelio-Cattleya were very fine.

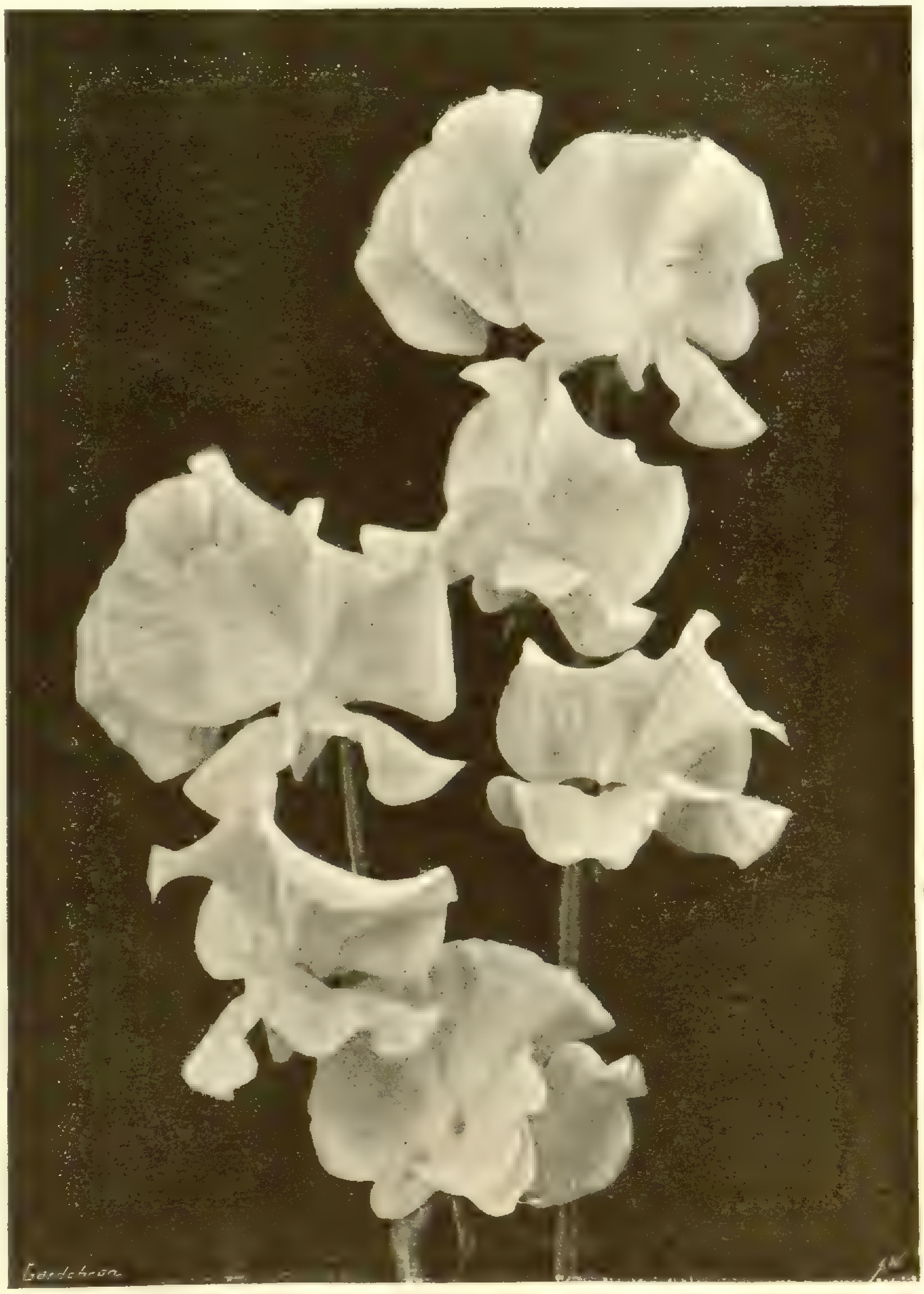


Fig. 126.—Sweet pea Hawlmark Pink, exhibited by Messrs. Alex. Dickson and Sons (See p. 258.)

some bright scarlet Masdevallias and interesting species were shown, including good specimens of Cirrhopetalum Colletti, Cypripedium Maudiae and C. callosum Sanderae.

Messrs Stuart Low & Co., Jarvisbrook, Sussex, finished the side with a group of brightly coloured Orchids, the centre being filled with orange-coloured Laelio-Cattleya, G. S. Ball, fine forms of Cattleya Mendelii and C. Mossiae, including white varieties. At the sides were scarlet Odontiodas and Renanthera Imschootiana. Good forms of Odontoglossum crispum and hybrids were effectively arranged, and among the species the white Phalaenopsis amabilis Rimestadiana, Lycaste Skinneri, both white and coloured varieties, the blue Dendrobium Victoria Regina, and the curious Bulbophyllum

H. S. Goodson, Esq., Fairlawn, West Hill, Putney (gr. Mr. G. E. Day) showed Odontoglossum percultum, Goodson's variety, one of the finest and richest in colour of its class and with grand spike flowers. Richard Ashworth, Esq., Ashlands, Newchurch, Manchester, showed a very dark form of Odontioda Brewii.

Floral Committee.

Present: Messrs. H. B. May (in the chair), George Paul, J. W. Barr, W. J. Blakey, H. Cowley, W. B. Cranfield, W. Cuthbertson, T. Stevenson, C. Dixon, J. Dickson, C. Elliott, C. R. Fielder, John Green, John Heal, G. Harrow, W. Howe, A. Ireland, E. H. Jenkins, J. F. McLeod, J. W. Moorman, S. Morris, H. J. Jones, W. H. Morter, C. E. Pearson, F. Page-Roberts, G. Reuthe, W. P. Thomson, A. Turner, and R. W. Wallace.

AWARDS.

FIRST-CLASS CERTIFICATE.

Paeonia Willmottiana (see fig. 123).—This fine new plant is a recent introduction from China. It grows about 28 or 30 inches high, has handsome deep green foliage, with a faint grey tomentum on the surface and a very downy underside. The flowers are about six inches across, pure white, with a central boss of crimson stamens tipped with yellow anthers, and with red-tipped stigmas pushing through the cluster. The flowers usually have eight or nine segments. It is a perfectly hardy species and has come through the last two winters without the least protection. Shown by Miss WILLMOTT, Great Warley, who raised it from seed sent from China.

AWARDS OF MERIT.

Sweet Pea Hawlmark Pink (see fig. 126).—This lovely Sweet Pea was finely shown by its raisers and in such a way that visitors could judge of it in the mass. The blooms are of the largest size, and there are usually four on a spike and all elegantly placed. The colour is light pink with a subtle flushing of salmon-cerise that makes the variety particularly bright and attractive. Shown by Messrs. ALEX. DICKSON AND SONS, Newtownards.

Sweet Pea Brocade.—An interesting bicolor Sweet Pea, bearing very large and finely formed flowers on strong spikes. The standard is broad and well waved, and the color is satiny rose pink. The wings are of a rosy lavender shade that renders the blooms very distinct. Shown by Messrs. ALEX. DICKSON AND SONS, Newtownards.

Sweet Pea Brilliant.—A shapely variety, bearing four flowers on a spike. The colour is soft, rich salmon-cerise, and a pure self. The standard is nicely waved, and the poise of the blooms is excellent. Shown by Mr. J. STEVENSON, Wimborne.

Schizanthus wisetonensis Snowflake.—A pure white-flowered counterpart of the bright-hued and popular greenhouse plant so well known as S. wisetonensis. The habit of the plant is pyramidal and compact, and the flowers are so freely produced that the foliage is almost hidden. This should prove a useful market plant. Shown by Messrs. WATKINS AND SIMPSON, Drury Lane, W.C.

Rose Covent Garden.—This is a finely formed, richly scented, deep crimson variety, that promises well for the garden and for the cut-flower trade. We have referred to it on several previous occasions in these columns. Shown by Messrs. B. R. CANT AND SONS, Colchester.

FIG. 127.—RHODODENDRON LEPIDO-BOOTHII, EXHIBITED BY MR. E. J. P. MAGOR.

Iris Hoogiana.—A fine upstanding Iris of a lovely blue shade, with deeper shading over the centre of the broad falls and a prominent golden yellow beard on each. There is also a slightly deeper blue colouring in the central channel of the standards and the latter are deeply notched at the apex. I. Hoogiana is stated to be a new species from Turkestan; the young blooms are a deeper blue than those which have been open a day or two. Shown by Mr. W. R. DYKES, Charterhouse.

Iris Turkoman (see fig. 124). A hybrid obtained by crossing Iris Korolkowii with I. stolonifera, the latter being the pollen parent. The flowers are of medium size, the standards bluntly pointed and the tips of the falls rounded. The ground colour is a bronzy shade, and on this there is an exquisite veining of crimson and a bright purplish blue beard in the case of the falls, and purplish shading and veining on the centre of the standards, passing into the deeper hue towards the margins. Shown by Mr. W. R. DYKES, Charterhouse.

Saxifraga Red Dwarf.—When in bloom, this is a very dwarf plant, barely three inches high and the flowers are deep reddish scarlet with a light orange centre. The blooms have six segments in most cases instead of the usual five. Red Dwarf is a glorious alpine, and flowers with the utmost profusion over its mossy growth. Shown by Mrs. LLOYD EDWARDS, Bryn Oerog, Llangollen.

Saxifraga J. C. Lloyd Edwards (see fig. 128). —A mossy Saxifrage, which, when in flower is about four inches high. The blooms are of quite large size, and usually with eight segments, the whole as large over as a shilling. The colour is deep rose-red, almost scarlet in the newly-opened flowers, and pink in the older flowers. Shown by Mrs. E. LLOYD EDWARDS, Llangollen.

Rhododendron lepido-Boothii (see fig. 127).—A distinct and interesting hybrid raised by the exhibitor by crossing Rhododendron lepidotum with R. Boothii. The broadly bell-shaped flowers are about 1½ inch across, transparent white, with buff spottings on the three upper segments: the brown anthers add to the general effect. The truss of flowers is hollow instead of piled up as in popular varieties; in other words, the flowers are brought into a regular circle, with the blooms all at practically the same level and pointing outwards. The foliage is neat and very dark green. Shown by Mr. E. J. P. MAGOR, St. Tudy, Cornwall.

Border Carnation, Cleopatra. — A large flowered, broad-petalled variety, very double, and of fine form. The blooms are carried on long wiry stems, and their colour is deep and clear old rose. A distinct and handsome Carnation. Shown by Mr. JAS. DOUGLAS, Great Bookham.

Pelargonium Whiteknight's Glory.—A handsome zonale Pelargonium that appears to be suitable for summer bedding. It has large finely-formed single blooms of a bright, clear orange-salmon colour, carried in large trusses. Shown by Mr. F. BRIGHT, Whiteknights, Reading.

Primula Cooperi (sp. 5567).—A good plant of tufted growth. The long, lanceolate leaves have finely serrated margins and are light green with a densely mealy under surface. The spikes carry a large cluster of flowers, and apparently the inflorescence develops the verticillate form with age. The individual blooms are three-quarters of an inch across, deep bluish purple with a central, five-angled area of intense velvety purple surrounding the eye, which is filled with the yellow anthers. Shown by Messrs. BEES, LTD.

Tulip Sophrosyne.—A large Darwin variety with broad rounded segments in which the colour shades upwards from deep rose to blush with a whitish band down the centre. The handsome base is deep blue. Shown by Messrs. BARR AND SONS, Covent Garden.

Tulip John Ruskin.—A showy May-flowering Tulip, with elongated, shapely blooms. The colour is soft rose, with heavy flushings of orange-buff over the sides of the inner segments. The base is clear yellow. Shown by Messrs. BARR AND SONS, Covent Garden.

Tulip Violet King.—A big Darwin variety with very broad, rounded, dark purple maroon segments and a white base. Very effective and striking. Shown by Messrs. BARR AND SONS, Covent Garden.

Tulip Mrs. Kerrell.—A beautiful Cottage Tulip. The colour is light cerise pink, with basal light blue markings round a whitish centre. Shown by Messrs. BARR AND SONS, Covent Garden.

Carnation Saffron.—A beautiful perpetual flowering Carnation of vigorous growth and with long, wiry stems. The calyx appears to be altogether excellent and non-bursting. The broad petals are slightly wavy and very lightly fringed, and the colour is clear light yellow, with an occasional streak of creamy white on an outer petal. The blooms are full, substantial and carry well. Shown by Mr. C. ENGELMANN, Saffron Walden.

Perpetual Pink Model (see fig. 125).—One of the most charming Pinks we have seen for a long time. It is a pure-bred variety and a descendant from Progress. The colour is clear pink of a medium shade, with basal markings of rich crimson, which make a perfect zone around

the eye. The individual blooms are perfect in outline and the petals lay out as in the old florists' type. Shown by Mr. C. H. HERBERT, Birmingham.

Perpetual Pink Queen Mary.—This is a delightful and vigorous variety, with large double flowers of a deep rich rose-pink shade, with an irregular zone of bright cardinal red round the eye, the latter consisting of a small tuft of petaloid stamens. The broad petals have very slightly fringed margins. Shown by Mr. C. H. HERBERT, Birmingham.

Roses.

MESSRS. PAUL AND SON showed Roses in fine style, and in the big tent they put up a large and very attractive exhibit of weeping standard and bush specimens, all fully flowered and very fresh. Varieties of special merit were Cupid—which occupied the central front position and carried about 30 large, white flowers; Lemon Pillar, very free; the new, pale foliaged, white H. P. Louise Crette; Magnolia, Ambrose Ricardo, Mme. Vanderbilt, Augusta Hartmann (a fine standard), and weeping standards of the popular Wichuaiana and other ramblers. Mr. Geo. Paul told us this was the 58th year in which he had shown at the Royal Horticultural Society's meetings.

A triangular group, set out as a Rose bed, with a ground work of Violas, made up a very pretty exhibit from MESSRS. WM. CUTBUSH AND SON. Standards of Polyantha varieties rose above the general level. At the broad end was a belt of finely-flowered Ellen Poulson, and in the centre a mass of Orleans Rose. Mrs. W. H. Cutbush filled the narrow end, and Baby Tausendschön, Joan of Arc, Jessie, Erna Teschendorff and Yvonne Barbier were grouped around the bases of the standards.

The group of Roses set up by MESSRS. HOBBIES, LTD., contained good pillar specimens of White Lady Gay, White Tausendschön, Dorothy Perkins, American Pillar and Minnehaha; and standards of Lady Godwin, Coronation, Troubadour, White Rambler, Excelsa and Moonlight, all arranged over a groundwork of dwarf Polyantha and other varieties, with groupings of Paul's Scarlet at the end of the exhibit.

A splendid bank of Roses which filled one corner of the large tent was the contribution of MESSRS. WM. PAUL AND SON. Needless to say, this firm's new, brilliant and free-flowering variety, Paul's Scarlet Climber, was conspicuous both as pillar and standard specimens; these were associated with weeping standards of White Dorothy Perkins, Excelsa, Delight, and Tausendschön. Below these and filling the foreground were dwarf bushes of Sunburst, Hoosier Beauty, G. C. Waud, Edward Mawley, Ophelia, Imogen, Le Progrès, the white Louise Crette, and the buff Mme. Charles Lutaud. We believe this was one of the very best groups this well-known firm has ever put up; every plant was fresh, the foliage clean and healthy, and the flowers just at their best.

Messrs. B. R. CANT AND SONS showed cut Roses and pot plants. Their new crimson variety, Covent Garden, occupied the central position, flanked by Golden Ophelia and Cupid. Other good things were Duchess of Wellington, Dean Hole, Emily Gray and Mme. E. Rostand.

A small group of Roses was arranged by Mr. GEORGE PRINCE, and his outstanding varieties were Molly Sharman Crawford, now a popular market Rose; Ophelia, Red Copper Briar, and a weeping standard, unflowered, of the slender-leaved Rosa Watsoniana.

A most effective group of Roses, staged by Mr. ELISHA HICKS, occupied a prominent position in the Orchid tent. At the four corners 9 ft. high pillars of Excelsa (2), Shalimar, and Minnehaha were placed, while in the centre a pillar of Shalimar towered above the rest. The ground work consisted of Princess Mary, Mrs. G. Sawday, the new white Mrs. Elisha Hicks (largely shown), Queen of the Belgians, Mme. E. Herriot, and Rosa Moyesii, with its variety, Brilliant.

Tulips.

Messrs. DOBBIE AND CO. contributed a large display of splendidly grown Tulip flowers. Their large stands of Inglescombe Yellow, Pride of Inglescombe, Inglescombe Pink, Mr. Farncombe Sanders, Clara Butt, Orange Globe, and Louis XIV. were grand, and not less beautiful were their examples of La Candeur, La Tulipe Noir, Edmée, Ellen Willmott, Picotee, Velvet King, Eclipse, Cardinal Manning, Psyche, and Gesneriana lutea—altogether a very fine exhibit.

A very interesting display of Tulips was arranged by Messrs. BARR AND SONS; indeed, there were two exhibits, each filling a high pyramid, and in both instances the flowers were seen to great advantage. The blooms were of fine size, and especially noteworthy were the representations of Mr. Farncombe Sanders, Louis XIV., Inglescombe Yellow, La Tulipe Noir, Clara Butt, Leghorn Bonnet, and Mrs. Moon. Darwin varieties filled one pyramid and in the other pyramid the May-flowering sorts were associated with Old English, Parrot and Rembrandt varieties. Altogether, the Messrs. BARR showed 180 varieties of Tulips, so their display was educational as well as floricultural and spectacular.

In the large exhibit of May-flowering and Darwin Tulips staged by Messrs. JOHN WATERER SONS, AND CRISP, the peincipal varieties were massed in pyramidal fashion, and thus produced a very bold effect: the varieties so treated were Baronne de la Tonnage, Zulu, Miss Willmott, and Gesneriana lutea. The flowers showed, in many instances, the effects of bad weather.

Messrs. HOGG AND ROBERTSON'S display of Tulips included a large selection of the best varieties, all lightly arranged in stands and vases. Here were splendid blooms of Mr. Farncombe Sanders, Gesneriana lutea, Europe, Louis XIV., Inglescombe Yellow, Gala Beauty, the deep heliotrope Ronald Gunn, Clara Butt, and the black Zulu.

A large display of late Tulips with a bordering of giant Bluebells in various colours was made by Messrs. R. H. BATH, LTD. The arrangement was in the form of an elongated pyramid, and a bright effect was produced by the vases of blooms rising tier above tier. Nearly two hundred varieties were presented to view, and among these Bartigon, Calliope, Gala Beauty, Frans Halls' Paris (red-brown with purple base), Eclipse, the dainty Margaret, White Queen, the golden Mrs. Moon and Parisian Yellow, the pink Clara Butt, and The Fawn attracted special attention. The blooms were clean and fresh, but, on the whole, scarcely so large as usually shown by this firm.

MESSRS. ALEX. DICKSON AND SONS thoroughly upheld the high Irish standard of cultivation with a glorious and gorgeous corner exhibit of late Tulips. Rarely, if ever, have finer, cleaner or brighter-hued blooms been seen; in every way the flowers were perfect, and they were arranged in large stands of a variety. Mr. Farncombe Sanders was superb, but, then, so also were the specimens of Clara Butt, Inglescombe Yellow, Massachussetts, Gorgeous, Remembrance, Gesneriana lutea, La Tulipe Noir, Sensation, Sunset, the effective Fairy Queen, Bonfire, Erguste, the deep, dark pink Nauticus, and the very dark, blackish Velvet King, the white La Candeur and the heliotrope Melicette.

In the Orchid tent Messrs. R. WALLACE AND CO. had a large square group composed of Tulips and Irises, and a few Primulas, associated with Japanese Maples. The Tulips were the outstanding feature, and they were clean, medium-sized blooms grouped rather too closely together in large vases, but the colour associations were fine. Picotee, Princess Juliana, Isis, Clara Butt, Orange Beauty, Fairy Queen, Princess Elizabeth and Ellen Willmott were varieties well represented. Two circular groups of Tulips shown by MESSRS. SUTTON AND SONS made bright masses of colour in a tent where they had to compete with Orchids in respect of colour, and they held their own. The flowers were massed well below the eye, so that their handsome bases could be seen easily. Some of the finer varieties were Velvet King, Ariadne, Iris, Nauticus, Wm. Golding, John Ruskin, Europe, Donders, Gedet Parfait, Turenne and Bouton d'Or.

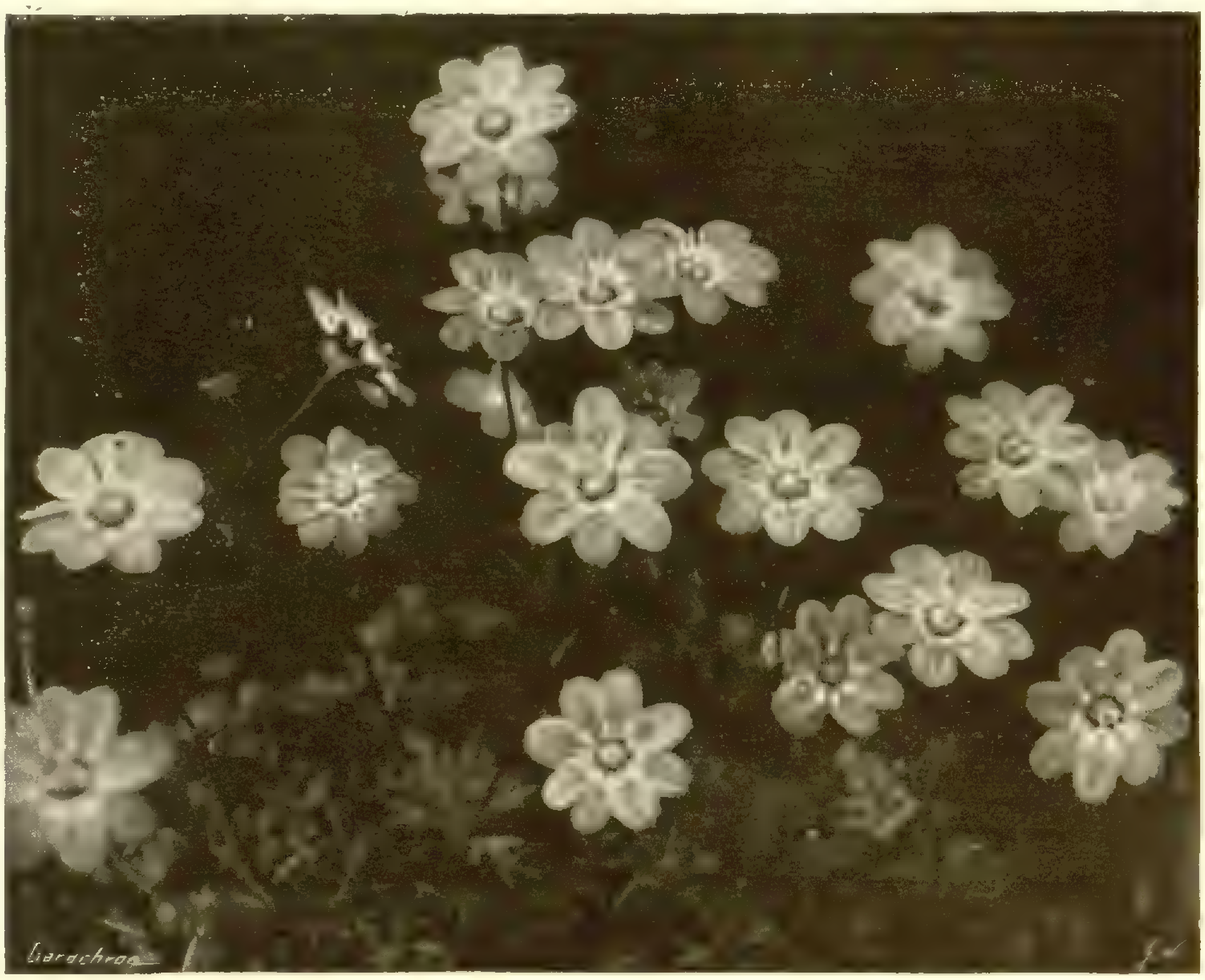


FIG. 128.—SAXIFRAGA J. C. LLOYD EDWARDS, EXHIBITED BY MRS. LLOYD EDWARDS. (See p. 258.)

Greenhouse Plants.

A very imposing group of flowering plants was contributed by Messrs. JAMES CARTER AND CO. Cinerarias in varied colours of the Cactus, Stellata and large-flowered forms, were arranged in mounds towards the back, and relieved with large masses of Calceolaria Clibranii and C. Carter's Victoria Prize; Schizanthus Carter's New Giant Hybrids, light and dark hues; and White Empress, Elizabeth and Crimson King Stocks; Petunias, Streptocarpi, and Primula obconica gigantea were also freely employed, and the specimen Ferns, together with the grass edging which surrounded the

exhibit, brought the whole into a harmonious display. Rarely have we seen an exhibit showing such a variety of colour, and yet nothing clashed.

Messrs. H. B. MAY AND SONS showed a miscellaneous collection of greenhouse flowering plants and ferns. The centre of the group was occupied with fine specimen plants of Hydrangea Avalanche (white), Mme. Mouillière (white), and the pink Vicomtesse Vibray; while Verbena Miss Wilmott, Salvia Glory of Zurich, and Antirrhinum Nelrose were exhibited in good form. Among the ferns were Platycerium Willinckii, Polypodium Mayii, Davallia effusa, and the graceful D. fijiensis robusta.

A unique collection of sweetly scented Pelargoniums was exhibited by the Hon. VICARY GIBBS, Aldenham House, Elstree (gr. Mr. E. Beckett). Standards of Shrubland Pet, Mrs. Meredith, Scarlet Unique, Prince of Orange, and Shelton Unique were shown to perfection, while the groundwork consisted of many varieties, amongst which were the rare crispum variegata, Godfrey's Bride, tomentosum, and quercifolium giganteum.

The outstanding feature of the exhibit from Messrs. H. CANNELL AND SONS was the central mound of Pelargonium Galilee of a delightful shade of pink, and surrounded by fine specimens of the white Hydrangea Mme. Mouillère. Rega Pelargoniums were shown in variety, and the front of the exhibit was composed of hybrid Saxifragas, Phlox subulata G. F. Wilson, Gentiana acaulis, and the erect and stately Myosotis Blue Gem, Pink Gem, and White Gem.

Dwarf hybrids of Schizanthus in many colours were shown by Mr. ALFRED DAWKINS, the centre of the group being occupied with the richly-coloured Calceolaria Buttercup, which gained an Award of Merit last year. An excellent batch of Calceolarias, ranging in colour from yellow to deep bronze, was staged by the St. George's Nursery Co.

A varied collection of greenhouse flowering plants was brought by Messrs. STUART, LOW AND Co. The mauve Hydrangea Mme. Mouillière and silvery-leaved Leucophyton Brownii, Epacris miniata superba, scarlet, tipped with white, Chorezema Lowii, orange with red lip, and Grevillea alpina, scarlet, were among the choicest things.

Messrs WEBB AND SONS staged large towering mounds of their Stellata and superb strains of Cinerarias, while at the sides were similar mounds of compact hybrid Schizanthus and superb Calceolarias, the intervening spaces between the mounds being occupied by Adiantums, Caladiums, Gloxinias and Begonias.

A. P. BRANDT, Esq., Bletchingley Castle, Surrey, staged an attractive circular group of Crotons. The richly-coloured foliage of Edmontoniensis was very pleasing, and other good things were the yellow Golden Bracelet, the broad-leaved Comte, Lady Helland, Queen Victoria and Golden Chain.

Begonias were staged in delightful style by Messrs. BLACKMORE AND LANGDON; the flowers were of magnificent colour and form and included such varieties as Lady Tweedmouth, rose pink tinged with salmon and delicately crinkled petals; Lord Methuen, scarlet; Mrs. J. S. Brunton, a flower of good form; Irene Tabling, orange; and Mrs. W. Cuthbertson, a beautiful flower.

Messrs. JARMAN AND Co. exhibited bunches of richly coloured zonal Pelargoniums, Auriculas, Violas, and the fine white Stock Jarman's Giant White Brompton, with large double flowers.

A large group of Calceolaria Clibranii came from R. L. MOND, Esq., Coombe Bank, near Sevenoaks. The plants were well grown, and at one end an unnamed bronze-flowered variety was exhibited.

From Messrs KER AND SONS came a collection of Hippeastrums, for which this firm is famous. Rosy Queen, Moonlight (white); Salmon Queen, Orange Prince and Pink Queen were most attractive and fresh in spite of their long journey.

Sweet Peas.

Messrs. DOBBIE AND Co. displayed Sweet Peas in a very attractive manner. Among the newer introductions were Majestic (a delightful shade of cream), Royal Scot (flame), Pink Pearl, Mrs. Hitchcock (cream pink), Mrs. T. Jones (mauve), Dobbie's Maroon and Old Rose (a charming variety). Illumination, Dora, and Jean Ireland were other varieties which attracted attention. Sweet Peas were also shown by Mr. J. STEVENSON, who staged his flowers with artistic skill. Epergnes of Italia (mauve), Brilliant (salmon cerise), and La France (pink) were arranged at the back, and other varieties of note were Red Ensign, Scarlet Glow, Splendour (maroon), Hope (rose), and Golden Glory (salmon).

A very effective group of Sweet Peas was exhibited by Messrs. ALEX. DICKSON AND SONS, the four varieties shown being Hawlmark Pink, which received an Award of Merit; Brocade (rose pink; Hawlmark Maroon, and Daisybush, silvery pink. These varieties were grouped in large masses and against the background of black velvet they showed up to perfection.

Carnations and Pinks.

Carnations were shown in excellent condition by Mr. C. ENGELMANN... The group was artistically arranged, a large column of flowers occupying a central position, while placed at regular intervals were splendid vases of blooms; beneath these was a ground work of Carnations, slightly raised towards the centre. The principal varietes shown were Scarlet Carola, White Wonder, Saffron (a fine deep yellow flower), Iona (salmon red), Lady Northcliffe (pink), Delice (pale pink), Snowstorm (white), Coquette (mauve), and Carola (deep red). Messrs W. CUTBUSH AND SON also displayed a neat, circular group of flowers. There were good baskets of White Wonder, Circe (mauve), Sunstar (yellow), and Mrs. C. F. Raphael, below which were R. F. Felton (pink), Triumph (deep red), Lady Ingestre (salmon pink) and White Swan.

Messrs. STUART, LOW AND Co. staged a large collection of Carnations. Malmaisons were represented by the delicate pink Hugh Low, Mrs. Myles Kennedy, rose pink; Mephisto, mottled orange and scarlet; and the Hon. Charlotte Knollys, deep salmon pink. Of the perpetual flowering varieties, British Triumph, Eileen, a rich salmon pink, Scarlet Carola and Red Ensign were employed with excellent effect.

Messrs. ALLWOOD BROS. staged Carnations in admirable style and arranged them in a circular group, in tiers. The overhanging baskets were occupied with Mayday and the large artistic vases with Mary Allwood, Wivelsfield White, Mrs. C. W. Ward, Mikado, and Triumph. The new Wivelsfield Beauty, an apricot-coloured flower, was greatly admired. From the same firm came the new hardy garden Pink Allwoodii Harold, a prolific double white-flowering form.

Hardy Pinks, bred from the old florist's laced varieties, were shown by Mr. C. H. HERBERT, Queen Mary (pink with dark centre), Dickey Falton (cherry-pink with carmine centre), Victoria (deep scarlet), and May Queen (pink) being very fine.

The Hon. JOHN H. WARD, K.C.V.O., Chilton, Hungerford, staged some exceptionally beautiful vases of Lady Allington (pink), Lady Lathom (deep red), Baroness de Brienen (silvery pink), and Nikko (scarlet) Carnations. From C. A. CAIN, Esq., The Node, Welwyn, came a semi-circular group of Carnations, amongst which were good plants of Baroness de Brienen, White Wonder, Triumph, and Scarlet Carola.

Some exceptionally fine hardy border Carnations were staged by Mr. JAMES DOUGLAS. The new Cleopatra (vieux rose), which gained an Award of Merit; Surrey Clove (deep scarlet); Glamour (a good yellow); Effie Deans (salmon); and Veldfire (scarlet) were well shown and in the front was arranged a fine collection of Auriculas.

A gracefully-arranged exhibit of Carnations came from Messrs. KEITH LUXFORD AND Co. The flowers were of fine quality and colour, the épergnes of Triumph, Aviator, Rosette, Coquette, Beacon, and Mrs. C. W. Ward attracting attention.

Rhododendrons and Azaleas.

MESSRS. JOHN WATERER, SONS & CRISP, LTD., Bagshot, Surrey, staged two beautiful groups of Rhododendrons. The pink-flowered variety, Alice, was represented by numerous specimens, and other varieties of note were Prometheus (dark red), Cynthia (deep pink), the popular Pink Pearl and Gomer Waterer, with delicate white and pink tinged flowers.

A gorgeously coloured collection of hardy Azaleas interspersed with purple-leaved Acers was shown by Messrs. R. and G. CUTHBERT. Azalea Apple Blossom, a Mollis-sinensis hybrid with pink-mauve flowers, was perfect, while other varieties of note were Alphonse Levallee (orange), Dr. Leon Vignes (creamy yellow), Pucella (pink), Sunset (orange pink) and [illegible] de Quincey (bright yellow). It was fine to see these glorious plants again, and so well shown.

A rectangular group of Rhododendrons was contributed by Messrs. FLETCHER BROS, the pick of the varieties including Cynthia (pink) Doncaster (scarlet), Purity (white), Mrs. Thistleton Dyer, rose; John Waterer (red), The Bride (white); and Sappho (white, blotched with reddish brown).

Stove Plants.

An exhibit of stove plants was contributed by Messrs. L. R. RUSSELL, Richmond. Among the rarer things were the pretty pink-flowered Medinella magnifica, Croton Juliet Russell and Dracaena Victoria. Delicately-coloured Bertolonias and Anaectochilus setaceus were exhibited under bell-glasses, and Caladiums in variety, Tillandsia Zanii, Ananassa sativa variegata, and the yellow Richardia Elliotiana were included.

An attractive group of Caladiums came from Messrs. JOHN PEED & SON, who staged varieties ranging from greenish yellow to deep rose pink. Of the many specimens shown the varieties John Peed (dark), Mad. J. Box (pink), King of the Yellows, Sir Julian Goldsmith (light), and King George were particularly outstanding.

Hardy Shrubs.

A very interesting and rare collection of shrubs was brought by the DONARD NURSERY Co., the specimens being well grown. An unflowered plant of Rhododendron discolor, which is one of the last to bloom, was shown, and other fine things of merit were the fern-leaved Lomatia pinnatifolia, Eucryphia cordifolia, Tricuspidaria lanceolata, the scarce Fagus Cunninghamii. Andromeda formosa, with graceful spikes of white flowers and pleasing foliage, the reddish pink leaved Acer sanguinea Chisho, and a well-flowered specimen of Grevillea rosmarinifolia. The feature of the exhibit from Messrs. R. C. NOTCUTT was the standards of Cytisus Beani (yellow), C. Dallimorei (rose-purple), C. kewensis (cream and of a drooping habit); C. Andreanus, and C. praecox alba were also represented. The new Pyrus Malus Zunii, with pure white flowers, and a collection of Japanese Azaleas ranging in colour from scarlet to white were included with standard lilacs.

Mr. G. REUTHE showed a collection of hardy flowering shrubs and alpines. Among the former were Rhododendron campylocarpum (yellow); R. kewense (white, tinged pink); the large-leaved R. Falconeri (white); R. yunnanense; together with Enkianthus campanulatus, Cytisus alba rosea, the new Menziesia multiflora major, and Erica arborea alpina.

The YOKOHAMA NURSERY Co. showed a large collection of miniature gardens and old Japanese trees. Among the latter were some very fine aged specimens of Pinus Massoniana, Thuya obtusa (100 years old), and Larix leptolepsis.

Messrs. J. CHEAL AND SONS, LTD. staged a beautiful semi-circular group of hardy flowering shrubs, the centre being occupied with some very fine standard specimens of Wistaria chinensis, Viburnum plicatum (a mass of white flowers), standard specimens of Cytisus Andreanus, the star-flowered Olearia Gunniana, the pink Cerasus James H. Veitch, and the pretty Rubus deliciosus. Richly coloured Acers and Azaleas were also freely used, and among the former A. dissectum purpureum, A. japonicum laciniatum, and A. versicolor were noted.

At the end of one tent Messrs. J. PIPER AND SONS exhibited Chinese shrubs in quantity, and the mass of the pretty foliaged Ilex Pernyi was much admired. Other good things were Osmanthus ilicifolius purpureus, Juniperus pachyphloea, Pittosporum Silver Queen, with foliage edged with white, and the silver Senecio Grayi. Combined with these were masses of white and pink Hydrangeas, and circular mounds of Spiraea Pink Pearl.

E. J. P. MAJOR, Esq., St. Tudy, R.S.O., Corn

wall, brought a very interesting collection of Rhododendrons, amongst which were R. campylocarpum R. bullatum and R. lepido—Boothi, a hybrid between R. lepidotum and R. Boothi which gained an Award of Merit.

Messrs. W. H. ROGERS AND SON, LTD., showed Embothrium coccineum (scarlet); Vaccinium Mortenia (white, tinged pink); Juniperus communis compressa, a dwarf and slow growing conifer; and the small leaved Ledum thymifolium.

Hardy Flowers.

Messrs. BARR AND SONS exhibited a ground group of Irises and other plants in the form of a star. Pleasing varieties of Irises were the new Souvenir de Zurnenburg, King Christian, the dwarf Eclipse, and Ditton Purple; named varieties of large-flowered Trollius and a batch of Cypripedium Calceolus were also included. Mr. G. REUTHE was responsible for a group of alpines and other hardy flowers, including the new Menziesia multiflora major, with pretty pendulous flowers. Messrs. B. LADHAMS showed a good collection of hardy flowers, including Violas and Primulas in variety, and Camassia Fraseri Dipella speciosa, and Thalictrum aquilegifolium roseum.

Meconopsis integrifolia was seen in beautiful condition in the exhibit from Mr. J. C. ALLGROVE, as were also the giant Rheum purpureum, the double-flowered Papaver orientale florea plena, the stately Eremurus himalaicus, and Viburnum Davidii, a thick-leaved species with white flowers and reddish-brown stamens. Good pots of the yellow Primula tangutica, the mauve P. sibirica chinensis, and the white Phlox nivalis were included, amongst other choice things, in the group.

Messrs. REAMSBOTTOM AND CO. showed their very fine strain of St. Brigid Anemones in excellent form and in many shades of colour. The decorative effect to be obtained from these flowers is difficult to surpass; moreover, they remain fresh in the cut state for a week.

From Messrs. J. CHEAL AND SONS came a few plants and vases of the new Star Dahlias, and these were accompanied by a collection of rock plants, of which the varieties of Phlox subulata were particularly bright.

Primula Red Hugh, Phlox pilosa, Trollius napellifolius, Dicentra formosa, and a good batch of the Polyanthus Codsall strain were seen in the exhibit from Messrs. BAKERS'; and Messrs. JOHN FORBES, LTD., showed named varieties of East Lothian Stocks, Saxifragas, and Auriculas.

Mr. REGINALD PRICHARD brought a collection of Alpines in pots, Edaianthus Pumilio, Gentiana verna, Phlox Vivid and P. Nelsonii and Globularia alba being particularly noteworthy.

A display of Alpines also came from WM. CUTBUSH AND SON, who showed Horminum pyrenaicum (purple), Dryas octopetala (white), Saxifraga lingulata (fine spikes of white flowers) and the beautiful Veronica Hulkeana in good form.

Messrs. G. G. WHITELEGG AND CO. staged a collection of Saxifragas, Phlox and Aubrietias, among other things, and from Mr. AMOS PERRY came the quaint Orontium aquaticum, Thermopsis caroliniana (yellow), Polemonium confertum millitum (cream yellow), Camassia Liechtlinii (lavender), Primula Wardii (mauve with white eye), and Lewisia Howelli. Menyanthes trifoliata and Aponogeton distachyum were shown in a small pool of water in the centre of the exhibit.

Messrs. JOHN WATERER, SONS, AND CRISP, LTD., staged a collection of alpines on a table. Hybrids of Dodecatheon Meadia were shown, together with bright masses of Linum arboreum (yellow); Ajuga genevensis (blue), Daphne caucasica (white), and the dwarf Morisia hypogaea (yellow). Mr. G. W. MILLAR brought named varieties of Violas, Daisies, Heucheras, Trollius, and hybrid Saxifragas, while from Mrs. LLOYD EDWARDS came a well arranged group of hybrid Saxifragas, and the beautiful Anemone alpina grandiflora. Of the Saxifragas, Red Dwarf, which gained an Award of Merit, together with the variety J. C. Lloyd Edwards, a bright rose flower with greenish-yellow eye, were very attractive, as also was the large flowered Myosotis Roll of Honour.

Miss WILLMOTT, V.M.H., Warley Place, sent Paeonia Mlaxosowitschii, with yellow flowers, and the charming white P. Willmottiana, which gained a First-Class Certificate.

Mr. W. R. DYKES showed Iris Turkoman (a hybrid between I. Korolkowii × I. stolonifera) and I. Hoogiana, a charming flower. Both of these gained an Award of Merit.

Alpine Plants.

A neat exhibit of alpines came from Messrs. BEES, LTD., and among the most attractive flowers were Primula Beesiana, P. Watti, the new trifolium uniflorum, Geum Borisii (orange-scarlet), Corydalis Flame, the beautiful Roscoea cautiliodes and Oxalis adenophylla. Clemisia spectabilis argentea, with large white flowers and silvery foliage, and the pink Aetheonema Warley Hybrid were also worthy of mention. Mr. Maurice Prichard exhibited a good collection of herbaceous plants and alpines. The outstanding plants were Erigeron Bertram Gentle (mauve-rose), Dianthus neglectus Russell V. Prichard (a fine, large pink flower with deep centre), Primula La Lorraine and P. Aileen Aroon, a pulverulenta hybrid with coppery-bronze flowers, and Polygonum divaricatum, a herbaceous plant growing about two feet high, with spikes of creamy flowers closely resembling a Spiraea.

Alpines, set among rock work, were exhibited by Messrs. KENT AND BRYDON, who displayed Anemone narcissiflora, Primula involucrata, P. Wardii, Polemonium replans, and the large-flowered Saxifraga Arkwrighti in good form. Messrs. J. PIPER AND SON also contributed a pleasing group, the plants being set out in bold masses. Chieranthus Allionii provided a rich orange-yellow colour, and other good things were Ramondia pyrenaica rosea, Dianthus Napoleon III. (scarlet), D. Atkinsonii (scarlet), Androsace Chumbyi (rose), Pentstemon Scoulerii (lavender), Saxifraga paradoxa (white), and the richly-coloured forms of Lychnis Arkwrightii.

Trees and Shrubs: Outdoor Exhibits.

There were not quite so many or such extensive collections of hardy trees and shrubs in the open as in 1914 or the two previous years, but when compared with 1916, for instance, the present year wins. Messrs. W. FROMOW AND SONS had two very large displays of Japanese Maples in surprising variety. All possible leaf forms and colourings were represented. The pale greens of standard Acer palmatidum, the delicate tracery of its variety palmatifidum, the rich deep colour of Acer p. sanguineum variegation and the delicate colouring of Acer p. corallinum were all equally enchanting. To the uninitiated it was astonishing that so very many distinct types of leafage and such varied colourings could be produced in the two species which were so grandly represented.

Japanese Maples played an important part in the praiseworthy groups of Shrubs set out by Mr. G. R. RUSSELL, and he also made full use of the valuable background which was provided by the trees and shrubs of the hospital gardens, so that on approaching Mr. Russell's exhibit one had the impression of a couple of very large established beds of choice shrubs in some old country garden. The group of Kalmia Katifolia in full bloom charmed many visitors who were previously unacquainted with these bluish pink saucer-shaped flowers, and the more observant discovered an added interest in the disposal of the stamens, while the fortunate ones were delighted with the mechanical jerk when the filaments broke loose, as it were, in their journey centrewards to the stigma. Profusely-flowered little bushes of Azalea amvera varieties gave rich colour and stateliness was added by the perfectly-pruned "Empress Crown" Bays at the end of the grass walk.

FIG. 129. ROCK AND WATER GARDEN, EXHIBITED BY MESSRS. R. WALLACE AND CO.
(See p. 262.)

No particular style of arrangement was aimed at in the supplementary group of hardy trees which Messrs. WATERER, SONS AND CRISP set out near by, but the very many interesting forms of topiary were well worth the attention it received. Uncommon species for this work was Ilex crenata, Cupressus filifera aurea, Cupressus obtusa densa, and Retinospara tetragona, in a very slender pillar topped with its golden variety. These were all fascinating, and provided welcome variety to the more formal topiary. Several examples of drooping Holly (Ilex aquifolium pendulum) in particularly vigorous condition were also much admired.

Mr. JOHN KLINKERT arranged with skill a very wide range of the perfectly-trained topiary examples for which he has become so well known. These were chiefly in box, all dense specimens full of health and even vigour. By Mr. Klinkert's system of culture his specimens may be moved at any time of the year, so there

was not the least suspicion of flagging or drooping foliage.

Rock and Formal Gardens.

The slope by the Embankment is an excellent position for rock gardens, and here Messrs. R. W. WALLACE AND Co. showed their skill most admirably. The essential boulders were placed splendidly, and it was a natural transition from the hillside rockery, along the little mountain stream, past green slopes to the pools below. All the structural portion was, of course, in miniature, but it was a generously-sized model of alpine scenery; dwarf Conifers, perfectly proportioned, added to the illusion. Of the many other shrubs, the host of dwarf Alpines which entered into the scheme, space does not permit mention, but it may be said that all were appropriate for the purpose; all were in just the right place, and they furnished the quantities of bloom that is essential in a spring garden.

Messrs. J. PIPER AND SONS also had a garden that charmed hosts of visitors. Banks of large trees and shrubs, planted with taste and skill, a running brook broadening into an ample pond, crossed by firm stepping stones and linked up by paved walks, invited many visitors on a tour of discovery, where they found just the right plants for water gardening. Further on well planted little alpine gardens arrested their steps and demanded inspection. An old Japanese stone lantern planted around with glaucous-green Funkias was a particularly happy effect.

Messrs. G. G. WHITELEGG AND Co. contented themselves with a conventional rock garden, and it was quite a successful effort. The boulders were well disposed, the pool was proportionate, and the planting was done with knowledge and taste. The massed deep blue Jentians, Pink Beauty Saxifragas, billowy white Iberis, and Saxifraga Arkwrightii were all particularly attractive.

In the rock garden built up by Mr. CLARENCE ELLIOTT, very many seasonable and appropriate alpines were set out with sympathetic knowledge so that it formed a very harmonious whole. Dainty little blue Forget-me-nots, rosy-purple Aubrietias were all much admired, and many visitors were enchanted with the tiny Irish Juniper.

The Misses HOPKINS must have spent a deal of time and labour on their adjoining rock garden, which was intersected with green slopes and filled with a delightful variety of suitable plants.

Messrs. PULHAM AND SONS were allotted large space, and they made splendid use of it. The dominant feature was a spacious formal garden. A well designed and substantially built pergola divided the broad lawns, and led the way to a restful garden house of pleasing design. Paved walks and steps, and the enclosing pale golden hedges were also done excellently well. By the side of this large formal garden was a fine rockery, also of quite large size. The placing of the boulders would certainly have satisfied the geologist, while the planting found the approval of the horticulturist.

Mr. H. JONES brought up a large quantity of his well-known paving and made a formal garden which would satisfy the most critical; the low walls and balustrading were particularly successful. Floral effect was not arrived at, but there was a sufficiency of shrubs and plants to indicate the possibilities of this exhibit.

Mr. HERBERT BROOK was, in part, the victim of circumstances. His scheme provided for the inclusion of tubs and pots of various appropriate subjects. These were lost or delayed on the wayside—or, more probably, railway siding—but the essential flagstones came along in good time, so Mr. Brook was able to show how well his stones are adapted for the making of formal gardens.

Mr. J. WOOD, Boston Spa, designed and arranged a very interesting rock garden in which the naturally weathered Yorkshire stone was a distinct feature, and among the stones were planted charming groups of Saxifragas, Aubrietias, Alpine Phloxes and a large number of other dwarf Alpines, which are in their full bloom at this season of the year, and all of which harmonised with the rock setting.

Fruit and Vegetable Committee.

Present.—Mr. C. G. A. Nix (in the Chair), and Messrs. A. E. Vidler, W. Bates, J. Whytock, F. Jordan, E. Harriss, J. Elkeston, A. R. Allan, J. C. Allgrove, A. W. Metcalfe, W. H Divers, A. H. Pearson, G. F. Tinley, H. S. Rivers, W. Pope, J. Basham, and G. P. Berry.

The only exhibit before the Committee was a new variety of Rhubarb, named Hancock's Early Crimson Grooveless. It was shown by Mr. T. Hancock, 38, Leamington Street, Mansfield, and was certainly remarkable, some of the petioles weighing about 2 lbs., without the leaves. The exhibitor will be asked to send plants to Wisley, for trial and comparison in growth.

FIG. 130.—VEGETABLES EXHIBITED BY MESSRS. SUTTON AND SONS.

Fruits and Vegetables.

Only two exhibitors entered this section, which the visitor must have considered somewhat neglected in view of the importance of food production, but it is consoling to know that while fruit and vegetables were few at the show there are ample supplies in our gardens.

The collection of fruit was from the gardens of the Hon. JOHN WARD, C.V.O., Chilton, Hungerford, and it reflected the greatest credit on Mr. Charles Beckett, his gardener, for this exhibit was of great merit. There were many bunches of Foster's Seedling, and Black Hamburgh Grape, ripe and well finished; handsome, fragrant Melons, Best of All, Ringleader, and a seedling; black-red Cardinal Nectarines; Brown Turkey Figs, shown in plenty, and even more unusual at this season were the dishes of Victoria Gooseberries and the White Currants.

Messrs. SUTTON AND SONS were the exhibitors of vegetables, and it need scarcely be said that this contribution was as near perfection as is humanly possible. Green Peas, just fit for the kitchen, were the most prominent feature, and these were displayed as pot plants and gathered pods arranged on stands. The chief varieties were Duchess of York, Duke of Albany, Sutton's Pioneer, World's Record, and Little Marvel. French Beans were equally good, even though not shown in such quantity as the Peas. Many red Tomatos of perfect shape added brightness as well as value. Harbinger Cabbages and other early sorts, firm-hearted and of succulent appearance, milk-white Broccoli Latest of All, and such saladings as Lettuce, Cucumbers, and Radishes all helped to make a magnificent display.

Science and Education.

In the long marquee which linked up the floral exhibits with the lecture tent, there was a great deal to claim and hold the attention of the more serious cultivator and garden lover. As was fitting the R.H.S. filled the largest space and placed on view numerous diagrams and examples. Charts, similar to those which have been used by the Society's many lecturers during the past season, illustrating the best methods of performing garden operations and showing a surprising number of injurious insects and their ravages, were methodically laid out. Insect pests received full attention, for in addition to the diagrams there were many excellent specimens with the individual insects' fell work. These well illustrated the troubles and trials which the cultivator finds waiting for him and, as Mr. C. G. A. Nix remarked at the Press meeting on Monday, show the urgent need of anticipating the depredations of insects and losses by diseases, by timely sprayings. Manuring, which was also emphasised by the Society's Treasurer, was likewise a subject of illustration.

Most interesting was the selection of spray nozzles and full set of diagrams showing the space covered by the sprays when used at uniform distance and pressure. Examples of Daffodil and Tulip diseases which are harassing growers, were well, too well from the cultivators' point of view, shown. Samples of various Beans, illustrating comparative yields and models of germination of various subjects were all excellent.

From the Keighley Museum were sent specimens of many plant galls, and the Nature Study Union had a wide range of specimens, showing trees in leaf and flower, birds and animals.

Horticultural Sundries.

Fertilisers and Insecticides.—The ACME CHEMICAL Co., LTD. made a very attractive display with their Acme Weed Killer, Lime Sulphur Wash, Arsenate of Lead, and other preparations; while in addition to making a good show of tins of similar mixtures, manures, and spraying appliances, the BOUNDARY CHEMICAL COMPANY hung up excellent diagrams illustrating very many of the insects which so harass the cultivator. The well-known V.2. and V.2.K. spray fluids occupied a prominent place on the attractive stand of Messrs. WM. COOPER AND NEPHEWS, who also set out spraying machines. Messrs. CORRY AND Co., LTD. had a splendid show of their well-known insecticides and fungicides which, in view of the increasing need for spraying so many crops, attracted much interested attention. Dry sprays were displayed by Mr. J. L. EDGINGTON, whose preparations are known as Limbux, Pestibux, and Bordobux, and, near-by the FOUR OAKS MACHINE Co. had many spraying machines and watering-cans of well-known design. The equally popular HOLDER HARRIDEN spraying machines were on show, as were also the world-famous JEYES' Sanitary Compounds, which are so valuable for garden use, as well as for public places. "Rito" fertiliser in various quantities, as well as photographs showing the splendid results from the use of this plant food, were the object of much attention. Messrs. PRENTICE BROS. contributed their Tomonite and other fertilisers and lawn sand.

The MOND NICKEL Co. had a splendid position amongst the formal gardens. There the attendants demonstrated the mixing and use of "Blighty," the newest specific for Potato blight. Gishurstine and Gishurst compound have long been

known and appreciated by generations of gardeners, and these with Quassia compounds were present as reminders of their value. In the Lime Avenue, Messrs. G. AND W. PURSER had spraying appliances, hose and fittings; and Mr. J. SINGLETON demonstrated his Nuespray for watering purposes; while the STONEHOUSE WORKS Co. showed plenty of knapsack and other sprayers with various preparations.

Messrs. WALTER VOSS AND Co. are well-known makers of spray fluids and appliances, and their best was on show. The UNITED BRASS FOUNDERS AND ENGINEERS Co. had sprayers; and Mr. T. H. WEBSTER showed his Cascade nozzle.

The famous "Abol" brand of spraying appliances, non-poisonous insecticides, and effective weed killers were contributed by Messrs. E. A. WHITE, LTD.; and sprayers, cultivators and garden implements were placed on view by Messrs. WM. WOOD AND SON.

Garden Furniture.—This section was well represented, so there were numerous garden seats, tables, chairs and tents to choose from. Mr. G. BLAY had entrance gates and fencing; seats of many kinds were set out by the CASTLES' SHIP-BREAKING Co., the DRYAD CANE AND METAL WORKS Co., Messrs. GAMAGE AND Co., Messrs. HUGHES, BOLCKOW, AND Co., the LEYTON TIMBER Co., and Messrs. B. MAGGS AND Co., who also had tents.

Varied selections of statuary and vases were present from Messrs. T. CROWTHER AND SON, who also had charming gates and lead figures. Messrs. LIBERTY AND Co. made the most of their exhibit, which was in the form of a Japanese garden. Messrs. PIGGOTT BROS., Messrs. PULHAM AND SON, Messrs. SANDERS AND Co., and Mr. T. WEST CARNIE all had interesting exhibits.

Horticultural buildings of good design and workmanship were erected by Messrs. BOULTON AND PAUL, showing that this firm has progressed even during the recent unfavourable time; Messrs. W. DARLINGTON AND SONS had a new motor pump. A wire tension greenhouse, full-sized, was erected by Messrs. SKINNER, BOARD, AND Co.; and lastly, but not least, Messrs. J. WEEKS AND Co. arranged examples of their boilers, sun-blinds, and a model greenhouse.

The ACME PATENT LADDER Co. showed examples of their specialities. Messrs. DREW, CLARK AND Co. had extension ladders. Mr A. B. JOHNSTON displayed turves of yellow loam, perfect for cultivating most terrestrial plants; and the HOUSE AND GARDEN SUNDRIES Co. demonstrated the use of their novel seed sower. Good metal labels were shown by Mr. JOHN PINCHES and many artists displayed pictures of charming gardens.

AWARDS TO GROUPS.

Coronation Cup.—To Messrs. ARMSTRONG AND BROWN, Tunbridge Wells, for Orchids.

"Daily Graphic" Cup.—To Messrs. R. WALLACE AND Co., Colchester, for rock garden.

Gold Medals.—To Messrs. ARMSTRONG AND BROWN, Tunbridge Wells, for Orchids; CHARLESWORTH AND Co., Hayward's Heath, for Orchids; Sir JEREMIAH COLMAN, Bart. (gr. Mr. Collier), Gatton Park, Reigate, for Orchids; Messrs. J. and A. McBEAN, Cooksbridge, for Orchids; Messrs. FROMOW AND SONS, Chiswick, for Japanese Maples; Mr. HERBERT JONES, for Formal Garden; Messrs. R. TUCKER AND SONS, Oxford, for Rock Garden; Messrs. PULHAM AND SON, Oxford Street, for Formal Garden; Messrs. R. WALLACE AND Co., Colchester, for Rock Garden; Mr. J. WOOD, Boston Spa, for Rock Garden; Messrs. ALLWOOD BROS., Wivelsfield, Hayward's Heath, for Carnations; Messrs. BARR AND SONS, Covent Garden, for Tulips; Messrs. JAS. CARTER AND Co., Raynes Park, for Greenhouse Plants; Messrs. ALEX. DICKSON AND SONS, Newtownards, for Sweet Peas; Messrs. DOBBIE AND Co., Edinburgh, for Sweet Peas; Mr. C. ENGELMANN, Saffron Walden, for Carnations; Messrs. KER AND SONS, Liverpool, for Hippeastrums; Mr. R. C. NOTCUTT, Ipswich, for Cytisus and other flowering shrubs; Messrs. PAUL AND SON, Cheshunt, for Roses; Messrs. WM. PAUL AND SON, Waltham Crosss, for Roses; Messrs. JOHN PEED AND SONS, West Norwood, for Caladiums; the Hon. JOHN WARD, Chilton, for Fruits; Messrs. SUTTON AND SONS, Reading, for Vegetables; Messrs. J. WATERER, SONS AND CRISP, Bagshot, for Rhododendrons; Messrs. WEBB AND SONS, Stourbridge, for Greenhouse Plants; R. BUTTERFIELD, Esq., for exhibit of British galls; Mr. J. K. RAMSBOTTOM, Kew, for exhibit illustrating the investigation of Eelworm Disease in Daffodils; and the School of Nature Study Union, for nature studies.

Silver Gilt Flora Medals.—To Messrs. JAS. CYPHER AND SONS, Cheltenham, for Orchids; Messrs. FLORY AND BLACK, Slough, for Orchids; Messrs. STUART, LOW AND Co., Enfield, for Orchids; Messrs. MANSELL AND HATCHER, Rawdon, for Orchids; PANTIA RALLI, Esq., Leatherhead, for Orchids; Mr. CLARENCE ELLIOTT, Stevenage, for Rock Garden; Mr. L. R. RUSSELL, Richmond, for Trees and Shrubs; Messrs. J. WATERER, SONS AND CRISP, Bagshot, for Trees and Topiary; Messrs. R. H. BATH, LTD., Wisbech, for Tulips; Messrs. BEES, LTD., Liverpool, for Hardy Plants; Messrs. BLACKMORE AND LANGDON, Bath, for Begonias; Messrs. B. R. CANT AND SONS, Colchester, for Roses; Messrs. R. and G. CUTHBERT, Southgate, for Azaleas; Messrs. DOBBIE AND Co., Edinburgh, for Tulips; the Donard Nursery Co., Newcastle, Co. Down, for New and Rare Shrubs; the Hon VICARY GIBBS (gr. Mr. E. Beckett), Aldenham House, Elstree, for Pelargoniums; Mr. ELISHA J. HICKS, Twyford, for Roses; Messrs. STUART, LOW AND Co., Enfield, for Carnations; Mr. E. J. P. MAGOR, St. Tudy, Cornwall, for Rhododendrons; Mr. AMOS PERRY, Enfield, for Hardy Plants; Mr. J. STEVENSON, Wimborne, for Sweet Peas; Messrs. J. WATERER, SONS AND CRISP, for Herbaceous Plants.

Silver - Gilt Banksian Medals. — Mr. J. KLINKERT, Richmond, for Topiary; Messrs. J. PIPER AND SONS, Bayswater, for Formal Garden and Topiary; Messrs. PULHAM AND SON, Oxford Street, for Rock Garden; A. P. BRANDT, Esq. (gr. J. W. Barks), Bletchingly Castle, Surrey, for Crotons; C. A. CAIN, Esq. (gr. Mr. Pateman), The Node Gardens, Welwyn, for Malmaison Carnations; Messrs. J. CHEAL AND SONS, Crawley, for Trees and Shrubs; Messrs. ALEX. DICKSON AND SONS, Newtownards, for Tulips; Mr. JAS. DOUGLAS, Great Bookham, for Carnations; Messrs. FLETCHER BROS., Chertsey, for Rhododendrons; Messrs. HOGG AND ROBERTSON, Dublin, for Tulips; Messrs. B. LODHAMS, LTD., Shirley, Southampton, for Hardy Plants; Mr. G. W. MILLER, Wisbech, for Hardy Plants; R. L. MOND, Esq. (gr. Mr. C. Hall), Coombe Bank, Sevenoaks, for Calceolarias; Mr. MAURICE PRICHARD, Christchurch, for Hardy Plants; Mr. L. R. RUSSELL, Richmond, for Stove Plants; Messrs. SUTTON AND SONS, Reading, for Tulips; Mr. CHAS. TURNER, Slough, for Lilacs; Messrs. R. WALLACE AND Co., Colchester, for Tulips; YOKOHAMA NURSERY Co., Kingsway, for Japanese dwarfed trees.

Silver Flora Medals.—To Mr. H. DIXON, Wandsworth, for Orchids; Messrs. G. G. WHITELEGGE AND Co., Chislehurst, for Rock Garden; Mr. E. DIXON, Putney, for Formal Garden; Mr. J. C. ALLGROVE, Slough, for Hardy Plants; Messrs. BAKERS, Wolverhampton, for Hardy Plants; Messrs. BARR AND SONS, Covent Garden, for Irises; Messrs. H. CANNELL AND SONS, Swanley, for Hardy Plants; Messrs. WM. CUTBUSH AND SON, Highgate, for Alpines; Mr. A. DAWKINS, King's Road, S.W., for Schizanthus; Mrs. LLOYD EDWARDS, Llangollen, for Saxifragas; Messrs. HOBBIES, LTD., for Roses; Messrs. STUART, LOW AND Co., Enfield, for Greenhouse Plants; Messrs. J. PIPER AND SONS, Bayswater, for Chinese Plants; Mr. R. PRICHARD, Wimborne, for Alpines; Messrs. J. PIPER AND SONS, Bayswater, for Alpines; Mr. G. REUTHE, Keston, for Flowering Shrubs; the Hon. JOHN WARD, Chilton, for Carnations.

Silver Banksian Medals.—To the Misses HOPKINS, Shepperton, for Rock Garden; Messrs. ALLWOOD BROS., Haywards Heath, for new Dianthuses; Messrs. J. CHEAL AND SONS, Crawley, for Hardy Plants; Messrs. WM. CUTBUSH AND SONS, Highgate, for Roses, and also for Carnations; Mr C. H. HERBERT, Birmingham, for Perpetual Pinks; Messrs. JARMON AND Co., Chard, for Pelargoniums and Sweet Sultans; Messrs. KENT AND BRYDON, Darlington, for Alpines; Messrs. K. LUXFORD AND Co., Harlow, for Carnations; Mr. G. W. MILLER, Wisbech, for Alpines; Mr. CHAS. TURNER, Slough for Roses; Messrs. REAMSBOTTOM AND Co., Geashill, King's County, for Anemones; Messrs. ROGERS AND SON, Southampton, for Alpines; Messrs. J. WATERER, SONS, AND CRISP, for Alpines; and Mr. GEORGE PRINCE, Longworth, for Roses.

Bronze Banksian Medals.—To Mr. HERBERT BROOK, Valley Road, S.W., for Formal Garden; Mr. J. MACDONALD, Harpenden, for Grasses.

Certificate of Appreciation.—To Miss E. P. Brennand, for water-colour studies of Rhododendrons, etc.; W. DYKES, Esq., Charterhouse, for work in raising Irises; E. P. MAGOR, Esq., St. Tudy, Cornwall, for new Rhododendrons.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

MAY 13.—*Present*: Mr. E. A. Bowles, M.A. (in the Chair), Sir George Watt, Messrs. J. W. Odell, W. Hales, E. M. Holmes, and F. J. Chittenden (hon. sec.).

Certificate of Appreciation.—A Certificate of Appreciation was unanimously recommended, at the instance of the Orchid Committee, to Messrs. McBean, of Cooksbridge, for work done in raising the interesting hybrid Odontoglossum × Eugenia. This plant is the result of crossing O. cordatum and O. crispum. Its flowers are nearest to O. crispum, but the segments are narrowed by the influence of O. cordatum, the dull red blotching of which is also shown. The labellum has undergone a curious change, its form being broadly ovate, the acuminate apex of the cordate labellum of O. cordatum being suppressed, the only evidence of it being seen in a short, thread-like apiculus on the underside of the front of the lip.

Fasciated Saxifrage.—A fasciated stem of Saxifraga hypnoides was sent by Mr. Britton, of Cuckfield. The stem was fully half an inch in width, and bore numerous rather small flowers.

Hybrid Buddleia.—Mr. Van de Weyer sent a specimen of the hybrid Buddleia globosa × B. madagascariensis, which he had raised in his garden at Corfe Castle. While B. madagascariensis is only half hardy at Corfe Castle, the hybrid is growing outdoors and flowers earlier than B. globosa. It has no scent (as in B. madagascariensis), the leaves of which it has also inherited, there being none of the tawny down on the leaves as there is in B. globosa, but in the manner of flowering it has followed B. globosa, though the flowers are, on the whole, paler, and the balls of flowers rather larger.

HORTICULTURAL CLUB.

MAY 20.—The annual dinner of the members of the Horticultural Club was held on the first day of the Chelsea Show at Anderton's Hotel, Fleet Street, E.C. The President, Lord Lambourne, occupied the chair, and amongst those present were Sir Harry Veitch, H. Morgan Veitch, Dr. Rendle, G. Monro, Jun., H. B. May, C. Harman Payne, Alfred Watkins, J. F. McLeod, Edward White, C. Bouckenooghe, George Paul, W. Cuthbertson, J. Hudson, W. B. Cranfield, H. S. Rivers, P. C. M. Veitch, A. Turner, A. White, E. Laxton, Captain A. Hill, Rev. J. Jacob, G. H. Barr, P. R. Barr, J. W. Barr, G. H. C. Bard, J. Collingridge, J. C. Brunton, R. Pinches, J. B. Walker, and G. F. Tinley, Hon. Secretary. Altogether eighty-four, including many ladies, were present. The tables were attractively decorated with flowers and fruits kindly given by Messrs. G. Monro and Co., whilst Mr. A. Watkins sent lovely spikes of Lily of the Valley and large Parrot Tulips. After dinner the musical programme was rendered by Mr. Turle Lee and his company, the entertainment being exceedingly good.

Sir Harry Veitch, in addressing the new President, referred to the great loss the club had sustained in the death of Sir Frank Crisp, but he

congratulated the members on Lord Lambourne's consent to fill the vacancy, and thanked him for being present in the chair that evening. Lord Lambourne, in a humorous speech, thanked Sir Harry Veitch for his kind remarks, and stated that quite recently he had two signal honours conferred upon him, one that of being asked to be President of the Royal Horticultural Society, and the other to fulfil a similar office in the Horticultural Club. At a later stage Lord Lambourne congratulated the Club, and proposed the health of the Secretary, Mr. G. F. Tinley, to whom they owed a pleasant and enjoyable evening.

TRADE NOTES.

WE regret to learn that Mr. John Seymour died at his residence in Old Sleaford on Tuesday, the 6th inst after a long and painful illness. Had he lived until the 28th of July next he would have completed his 78th year.

He was a Lincolnshire man, born at Hainton, where his father, who lived to the age of 92 years, was gardener to Mr. Heneage, father of the present Lord Heneage. After leaving school he was for some years under his father in the extensive gardens, and then took up a responsible position with Sir Brandeth Gibbs, the well-known horticulturist and seedsman, of Half Moon Street, Piccadilly. After some years in Half Moon Street he decided to return to his native county, and in 1880 came to the late Mr. Charles Sharpe, to whom, and to Messrs. Charles Sharpe and Co., Ltd., he rendered 35 years' continuous service up to his retirement, owing to ill health, in 1915, when the firm signally marked its appreciation of his long and valued services.

WART DISEASE OF POTATOS.

THE Board of Agriculture is prepared to arrange for the inspection of crops of Potatos of varieties immune from wart disease on application in writing from growers in England and Wales in districts regarded by the Board as suitable for the production of "seed." This arrangement will apply only to growers whose area under any one variety is not less than half an acre. Where, after inspection, the Board is satisfied that the stock is pure and the general condition of the crop satisfactory, a certificate to that effect will be issued to the grower. The object of the inspection is to secure so far as possible that pure "seed" true to type shall be available for planting in 1920 in areas certified as infected areas under the Wart Disease of Potatos Order of 1918. It must be remembered that under this Order "seed" of immune varieties can be sold only to dealers or under licence. The Board is not prepared to issue a licence until there is evidence that the stock is pure and the general condition of the crop satisfactory. The possession of a certificate will assist the grower to sell his "seed" to a dealer, and will facilitate the issue of licences for sale to individual growers. Applications for the inspection of growing crops must be made on forms provided for the purpose, which can be obtained from the Board of Agriculture and Fisheries, Commercial Division, 72, Victoria Street, London, S.W.1.

Answers to Correspondents.

BLUEBOTTLES IN A VINERY: *J. McL.* The flies may be largely prevented from entering the house by stretching hexagon wasp-proof netting over the ventilators and other apertures. The few flies that enter by the door may be trapped with bottles containing syrup in solution or sweetened beer. The hexagon netting may be obtained from horticultural sundriesmen.

DIOSPYROS LOTUS (DATE PLUM).: *G. G.* The tree is dioecious; therefore male and female specimens should be planted within a reasonable distance of one another, in order that the fruits may form. The male flowers are produced one to three together in the axils of the leaves, but the female flowers are produced singly. The fruits attain to a size of ½ to ¾ inch in diameter. They become orange coloured at maturity, but remain harsh or astringent and unfit for eating. In this country, at least, the trees are only of ornamental value.

Erratum: Trifolium uniflorum, which received the Award of Merit on the 13th inst. (see page 244), was shown by Mr. W. Wells, Junr., Hardy Plant Nurseries, Merstham, Surrey, and not by Messrs. Wells and Co., as stated by our reporter.

ERYTHRONIUM DENS-CANIS: *J. T.* Without seeing the conditions in which your plant is growing we are unable to arrive at the cause of its failure to flower. The species usually succeeds in rich light soil in a partly shaded situation, flowering freely when established. If your specimen is growing in a very shady place move it to where it will get more sunlight. This can be done any time after the foliage dies down. These bulbous plants often like to grow and come up between other low growing perennials of loose habit.

ESTABLISHING LICHENS ON SLATES AND FLINT BUILDINGS: *A. Y.* Lichens have been reproduced artificially on a small scale, but it was done by scientific men for scientific purposes. In order to reproduce or establish them on smooth surfaces like relatively new slates or flints it would be necessary to make the surfaces rough to prevent the rain and snow from washing away the spores or young plants. Possibly thin cement splashed on the slates and flints on a dry day would answer the purpose, and they could be dusted with powdered lichens while still wet. These lichens would have to be crustaceous or foliaceous ones, which grow naturally upon slates, tiles, rocks or stones. They could be scraped off with a knife. It would be necessary also to find fruiting ones, if possible. The fruiting parts or apothecia in Parmelia, for instance, are like tiny saucers or round shields, and coloured differently from the rest of the plant. The more distinct they are the more advanced the spores would be. It would be necessary to get spores in all probability, because tiny green Algae accompany them, and both fungus and Alga are necessary to make a lichen. You will have to trust to the maturity of the fruits, and sow powdered pieces of the whole plant.

EUCRYPHIA PINNATIFOLIA: *G.* This plant is a handsome shrub, attaining to a height of 3 to 8 feet on the outskirts of London, and even in the county of London itself, where it proves quite hardy and flowers every year. It should prove hardy in the milder western side of Gloucestershire. Young bushes thrive best planted in a peaty soil, with the ground shaded by dwarf shrubs growing around it till they attain some considerable size and shade the ground with their own evergreen foliage. The flowers are like single Roses or large white Hypericums with a great brush of stamens in the centre.

FIGS NOT MATURING: *W. B.* The fruit you send is affected with spot disease, caused by a fungus—Cercospora Bolleana. Collect and burn all diseased leaves and fruits. Badly diseased trees are difficult to cure and are best rooted up and burned, and fresh stock planted in clean soil. In the case of trees that are only lightly affected, it is found that a weak solution of Bordeaux mixture is helpful in checking the spread of the fungus.

NAMES OF PLANTS: *A. F. R.* (1) Berberis stenophylla. (2) Pieris (Andromeda) floribunda. (3) Kerria japonica flora plena

PEACH LEAVES UNHEALTHY: *W. J.* Examination of the leaves when first received showed no fungus present, and the injury suggested "scorching" by water or atmospheric conditions. Cladosporium and other saprophytic or weakly-parasitic fungi developed in culture, but it is impossible to say whether any were the primary cause.

SCALDED VINE LEAVES: *H. T.* Scalding is chiefly due to the scorching effect of bright sunshine acting through globules of water on the foliage—the water acting as a burning glass. Commence to ventilate the vinery very early in the morning, and if the temperature can be maintained allow a little ventilation all night, so that the excess of moisture on the leaves may be dispersed before the sunshine is bright enough to scorch the foliage. There was a suggestion of mildew on one leaf, so sulphur should be kept at hand to prevent the spread of this disease.

VICTORY BEDDING SCHEMES: *A. H.* If it is desired to use Pelargonium Paul Crampel in the schemes, this variety should be planted in the centre of the bed, the second line of lines being filled in with a white bedding Pelargonium such as Snowdrop, and the whole edged with blue Lobelia. Plants with real blue flower are very scarce. If the beds are of considerable size and any edging other than the Lobelia is required, dwarf white Alyssum could be used. Another bed might be planted with a few dot plants of Chrysanthemum frutescens var. Mrs. F. Sander, under-planting with Pelargonium Paul Crampel, and surrounding the whole with blue and white Lobelia, or, in place of Lobelias, blue and white Ageratum might be used. If you do not favour a white flowering subject with the scarlet Pelargonium, a foliage plant, such as Centaurea candidissima, could be used, its silvery-white foliage having all the effect of a white flower; as an edging, the soft blue of Ageratum associates well with the silvery foliage. Verbenas are very useful summer bedding plants, and may be had in scarlet, blue, and white. Again, the scarlet Pelargonium could be surrounded with a broad band of white Antirrhinums of the intermediate type, edging the whole with a broad band of Delphinium "Blue Butterfly." Another good subject for edging is the dwarf Nemesias Blue and White Gem; they both come true from seed and last in flower for a long time. Lobelia cardinalis var. "Queen Victoria" could be used for the centre of a bed, and surrounded with a white Antirrhinum, edging the whole with any of the blue subjects already mentioned. Scarlet and white East Lothian Stocks, edged with blue, would also make a good bed, which would continue in flower to the end of the season.

WORK ON HERBACEOUS BORDERS: *Miss E.* Two men should trench the amount of border you give in two or three days, the time depending on the character of the soil, and the price suggested is ample. As the soil seems naturally fertile, the amount of farm-yard manure suggested should be sufficient with the addition of concentrated fertilisers, which should be applied during the growing season. The amount of animal manure suggested is far too much for the area of ground; four loads should be ample, especially as you state that the growth of the plants is very strong. Apply the basic slag, at the rate of 4 oz. per square yard, during November; sprinkle it on the surface, not in contact with the dung, and lightly fork it in the soil before replanting. If lime is used instead of basic slag it should not be applied with the manure, but should be sprinkled on the surface and, like basic slag, lightly forked in before planting. The failure of some subjects to flower well is probably due to the fact that the plants require dividing. Many hardy herbaceous plants require to be divided and replanted after a season or two, and when this is done the strongest outer portions of the clump should be selected for replanting. Paeonies are impatient of disturbance, and generally require a season to get re-established after transplanting.

Communications Received.—C. H.—T. S. G.—C. W. M. M. D.—W. R.—H. G.—A. B.—A. H. P.—C. W. A. L.—W. H. G.—P. H.—E. T. G.—J. W.—J. C.—J. F. Miss L. A. M.—Dr. H.—C. W.—E. M.—A. H.—J. O. D. O. D.—W. D.—H. R. D.—F. J. B.—J. H. E. M. B.—V. F. G.—W. H. T.—H. M—Miss S.—H. —Rev. H. F.—M. H. M.

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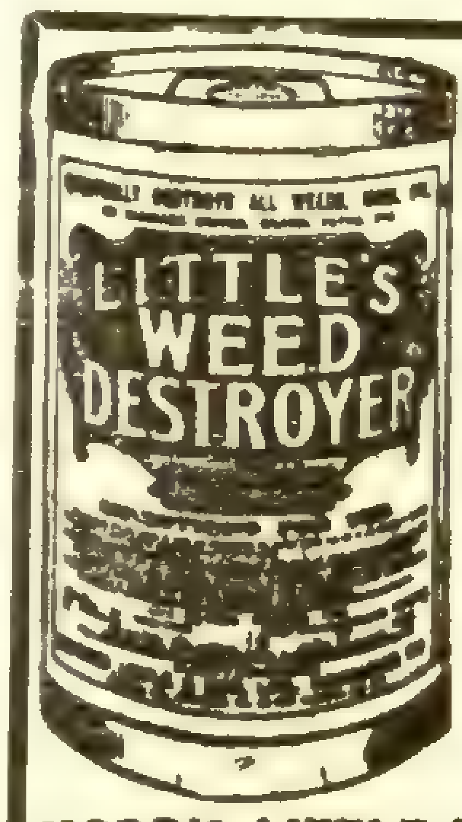

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Fig. 1.

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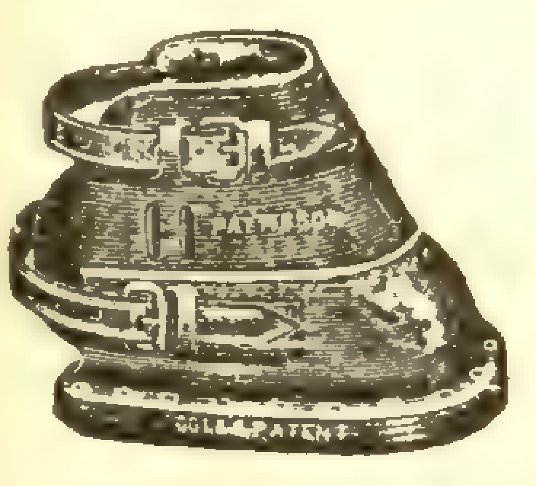
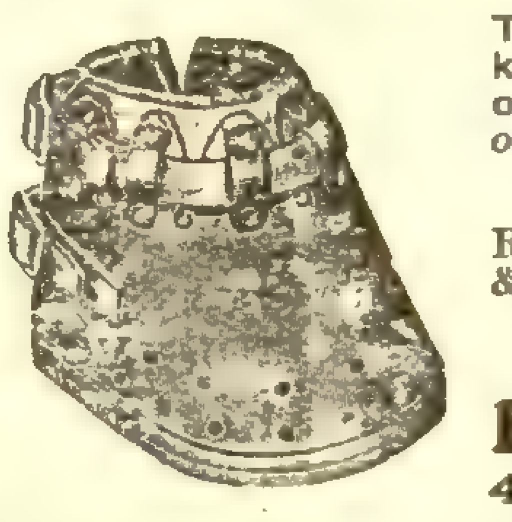


Fig. 2, A Quality.



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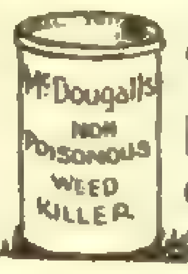

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MARKETS.

COVENT GARDEN, May 21.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Fuchsias, 48's, per doz.	18 0–24 0
Asparagus plumosus	12 0–15 0	Heliotropes, 48's, per doz.	18 0–21 0
—Sprengeri ...	12 0–18 0	Hydrangeas, white 48's, per doz. ...	24 0–26 0
Aspidistra green	48 0–72 0	— Pink, 48's, per doz.	30 0–48 0
Boronias, 48's, per doz.	30 0–36 0	Marguerites white	18 0–24 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Mignonette, 48's doz.	18 0–21 0
Cineraries. 48's, per doz. ...	24 0–27 0	Palms, Kentia ...	18 0–24 0
Ericacandidissima 48's, per doz.	18 0–24 0 0	—— 60's ...	15 0–18 0
— Rosea, 48's, per doz.	36 0–42 0	—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	4 0– 5 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	3 0– 3 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arums—		Narcissus Poeticus, per doz. bun.	2 0– 3 0
— (Richardias), per doz. bl'ms	8 0–10 0	Orchids per doz.:	
Carnations, perdoz. blooms, best American var.	2 6– 4 6	— Cattleyas ...	18 0–24 0
Gardenias, per box specials ...	9 0–10 0	— Cypripediums	6 0– 8 0
— ordinary ...	3 0– 4 0	Pelargonium, doublescarlet, per doz. bun. ...	10 0–12 0
Gladiolus, The Bride, per bun.	3 0– 3 6	— white, per doz. bunches ...	12 0–15 0
—BlushingBride per bun. ...	2 6– 3 0	Roses, per dozen blooms—	
Gladiolas, Peach Blossom, per doz. bun. ...	36 0–42 0	— Lady Hillingdon	3 0– 5 0
Gypsophila, per doz. bun. ...	12 0–15 0	— Liberty ...	3 0– 5 0
		— Melody ...	2 0– 3 0
Heather, white per doz. bun. ...	6 0–10 0	— Mme. Abel Chatenay ...	3 0– 5 0
Iceland Poppies, doz. bun. ...	6 0– 8 0	— Ophelia ...	3 0– 4 0
Iris, per doz. bun.—		— Richmond, var.	3 0– 4 0
		— Sunburst ...	3 0– 4 0
— Spanish, White	36 0–48 0	—White Crawford	3 0– 4 0
— — Blue ...	36 0–48 0	Sweet Peas, per doz. bun.—	
— — Mauve ...	36 0–48 0	— white	10 0–15 0
Lapagerias, perdoz. blooms ...	4 0– 5 0	— coloured ...	10 0–15 0
Lilium candidum per doz, blms ...	4 0– 6 0	Stock, Dbl. White	15 0–18 0
Lily-of-the-Valley, per bun. ...	1 0– 1 6	Tulips, per doz. blooms—	
Myosotis (Forget-Me-Not), per doz. bun. ...	3 0– 4 0	— Darwins, invar.	0 9– 1 0
		— mauve... ...	1 0– 1 6
		— white ...	1 0– 1 6
		— yellow ...	1 0– 1 6
Narcissus— florea plena (double white) per doz. bun.	6 0– 8 0	Violas, per doz. bun.	3 0– 4

REMARKS.—Warmer weather and plenty of brilliant sunshine, have increased the supplies of Carnations, Roses, Tulips, Narcissus Poeticus, and Sweet Peas. Narcissus—Double White is also plentiful this week, consignments of these flowers arriving from the Channel Islands, Cornwall, and the first arrival from the Spalding district started this morning. Gypsophila elegans, Iceland Poppies and Double White stocks are fairly well supplied by home growers. The Bride (white) is added to the list of Gladioli available Iris are getting more prominent and lower in price. There are abundant supplies of Lilium candidum. Richardeas (Arums), are of inferior quality and smaller in quantity owing to the warm weather. A few blooms of Lilium longiflorum were sold last week at 1s. 6d. per bloom. A few buhnches of Blue Cornflowers were offered for sale this morning. Violets are quite finished and are being replaced by the useful Viola cornuta.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
English Peaches per doz. ...	9 0–30 0	Grape Fruit, per cse	45 0– —
Belgian Peaches, per doz. ...	9 0–24 0	Melons, each ...	7 0–10 0
Gooseberries, per 12 lbs. ...	15 0– —	Nuts—	
Grapes:—		— Brazils (new) per cwt. ...	85 0–90 0
—Blk Hamburgh, per lb. ...	4 0– 9 0	Pineapples. ...each	4 0–10 0
—Muscats, per lb.	6 0–12 0	Strawberries per lb.	6 0–12 0
		Worthing Figs, per doz.	6 0–15 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Artichokes—		MustardandCress, per doz. punnets	1 0– 1 3
— Globe, per doz.	4 0– 6 0	New Turnips, per bunch	2 6– 3 0
Asparagus, English and Continenal per bundle ...	1 0–24 0	Peas, per lb. ...	3 0 –4 0
Beans, French, per lb.	2 0– 2 6	Parsley, per ½ bus.	8 0 –9 0
— Broad (French) per doz. lbs...	4 0– 5 0	Potatos, new, per lb.	0 10–1 0
Beetroot, per bus.	5 0– 6 0	Radishes, per doz. bunches ...	1 6– 2 6
Cabbage per doz.	4 0– 6 0	Rhubarb, forced, per doz. ...	2 0– 2 6
Carrots, per bag	12 0–15 0	—natural, per doz.	8 0– 9 0
— New, per lb. ...	5 0–10 0	Shallots, per lb. ...	0 6– 0 8
Cauliflowers, perdoz.	8 0– 9 0	Spinach per bus.	4 0– 5 0
Chicory, Belgian, per lb. ...	0 10– 1 0	Spring Onions, per doz. bunches ...	5 0– 6 0
Cucumbers, perflat	30 0–32 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box ...	Controlled
Endive, per doz....	1 0– 2 0	— English, per lb.	2 3– 2 6
Garlic, per lb. ...	0 8– 0 9	VegetableMarrows, each	0 10–1 0
Greens, per bag	6 0–10 0	Watercress, per doz.	0 8–0 10
Herbs, per doz. bun.	4 0– 6 0		
Leeks, per doz. bun.	— 6 0		
Lettuce Cabbage and Cos per doz.	2 6– 6 0		
Mint, per doz. bun.	6 0– 8 0		
Mushrooms per lb.	3 0– 4 0		

REMARKS.—English Hot-house Fruits now on offer consist of the following:—Grapes, Muscat of Alexandria and Black Hamburgh; Peaches, Melons, Figs and Strawberries. The shipment of Tasmanian Apples referred to in the last issue is overdue. The supplies of green Gooseberries are increasing daily. The following forced vegetables are obtainable: Tomatos, Marrows, Beans, Peas, Mushrooms, Cucumbers and new Potatos. Asparagus is now plentiful, the bulk coming from the Worcester district. Outdoor vegetables in all seasonable kinds are fairly plentiful.

SCHEDULES RECEIVED.

Croydon Horticultural Society's Flower Show, to be held in the Park Hill Recreation Ground on Wednesday, June 25, 1919. and the Vegetable and Fruit Show to be held in the Public Halls, George Street, Croydon, on Saturday, July 19, 1919. Secretary: Mr. L. R. Welstead, 11, Addiscombe Court Road, Croydon.

Royal Botanical and Horticultural Society of Manchester and the Northern Counties Flower Show, to be held in Platt Fields, Rusholme, Manchester, on July 24, 25, and 26, 1919. Secretary: Mr. P. Weathers, Botanical Gardens, Old Trafford, Manchester.

The Annual Floral Meeting of the National Dahlia Society, to be held on September 9, 1919, in the London Scottish Drill Hall, Buckingham Gate, Victoria Street, S.W. Hon. Secretary: Mr. Jas. B. Riding, Forest Side, Chingford, London, E.4.

National Potato Exhibition, to be held in Bingley Hall, Birmingham, on November 12, 13, 14, and 15, 1919. Secretary: Mr. W. H. Morter, Parks Department, Council House, Birmingham.

Windsor, Eton, and District Rose and Horticultural Society.—Twenty-sixth annual exhibition, to be held on Saturday, June 28, 1919, on the slopes of Windsor Castle. Asst. Hon. Secretary, The Rev. M. F. Foxell, The Cloisters, Windsor Castle, Windsor.

GARDENING APPOINTMENTS.

Mr. Henry Meynell, for 2 years in H. M. Forces, and previously for 5½ years Gardener to the late Mr. E. P. ARNOLD, Stilemans, Munstead, Godalming, as Gardener to C. W. WALSH, Esq., Burningfold Hall, Dunsfold, Surrey. (Thanks for 2s. for R. G. O. F. box.—EDS.)

Mr. S. T. Martin, for the past 7 years Gardener at Stisted Hall, Braintree, Essex, as Gardener to Sir FRANCIS BURDETT, Bart., Foremarke Hall, Milton, Derbyshire. (Thanks for 4s. for R. G. O. F. box.—EDS.)

Mr. W. A. Letts, for 10 years Gardener-Bailiff to A. BRYANS, Esq., Manor House, Woodmansterne, Surrey, and for the past two years N.C.O. in charge of Camp Gardens, Spittlegate Aerodrome, Grantham, as Gardener to Sir OSBORN HOLMDEN, K.B.E., Danes Hill, Oxshott, Surrey. (Thanks for 2s. for R. G. O. F. box.—EDS.)

Mr. W. H. Goodman, for 9 years Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby, as Gardener to Sir GILBERT WILLS, Batsford Park, Moreton-in-Marsh, Gloucestershire. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. P. Heath, for over 2 years temporary Gardener to Mr. J. SWIRE, Hillingdon House, Harlow, and previously for 13 years Gardener to Mr. R. HILDER, Shewhall Priory, Bishop Stortford, as Gardener to Mr. NEWMAN GILBY, Mark Hall, Harlow, Essex. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. W. J. Orr, after serving for over two years as Sergeant in the Mechanical Transport in France, and previously Gardener to Mrs. CALLANDER, of Preston Hall, Midlothian, as Gardener to The EARL OF DROGHEDA, Moore Abbey, Co. Kildare.

TO FRUIT GROWERS.

The fruit season is now fast approaching, and you will want to know how to place your fruit to the best advantage. You cannot do so unless you are familiar with the names of the chief salesmen in the principal towns of the United Kingdom. This information is contained in the

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PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

W. HEATH, Caen Wood Towers, Highgate, thanks all applicants for Foreman and Journeymen places, which are now filled.

NORTHAMPTONSHIRE COUNTY COUNCIL.
EDUCATION COMMITTEE.

APPLICATIONS are invited for the post of ASSISTANT HORTICULTURAL INSTRUCTOR. Candidates must be active and properly trained in the science and practice of Horticulture in all its branches.
Salary according to qualifications and experience.
Forms of application, which may be obtained from the undersigned, must be returned before 7th June, 1919.

J. L. HOLLAND,
Secretary for Education.

County Education Offices, Northampton.
19th May, 1919.

COUNTY BOROUGH OF BOURNEMOUTH.
To HEAD GARDENERS AND OTHERS.

THE COUNCIL invite applications from Highly Qualified Landscape and General Gardeners for the position of Head Gardener and Superintendent of the Parks and Pleasure Grounds of the Borough.
Applications, stating salary required, and on forms to be obtained from this office, to be sent to me endorsed "Head Gardener," on or before Saturday, 7th June next.

HERBERT ASHLING, Town Clerk.

Municipal Offices, Bournemouth.
May 1919.

HEAD GARDENER of two wanted; knowledge of Glass and Vegetables; nine miles from Charing Cross.—Reply B. A. W., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

SINGLE-HANDED GARDENER wanted at once in Watford; Garden of one acre and small Greenhouse; young unmarried Man preferred, who has had training and experience in a good establishment. State wages required.—Write S., W. H. Smith and Son, 119, St. Alban's Road, Watford, Herts.

WANTED, SINGLE-HANDED GARDENER; very little Glass, principally Kitchen Garden and Lawns; lodge, lighting and vegetables free; only one mile from centre of town.—Apply, W. B. BAXTER, Stapeley Manor, Nantwich, Ches.

WANTED, SINGLE-HANDED GARDENER; Glass, Fruit and Vegetables. State wage, age and experience; rooms pending vacant house.—G. LONGDEN, Draycott, Derby.

WANTED, SINGLE-HANDED GARDENER; married; Flowers, Lawn and Glass; 30s. week, Cottage, coal, gas.—BISHOP OF GLOUCESTER, Wotton House, Gloucester.

WANTED, SINGLE-HANDED GARDENER; Inside and Out; man or woman; some help given; small house provided.—State age, experience, wages, Mrs. BROADHURST, Waterfoot, Penrith.

EDITOR (man or woman) for Monthly Journal; must have practical experience so as to know what to print for the Amateur Gardening public. State qualifications and salary required, by letter only, to Mr. THOMAS RUSSELL, Clun House, Surrey Street, London, W.C.2.

SINGLE-HANDED GARDENER wanted at once; help given; cottage, electric light and vegetables.—PATTINSON, Churt House, near Farnham, Surrey.

WANTED, in Berkshire, Married Couple as SINGLE-HANDED GARDENER and LAUNDRESS; quarters provided.—Apply, stating experience and wages required, to G. G., c/o Henry Green, 120, Chancery Lane, W.C.2.

WANTED, experienced SINGLE-HANDED GARDENER; unmarried; wages 38s. MRS. MARTER, Walton, Epping.

WANTED, GARDENER with good all-round private experience; has lad under; no cottage. C., Haling Cottage, Brighton Road, S. Croydon.

GARDENER wanted, middle-aged, thoroughly experienced, single-handed; good references indispensable; wages £2, with roomy cottage, vegetables, etc.; wife or daughter to assist in house, extra remuneration; no young family.—Apply by letter, H. GREEN, Warfield Dale, Warfield, near Bracknell, Berks.

WANTED, GARDENER (married); knowledge of Houses, Vines and Lawns essential; no vegetables required; wife to board chauffeur; cottage, not suitable for children; state wages, experience and references. MRS. D., Newcrofts, Hillingdon, Middlesex.

WANTED, an experienced VEGETABLE GARDENER for private garden; all produce sold except what is required for mansion house; wages 40s. per week, plus 10 per cent. on weekly sales and half the annual profit.—Apply, stating age, experience and send photograph to Aberpergwm Estate Office, Glynneath.

GARDENER (SECOND) where several kept; Lawns, Borders and Flowers; experienced Man required; no cottage, suit single man.—Apply HEAD GARDENER, "Stagbury," Banstead, Surrey (Chipstead Station, S.E. Railway).

GARDENER (SECOND) for Inside; also MAN for Kitchen Garden. Please state age, experience and wages required, with bothy, etc.—W. G. DOUCE, Calthorpe Towers Gardens, Rugby.

GARDENER (SECOND) wanted; man with good experience in Fruits and Plants under Glass; single man to live in bothy; wages 40s. weekly, which includes Sunday duty overtime.—Apply, with copies of references, to HEAD GARDENER, Hauteville Gardens, Harrietsham, Kent.

SECOND GARDENER wanted for Herts, principally for Herbaceous Borders and Pleasure Grounds; five gardeners and boy employed in gardens; Sunday duty once in three weeks; very little glass; wages 35s. per week, with excellent cottage and large garden for growing vegetables; state references and experience.—F. BRAUND, Leadenhall House, 101, Leadenhall Street, London, E.C.3.

WANTED, an experienced SECOND GARDENER, chiefly Inside; also a JOURNEYMAN. Please state experience and wages expected, with bothy, etc., GARDENER, Sudbury Hall, near Derby.

WANTED, an additional UNDER-GARDENER.—Apply to Mr. R. ADAM ELLIS, Greenwoods, Stock, Essex.

UNDER-GARDENER wanted. State age, experience, and wages asked.—WILSON, Beechwood, Eastern Road, East Finchley, N.2.

WANTED, UNDER-GARDENER (single) with some experience; lodging found.—Apply, stating age and wages, to HEAD GARDENER, Beenham House Gardens, near Reading.

WANTED, UNDER - GARDENERS for Lawns and Kitchen Garden, able to use Scythe; cottages for suitable Men.—Apply, T. BOWSER, The Gardens, Montacute, Somerset.

WANTED, THIRD GARDENER, experienced Inside and Out; no bothy; wages 35s. per week; fare paid.—Apply, GARDENER, Danby Lodge, Darlington.

WANTED, FOREMAN for Plant and Fruit Houses; 56s. per week, bothy, milk and vegetables; copies of testimonials only.—W. F. HAMILTON, Pylewell Park Gardens, Lymington, Hants.

WANTED, INSIDE FOREMAN, chiefly Orchids and Fruit: must be experienced; duty and overtime paid; 50 hours week, 12 o'clock Saturday. State wages, with bothy, etc.—H. CHANDLER, Coombe Abbey Gardens, Coventry.

WANTED, experienced FOREMAN (INSIDE), well up in Fruit, Carnations, etc.; also experienced Man for Rockery, Herbaceous and Pleasure Grounds; no bothy.—Apply, stating wages, with references, to JAS. SHEARER, The Gardens, Brasted Place, Brasted, Kent.

WANTED, for Berkshire, a good FOREMAN GARDENER; well up in Carnation growing; good house and garden; must be willing to take in and board two or three Under Gardeners; good wages to capable man. Apply, B. E., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FOREMAN (Inside) and two JOURNEYMEN, Inside and Out; good wages to suitable men; bothy and vegetables; 1 o'clock Saturdays.—J. H. SIMPSON, Biddlesden Park, Brackley, Northants.

WANTED, LEADING HAND for Pleasure Grounds; state wages required, with bothy and usual allowances.—WM. HADDOW, Parkwood, Englefield Green, Surrey.

WANTED, two LEADING HANDS, one (Inside) Plants and Fruit, one for Hardy Fruit and Kitchen Garden; must be experienced, energetic men. Wages 40s. per week, with bothy and attendance; duty every third week.—W. ROWSON, The Gardens, Fresham hill, Farnham, Surrey.

WANTED, two JOURNEYMEN (Outside); single; 32s., bothy. Apply, R. DINSDALE, Head Gardener, Leesthorpe Hall, Melton Mowbray.

WANTED, JOURNEYMAN or LABOURER; no bothy. Apply, with full particulars and wages required, to McLEAN, The Manor House Gardens, Plumtree, Nottingham.

WANTED.—JOURNEYMEN (two) wanted. Inside and Out; duty alternate Sunday; state wages and experience; bothy. J. A. WILKS, Bolton Hall Clitheroe.

WANTED, JOURNEYMAN for Inside, about 20 or 22 years.—Apply, stating wages required, with bothy, vegetables, to J. PEPLOW, Compton Verney Gardens, Warwick.

WANTED, two good JOURNEYMEN for Fruit and Plant Houses; must be well recommended; good wages, bothy, milk, and vegetables; 1 o'clock Saturday. — HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, experienced JOURNEYMAN (single), Inside and Out; wages 36s.; extra for duty; 1 o'clock Saturday.—State age and experience to H. LANGLEY, Eastwick Park Gardens, Great Bookham, Surrey.

WANTED, JOURNEYMAN for Inside and Out; wages 26s. per week and bothy; duty and overtime paid.—Apply, H. A. PAGE, The Gardens, Belsize Court, Hampstead, N.W.3.

WANTED, JOURNEYMAN, chiefly Inside, but part-time in the Flower garden; duty every fourth week; wages 30s., bothy, etc.; 1 o'clock Saturdays.—F. SOMERFORD, Park Place Gardens, Henley-on-Thames.

WANTED, JOURNEYMEN for Plant Houses and Flower Garden; good wages and bothy.—Apply C. HARRIS, Head Gardener, Welbeck, Worksop, Notts.

WANTED, six smart, active young JOURNEYMEN immediately; preference to ex-Service Men; Lodgings now, bothy later.—State experience, whether chiefly Inside or Out, age, wages expected, copies of testimonials, etc., to GEO. MORBEY, The Gardens, Lilleshall House, Newport, Salop.

WANTED, two experienced JOURNEYMEN for Fruit and Plant Houses. Also one for Pleasure Ground; bothy, milk and vegetables.—Apply, stating full particulars and wages required, WILLIAM TURNHAM, Greenlands, Henley-on-Thames.

WANTED, two JOURNEYMEN for Outside, chiefly bothy; 32s. per week, duty and overtime extra.—Apply, D. MOYES, The Gardens, Osterley Park, Isleworth, Middlesex.

WANTED, an experienced JOURNEYMAN for Fruit Houses; duty and overtime paid; 50 hours week, 12 o'clock Saturday. State particulars and wages, with bothy, etc.—H. CHANDLER, Coombe Abbey Gardens, Coventry.

WANTED, SECOND JOURNEYMAN (Inside); Fruit and Plant Houses. Also Young Man with experience in Rock Plants and Rhododendrons.—State wages (with bothy) and particulars of experience, to GEO. GURNEY, Bodnant Gardens, Talycafn, N. Wales.

GARDENER. — Wanted, YOUNG MAN as Improver.—Write, stating age, experience and wages required, to HEAD GARDENER, Westergate House, near Arundel, Sussex.

WANTED, two MEN for Gardens; preference given to men who have been wounded; 30s. per week, bothy, milk and vegetables.—Apply, stating reference, to ARTHUR H. LAWLEY, The Gardens, Witham Hall, Bourne, Lincs.

WANTED, SINGLE MAN for Hardy Fruit growing; must understand Pruning and Spraying, etc.; wages, £2 per week, bothy and attendance; 1 o'clock Saturdays; state experience and age.—M. QUINN, Swynnerton Gardens, Stone, Staffs.

WANTED, a SINGLE MAN for Kitchen Garden; also Journeymen for Pleasure Grounds.—State experience and wages expected, with bothy and vegetables, to A. J. COBB, Duffryn Gardens, near Cardiff.

WANTED, SINGLE MAN for Kitchen Garden and Pleasure Ground; take duty.—State age, experience, and wages required, to W. CLARKE, The Gardens, Bear Hill Twyford, Berks.

WANTED, experienced MAN for Flower borders; also JOURNEYMAN for Inside; good wages to suitable men; bothy and usual allowances; 1 o'clock Saturday.—J. KIRKWOOD, The Gardens, Sutton Place, Guildford.

WANTED, MAN for Kitchen Garden and Pleasure Grounds; take duty; bothy, milk and Vegetables found.—Apply, stating wages, experience, etc., S. HAND, Wixenford, Wokingham, Berks.

WANTED, man for Kitchen Garden and Pleasure ground with knowledge; 30s. per week, good bothy, vegetables.—Apply, MOLES, Heathlands, Wokingham, Berks.

WANTED for Pleasure Grounds, two single MEN with experience; wage £1 15s., bothy.—Apply, A. ROBBINS, Canons, Edgware.

YOUNG MAN wanted for Kitchen Garden and Pleasure Grounds, near Farnham, Surrey; accommodation in bothy; wages 30s.—Miss RUSSELL, 59, Eaton Square, S.W.1.

WANTED, experienced YOUNG MAN, Inside and Out; lodgings found close to Garden.—Experience and wages required to C. LUXFORD, The Gardens, Walmsgate Hall, Louth, Lincs.

WANTED, YOUNG MAN, 17-19, Inside and Out; bothy, milk, vegetables; duty paid, every third week; 1 o'clock Saturdays State wages and experience.—RUSE, Folly Farm Gardens, Sulhamstead, nr. Reading.

WANTED, YOUNG MAN for the Houses, with some knowledge of Fruit and Plant Growing. State wages required and experience.—A. WILSON, The Gardens, Eridge Castle, Tunbridge Wells.

WANTED, strong YOUNG MAN for Inside and Out, chiefly Plants and Kitchen Garden; alternate duty; 1 o'clock Saturday; 35s.; no bothy.—Apply, E. W. READ, 22, Norton Road, Hove.

WANTED, two YOUNG MEN, experienced Kitchen Garden and Pleasure Grounds; able to use scythe, take duty; bothy and vegetables; 1 o'clock Saturday.—Particulars and wages to J. A. MULFORD, Merevale Hall Gardens, Atherstone, Warwicks.

WANTED, YOUNG MAN for general outside garden work, used to machine and scythe; able to take duty; bothy provided.—F. BERRY, Pull Court, near Tewkesbury.

A HANDY all-round GARDEN LABOURER wanted; wife willing to undertake occasional household duties, or to act as Caretaker; wages 32s. and cottage.—Apply, COL. LOMBE, Grafton Regis, Stony Stratford.

WANTED, GARDEN LABOURER used to scythe, machines, and general work; good wages, house and school near by.—Apply, with particulars, to HEAD GARDENER, Revesby Abbey, Boston, Lincs.

TRADE.

UNIVERSITY COLLEGE, READING,
and the
BERKSHIRE AGRICULTURAL INSTRUCTION COMMITTEE.

A COMMITTEE, representative of the Berkshire Agricultural Instruction Committee and of University College, Reading, will shortly proceed to select a candidate as HORTICULTURAL INSTRUCTOR for Berkshire, under the scheme drawn up by the Berkshire Agricultural Instruction Committee, and carried out in conjunction with University College, Reading.

Candidates for appointment should possess thorough knowledge of practical Horticulture and Market Gardening, and should be capable of lecturing and advising on matters connected with the Production and Marketing of Horticultural Produce.

The Salary will be at the rate of £250 per annum, together with an allowance for travelling expenses, according to scale.

Further particulars, for which a stamped addressed envelope should be enclosed, may be obtained from the Agricultural Organiser for Berkshire, University College, Reading, by whom applications will be received up to June 28, 1919.

GARDENERS, with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village, N.6.

WANTED, for two or three months, a first-class TOPIARY EXPERT; must be a practical working man; good wage paid. — Apply, JOHN WATERER, SONS & CRISP, Ltd., The American Nurseries, Bagshot, Surrey.

WANTED, two ASSISTANT PROPAGATORS, single men, under foremen, one for Shrubs, Creepers, etc., the other for Herbaceous and Alpines; capable young men keen on learning a choice and varied collection of Shrubs, Hardy Plants, etc.—State lowest wages, references, etc., to HILLIER & SONS, The Nurseries, Winchester.

WANTED, HEAD WORKING FOREMAN; must be thoroughly experienced in Grape, Peach and Tomato growing for markets on a large scale.—State experience, age and wages required, to E. BOURGAIZE & CO., Leigh Vineries, Wimborne, Dorset.

WANTED, FOREMAN (OUTSIDE) with good practical knowledge of Fruit; also JOURNEYMAN for the Houses; good wages, with bothy, etc., to suitable men.—State full particulars, with wages required, to W. H. BACON, The Mote Park Gardens, Maidstone, Kent.

WANTED, FOREMAN for Grapes and Tomatos (and Apples) for market. State wages required, cottage on premises.—B., Broadwater House, Worthing.

FOREMAN GROWER wanted for Dahlias, Solanums and Hydrangeas.—State experience and wages required, CLIBRANS, Altrincham.

INSIDE CHARGE HAND, with really good trade experience in Market Growing; must have best refs.—Fullest particulars of experience, wages required, to KERR & SONS, LTD., Penrith.

JOURNEYMAN, Inside and Out, wanted; demobilised soldiers preferred, 30s. per week, bothy, etc.; attendance; 2s. extra for duty.—H. DEVERELL, The Gardens, Meldon Park, Morpeth, Northumberland.

JOURNEYMEN wanted for large establishment; wages 35s. and bothy (with attendance) and vegetables.—Apply, with full particulars and references, to HERD BROS., The Nurseries, Penrith.

WANTED, good, reliable MAN for Pleasure Grounds, with experience of Rock and Herbaceous Plants; also TWO JOURNEYMEN; bothy and vegetables.—Apply, stating wages and all particulars, to J. BARNARD, Mostyn Hall Gardens, Mostyn, Chester.

WANTED, a number of MEN, temporarily and permanently, for work in Vineries; high wages.—JOSEPH ROCHFORD AND SONS, Limited, Slough, Bucks.

WANTED, YOUNG MAN for Rose Department (Outside).—Apply, with particulars, to THOMAS PERKINS & SONS, LTD., 34, The Drapery, Northampton.

YOUNG MEN wanted for the following Glasshouse Depts.: Stone and Greenhouse, Soft-Wooded, Fern and Palm, Chrysanthemum, and others, 49½ hour week; 12 o'clock on Saturdays.—State experience and wages required, CLIBRANS, Altrincham.

WANTED, two YOUNG MEN for general out-door Nursery, chiefly Roses; preference given to good Budders.—State wages required and experience, PERKINS & SON, Nurseries, Coventry.

WANTED, for Inside and Out, two strong Young Men, age about 18, one able to drive; state wages and experience.—H. S. Holmested, Bretby Nurseries, Burton-on-Trent.

ASSISTANT SEEDSMAN.—Wanted, YOUNG MAN with some experience in Packeting and Parcelling Vegetable and Flower Seeds. Postal and parcel trade only; no counter service. State age, experience, etc., STORRIE & STORRIE, Seeds Specialists, Glencarse, Perthshire.

SMART SHOP ASSISTANT required for quick counter trade: Seeds, Bulbs, Plants, etc.; capable of taking charge of shop if needed.—Write, giving full particulars of capabilities, etc., also wages required, BARRIE & BROWN, Ltd., 39, King William Street, London Bridge, E.C.4.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS, and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

A. R. CUMMINS seeks appointment as HEAD GARDENER; thorough practical experience in all branches of Modern Horticulture; excellent testimonials from Brocklesby Park, Gatton Park and Brussels; age 31; married (three children.—2 Mount Pleasant, Mitcham Road, Croydon.

COL. COURAGE, D.S.O., selling his estate, wishes to highly recommend his late HEAD GARDENER, just demobilised from Army of Occupation; eleven years as Head; life experience in all branches, age 39.—THOMAS RYDER, Sutton Scotney, Hants

MRS. TAIT can thoroughly recommend a HEAD GARDENER for a good establishment, thorough knowledge of Fruit, Flower, and Vegetable culture, under Glass and Outside; House and Table Decoration; good general knowledge of Grassland, Woods, etc.; capable and trustworthy; abstainer (two years and nine months Army).—Stafford Hotel, St. James's Place, S.W.

LADY VAUX, Harrowden Hall, Wellingborough, wishes to recommend WM. WARREN to any Lady or Gentleman requiring a Head Gardener experienced in all branches, both Inside and Out; age 38; married (one child).—Further particulars, apply either to above or WM. WARREN, Shirburn, nr. Watlington, Oxon.

MRS. LAMBERT, Danehurst, Grassington Road, Eastbourne, Sussex, highly recommends her late HEAD GARDENER (who has been with her 11 years, 6 as Head), where two or three are kept; life experience; age 36; married (one child).—G. HAMMOND, Moor Hall, Cookham, Berks.

MR. A. W. BLAKE, The Castle Gardens, Highclere, Newbury, wishes to recommend his late Foreman, A. LEWIS, as Head Gardener; life experience in all branches; demobilised; age 32; married (no family).

MRS. GUTHRIE, East Haddon Hall, Northampton, most highly recommends her late HEAD GARDENER to any Lady or Gentleman requiring the services of a thoroughly competent, reliable Man, in all branches of Horticulture, Fruit and Carnations specialities; 29 years' experience gained in first-class establishments; demobilised.—TURNER, 18, Blomfield Street, Bury St. Edmunds.

JOHN S. DUGDALE, Esq., K.C., 29, Eaton Square, London, S.W.1, can highly recommend his HEAD GARDENER, who has been with him 12 years; first-class Gardener, excellent organiser and manager; 31 years' experience in first-class establishments, 19 years as Head; age 43; married (no family).—Blyth Hall, Coleshill, Birmingham.

MR. E. G. PRETYMAN, M.P., desires to recommend his GENERAL GARDEN FOREMAN, G. BRIARS, to any lady or gentleman requiring the services of a competent Head Gardener.—Orwell Park, Ipswich.

LANDSCAPE. — Experienced HEAD GARDENER seeks engagement either as Head Gardener where reconstruction of Gardens and Pleasure Grounds is contemplated, or as Landscape Manager in the Trade, thoroughly experienced in all kinds of Horticulture, with 25 years' practical experience in private gardens and nurseries; plans and estimates; energetic, good organiser of labour; age 38; first-class references, demobilised in January; just finishing Landscape job in West of England.—R. A. H., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD); thoroughly experienced in the management of a large establishment; first-class references; eight years Head here; leaving through reductions; served B.E.F.; age 41; married (one child).—FRENCH, Lower Hare Park, Newmarket.

HEAD GARDENER; thorough Fruit and Plantsman, etc.; would take large place to work for market; reasonable wage and commission.—F. G., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

HEAD GARDENER. — The Hon. A. Mulholland recommends his late HEAD GARDENER as a first-rate man; economical, energetic and fully qualified to meet requirements of good establishment; renovation, landscape, estate, bees.—MORRIS, 44, Fairclose Road, Beccles.

GARDENER (HEAD) life experience, seeks situation; little Glass; private establishment (cottage); good Vegetable, Fruit grower; well up in pruning, general management; knowledge farming; wife excellent cook, assist in house if required; references.—H. M., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

AN EXPERIENCED GARDENER (HEAD), with excellent references for energy and ability in all branches, Inside and Out, seeks re-engagement; age 45; disengaged.—M., The Gables Cottage, Surbiton.

GARDENER (HEAD); life experience in all branches, Inside and Out, gained in good establishments; 7 years last place, 2½ present; leaving through estate being sold; excellent references; age 29; two children; abstainer.—HAWKINS, Gadsden, Hayes, Kent.

GARDENER (HEAD) where several are kept.—Mr. Butler, The Gardens, Wilton House, Salisbury, can with confidence recommend C. COOL to any lady or gentleman requiring such; thoroughly experienced in all branches, Inside and Out; age 30.

GARDENER (HEAD) or GARDENER-BAILIFF; demobilised, C.Q.M.S.; practical experience in general routine of good establishment or Institution, including small farm; last situation before enlisting, 1915, School of Handicrafts, Chertsey, closed now through reduction; can be well recommended, age 37; married (two children).—E. W. WAKEHAM, 10, Eastworth Road, Chertsey, Surrey.

ADVERTISER seeks re-engagement as HEAD GARDENER or ESTATE MANAGER, private or otherwise; thorough practical life experience in all branches; age 35; married.—Particulars to M. G., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD); demobilised; A1; life experience in all branches, gained in first-class establishments; fifteen years Head; energetic, good organiser of labour; first-class references; age 43 years; one daughter, 10; disengaged.—J. A. PESKETT, Stansted Park, Rowlands Castle, Hants.

GARDENER (HEAD or SINGLE-HANDED with help); practical life experience in Private Gardens; married; age 43; excellent references; reliable and trustworthy.—BARRETT, Hatfield Heath, Harlow, Essex.

GARDENER (HEAD or good SINGLE-HANDED); married (no children); good references; age 37; near London preferred.—W. HYDE, "Thornlea," The Chase, Pinner, Middlesex.

GARDENER (HEAD, or good SINGLE-HANDED with help; life experience all branches, Inside and Out; good references; age 38; married (one child); disengaged.—BAIRD, Rolvenden, Kent.

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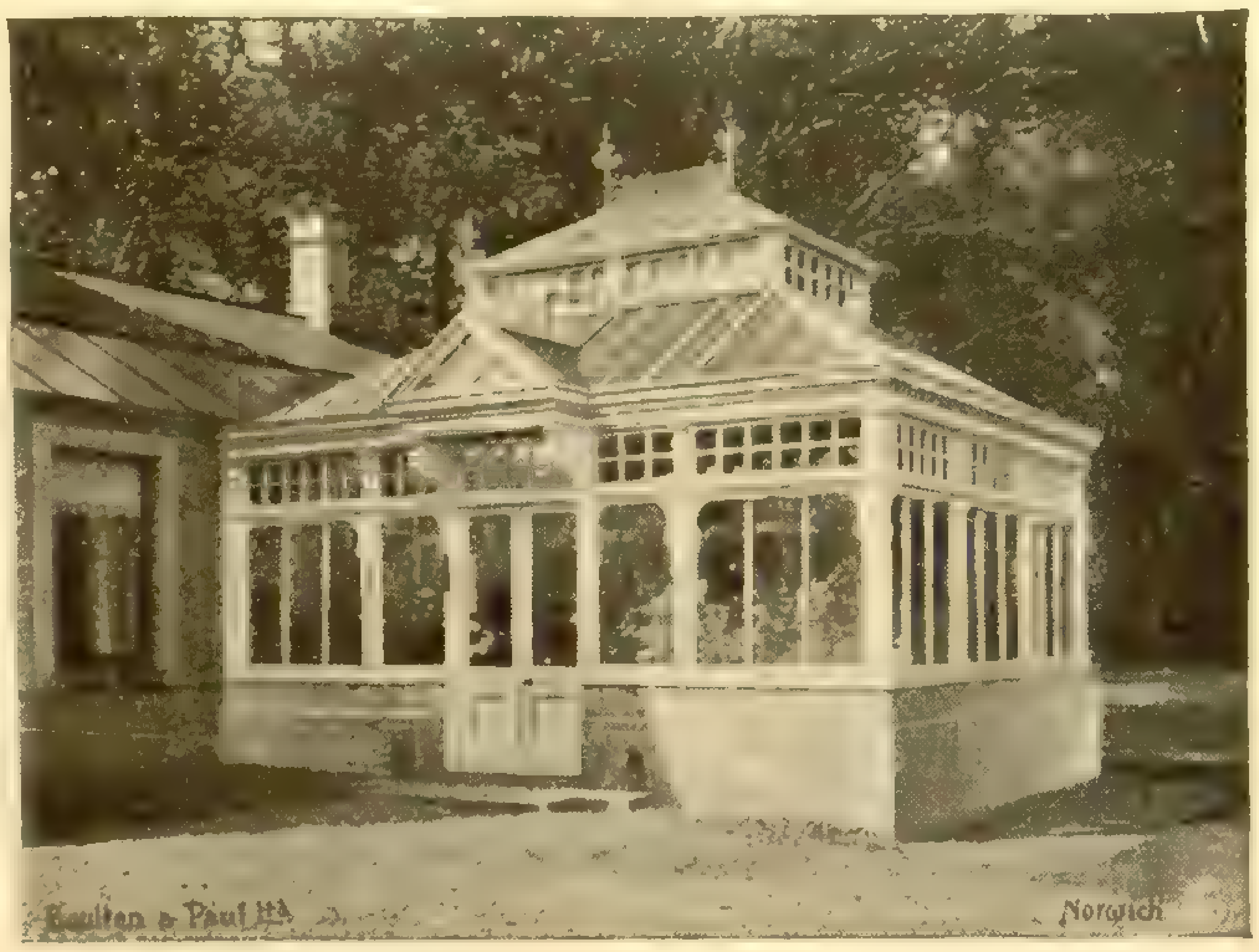

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FLORAL FETE

in connection with the Royal Horticultural Society's War Relief Fund, which has been established to help restore the devastated gardens and orchards of France, Belgium, Roumania and Serbia, will be held in the

Chelsea Hospital Gardens,

ON

JUNE 24, 25 and 26.

Many of the leading Horticultural Firms have kindly offered their assistance in furthering the success of the Fête by exhibitions and gifts of Flowers, Fruit, etc., which will be offered for sale for the benefit of the Fund.

It is intended to hold Daily Sales of Flowers, etc. An APPEAL is therefore made for Plants, Cut Flowers, Fruit, Vegetables, etc. Offers should reach the Secretary, R.H.S., WAR RELIEF FUND, 17, Victoria Street, on or before June 14, in order that they may be duly entered in the Catalogue. The gifts can be received at the Chelsea Hospital grounds on either of the three fête days.

Enquiries respecting Space, Exhibits, Flowers, etc., should be addressed to Mr. W. E. BISSET, R.H.S. WAR RELIEF FUND, 17, Victoria Street, S.W.1.

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Entries close June 11, 1919.

For Schedules apply to—H. W. PULLEYN, Secretary, 8, Coppergate, York.

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A Show, in conjunction with the Royal Dublin Society's Show, will be held on

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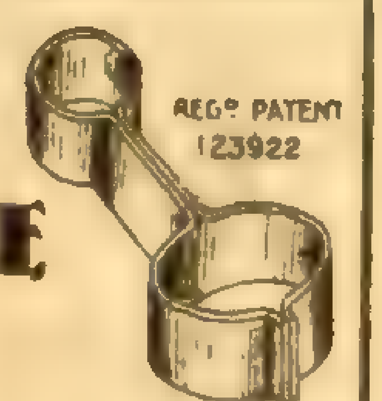

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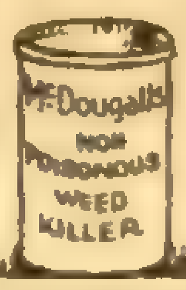

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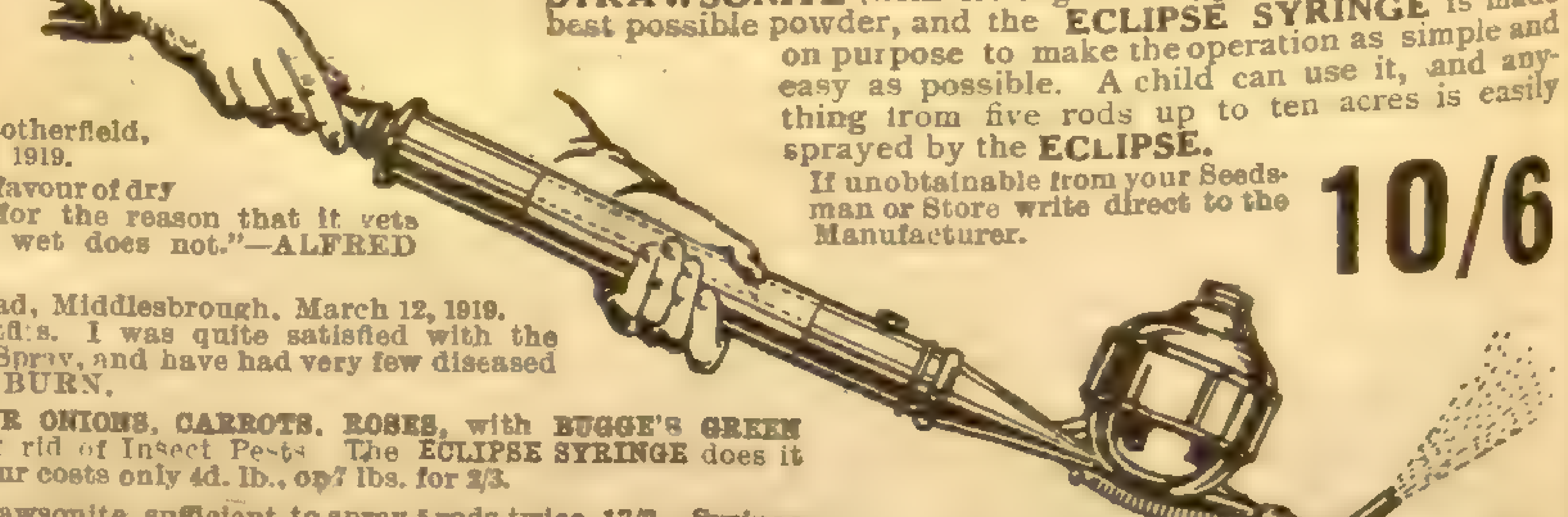

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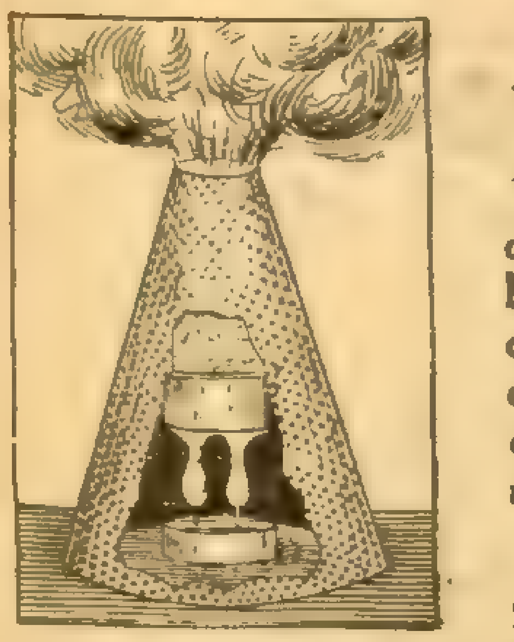

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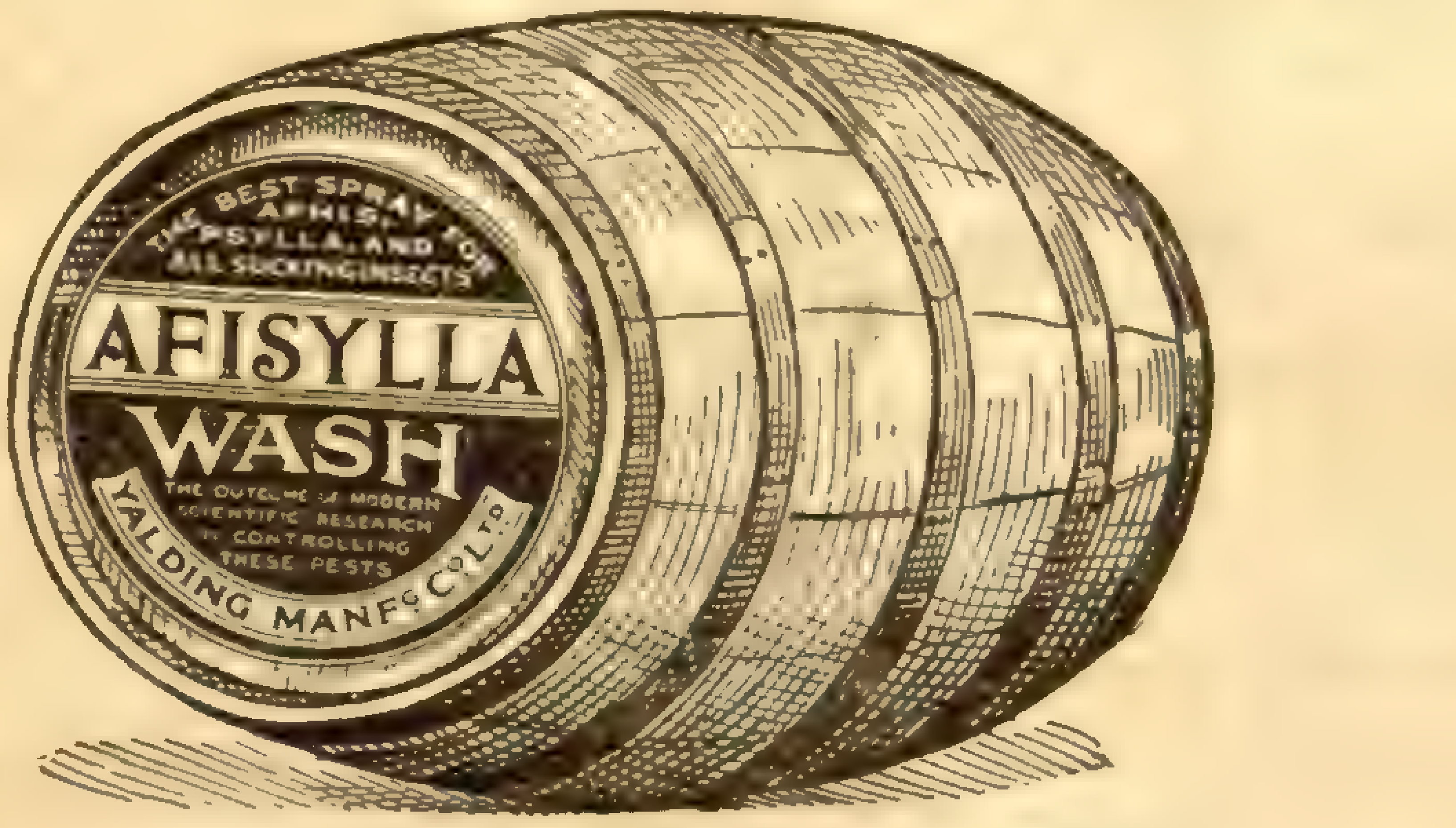

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THE
Gardeners' Chronicle
No. 1692.—*SATURDAY, MAY* 31, 1919.

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THE FASCINATION OF ORCHID GROWING.

THE principal charm in the cultivation of Orchids lies in the great variety of the flowers they produce, for in no other class of plants are to be found blooms of such varied shape, size and colour.

Orchid growing, or Orchid possessing, is a hobby in which I venture to think fewer beginners educate themselves than in any other hobby which can be named.

When a person sets out to make a collection of any kind he generally commences by making mistakes, yet a collector of, say, old porcelain, pictures, or postage stamps educates himself very early in his collecting period, with the object of avoiding mistakes which may prove expensive.

To experience the fascination of Orchid growing from the commencement the start must be a correct one. I would not advise anyone to commence with a "general" collection, even if the plants are chosen to suit the temperature of a single house. It would be preferable to start with one family at a time, and the members of it should be chosen either by a friend with full knowledge of the subject, or supplied by one of the well-known nurserymen, who may be relied upon to render faithful assistance to the man who wishes to form a collection. If plants are bought irrespective of temperature and without knowledge, the same disappointments will be experienced as I had in my early collecting days, and as many another has had as a result of over-confidence or pride.

A friend of mine, having a few Orchids under the care of a general gardener, occasionally attended sales. How he, with his lack of knowledge, dared to buy imported plants I do not know, but I saw him purchase imported Cattleyas at one of these sales. He was informed by an interested stranger that these Cattleyas were infested with the Cattleya fly. He had no idea what this meant, therefore it did not deter him, and he merely replied, "Never mind, they will soon fly away," and continued his purchases. The result was that all the plants had to be destroyed. I have very little sympathy with such an obstinate attitude, but such a catastrophe would probably result in the loss to Orchid culture of a possible enthusiast, and certainly would be a great hardship to his gardener. This is an extreme case, but how many of us have been guilty of buying, at sales, half-dead plants with high-sounding names, because the price was low compared with that of a healthy plant purchased from a nurseryman, and then expected our grower to flower it?

It does not, however, follow that at sales all plants are obtainable at low prices. My experience is that Orchids of

FIG. 131.—PYRACANTHA GIBBSII VAR. YUNNANENSIS.
(One-third natural size: see p. 266.)

lower values bring more at private sales than they could be purchased for from the trade.

The whole system of educating oneself upon any subject lies in benefiting by the experiences of others, by avoiding their mistakes, and by using their methods as a foundation for improvement.

My experience is not exactly a "Pilgrim's Progress," but "sloughs" have been passed through which with more knowledge might easily have been avoided. The desired haven is always something in the far distance. Some aims are not achieved, but the encouragements far outweigh the disappointments.

The nucleus of my collection was formed some twenty-five years ago. My collector was Mrs. Thwaites. She "collected" from her father's Orchid houses —a few at a time. The plants consisted of what I may term "beginner's" Orchids, viz., Coelogyne cristata, Dendrobium nobile, and a few Cypripediums. It may be too much to say that these plants will grow anywhere, but with a small amount of attention, and just a little ordinary care, they will bloom freely year after year. The initial cost of such plants may not be more than that of good Rose bushes, but there is much more joy in the flowering of one Orchid than in many Roses.

The comparative ease with which the Orchids named are grown should induce the owner after a time to add similarly easily grown plants to his collection, but here again he may soon be on the wrong track. It was at this stage that I attended a private sale and bought all the rubbish no one else would have, such as Cyrtopodiums, Oncidium lanceanum, Pleiones, and Masdevallias (the names of which were Greek to me), simply because there were no other bidders.

A little later on, as I found that I could grow Coelogyne cristata, I bought the "alba" variety for £20 at a sale room. On getting this plant home I took it out of the pot, washed it thoroughly clean in running water under a tap, divided it, potted it in peat and Sphagnum-moss, and killed it. I have found since that Coelogyne cristata objects to this kind of treatment.

I now began to realise that I was buying my experience too dearly; in fact such experience was of no use to me at any price. It was positive experience I required, and not the negative kind. I am thankful that at this time I had no grower to blame except myself, and I tender my sincere sympathy to any gardener whose employer expects him to grow and flower indiscriminately chosen plants, bought by him at sales.

I now purchased Mr. Burberry's book on Orchids, a short, concise, and very helpful guide, and at about the same time I made the acquaintance of Mr. H. J. Chapman (the well-known grower to Mrs. Norman Cookson), who then had charge of the late Mr. Measures' fine collection. From Mr. Chapman I received encouragement to persevere, and frequently visited the collection then under his charge at Camberwell. I began to realise that the "growing" of Orchids must never cease to be a subject of study if any pleasure was to be derived from it. By conversations with growers, at the sale rooms and exhibitions, and by visiting a few private collections, I learnt to know and understand something of the requirements of Orchids. I found that they needed to be grown in their own special temperature, and to be carefully studied as to shading and watering. Also I found that Odontoglossums cannot be successfully grown in a Phalaenopsis house. Presently I built more houses for Orchids, and took up the growing of Dendrobiums as a speciality. From that time until the present, the growing of Orchids has never ceased to be a fascinating hobby to me. The Dendrobiums grew successfully, and I commenced to purchase the rarer varieties. Fertilisation and the raising of seedlings were studied, and when these matters are successfully dealt with there can be no doubt as to the large amount of enjoyment there comes from growing Orchids.

About this time I was fortunate in securing the services of Mr. J. M. Black (now a partner in the firm of Messrs. Flory and Black, of Slough) as grower. One of the first hybrids raised at Ches-

sington, was Dendrobium Thwaitesiae (D. Wiganiae xanthochilum × D. splendidissimum), which, when shown before the Royal Horticultural Society, was given an Award of Merit by the Orchid Committee, while one of our finest results we consider to be Brasso-Laelio-Cattleya The Baroness, that beautiful, golden-yellow hybrid, which was obtained from Laelio-Cattleya Ophir, and Brasso-Cattleya Leemaniae, both of which were raised at Chessington.

It is an outstanding fact that Orchid growers, both amateur and professional, are always ready to help the beginner, and encourage him to better things, and a novice should attend exhibitions and converse with those who are expert, and thus gain a great deal of helpful information.

At a little later period white Orchids were much in demand, and we at Chessington began to study seriously the possibility of obtaining them from seed. Our first success was the result of "selfing" Dendrobium nobile virginale. All the plants raised from this parent proved true to name when they flowered. We then tried crossing Cattleya labiata Amesiana (white, with a mauve lip) with C. labiata R. I. Measures (white, with coloured lip) in the hope of raising plants which would give white flowers with coloured lips. The result was exceedingly disappointing, for all the plants had very pale mauve on the sepals, petals and lips of their flowers.

Large numbers of experiments were tried with other plants, following upon various theories formed as to the origin of white Orchids, the results making it quite clear that many reputedly "white" Orchids were, in actual fact, not white. We did, however, succeed in raising white Orchids, true, from pure white parents, and from parents having yellow flowers on the one hand and purple flowers on the other we have obtained many having pure white sepals and petals.

There are always problems for the hybridist to solve, which will keep up his interest. If anyone is particularly keen on "solutions," let him try his hand with Dendrobium Brymerianum as a parent.

The problem of storing pollen from one plant's season of flowering to that of another gave us much thought, but the difficulty has been very largely overcome. The difficulty of fertilising the small flower of Sophronitis grandiflora with pollen from large Brasso-Cattleya flowers was successfully solved by dividing the pollen masses of the large flower. The successful fertilisation of Cochlioda Noezliana was discovered through finding out that the flower possesses a divided stigma instead of the usual single surface.

Discoveries are always being made—the following is rather wide of my subject, but the reference to Brasso-Cattleyas tempts me to include it as a "discovery." A lad working in my houses, coming across a label marked B.-C. Leemaniae, said to my grower, "My word! here's an old one." He had mistaken "B. C." for a datal reference; perhaps "Julius Cæsar—55 B.C." had been so thoroughly drilled into him, that B.-C. could not possibly have any other meaning than that which related to the birth of the plant.

Provided one sets to work intelligently, the growing of Orchids, from the flowering of the first plant purchased to the latest production of the hybridist, will prove a most fascinating pursuit. *R. G. Thwaites, Streatham.*

NEW OR NOTEWORTHY PLANTS.

A NEW VARIETY OF PYRACANTHA GIBBSII.

AT the time I published the description of the Chinese Pyracantha Gibbsii* I was unaware that a closely allied form had been in cultivation for some years under the name of P. crenulata var. yunnanensis Mottet. I made its acquaintance in the Crataegus collection at Kew, where there is a specimen 6 feet high which came from Messrs. Chenault's nursery at Orleans in 1913. This Thorn resembles P. crenulata var. Rogersiana in its widely-spreading branches, but is more robust in habit and the foliage is quite different. From P. Gibbsii, however, it can hardly be separated except by its somewhat more spiny branches and obovate or oblong-spathulate leaves, which are distinctly and often coarsely crenate or even lobulate. The leaves of P. Gibbsii are generally obovate-oblong or elliptic in outline and entire or finely serrate in the upper two-thirds. The fruits appear to mature much later than in P. Gibbsii, lasting at any rate this year until the middle of March, the fruits of P. Gibbsii, having disappeared some weeks previously. This latter character, however, requires testing over a number of seasons. On looking up the original description of P. crenulata var. yunnanensis in *Revue Horticole* for May, 1913, a copy of which was kindly

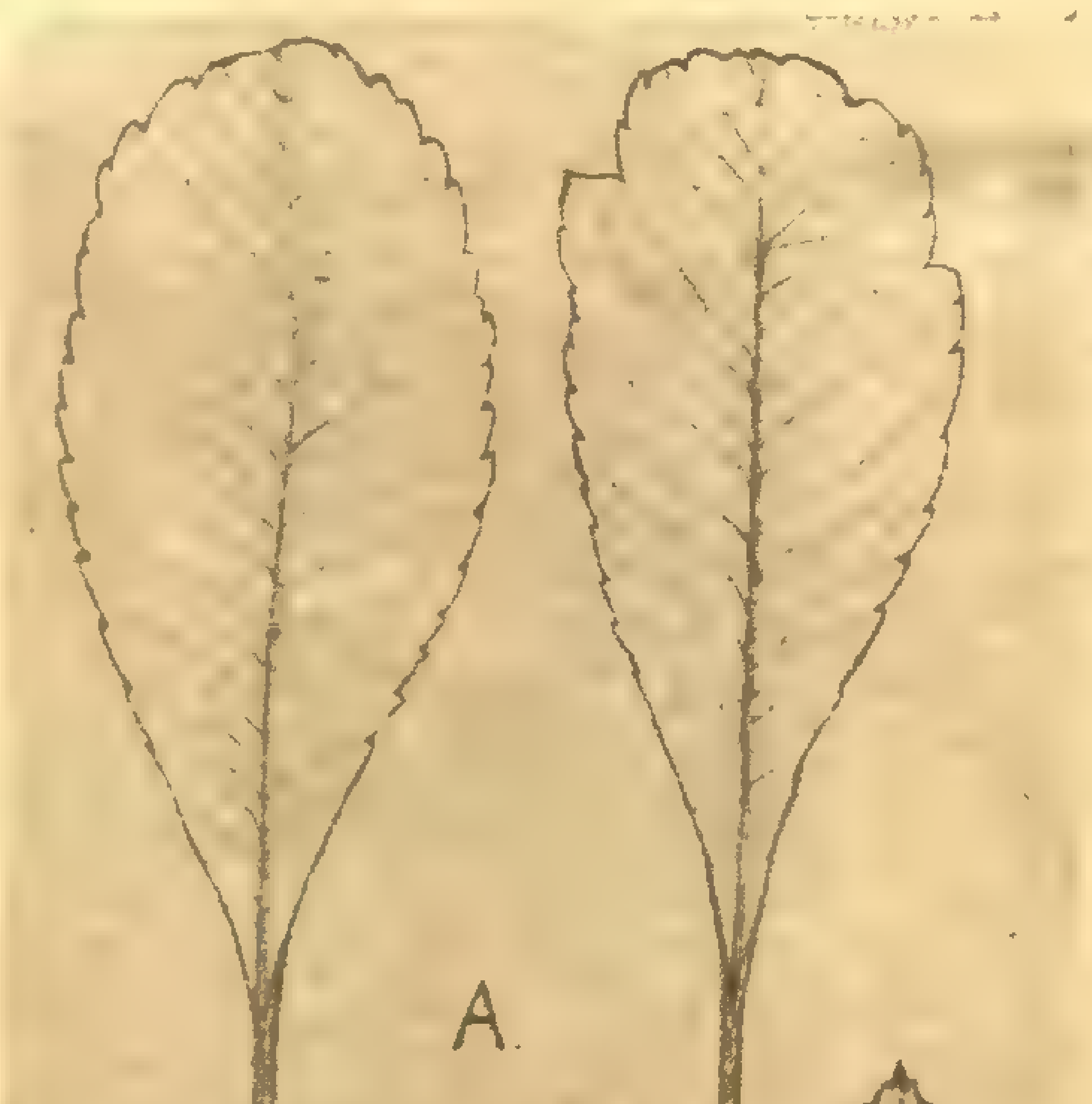

FIG. 132.—A, LEAVES OF P. GIBBSII VAR. YUNNANENSIS, NAT. SIZE; B, LEAVES OF P. GIBBSII VAR. TYPICA, NAT. SIZE.

sent me by Messrs. Chenault, I find that its introduction dates from 1906, when seeds collected in Yunnan by R. P. Ducloux were distributed by the late Maurice de Vilmorin under number 5012. In the British Museum Herbarium there is a plant with very similar foliage (No. 10625), collected at Mengtaze, Yunnan, by Henry, and specimens collected by Wilson in Western Hupeh and Western Szechuan (Nos. 2984 and 2985) also belong here. According to Mottet, it differs from the Himalayan P. crenulata by its more vigorous habit, longer spines and larger leaves, which are elliptic lanceolate in outline 5 to 8 cm. long, obtuse, and finely denticulate The flowers are white instead of rose-coloured, as in the Himalayan plant, the fruits being slightly smaller on shorter pedicels and of a much more vivid coral red, and last well into January. Mottet's plate shows very effectively the decorative character of the fruiting plant, but the leaves are represented as spathulate in shape with crenate margins, just like the plant named yunnanensis at Kew, and not elliptic lanceolate as described above. I have often seen elliptic lanceolate leaves on plants of P. Gibbsii, however, the foliage of individual plants showing great variation in this respect. This difference in leaf form is well shown in Mr. Spooner's drawing (Fig. 132 A. and B.). Wild specimens of Pyracantha preserved in herbaria exhibit the same degree of variation as regard foliage, hardly any two specimens appearing to be alike, so that one could hardly expect cultivated plants to be otherwise. M. Mottet has since written to inform me that the plant at Kew is identical with the one he described as P. crenulata var. yunnanensis, and was in fact received from M. Chenault's nursery about the same time. He took his description from the specimen figured, the leaves on that plant being much smaller than on those now grown. He would emend his original description and call the leaves spathulate. I see no grounds, however, for uniting this Chinese Pyracantha with the Indian P. crenulata, as Mottet has done. The latter seems to be a shrub entirely different in habit and constitution. Sir Fredk. Moore has sent me from Glasnevin specimens from four different plants of P. Gibbsii which differ considerably in foliage and size of fruit. No. 1 of these, labelled P. crenulata (Wilson 662), with elliptic oblong entire leaves and fruits about 7 mm. in diameter, is P. Gibbsii var. typica, and is in cultivation at Kew under that name. No. 2, labelled P. crenulata yunnanense, has elliptic-lanceolate leaves which are more or less distinctly crenate, and large scarlet fruits like those of P. coccinea up to 9 mm. in diameter, is also P. Gibbsii var. typica. No. 3, labelled P. Gibbsii, has broader leaves, ovate to oblong in shape, entire or crenate in margin, and fruits like No. 1. No. 4, labelled P. crenulata obtusata, has obovate or spathulate leaves, coarsely crenate in margin, but with much smaller fruits about 5 mm. in diameter; this is the same as the Kew yunnanensis, and, to avoid confusion, should be called P. Gibbsii var. yunnanensis. I have also seen specimens of this variety from Warley Place, Essex, and Nymans, Sussex, and it will, no doubt, be found in cultivation elsewhere. Forms intermediate between it and var. typica probably occur. The description and synonymy of the plants under discussion will therefore stand as follows:—

Pyracantha Gibbsii var. typica.

P. crenulata Wils. Pl. Wils. ii. 177 (1912) (non Roxb.) pro parte.

Leaves obovate-oblong or elliptic lanceolate in outline, entire, obscurely or finely serrate in margin, often mucronate.

Pyracantha Gibbsii var. yunnanensis Osborn in *The Garden*, 1919, p. 138.

P. crenulata var. yunnanensis Mottet (emend), *Rev. Hort.*, 1913, p. 204, with Fig.

P. crenulata Wils, op. cit. pro parte.

P. crenulata var. obtusata, Hort, Newry.

Leaves obovate or oblong-spathulate, coarsely crenate or occasionally lobulate.

A. Bruce Jackson.

* *Gardeners' Chronicle*, Dec. 30, 1916.

CONFESSIONS OF A NOVICE.

THE present year will be memorable to me beyond all years by reason of the fact that I have re-discovered the beauty of spring. During the long years of war the seasons made their tedious procession before eyes which were straining always to see the future, and were averted from the present; but this year the present has become real and welcome again, and the eyes of those who care for the beauties of nature are delighted to discover how much more beautiful the reality of spring is than the mere remembrance. How much this is due to the fact that the present bright sunshine has enhanced the

colours of spring flowers and how much it is a subjective psychological phenomenon, I neither know nor care; but this I know, that never has the countryside been so beautiful as it is at this moment. The evanescence of the blossom of individual plants makes no difference, for although the double Cherry by my window only remained in blossom for a few days, its place in the pageant was taken by the flowers of the Crab Apples, which in turn are now shedding their petals like snow flakes and making a white carpet on the paths. The blue of the spotted-leaved Polemonium has only just faded, but already the Lithospermum of yet more heavenly blue has fallen like a piece of sky in the rock garden. Were it not that there is no room for regret in a thankful heart, I should sorrow at the manifest fact that the Lithospermum is flowering for the last time. It is in truth a poor perennial with me, and after several years of floriferousness and neglect it is making a last brave and successful effort. The brilliant weather following on the bad early spring has resulted in a kind of peace conference of flowers—kinds which had never met before are now conferring with one another to make the garden world brighter than ever before. The earlier and later Saxifrages are blossoming together, and with them Phlox subulata, Anchusa myosotidiflora, Tiarella cordifolia, Chrysogonum, Cheiranthus Allionii, and, of course, the Aubrietias, which, for some reason not apparent, are exceptionally fine and persistent this year. So also the fruit garden bids fair to associate plenty with peace, and to atone for the disappointing leanness of last year. In spite of the blizzard, the Plums have set well, and what is even more surprising, Peach and Nectarine on an east wall do not seem to have been affected by that bitter experience. Apples and Pears promise fine crops, but I am regretting now with bitterness that they were not sprayed with arsenate of lead, for caterpillars are sunning upon them and it is unpleasant and uncongenial work to attempt to check them by the rule of thumb method rather than by a poison ground bait. However, my gardener is no great believer in spraying holding, I think, that "a certain number of fleas is good for a dog," and so I spend my evenings in trying to reduce their numbers. Small fruit also promises extremely well, Gooseberries in particular and, indeed, so far as I can learn there is no trace of mildew to be discovered anywhere. This is a blessing to the grower, but a misfortune to the person of inquiring mind. I, for example, should have liked to have an opportunity of trying the effect of Prof. Salmon's ammonium sulphide as a specific against American Gooseberry mildew. It is, I believe, now on the market, and is said to have less scorching effect on the more delicate varieties than has lime sulphur. However, I am well content to forgo the trial of the fungicide on condition that I am spared the outbreak of the disease. All the omens point to a great extension of gardening—similar, perhaps, to that which occurred in this country at the close of the Napoleonic wars. May it be so, for there is no saner nor more exquisite pleasure than that which may be had by novice and adept alike from the cultivation of a garden: in it every success is a triumph, and every failure an entertainment. *A. N.*

PLANT NOTES.

MALVASTRUM HYPOMADARUM.

THIS pretty greenhouse plant (see Fig. 133) although it has probably been in cultivation in this country for over a century—seems to be still an uncommon plant in gardens. It has been known under various names, such as Malva capensis, Malvastrum capensis, M. capensis, M. virgatum, and M. grossulariaefolium.

It is easily propagated by means of cuttings during May or June, and if young plants are stopped several times during the growing season they make compact specimens, which flower freely in the following April. The flowers are about an inch across, the petals white, with a rosy-red blotch at the base. The whole plant has a light and elegant appearance, and remains in flower for several weeks.

Although effective as a pot plant, Malvastrum hypomadarum is seen at its best when planted out and trained up a pillar or back wall of a greenhouse, and the writer remembers a specimen some twelve feet high trained up the wall of the plant corridor in the Royal Botanic Gardens, Edinburgh. In this position it was very effective, the whole plant from top to bottom being covered with a profusion of flowers.

M. hypomadarum is a native of South Africa, and grows well in an ordinary greenhouse temperature, potted in the usual potting compost, consisting of good medium loam with the addition of a little leaf soil and sand. *J. C.*

[Malvastrum hypomadarum was fully described in *Gard. Chron.* of June 20, 1908, pp. 394 and 395.—EDS.]

FIG. 133.—MALVASTRUM HYPOMADARUM, FLOWERING IN A WARM GREENHOUSE AT KEW.

LETTERS FROM SOLDIER GARDENERS.

A VISIT TO M. LORETTE'S GARDEN.

IN view of the publication in the current issue of the journal of the Royal Horticultural Society of a paper by Dr. Durham and of his articles which appeared in *Gard. Chron.* during the autumn of 1914, describing a system of pruning fruit trees which has been devised by Professor Louis Lorette, the following notes may be of interest.

I visited Wagnonville, near Douai, on the afternoon of May 3rd and was very kindly received by M. Lorette. He told me that during the war he had been allowed by the Germans to continue his work on the fruit trees after the preliminary evacuation of the inhabitants of the district, on the condition that he did not touch any of the fruit or vegetables grown in his garden. He suffered no abnormal interference from the Germans, who, as I saw, had erected one of the familiar "Verboten" notices on the gate. When the complete evacuation of civilians from the area was carried out in September, 1918, M. Lorette and his family were removed through Belgium and Holland, and were eventually repatriated via Dieppe in January, 1919.

During his absence the school was lightly shelled and one of the main buildings burnt. A number of trained fruit trees on its walls perished. A shell had destroyed a winged-pyramid Pear tree and several other trees had suffered slight damage from fragments. On the whole the garden has been remarkably fortunate in escaping with so little damage, but all books and a large mass of valuable correspondence, together with all the furniture of M. Lorette's house, were looted during his absence.

The trained fruit trees, now almost in full blossom, are most eloquent advocates of "Taille Lorette." I was amazed at the regularity of the trees; at the great number, even spacing and compactness of the fruit spurs; by the absence of unfurnished wood; and at the enormous production of flower-clusters.

Owing to the late hour of my arrival I was able to take only a hurried walk round the garden, and the failing light made photography impossible, so M. Lorrette asked me to come back next morning. I returned at an early hour and found that M. Lorette had been at work very early and had already done a lot of clearing up.

M. Lorette took great pains to explain the whole system and made clear several points in Dr. Durham's paper which were not understood by me. He emphasised the necessity of allowing 40 centimetres as a minimum space between the branches of any form of fruit tree. He considers that the double U is by far the most desirable form of cordon tree.

I gratefully acknowledge the extreme courtesy and kindness which M. Lorette extended to me in demonstrating the principles of the system which he has founded on acute observation and scientific knowledge of a very high order.

That M. Lorette should have carried on his work at all under the iron rule of the invader in a zone of actual operations, with his premises always occupied by troops, and with no assistance than that of his daughters, is remarkable. It is a manifestation of the spirit of his countrymen, which has carried their country through the trials of the last four and a half years, and proof of the devotion, energy and indomitable perseverance of a very great gardener. *C. C. T.*

CLIVIA MINIATA.

IMANTOPHYLLUM is the name most generally used by gardeners, but Clivia is the correct name for one of the most useful of all exotics for the decoration of greenhouses and conservatories, and for the dwelling house during the spring. Clivia miniata is the commonest species and is robust growing, with leaves of a deep lustrous green, the flowers being produced in umbels on the summit of a stout scape. The genus constitutes a very handsome race of plants and the improvements that have been effected in them by selection and hybridisation is extraordinary. In some of the varieties of Clivia miniata the classes, where they seemed to be equally at home and equally appreciated. In years gone by several Belgian nurserymen devoted much time and trouble to the improvement of these plants, and had brought them to a high state of perfection, both in size and colour. Among English nurserymen the late Messrs. B. S. Williams and Son and Mr. John Laing raised several fine varieties. The late firm of Messrs. James Veitch and Sons were fortunate in raising some beautiful varieties with large trusses, varying in shades from bright orange-scarlet to light orange-yellow, the result of crossing C. miniata with the yellow C. citrina, a recent introduction from the Cape.

FIG. 134.—FLOWERS OF MALVASTRUM HYPOMADARUM: FLOWERS WHITE WITH ROSY RED BLOTCHES. (See p. 267.)

trusses are larger, more symmetrical and denser than those of the type. The individual flower also is larger and of finer form, whilst the colour is brighter and more refined in every respect. Several of these beautiful varieties, including Baroness Schröder, citrina, concinna, Scarlet Gem, and F. E. Arnold, have received awards from the Royal Horticultural Society. Before the war visitors to Belgium in the spring were much impressed with the many beautiful plants of Clivia in flower, not only in the homes of the rich and those who take a strong interest in the advancement of horticulture, but also in the windows of the working

Clivias make excellent plants for placing on terraces or where large specimen pot plants may be employed to advantage.

The plants are easy of culture, and should be grown in a temperature of 45° to 55°, with a rather moist atmosphere during their season of active growth after flowering is over, and kept moderately dry when at rest during the winter. They can be successfully grown in any ordinary dwelling room window provided there is a moderate amount of light. The plants are easily propagated by divisions after flowering, and by seeds, which should be sown as soon as they are ripe. *J. Heal.*

The Week's Work.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Foliage Plants.—Codiaeums, (Crotons), Dracenas and others required for table decoration if needing potting, should be shifted in the smallest sized pots that will accommodate them. Use a rich compost consisting of equal parts of loam and peat with a little plant fertiliser. Those grown for specimens require larger pots and liberal treatment. Syringe them daily, and to prevent injury to the young foliage by insects fumigate or spray with an insecticide.

Begonia.—Plants of Begonia, Gloire de Lorraine and other fibrous-rooted kinds, raised from cuttings, require a shift into larger pots, using light soil well mixed with leaf-mould and a little dried cow-manure. Do not pot too firmly, and after the plants are potted place them in a warm house near the roof glass. Tuberous-rooted Begonias raised this year from seed may be shifted into larger pots, using similar compost. Pick off the flowers to throw strength into the plants. Old established specimens in flower should be given weak liquid manure, and be fumigated frequently to destroy insect pests.

Chrysanthemums.—Care should be taken to prevent any check to growth; provide slightly larger pots, if necessary, preparatory to the final potting some time next month. In preparing the soil for the final potting, the nature of the loam must be considered; use three parts of good fibrous loam, one part leaf-mould, one of old Mushroom bed manure, some coarse sand, and a little bone-meal. If the loam is light, use four parts of it, two parts of horse manure, one each of leaf-mould and sand, and a little bone meal. Pot firmly, and particularly so if the soil is light, staking the plants at once and placing them on an ash base. If the soil is moist, root waterings will not be necessary for some days, but spray the plants daily, and to prevent insect attacks dust the points of the shoots with an insecticide.

Gardenias.—Plants that have flowered should be cut back into shapely form and placed in a warm house. Syringe them freely, and after they have made a little growth repot them in a compost of equal parts fibrous loam and fibrous peat, with some sharp sand and a little bone-meal. Replace them in a warm house and syringe them frequently. Young plants produce the best flowers, and attention should be given to potting rooted cuttings and pinching the strong shoots to induce the formation of shapely plants.

Marguerites.—The best varieties are most useful for early autumn flowering in the greenhouse, and young stock should now be ready for potting into the pots in which the plants will flower. Use a mixture of good loam, leaf-mould sharp sand, mortar rubble, and bone-meal. Place the plants in a close frame for a time and syringe them daily, afterwards gradually hardening them off.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Summer Pruning Gooseberries and Currants.—This work is seldom done, but where it is, the fruit and also the trees are greatly benefited thereby. The bulk of the shoots should be removed from the centre of the trees, and the main branches should be moderately thinned so as to allow the sunshine to reach the fruits. All suckers should be cut out.

Strawberries.—Strawberry plantations should now be hoed, cleared of weeds, and bedded down with litter or clean straw. If the weather is hot and the ground at all dry, afford a good soaking of water. If stable litter or straw from

Potato clamps is used among the Strawberry plants, the finer parts should be shaken out, and it is a good plan where possible to wash it after it is placed in position by means of a hose, but this is best done before the plants come into bloom. Grass mowings are useful for putting under the straw to keep the soil moist.

Thinning Strawberry Fruits.—Generally, the first Strawberry fruits are the largest, and if large fruits are required for dessert it is advisable as soon as the fruits have set to thin them to about 10 per plant. A useful contrivance for securing early Strawberries, and also for putting over the fruits in excessively wet weather, is the Continuous Cloche. It is easily put on and allows free ventilation. Under the cloche the fruits ripen nearly three weeks earlier than those not covered.

Newly Grafted Trees.—These should now be examined, and when the scions have made shoots about six inches long, the ligatures should be loosened. Where clay was used at grafting time this will come away easily if the weather is moist and damp, and it is always best to moisten it with water if the weather is hot and dry. Scions that are not properly united with the stock should be bound up again and some fresh clay applied. Supporting stakes and ties should be provided to make the grafts secure against wind. All growths should be removed from the stock when the scions are growing freely. Trees budded last year should be kept clear of all growths on the stocks, and also of suckers.

THE ORCHID HOUSES.

By G. H. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Dendrobium.— The evergreen members of this fine genus—D. chrysotoxum, D. densiflorum, D. thyrsiflorum, D. suavissimum, D. Brymerianum, D. clavatum, D. aggregatum, D. Farmeri, and others—are attractive Orchids, which flower at about this season, and make splendid subjects for exhibition or bold decorations. After the flowering period, new growths soon appear from the base of the plants, and any necessary repotting should be done just as new growth commences. The roots of the stronger growing, evergreen kinds are usually larger and more robust than those of the deciduous species, and the compost for them may with advantage be used in a rough state, and should consist of two parts Osmunda or A1 fibre to one part of Sphagnum-moss, with plenty of crocks and charcoal added. Old and decaying compost is harmful to the roots; therefore, in repotting, it is necessary to pick it out. As a rule, the roots are not long-lived, and no harm need be apprehended from their disturbance. For most of these Dendrobiums the pots or pans may be larger than those usually used for the deciduous section, and they should be well drained and the plants firmly potted. After repotting, place them at once in their growing quarters. The dwarf growing species are best grown suspended from the roof rafters, while the taller growing kinds should be accommodated on the plant stage. For a time they will require very little water at the roots—only enough, in fact, to keep the rooting material just moist—but plenty of atmospheric moisture and frequent light sprayings overhead when the weather is bright and warm will encourage them. During the growing season, and when the plants have made good progress, liberal supplies of water are needed. These Orchids thrive best and keep more regularly to their season of growth and rest, when grown in a house such as is used for Cattleyas, where an even temperature is maintained, than when grown in the hottest division.

D. Phalaenopsis Schröderiana.—Specimens of this Orchid will now be starting into growth, and the present is a good time to repot or re basket any that need it, and to surface-dress any that are in fairly good order and do not require potting. This species does better in small, perforated pans or shallow baskets than in other receptacles. The plants should be grown close to the roof-glass in the warmest house, where they will receive abundance of light, heat, and moisture. When in full growth, liberal waterings may be given, and the syringe should be used freely amongst the plants whenever practicable. Being sun-loving Orchids, very little shade is necessary, and therefore only the thinnest of shading material should be used, and this only during the warmest hours of the day in summer.

D. Dalhousieanum.—The tall kinds, D. Dalhousieanum, D. moschatum and D. fimbriatum, are stately plants, and the racemes of flowers they produce are as fine as any in the genus. They are commencing to grow, and any repotting necessary should receive attention forthwith. They require fair-sized pots, which should be provided with ample drainage, and a rough open compost is necessary for the roots. During the growing season these vigorous-growing species delight in a tropical temperature and an abundance of moisture both at their roots and in the atmosphere.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Summer Bedding.—It will now be quite safe to transfer most kinds of bedding plants to their summer positions. Assuming plans of the various designs have been previously prepared and that suitable subjects have been grown and properly hardened, the work should proceed rapidly. Harmony rather than strong contrasts in colour should be considered. Never plant unless the roots are thoroughly moistened before turning the plants out of the pots. Leave the most tender plants until the last, and in every case give a good watering immediately after planting.

Tuberous-rooted Begonias.—To obtain the best effect from these plants they should be strong, sturdy and well hardened prior to planting them out. The soil in the beds must be deeply cultivated and thoroughly enriched with decayed manure. Apply a good mulch after planting, and provide an abundance of water and liquid manure at intervals in dry weather, after the plants have become established

Cannas.—Both in mixed borders and in the sub-tropical garden Cannas make a pleasing display, both as regards flowers and foliage. They are fast growers and should be planted in good soil and given plenty of water and liquid manure at the roots in dry weather.

Bamboos.—These may be increased by division when new growth is being made. Plant the tenderest species in sheltered positions and prepared soil and give all the kinds shelter from north winds.

Watering.—Choice, late planted trees and shrubs should be watered as needed, and a mulching of short manure or some other material over their root areas will help to keep the soil moist.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Ridge Cucumbers.—The Ridge Cucumber is very productive, provided good plants are placed in prepared trenches, using, if obtainable, decayed pig-manure, and failing this, well decayed stable or farmyard manure. Plant at 15 inches apart, and water the roots liberally, using liquid manure at each alternate watering when the plants are fruiting.

Beetroot.—The main crop seedlings should be thinned, but not too severely; if birds are troublesome, leave the final thinning until the plants are strong. Ply the hoe regularly between the rows, and as a fertiliser, and also as a deterrent to slugs, apply a dusting of soot.

Tomatos.—The January-sown Tomatos are now growing well as a result of finer weather. Abundant ventilation is essential to fruitfulness. Plenty of water will be required at the roots. Suppress all side shoots, and remove part of any leaf that may interfere with the progress of the fruits.

Runner Beans.—Seedlings raised in pots and boxes may be safely planted out. Place them in a double line, at 1 foot apart, in trenches that have been liberally manured. Always plant firmly and stake the rows at once.

Celery.—The main crop Celery seedlings are now ready for planting out. Choose dull weather for planting, and lift the plants after the roots have been thoroughly moistened. Plant firmly, water the plants in and give periodical dustings of soot to ward off attacks of Celery fly.

Potatos.—Many rows of early varieties will be ready for earthing up. Hoeing should precede the moulding up, as the soil will then be fine and easily worked. If the Potato growth appears to be weak, give a slight dressing of sulphate of ammonia, or soot, when hoeing.

French Beans.—The climbing varieties growing under glass will now need abundance of fresh air. Afford frequent manurial watering so long as the blooms set well, and syringe the plants both morning and evening.

Dwarf French Beans.—Make fortnightly sowing out of doors, in lines 2 feet apart, and thin the resultant seedlings to 1 foot apart in the rows. Magnum Bonum and Canadian Wonder are first-rate varieties.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Figs in Pots.—Fig trees that have borne an early crop should now be showing a second crop of fruits. If these trees are required for early forcing next season they should not be encouraged to carry a second crop, or they will be weakened for early forcing. Now is a good time to repot young trees, as the roots are active and will readily permeate the new soil and assist in building up fruitful growth for next season. Avoid giving too large a shift, as the Fig tree quickly attains a large size, and if allowed much root room poor fruiting wood results. The new soil should be of a calcareous nature and potting should be done as firmly as possible, but ample space must be left for watering and feeding when the trees are in fruit. Larger plants not requiring a shift should receive liberal top-dressings. Trees for mid-season supplies should be given liquid manure freely and have their fruits thinned. The latest batch of trees should be kept as cool as possible.

Figs in Borders.—The fruits on trees started early will now be ripening, and until the crop is gathered a drier atmosphere must be provided by increasing the ventilation of the house, and damping down less frequently. A sudden rise of temperature will cause the fruits to crack and split badly. The fruits should be fully exposed to the light to secure good colour and flavour. Successional trees, if long established, and particularly those in borders restricted in area, should, if necessary, receive a thorough application of water at the roots just before the fruits commence to ripen. In the case of old trees, liquid manure is of much benefit to the present and succeeding crops. All useless spray growths should be removed and the shoots stopped if necessary, but good leading growths should be allowed to extend if there is room. Air should be freely admitted both by day and night, provided the weather is favourable. Young trees should not be fed, and care should be taken to secure good bottom growth.

Strawberries.—It is often a difficult matter to find suitable quarters for the latest batches of plants. An orchard house will meet their requirements, as within its shelter they will receive plenty of light and air. Failing such a structure, the plants may be arranged in cool pits or frames, with sufficient head room to allow a free passage of air between the foliage and the glass. The fruiting stems should be supported with Birch twigs, old Birch brooms being useful for supplying these. Plenty of water is most essential to secure fine fruits, and feeding should continue until the crop commences to colour.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 58.0°.

ACTUAL TEMPERATURE:—

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, May* 28, 10 a.m.: Bar., 30.2, temp., 64°. Weather—Bright sunshine.

Horticultural Education and Research*. The Government's programme of land settlement makes it particularly important that the organisation of education and research relating to Horticulture should be completed and perfected; for although it is true that success in horticultural industry depends ultimately on the application and enterprise exhibited by those who engage therein, it is none the less true that both education and research may both aid the individual and raise the standard of production.

For education to play its part in bringing about these results, it must be both accessible and practical in the proper sense of the word. The aim of horticultural education should not be to teach pure science, however excellent may be a knowledge of the principles of biological science. Its aim should be to teach horticulture. Since however, the practice of horticulture depends in part on empirical knowledge acquired by its pursuit and in part on the application of known and proved scientific principles it would be as wrong for the instructor to ignore science as it would be to insist on imparting purely scientific knowledge in the hope that some day it might come in usefully. The success which has attended the Wisley School of Horticulture has been due not only to the unique facilities which the gardens offer but also to the fact that under the guidance of Mr. Chittenden, a just balance between science and practice has been maintained. The methods adopted may well be regarded as a model, and the essence of these methods consists in using science as a guide, philosopher and friend, and not insisting on obeisance to her as of a slave to a tyrant. For example: to lecture on the chemistry of soils before a student has had any experience in the working of any particular soil, is to invert the proper order. On the other hand, when a student has learned something of the special characters of a soil, science can be of real and great help to him, not only in supplying the generalised explanation of these characters, but also in preparing him for what he must expect if he has to work a different kind of soil. Thus, if used properly, science is a great intellectual labour economiser, though it is not and never can be a substitute for that labour or, for that matter, for manual labour either.

Similarly if we are to appreciate research as a means of progress, we must not take a too academic view of what is meant by research. The prominent position occupied by the British horticultural industry is not only due to the energy and initiative of its members, but is due also to the spirit of research with which they are imbued. The great improvement in seeds, in seed Potatos, and in flowers, examples of which are to be seen not only in the great exhibitions, but in every garden in the land, is due to research: research in trial grounds, in plant houses, and, it is pleasing to observe, also in laboratories set up in recent years by private firms. Since ultimately the amount of attention which a nation devotes to research depends on the general estimate of its importance, which is found by the people of that nation, it is important that it should be realised that research is of two kinds. The one kind is what may be called special research, and the other pure or general research. The former has a limited and special objective, the latter seeks to discover something new and unsuspected. The one is conventional, effected by applying existing knowledge; the other is revolutionary, discovering new knowledge. As an example of the former, it is common knowledge that we require new varieties of fruit. The method by which new varieties may be produced, has been practised and is known. It only remains to apply that method for the results—sooner or later—to be achieved.

As an example of pure research, we may consider the problem of immunity from disease. Much is known of the nature of immunity of animals from disease, nothing is known of the nature of the similar immunity which exists in plants. For research into this most important question, new ideas are wanted, for the architecture of plants is so different from that of animals, that it is at all events likely that the mechanism is different in the two kingdoms.

Research, then, embraces a long series of operations, some simple, direct and within the capacity of everyone with land and leisure; such for, example, as testing varieties suitable to special districts and soils, and comparing insecticides and fungicides one with another as to their effects. Other research is complex and indirect, and requires in those who prosecute it, special training. All kinds need encouragement, and the possibilities which lie before the nation which believes in research and ensures it are indeed bright.

As examples of the value of the results which follow on special investigations, may be mentioned the research initiated by the Royal Horticultural Society and carried out by Mr. Ramsbottom on means of destroying eelworm in the bulbs of Narcissus. The method which has proved effectual, that of immersing bulbs in water at a temperature of 11°F. for five hours, was first used by one of our leading growers Careful tests were, however, required to perfect and control the method, and have resulted in the perfection of a fairly simple remedy. Further research will doubtless discover a yet simpler method of combating this pest.

Another example of a research destined to be of great value to fruit growers is provided by the work on Apple stocks carried out by Captain Wellington and Mr. Hatton, of the East Malling Fruit Station of the S.E. College, Wye.

As a result of this research, the various and mixed Paradise stocks have been sorted out and diagnosed, so that it is now possible to procure a uniform, suitable and easily raised stock either for bush trees in commercial orchards, for bush trees in private gardens where the space is available, or for standards or half standards. Other examples might be given, as for example the researches in soil sterilisation by chemical and other means now being conducted at Rothamsted, and by the Lea Valley Growers Association at their station at Waltham Cross.

The brightest hope for the future development of British horticulture lies in the evidence that those on whom the industry depends are more acutely alive now than ever before to the need for research, and are prepared to encourage it by every means in their power. The more closely the industry is associated with research the better it will be for all; for on the one hand the practical man who takes an interest in this delicate work soon learns that much labour is involved even in the solution of the simplest problem; on the other hand he is often able to point out to the researcher who lacks his experience as a practical grower, what are the most important of the problems which require solution.

* Lecture by Dr. Keeble, F.R.S., at the R.H.S., Chelsea Exhibition, May 20, 1919.

Birmingham Horticultural Society's Floral Fête.—The flower show of the Birmingham Horticultural Society, to be held in Handsworth Park on July 18th and 19th, will be opened by the Right Hon. Lord Lambourne, C.V.O., President of the Royal Horticultural Society.

Manchester and North of England Orchid Society.—Exhibitions and meetings of the Committee of the Manchester and North of England Orchid Society will be held on the following dates:—(1919), June 5, 19, July 3, 17, September 4, 18, October 2, 16, November 6, 20, December 4, 18; (1920), January 8, 22, February 5, 19, March 4, 18, April 1, 15, May 6, annual meeting.

Allotments.—According to the *Journal of the Board of Agriculture* for May, allotments are producing annually an estimated quantity of not less than five hundred thousand tons of food. The Guildford Allotments, which have been taken over under D.O.R.A., have lately been visited by a sub-committee of the Town Council with a view of retaining a certain portion as permanent allotments. About 20 acres have been approved by the Town Council as such. There are now 1,740 plot-holders in the borough, and further applicants have still to be accommodated. Godalming is taking action towards providing permanent allotments, and the Town Council has appointed a sub-committee to inspect and report at the next meeting of the Town Council. The Southampton Allotment Association is making arrangements to celebrate the Peace by giving a treat to the members' children. The Society now controls over 200 acres of land in the borough and has some 2,500 members.

Sulphate of Aluminium for Slugs.—Gardeners whose plants are infested with slugs should try the effect of a solution of sulphate of aluminium as a means of destroying these pests. One part dissolved in 1,000 of water is said to be effective, but to be on the safe side it may be used at a strength of 1 to 500 of water and is best sprayed on the plants—which it does not harm—at dusk on warm, wet days. To make up a solution of this strength 1 lb. of sulphate of aluminium should be dissolved in 50 gallons of water or, roughly, 1 oz. to 2 gallons.

Chelsea Show.—Beautifully fine weather attended the three days during which the Chelsea Show was open to the public, consequently very large numbers of Fellows and visitors inspected the splendid display provided by British horticulturists in the grounds of the old Chelsea Hospital. It must not be forgotten that fine weather immediately before and after the great show is very important to the exhibitors, who on this occasion were especially fortunate. In our report in the last issue we regret that no reference was made to Mr. Charles Turner's fine group of Roses, Mr. Ernest Dixon's dainty little sunk garden, and Mr. James MacDonald's display of grasses and miniature putting greens. Messrs. Armstrong and Brown's beautifully arrayed exhibit of fine Orchids, for which they were awarded the Coronation Cup, is illustrated in Fig. 138, but no illustration is capable of portraying the exceptional elegance of this large group, in which every plant was displayed to the fullest advantage. In point of brilliance and massed effect, the exhibit made by Messrs. Jas. Carter and Co., and consisting largely of popular greenhouse plants, was an outstanding feature of the Show (see Fig. 137). New plants and flowers were numerous, and in addition to those illustrated in the last issue we now give figures of Schizanthus wisetonensis Snowflake (Fig. 136), pure white, exhibited by Messrs. Watkins and Simpson; and perpetual-flowering Carnation Saffron (Fig. 135), yellow, shown by Mr. C. Engelmann. All these plants were fully described under "Awards," on p. 258, in the issue for May 24.

Kent Commercial Fruit Show.—A general meeting of the Kent Commercial Fruit Show was held at Maidstone, on Thursday, the 22nd inst., when a very widespread interest was taken in the revival of the exhibition. The show has not been held since the autumn of 1913 on account of the war, the 1914 show, after all the preliminary arrangements were made, having to be abandoned. The meeting was attended by many of the leading growers of fruit in the county of Kent, and Mr. M. J. R. Dunstan was asked to take the chair. A strong and representative committee was elected as follows:—Messrs. M. J. R. Dunstan (chairman), W. S. Austen, E. A. Bunyard, E. B. Burns, B. Champion, G. E. Champion, H. Champion, H. G. Edmonds, W. T. Edmonds, L. Doubleday, W. R. Elgar, O. English, W. D. English, T. Hubble, W. N. Hubble, G. Foster Clark, J. Finnis, T. Kemsley, G. Manwaring, S. Mount, C. Murdoch, F. I. Neame, J. A. Raynham, E. S. Salmon, W. H. Skinner, F. Smith, S. Smith, C. S. Smith, A. J. Thomas, S. Wakeley, S. Wellard and C. Woodruff. Mr. W. Miskin, The College, Wye, Kent, was appointed Hon. Secretary. It was decided to hold the 1919 show at the Agricultural Hall, Maidstone, on October 28, 29 and 30. Several members wished to fix the place of the 1920 show, but it was felt by most of those present that it was not desirable to settle this matter definitely until after the 1919 show.

Publications Received. — ***Notes on the Beavers at Leonardslee, 1916-1918.*** By Sir Edmund G. Loder, Bart., Vice-President of the Zoological Society. From the Proceedings of the Zoological Society of London, 1918. ***Reconstruction Problems: 20, Land Settlement.*** Ministry of Reconstruction, 1919. Oliver and Boyd. London: 33, Paternoster Row, E.C. Edinburgh: Tweeddale Court. Price 2d. ***The Eelworm Disease of Wheat and its Control.*** By Luther P. Byars. Farmers' Bulletin 1041, United States Department of Agriculture. Copies free from the Division of Publications, United States Department of Agriculture. Washington: Government Printing Office, 1918.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Fruit Growers' Conference.—With reference to the Fruit Growers' Conference, on Friday, May 9, at the Central Hall, Westminster, I regret that the notice passed out to the Press appears to have been somewhat ambiguously worded. At the conference, which was convened for fruit growers, other sections of the fruit trade were given an opportunity of expressing their views in an open discussion allowed by the chairman during the first hour. They were, however, precluded from speaking to, or voting upon, any of the resolutions passed at the meeting. These resolutions will be dealt with at the next meeting of the Organising Committee of the Chamber, for the purpose of considering a further conference of all sections of the trade in the near future. *R. Wynne, Secretary, Chamber of Horticulture.*

Apple Sure Crop.—I was extremely interested in the note on Apple Sure Crop on page 206, and my experience of the variety may be of interest. It lives up to its name "Sure Crop" by returning year by year bumper crops of excellent fruit. My opinion of the variety is so high that I have without hesitation recommended it to intending planters on the look out for a good Apple. My trees were planted on a very stiff clay, with a cold, wet, sticky subsoil. The situation is very exposed to winds on a slope facing west. The trees were grown as bushes on the broad-leaved Paradise stock. Being unfamiliar with the variety I tried several systems of pruning; the method I found to answer best was to let the trees grow of their own free will and simply remove sufficient wood to ensure an adequate supply of air and sunshine for the trees requirements. A special feature of Sure Crop appears to be its immunity to Woolly Aphis. I had varieties in the same plantation side by side with Sure Crop which was badly infested with this pest. Yet Sure Crop withstood its attack. I have some recollections of Sure Crop being exhibited in pots by the King's Acre Nursery Co., at Shrewsbury several years ago. It would be interesting to know the experiences of other growers of this excellent variety, which appears not to be so well known as it deserves to be. *W. Stewart, N.D.H.*

Gardeners' Hours and Wages.—A lady near my nursery has let her garden to a market gardener, and says she can buy all the flowers and vegetables she requires at half the price she paid her gardener. Many, through high wages and high income tax, have moved into smaller houses in the town and have dispensed with their gardeners. One of your correspondents states that if a lad of eighteen is good enough for the Army and paid the same rate as older soldiers, he is worth it on the land. Such argument is without reason and altogether wide of the mark. Is a lad of little experience in the garden equal to a gardener of many years' experience? The Agricultural Wages Board made a great blunder in fixing the wages of a lad of eighteen at 30s. per week, for many of these lads are undersized striplings. As for the eight-hour day for which the unions are agitating, with a half-day off on Saturdays, the whole thing is ill adapted to the profession of a gardener. *Nurseryman.*

Fig. 135.—Carnation Saffron.
(See awards at the Chelsea Show, page 258.)

ORCHID NOTES AND GLEANINGS.

LAELIO-CATTLEYA AERO.

FREDERICK J. HANBURY, Esq., Brockhurst, East Grinstead, sends a fine flower of this new cross, raised in his gardens, between L.-C. G. G. Whitelegge (C. Hardyana × L.-C. callistoglossa) and C. Percivaliana. The flower, which is seven inches across, has a silver-white ground slightly tinged with lavender colour, and delicately veined with rose, the broad labellum having well-defined orange lines extending to the centre, which is tinged with purple. In size and form it partakes much of the C. Warscewiczii in both the parents.

SCHOMBOLAELIA TIBIBROSA.

Mr. Hanbury also sends a flower of this interesting cross between Schomburgkia tibicinis and Laelia tenebrosa which verifies the brief description of it in *Gard. Chron.*, Aug. 2, 1913, in the report of the Royal Horticultural Society's meeting of July 29, when the cross was first shown by Messrs. Charlesworth and Co. "The flower resembles L. tenebrosa and is bronzy-orange with a rose-veined lip." In the flower sent the lanceolate sepals are curiously incurved, probably due to the influence of S. tibicinis, which is also responsible for the rose flush at the back. The lip is light rose, darker in the centre, to which run purple lines from the base.

All bigeneric hybrids are interesting, particularly those which combine widely divergent forms of flowers and distinct habits of growth.

SOCIETIES.

ROYAL HORTICULTURAL.

MAY 27.—After the business and brilliance of the Chelsea show, and with only a week's interval, it was only to be expected that the meeting on Tuesday last would be poorly attended and the exhibition a small one. Sweet Peas, Orchids, and flowering trees and shrubs were the principal subjects displayed, and there was a fair number of novelties. This was the third meeting and exhibition in a fortnight.

Floral Committee.

Present:—Messrs. H. B. May (in the chair), W. J. Bean, John Green, John Heal, J. F. McLeod, W. Howe, C. R. Fielder, Chas. Dixon, E. H. Jenkins, H. R. Darlington, W. B. Cranfield, G. Reuthe, R. C. Notcutt, and H. Cowley.

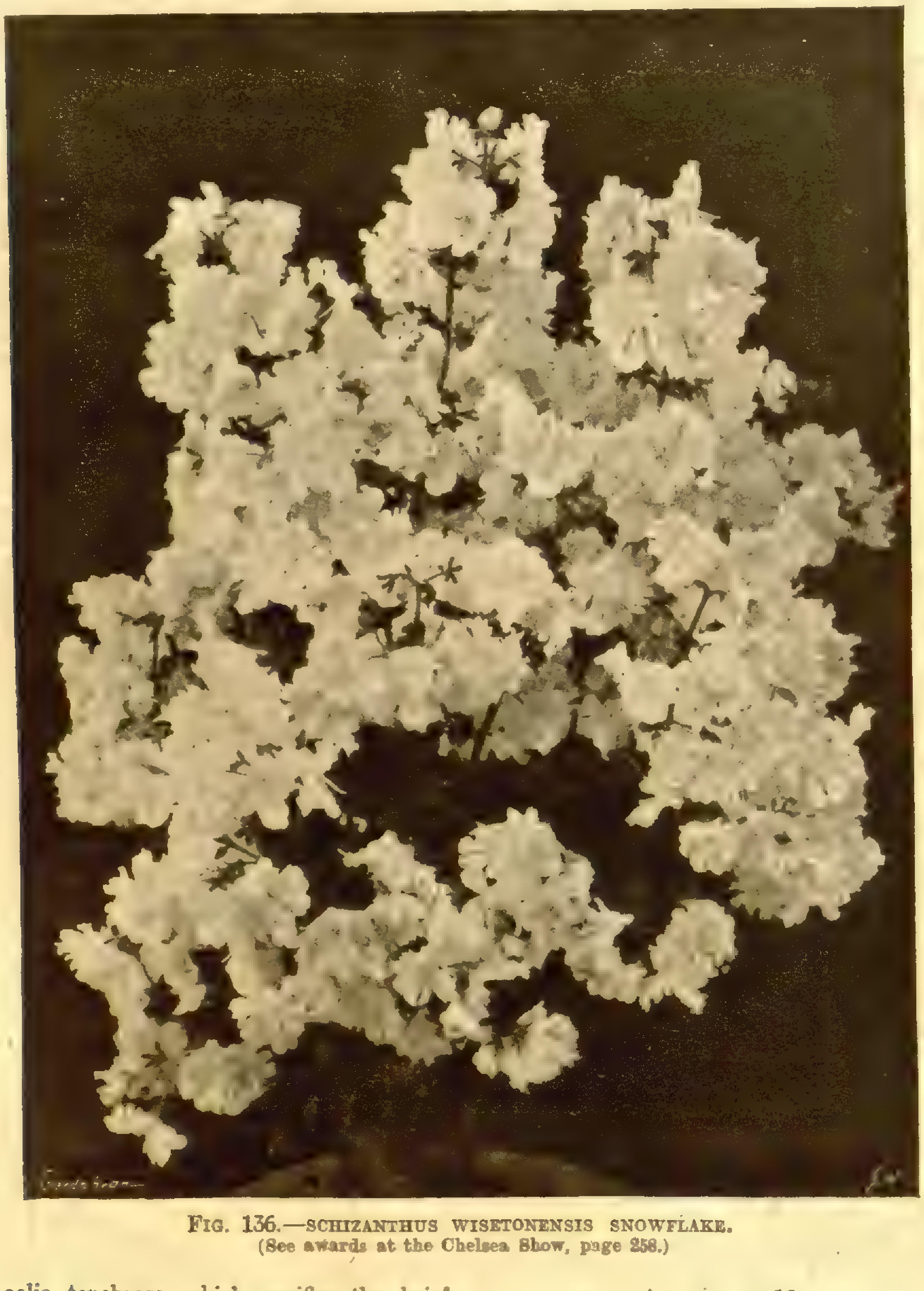

FIG. 136.—SCHIZANTHUS WISETONENSIS SNOWFLAKE.
(See awards at the Chelsea Show, page 258.)

AWARDS OF MERIT.

Cytisus sessiliflorus.—A showy, early summer-flowering shrub that grows about 4 ft. high. The growths are slender and stiff, and on the new twigs the golden-yellow flowers are freely borne. The leaves are small, trifoliate, sessile, and light green. The plant does well when cut to the ground every year or two. —Shown by Miss WILLMOTT.

Sweet Pea Hawlmark Maroon.—A very fine Sweet Pea with bold and large flowers, in which the standard is erect, waved, and widely spread. It is a self-coloured variety, and the colour is deep rich bronzy maroon.—Shown by Messrs. ALEX. DICKSON AND SONS.

Primula Harroviana.—A low growing species with little tufts of bright green, crenate margined leaves, each about 3 inches long. The whole plant is about four inches high, the slender spikes being covered with white meal. The flowers are pure white, in close heads, some of the flowers being pendant and others standing out horizontally. The corolla is broadly bell-shaped, half an inch across, and has very highly fimbriated margins. Shown by Mr. A. K. BULLEY, Neston.

Ramondia pyrenaica pallida. As shown, this is a strong growing plant, the specimen carrying nine spikes of bloom. The colour of the flowers is soft, light bluish mauve. Shown by Mr. T. TEMPLE WEST, Redhill.

OTHER NOVELTIES.

In addition to the novelties which secured Awards there were several interesting, rare plants shown. Mr. BULLEY exhibited the dainty little white-flowered Primula Reidii; P. Hopeana with cream-coloured flowers and somewhat suggestive of P. sikkimensis in form and habit; and P. Orange Beauty, a brilliant orange vermillion flower of large size and, apparently, with a vigorous habit of growth. MISS WILLMOTT exhibited long trailing and flowering growths of the shrubby climber Schizandra chinensis.

The brilliant Paeonia lobata was well shown by Mr. GIFFORD, who grows this species largely and well. Mr. E. MARSDEN JONES, Tilston, Malpas, showed Cheiranthus Pamela Pershouse, a large golden-flowered perennial obtained by crossing C. alpinus with C. Allionii; it is fragrant and has already survived three winters unharmed out of doors; Geum Dolly North, vivid orange, from the same exhibitor, was also good.

GROUPS.

A large number of interesting hybrid Calceolarias were shown from the JOHN INNES INSTITUTE, Merton. The colour range, as well as the divergence of habit foliage, was large, but the most attractive was C. Allardii (integrifolia × plantaginia crossed with a yellow herbaceous variety), golden yellow. (Silver Flora Medal.) Messrs. DOBBIE & Co's long-spurred Aquilegias received unstinted admiration; the pure white, blue and white, deep blue and white, yellow and pink, yellow and bronze, and pink and white forms were all very beautiful in size, form and colouring (Silver-gilt Banksian Medal).

A large group of very fine Sweet Peas, set up by Messrs. ALEX. DICKSON & SONS, was composed only of the new varieties Brocade, Hawlmark Pink, Hawlmark Maroon (see Awards) and the blush Daisy Bud (Silver-gilt Flora Medal). Mr. J. STEVENSON was also an exhibitor of Sweet Peas, and showed his new seedlings Brilliant Hebe and Crimson Seedling. Mr. ROBT. BOLTON put up large vases of his new, handsome Sweet Peas, Magie, a pretty combination of blue and rose; and Commander Godsal, navy blue and purple maroon.

A handsome group of cut blooms of good garden varieties of Rhododendrons was exhibited by Miss C. WARNER (gardener Mr. Stevens), Belle Orchard, Hawkhurst—a ladies' school of gardening (Bronze Banksian Medal). In Messrs. CHEAL & SON'S display of flowering trees and shrubs the Lilacs and Mollis Azaleas were very showy; white Viburnum tomentosum, V. Moriesii, Rhododendron Pink Pearl and Piptanthus nepalensis were other good things (Silver Banksian Medal). Exquisite varieties of Lilacs, and finely grown, were exhibited by Mr. CHAS. TURNER. In many instances the growths carried large double spikes and in all cases the flowers were large; Congo, deep rose; Negro, reddish purple; Réaumur, magenta rose.

Messrs. STUART LOW & Co. were the only exhibitors of perpetual Carnations, and they showed fine specimens of Hon. Charlotte Knollys and Mephisto (Silver Banksian Medal). Mr. JAMES DOUGLAS showed border Carnations in good form and variety, including the new Cleopatra, The Grey Douglas, Lord Kitchener and the yellow Goliath (Bronze Flora Medal).

The beautiful new H. T. Rose, Mrs. Elisha Hicks, represented by about a hundred blooms, was the central feature of a large group of Roses contributed by Mr. ELISHA HICKS. Rosa Moyesii, the fragrant cream-white R. altaica, the purplish rose R. Willmottii, with Joanna

Bridge, and Climbing Lady Hillingdon were other good things (Silver Flora Medal). Mr. EDWARD CHATER, Finchley, contributed two-and-a-half dozen old English florists' Tulips, some of them very handsomely flamed. flowers, the example of William Lea being very attractive.

Orchid Committee.

Present: Sir Harry J. Veitch (in the Chair), Messrs. Jas. O'Brien (hon. secretary), T. Armstrong, W. Bolton, W. H. White, and Frederick J. Hanbury.

AWARDS.

FIRST-CLASS CERTIFICATE.

Laelio-Cattleya Excelsior var. The Globe (L.-C. Canhamiana alba × C. Mendelii), from PANTIA RALLI, Esq., Ashtead Park, Surrey (Orchid grower, Mr. Farnes). A grand hybrid, differing widely from the fine form for which Mr. Ralli received a First-Class Certificate at the Chelsea Show. The sepals are white, petals three inches across, white, with a broad light mauve band up the middle; lip, broad rich mauve purple, with some dark lines running into the light yellow disc; the narrow margin being white.

Odontoglossum harvengtense, Pitt's variety (crispum × triumphans). In 1896 H. T. PITT, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), obtained a First-Class Certificate for one of the earliest forms of this pretty and variable natural hybrid, and the first to be shown as Rosslyn var. Since that some twenty varieties have received Awards at the Royal Horticultural Society. A dozen or so of the best of them had been painted, and the paintings were compared with the Pitt's variety now shown, but none was comparable to it. The large flowers had pale canary yellow sepals with a few reddish blotches, the petals being also canary yellow, with the inner basal area white. The lip bore one chestnut red blotch, and a few smaller ones in front of the crest.

AWARD OF MERIT.

Cattleya The Bride (Warscewiczii alba var. Firmin Lambeau × Düsseldorfei Undine), from Messrs. FLORY AND BLACK, Orchid Nursery, Slough. A fine pure white variety, larger in size than other crosses of C. Düsseldorfei Undine, and taller in habit, but retaining the form of flowers of that hybrid, as shown on the three-flowered inflorescence borne by the plant on its first spike . It is probable, however, that when mature the broader petals of the white-flowered C. Warscewiczii will be more in evidence.

PRELIMINARY COMMENDATION.

Odontoglossum Tityus (crispo-Harryanum × President Poincaré), from Messrs. CHARLESWORTH AND Co., Hayward's Heath. A very fine flower of perfect shape, white, with large violet purple blotches.

GROUPS.

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), showed a fine group, in which the hybrid Odontoglossums and Odontiodas were well represented, but the feature in the group was made by the presence of an exceptionally fine selection of species, among which were two splendid specimens of the emerald green and black Coelogyne pandurata, each with two spikes; C. Massangeana, C. speciosa, the fringed-lipped Chondrorhyncha Chestertonii, Lycaste Lawrenceana, Nanodes Medusae, Epidendrum Wallisii and E. prismatocarpum, Bulbophyllum Lobbii siamense, Maxillaria lepidota, Renanthera Imschootiana, and good forms of the best Cattleyas (Silver Flora Medal).

Messrs CHARLESWORTH AND Co., Hayward's Heath, staged a good group with many fine Odontoglossums, the new O. Tityus (crispo-Harryanum × President Poincaré) being one of the best. Miltonia Charlesworthii, with its large rose flowers with dark mask to the lip, was very attractive, and specially good were Cattleya Warneri Ardenholme variety and Laelio-Cattleya Fascinator-Mossiae var. Princess Bibesco, with sepals and petals tinged with lilac and deep claret lip.

Narcissus and Tulip Committee.

Present:—Messrs. E. A. Bowles (in the chair), F. Herbert Chapman, F. Barchard, Peter R. Barr, W. Poupart, G. Reuthe, G. W. Leak, H. Backhouse, W. F. M. Copeland, Geo. Monro, Jun., W. B. Cranfield, Miss Willmott, Rev. J. Jacob, and C. H. Curtis (hon. secretary).

There were neither groups nor novelties before the Committee, but questions of registration of Daffodils, definition of show terms, next year's show and other matters were discussed at some length.

Fruit and Vegetable Committee.

Present:—Rev. W. Wilks (in the chair), Messrs. W. Bates, W. H. Divers, G. F. Tinley, and A. E. Vidler.

There were no entries, exhibits or business before this Committee.

ROYAL METEOROLOGICAL.

MAY 21.—The monthly meeting of this Society was held on Wednesday, the 21st inst., at the Society's Rooms, 70, Victoria Street, Westminster, Sir Napier Shaw, F.R.S., President, in the chair.

A paper by Capt. C. J. P. Cave and Mr. J. S. Dines, entitled "Further Measurements on the Rate of Ascent of Pilot Balloons," was read by Mr. Dines.

The report on the Observations for the Phenological Year—December, 1917, to November, 1918—by Mr. J. Edmund Clark and Mr. H. B. Adames, was also presented. The excessive cold of December, 1917, was followed by three mild months, February in particular. Hence by April 1st the Blackthorn was in most parts blooming, whereas after the very cold early months of 1917 the mean date was 35 days later than 1918. Rarely had the farm and garden promise at this date been so satisfactory. Then came the mid-April bitter weather, disastrous to the opening fruit tree buds, and a continuation of summer drought and coolness continued the prejudicial conditions. A genial August greatly favoured the earlier harvesting districts, but the excessive wet in September caused damage and loss elsewhere. The whole autumn was cool, but comparative dryness in October and November helped finally in the harvesting of nearly average field crops. Potatos gave a record for acreage and yield per acre, but after storage there was serious loss from disease. The migrant records support the interesting weather relationships shown by the other tables. The April cold delayed the appearance of the 16 earlier birds two or three days more than the other ten. The isophenal lines on the map indicate the districts where the plants of Table III. blossomed simultaneously. Their course shows the marked influence of elevation. On the same map are also shown the isotherms for the first half of the year, and a comparison of these with the isophenes is a matter of considerable interest.

The effect of the war has been felt in the loss of many of the observers who formerly contributed to this report, and an increase in the present numbers is much to be desired, particularly in the northern districts and in Ireland.

KEW GUILD.

One of the most pleasing functions held in London during a Chelsea Show week is the gathering of the past and present Kewites at the Annual Meeting and Dinner of their Guild. The gathering, held this year at Dean's Hotel, Oxford Street, was presided over by Capt. A. Hill, the Assistant Director of Kew. The Committee's Report for 1918-19 was presented and accepted. This showed that 25 Guild members have died in the service of the country during the war, while older and eminent members who have passed away recently include Mr. R. Hooper Pearson, Mr. E. J. Allard, Mr. W. H. Bennett and Mr. Walter Thomson. The Guild has now 382 life members, and it continues its benevolent work among those in special need. The accounts show a balance of £6 2s. 9d. on current account, and a deficit of £14 11s. 7d. on capital account. The fact is that the *Guild Journal* costs much more to produce than formerly, and the proper proportion of new life-membership subscriptions has not been transferred to capital account.

The question of raising subscriptions was brought forward, but as no action could be taken in the absence of due notice, a special general meeting is to be called to give legal force to the general feeling that there should be an increase. A motion that a member should be allowed to bring wife or lady friend—husband or gentleman friend, in the case of lady

FIG. 137.—MESSRS. JAMES CARTER AND CO.'S EXHIBIT OF INDOOR FLOWERING PLANTS AT THE CHELSEA SHOW.
(See page 271.)

members—to the Guild dinner, was adopted with about two dissentients.

The dinner was a great success, Capt. Hill again presiding. There were 105 members present, including many ladies and a considerable number of old Kewites from overseas and the provinces, and some who have gained distinction during the war. Capt. Hill proposed "The Kew Guild," and in doing so referred to the proposed memorial at Kew, raised by Kewites, to the Kew men who have lost their lives in active war service; to the changes at Kew, and to the possibilities the future holds in horticulture for trained Kew men and women. Mr. W. W. Pettigrew, Superintendent of the Manchester Parks, replied, and strongly emphasised the Chairman's statement that there was a great future for those gardeners who had the benefit of a Kew training. "The Chairman," proposed by Mr. W. W. Pettigrew, was the only other toast. A musical programme was provided by the members, with ample intervals for the renewal of old friendships and the creation of new ones, between the items.

ROYAL NATIONAL TULIP.

MAY 20, 21, and 22.—This Society pursues the very even tenor of its way. A whole tent was set apart for its exhibits at the Chelsea Show, and there were four exhibitors, so far as we could discover. Occasionally a visitor, or perhaps two, would enter the tent, gaze with almost pained astonishment at the few boards of "rectified" blooms; then at the back of the tent they usually discovered the Darwin and Cottage Tulips sent by Messrs. HOGG AND ROBERTSON, and Messrs. BARR AND SONS. Feeling in safe and familiar company, the visitors would give these their full meed of admiraton and then steal out of the tent, no doubt fearful of disturbing the solemn calm and quietude.

These "rectified" Tulips—the Flamed and Feathered Roses, Bizarres and Bybloemen, with their stems cut short, and sitting nakedly on show boards—were, of course, the *élite* which have entered the higher plane of Tulip life, but few of the casual visitors realised it, nor did they know that they were enjoying the privilege of inspecting the exhibition of a seventy-years-old Society. How could they in the absence of any explanatory literature or notice? True, after a diligent search, we discovered one schedule dated 1915 and, *underneath* the staging, a goodly-sized card bearing the Society's title.

However, the show's the thing. The two amateur exhibitors, Sir A. D. HALL, Merton, and Mr. C. W. NEEDHAM, Kelmscott, Hale, Cheshire, who are president and hon. treasurer respectively of this Society, shared the first and second prizes of the first four classes. Sir A. D. HALL was first with (a) 12 Dissimilar Rectified Tulips, and 2 Feathered and 2 Flamed in each class; (b) 3 Feathered Tulips, 1 of each class; and (c) 3 Flamed Tulips, 1 of each class. He was second in the class for 6 Dissimilar Rectified Tulips: 1 Feathered and 1 Flamed in each class, and received a Premier Prize for a bloom of Miss Willmott, a very beautiful Rose seedling. In the first class, Sir A. D. Hall had very good blooms of Rose Marie, fr. rose; Universe, fr. byb.; Dr. Hardy, fld. biz.; and Britomars, fr. byb.

Mr. C. W. NEEDHAM won the First Prize in the class for 6 Dissimilar Rectified Tulips, 1 Feathered and 1 Flamed of each class, in which he included good blooms of George Edward, fld. byb., and Samuel Barlow, fr. biz. He was second in classes A. C. and D.

In the Open Class, Messrs. HOGG AND ROBERTSON were awarded the First Prize for a very pleasing exhibit of 20 vases of garden Tulips. The vases of Salmon King, Cardinal Hanning, Petrius Hondius, and Marie were perhaps the very best.

Messrs. BARR AND SONS staged an interesting collection of Cottage and Darwin Tulips, not for competition.

An interesting exhibit was a branched stem of Mignon, a seedling Rose Tulip, bearing two flowers. The primary bloom was very fine and the secondary flower quite good.

FIG. 138.—MESSRS. ARMSTRONG AND BROWN'S EXHIBIT OF ORCHIDS AT THE CHELSEA SHOW, FOR WHICH THE "CORONATION" CUP WAS AWARDED. (See page 271.)

TRADE NOTES.

TAXATION OF TRADE ASSOCIATIONS.

NOTICE has again been given by the Board of Inland Revenue that subscriptions and levies paid by members of a Trade Association may be allowed as a trade expense in computing their income tax liability. This deduction is, however, subject to the Trade Association entering into a form of Agreement with the Board of Inland Revenue and it is possible that those Associations which may not be registered as "Companies trading not for profit" may be wondering whether the proffered concession may not prove a somewhat dangerous trap!

The terms of the Agreement which Trade Associations are desired to enter into, if they wish to avail themselves of the proposed agreement with the Board, are as follow:—

1. That the Association furnish copies of its Rules and Regulations to the Board of Inland Revenue.

2. That the Association renders annually accounts of its income and expenditure and pays tax on the balance of income over expenditure computed in accordance with the provisions of the Income Tax Acts, on the basis provided by clause four. In computing the balance, all administrative expenses, all payments to members of any kind (other than loans and payments of a capital nature) and all payments for legal charges in cases taken on behalf of the members, are to be treated as ordinary expenditure.

3. That members receiving payment of any kind (other than loans and payments of a capital nature) bring the amounts received to the credit of their individual trading accounts and that the Association shall furnish particulars yearly to 31st December of the amount paid in that way and to whom paid. In the event of any member or other person failing to account for the tax on any such receipts in the ordinary course, the amount is to be included in the assessment upon the Association, *i.e.*, by disallowing the items as deductible expenditure in computing the liability of the Association.

4. That the Association shall render accounts for the last completed year, and be assessed on such accounts for the year ending 5th April, that for the following year they be assessed on the basis of an average of the accounts for the two years preceding the year of assessment, and for the third year and subsequent years on the average of the three preceding years.

5. That the payment of subscriptions, entrance fees and levies be allowed, and receipts by members from the Association, if any, be credited in the accounts of the individual members for the three preceding years in computing the assessment for the financial year ending in April.

6. That the contributions or subscriptions by the Association to any other organisation be only allowed as expenses on production of the accounts of such organisation and on evidence that it has entered into similar arrangements with the Board of Inland Revenue, or has no surplus income which ought, on the lines of this Scheme, to be subjected to tax.

7. The existing and future accumulated funds of the Association to be regarded as taxed in-

come in the event of the Association being wound up and the funds distributed among the members.

8. No allowance is to be made or relief granted in respect of the excess of the expenditure of any year over the contributions, except so far as is necessary for the computation of the three years' average.

9. In the event of any dispute as to the admissibility or non-admissibility of any item of expenditure, the question shall be submitted to the Commissioners of the District or the Special Commissioners for determination in the ordinary course, and subject to the right of appeal to the High Court, provided that the terms of the agreement or the validity of the assessment made in accordance therewith shall not be otherwise impugned.

10. The association to give an undertaking to abide by these Regulations.

11. This arrangement may be determined by the Board of Inland Revenue or by the Association on twelve months' notice expiring on the 5th April, in any year.

It will be seen that the terms of the Agreement bind Trade Associations to give very full informaion to the Taxing Authorities and include an agreement by the Association to be assessed to income tax. For some time past the Authorities have been pressing at least one Trade Association connected with Horticulture to render accounts with a view to assessment, but it is difficult to see the equity of such a demand, even if Trade Associations are not registered as being companies not for profit. The fact remains that their objects are for the purpose of mutual defence and that, there is no question of making a profit for division among the members in the same way as a Trading Company would do. The anomaly of such a claim becomes all the greater when the fact is borne in mind that even Trading Companies such as the Wholesale Co-operative Societies pay no income tax. If however the Board of Inland Revenue were to promote legislation for the purpose of taxing the profits of Co-operative Wholesale Societies at the source a considerable addition to the National Revenue might be thus secured, and the financial advisers of the Government might well focus their energies in this direction. *H. M. V.*

An Order has been made by the Agricultural Wages Board revising the minimum and overtime rates for male workers of 18 years of age and over in England and Wales.

The revised rates of wages are now in operation, and will be payable as from Monday, the 19th May. Copies of the rates for any particular county may be obtained on application to the Secretary of the Agricultural Wages Board, 80, Pall Mall, London, S.W.1.

The scheme proposed by the Morpeth and District Nurserymen, Fruit Growers and Market Gardeners' Association, made progress at a meeting held in Newcastle on Friday, 16th May, when a small but influential gathering decided to organise a public meeting to be held in Newcastle on Friday, 13th June.

An Organising Committee has been appointed, consisting of Messrs. G. W. Purdy, Chairman, W. Y. Price, Secretary, G. Chalton, Assistant Secretary of the Morpeth Association, together with Messrs. Espey, Lowrison, Sanderson and Temple.

Further details can be obtained on application to Messrs. Price and Charlton, who will serve as Organising Secretaries, or from the Secretary of the Chamber of Horticulture, 11, Adam Street, Adelphi, London, W.C.2. The place of the Public Meeting will be announced.

The long felt need for some legislation to protect the interests of raisers of new varieties has occupied the attention of the Chamber of Horticulture for some time past. It now seems possible that progress towards a satisfactory result will be made. An eminent King's Counsel considers that it would be feasible to obtain the passing of an Act of Parliament, and to provide the means for doing this it is necessary to prepare a "case." Raisers are therefore asked to be good enough to place their views fully before the secretary of the Chamber at the earliest possible moment.

Obituary.

P. Sagourin.—The death is reported in the *Revue Horticole* of the French Director of Agriculture, Monsieur P. Sagourin, which took place on May 12. He was only 52 years of age, and the illness which ended thus fatally lasted but a few days.

Monsieur Sagourin, who had been director of Agriculture since 1916, played a considerable part in the organisation of food production during the last years of the war. An indefatigable worker, he strove passionately to further the interests of agriculture, and was mainly responsible for the creation of local committees and departments, a reform which played a very important part in the stimulation of agricultural effort during the period of greatest shortage. He was a most devoted worker, having filled in turn the rôles of professor in a technical school, professor of agriculture, local agricultural director of the Aube district, and agricultural inspector. His labours were everywhere productive of excellent results, and there is no doubt that French agriculture and horticulture is the poorer for his loss.

Edouard de Janczewski.—We learn with regret of the death, at what date is not recorded, of a well-known Polish botanist, Prof. de Janczewski. He was for some years Professor of Botany at the University of Cracow, and specialised in the genus Ribes. The results of his researches were published in 1907, in a work entitled "*Monographie des Groseillers, Ribes L.*," published at Geneva. Two supplements were subsequently added, bringing the work finally up to the year 1913. It is to be feared that his studies must have been seriously interrupted subsequent to that date, owing to the unfortunate circumstances which made this portion of Poland a battlefield, fought over again and again by the Russians and Germans. It is not reported, however, that the University buildings themselves have been seriously damaged.

CROPS AND STOCK ON THE HOME FARM.

MANGOLDS.

The early-sown Mangolds are coming through the soil satisfactorily, and directly the rows can be distinguished the soil on either side should be stirred at once either by the horse hoe or hand hoe. No plant I know shows the advantage of surface cultivation better than the Mangold, and none shows more forcibly the disadvantage of being smothered with weeds. I sow a handful of Barley with the Mangold seeds; this germinates in advance of the Mangolds, thus showing the lines much more plainly and making hoeing easier. Where Charlock is likely to be troublesome, I would advise strongly the early hoeing of the Mangold crop, as this pest robs the soil of fertility quickly and chokes the Mangold plants.

CABBAGE.

Seeds have germinated very well, but the Turnip fly is very troublesome and attacking the seedlings directly they appear, especially where the soil is rough. I find it a good plan to dust the plants repeatedly with soot, wood ash, fine bone meal, or superphosphate of lime, all of which will also assist the growth of the plants. In a small way, in the garden for example, one of the best preventives of Turnip fly attack is sprinkling the lawn mowings over the rows before the seedlings push through the soil. The sun will wilt the grass and the plants grow sturdily through it.

Wireworm is an especially bad pest this season, where grass, old Sainfoin, or leys were ploughed up last year. Oats and Wheat have been so badly attacked, and in some cases half the corn plant has been killed, in spite of the free use of sulphate of ammonia and repeated rolling with heavy iron rollers. Directly the Corn is cleared such land should be ploughed and repeatedly cultivated in order to expose the wireworms to birds. It will be useless to sow such crops as Mangold, Swedes, or even Potatos the following year if measure are not taken to destroy the wireworms.

MARKET CABBAGE.

Cabbages of the Wheeler's Imperial and Flower of Spring type are generally late in hearting this season, owing to the excessively wet autumn and winter. In large breadths of this vegetable there are very few "bolters," but in gardens where they were perhaps sown early there are many. Late plants would be improved by a light dressing of sulphate ammonia.

AUTUMN SOWN ONIONS.

These have grown quite well, and the spring sown batch, in the open, has germinated evenly and well. All that is needed now is to keep the soil stirred and free from weeds.

MAIZE, FOR COWS, CATTLE, PIGS AND HORSES.

In August and September Maize is a valuable food, especially during a spell of dry weather when grass is scarce, and not nearly enough of this fodder crop is grown. Some growers may have had failures with the crop owing to sowing the seed too early, or because rooks have destroyed the plants—which they may quickly do if allowed to taste the seeds when sown.

The middle of May is quite early enough for the sowing of Maize seed, especially in heavy soil. A stubble, ploughed in early autumn with a liberal dressing of farmyard manure, is a good preparation for Maize. Work the soil freely in the spring and sow the seeds six inches apart in the furrow behind the plough and not less than three inches deep. If farmyard manure was not available, sprinkle superphosphate of lime or bone meal with the seeds. Keep rooks away from the plot until the seedlings are well above the soil, when one hoeing will be all that is required.

ROLLING CEREAL CROPS.

The sowing season for such cereals as Barley and Oats has been especially prolonged this year owing to the inclement weather during the early months, when the preparations for these crops should have been made, consequently the rolling of these crops has been unduly delayed, in fact many fields have not yet been rolled. No time, therefore, should be lost in rolling, as the work is an absolute necessity in consolidating the soil about the plants as well as pressing stones out of the way of the binders.

SUMMER FALLOWS.

The present spell of dry weather is all in favour of work on summer fallows. This is an old-fashioned method of growing Wheat, and also a good one. There are many weedy fields at the present time that should be summer fallowed, which means repeated stirring of the soil, thus killing the couch and other weeds by exposure to wind and sun. Afterwards the weeds should be burned in small heaps, and the resulting ashes spread to enrich the soil with potash. The method of summer fallowing a field overrun with couch and other weeds, and which was ploughed out of an Oat stubble in the autumn and is now one mass of green, is to plough to quite the former depth, getting well under the couch roots, and crosswise of the previous furrows. A week later cultivate or scarrify the soil deeply by means of the tractor. The next business is to drag the surface and disentangle the soil from the weeds. Collect the weeds into heaps by the use of chain harrows used upside down. The next work is to again plough and cultivate, giving the weeds no rest. When thoroughly clean, plough the ground in July and sow with Rape to be eaten off in September and October by sheep, and then ploughed and sown with Wheat in October. An alternative method is that of sowing a catch crop of Mustard in August, allowing it to grow two feet high, ploughing it in, pressing firmly, and sowing with Wheat in October, or Winter Oats in September. Still another method remains, and it consists of ploughing and clearing the land until October, applying a dressing of farmyard manure of, say, 15 or 20 tons per acre, spreading it and ploughing it in, and sowing Wheat in October. *Ed. Molyneux.*

AGRICULTURAL WAGES.

A meeting of the Agricultural Wages Board was held in London on May 9, Sir Ailwyn Fellowes presiding.

The Board appointed a Committee to consider and report upon the suggestions made at the Conference held on the 7th May between the Board and representatives of all the Districts Wages Committees for the discussion of matters relating to the work of the Board and of the District Wages Committees.

After consideration of the objections which had been lodged to their proposal of the 1st April to vary the minimum rates of wages for male workers of 18 years of age and over throughout England and Wales, and of the reports made on the proposal by the various District Wages Committees, the Board decided to confirm their proposal except as respects ordinary labourers in Cumberland and Westmorland (in regard to which the District Wages Committee will again be consulted), and as respects the special rates for special classes of workers such as stockmen, horsemen and cowmen, in Herts., Kent, Middlesex, Northants., Salop, Surrey, Sussex and Wilts. In the case of these counties the Board propose that the special classes of workers shall be paid at the minimum and overtime rates applicable to ordinary labourers.

The variation made by the Wages Board (which came into operation on the 19th May) is as follows:—

(*a*) A reduction in the hours for which the minimum wage for ordinary labourers is payable to 54 in "Summer" and 48 in "Winter," in the counties where such hours have been in excess of these hours.

(*b*) An addition to the weekly wages at present payable to ordinary labourers, of the following sums (subject to slight adjustment to round sums):—Workers of 18 and under 19 years of age, 3s. a week; workers of 19 and under 20 years of age, 4s. a week; workers of 20 and under 21 years of age, 5s. a week; workers of 21 years and over, 6s. 6d. a week; with corresponding adjustments of the overtime rates on the basis of time and a quarter on week-days and time and a half on Sundays.

In the case of those counties where the number of hours per week are in excess of 54 in summer and 48 in winter, the above additions will be made, not to the present weekly wages, but to the present weekly wages reduced to a basis of 52 hours all the year round.

(*c*) An increase in the special rates fixed for special classes of workers such as horsemen, stockmen and shepherds, by amounts corresponding to the increase in the rates for ordinary labourers, except as regards the eight counties referred to above.

The Wages Board have at present under consideration the special rates for horsemen, stockmen, shepherds, etc., with a view to modification of the basis of "customary" hours for which those workers are paid in a number of counties, but they were not legally in a position to give effect to any alteration in this basis at the moment, and they consider that in the meantime these workers should not be deprived of the increase granted to other workers, even where it involved making a new rate which may only be in operation for a short time.

A Schedule of the new minimum rates fixed for each county will shortly be obtainable on application to the Agricultural Wages Board, 80, Pall Mall, S.W.1.

ANSWERS TO CORRESPONDENTS.

ADDRESS WANTED. Will Mr. J. Tayleur, of Theale, Berkshire, kindly send us his full address, as a letter sent as above has been returned "Not known."

BLACK CURRANTS: *J. P.* The bushes are badly affected with big bud mite, Eriophyes ribis. Considerable correspondence on this subject has been published in recent issues of *Gard. Chron.*, and in the one for March 29, 1919, Mr. G. Taylor stated that the mite may be controlled by using a mixture consisting of 10 per cent. of soap and 5 per cent. of crude carbolic acid. Pick off all the affected buds and burn them. The spraying should be commenced about the beginning of April and continued once weekly until the first week in June.

CINNAMON VINE.—*M. A. H.* Cinnamon Vine is the popular name for Dioscorea, the members of which are twining herbs, grown largely in America for furnishing arbors, pergolas and the like. Certain species of Dioscorea are cultivated in this country for their handsome foliage. There are several species, but we doubt if they would prove a great success in this country out-of-doors, seeing that they are natives of warm countries.

COST OF NICOTINE. *R. A. C.*: We have sent your letter to *Market Grower*, who states that the nicotine he referred to on p. 223 was bought last October, when the actual quotation was 15s. 3d. per lb. carriage paid for a 50-lb. lot. A little later nicotine was practically unobtainable at any price. The Yalding Manufacturing Co., Maidstone, sell a nicotine substitute which is rather cheaper.

CULINARY AND DESSERT APPLES.—*C. H.* Assuming you propose to plant bush trees in the autumn, the following varieties of Apples will be found suitable for your district: Culinary—Lord Grosvenor, Grenadier, Ecklinville Seedling, Rev. W. Wilks (early); Bismarck, Lord Derby, Blenheim Pippin, and Stirling Castle (mid-sum.); Newton Wonder, Lane's Prince Albert, Bramley's Seedling, Annie Elizabeth, Beauty of Kent, and King Edward VII. (late). Dessert—Lady Sudeley, Beauty of Bath, Irish Peach, Devonshire Quarrenden (early); Cox's Orange Pippin, King of the Pippins, Allington Pippin, American Mother (mid-season); Adams's Pearmain, Sturmer Pippin, Barnack Beauty, Claygate Pearmain, Lord Hindlip, and Duke of Devonshire.

DIPLOMA IN HORTICULTURE.—*R. H.* You would be able to obtain full information and probably copies of papers set at previous examinations from the Secretary of the Royal Horticultural Society, Vincent Square, Westminster, London, S.W.

HARDY AZALEAS.—*J. L.* It is probably that the larger, wider flowers of Azalea mollis, of the Anthony Koster type, represent the true variety, whilst the smaller yellow flowers represent Azalea pontica (Rhododendron flavum). The former has, we assume, been grafted on the latter, and the stock has sent up a growth which has flowered among the growths of the grafted variety.

HIPPEASTRUM: *J. O.* The painting of the Hippeastrum (Amaryllis) forwarded for inspection is a seedling or hybrid from A. Vittatum, a species introduced from the Andes of Peru more than a century ago. The hybrids are very showy but lack the form, size and substance of those of newer varieties, and are scarce in collections.

NAMES OF FRUITS.—*A. N.* Probably a shrivelled fruit of Fearn's Pippin.

NAMES OF PLANTS: *North.*—1, Phyllera augustifolia; 2, not recognised; 3, Epimedium pinnatum; 4, Kalmia augustifolia; 5, Pernettya mucronata; 6, Megasea crassifolia; 7, Trillium sessile; 8, Luzula sylvatica; 9, Tiarella cordifolia; 10, Ledum latifolium; 11, Petasites fragrans; 12, Vaccinium mystillus; 13, Gaultheria Shallon. *G. J.* (1) Pilea muscosa; (2) Streptosolen Jamesonii; (3) Megasea cordifolia; (4) Choisya ternata; (5) Veratrum sp. (send when in flower); (6) Doronicum austriacum; (7) Asphodelus ramosus. *S. B.* Veronica gentianoides and Asphodeline lutea. *W. M. M. D.* (1) Cypripedium Lawrenceanum; 2 and 3 are probably varieties of or hybrids from C. Lawrenceanum. *H. B. R.*—Orobanche major. *W. V. de W.*—Begonia semperflorens gigantea. *F. H.*—Asphodeline lutea. *E. J. R.* Prunus Padus. *A. B.* Cyphomandra betacea, the Tree Tomato; quires a warm greenhouse temperat *A. H. P.* Prunus Padus. *H. G.* Dor cum plantagineum. *L. A. M.* (1) Chry gonum virginianum; (2) Lithosperm purpureo coeruleum; (3) Lathyrus ver albus; (4) Primula japonica; (5) Ph divaricata; (6) Primula farinosa; (7) Po monium coeruleum; (8) Euphorbia Cyparis *C. W.* (1) Prunus Padus; (2) Pyrus t minalis; (3) Olearia elaeagnifolia; (4) Symp tum tuberosum. *C. H.* (1) Euphor epithymoides; (2) Exochorda grandiflora; Camassia esculenta; (4) Cornus Nutallii; Staphylea colchica. *L. C.* Bocconia cor

PEAR LEAF BLISTER MITE.—*West Derby.* Pear leaves and fruitlets are attacked b Pear-leaf Blister Mite (Eriophyes pyri). mite inhabits the buds during the winter, is said to migrate to the leaves during summer. It is certainly responsible for blisters on the Pear leaves, and also on the bryo fruits of susceptible varieties like Souv du Congrés. The damage on the young fr gradually disappears as they increase size, though the severely affected ones usu drop. Summer remedies are not usually succ ful, the best time to attack the pests be early in March, just as the buds are open At this period the mites which have shelte during the winter under the bud scales accessible to sprays. Lime sulphur at a wi strength of one in twelve, or one in fifteen harmless to the Pear and destructive to mites.

SHELTER BELT FOR FRUIT TREES: *R. H. L.* T rows of trees will suffice for the shelter b For the inner one, next the fruit tr Cupressus macrocarpa would be suitab This is an evergreen, very dense in habit, grows rapidly. If the Austrian Pine thrives your locality, this Conifer would be suit for the outer row. If it is unsuitable, Ca dian Poplar might be substituted. Plant trees 10 feet apart in both rows, with th in the outer row opposite the spaces in inner row. The distance between the ro should be about 12 ft.

SOIL ANALYSIS.—*W. B. W.* Dr. J. Augu Voelcker, No. 1, Tudor Street, New Br Street, London, E.C.4, undertakes the ana of soil for a fee. If you are a Fellow of Royal Horticultural Society he would do s a special rate of charges, which may be obta from the Secretary of the Royal Horticult Society, Vincent Square, Westminster, Lo don, S.W.

WEAK GROWTHS ON LADY DOWNES' VINES: *W.* There is a lack of substance in the growth your vines which points to a deficiency of or more of the essential minerals—lime, p phate or potash—in the soil; while the coloration and large amount of pith sug that an excessive quantity of nitrogen has be applied. If no lime has recently been giv apply 10 lbs. to the rod, after slaking it allowing it to cool. A dressing of wood a burnt vegetable refuse, spread over the surf a quarter of an inch thick; kainit, 4 lbs. to t rod; or sulphate of potash, 2 lbs. per would supply the necessary potash. Sup phosphate at the rate of 6 lbs. to the should be applied for immediate assimila followed by a similar quantity of bone meal steamed bone flour. In some soils, bones, cepting in the form of powder, are usel owing to their slow decomposition. You sho be able, by the knowledge of what has be applied to the vine borders, to judge which the above substances are necessary. No ni genous manure should be given this season, if there is a mulching it should be remov and followed by an immediate application such manures as are likely to supply th elements of which the soil is deficient.

Communications Received.—H. C.—T. G.—P. B.—R. J. R.—C. H. R.—A. T. H.—D. B. W.—P. W. H. G.—C. W.—J. H.—J. O.—T. C.—C. L. A. M.—H. G.—H. F.—W. B. W.—J. W. W. A. C.—F. J. B.—G. F. M.—Miss M. S.—J. J. K. D.—H. J. G.—A. T. B.—R. A. M.—A. A.

MARKETS.

COVENT GARDEN, May 28.

[We] cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.

[Pla]nts in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
[...] Sieboldii [4]8's, per doz.	10 0–12 0	Fuchsias, 48's, per doz.	18 0–24 0
[As]paragus plumosus	12 0–15 0	Heliotropes, 48's, per doz.	18 0–21 0
[— S]prengeri ...	12 0–18 0	Hydrangeas, white 48's, per doz. ...	24 0–26 0
[Asp]idistra green	48 0–72 0	— Pink, 48's, per doz.	30 0–48 0
[Beg]onias, 48's, per doz.	30 0–36 0		
[...]ti, per tray [3]2's, 15's ...	5 0– 6 0	Marguerites white	18 0–24 0
[Cin]erarias, 48's, per doz. ...	24 0–27 0	Mignonette, 48's doz.	18 0–21 0
[...]acandidissima 48's, per doz.	18 0–24 0 0	Palms, Kentia ...	18 0–24 0
[—] Rosea, 48's, per doz.	36 0–42 0	—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

[F]erns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
[Adi]antum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
[—] elegans ...	15 0–18 0	— 32's	24 0–36 0
[As]plenium, 48's per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
[—] 32's	21 0–24 0	— large 60's ...	4 0– 5 0
[—] [n]idus, 48's ...	12 0–15 0	— small 60's ...	3 0– 3 6
[Cyr]tomium, 48's ...	10 0–15 0	— 72's, per tray of 15's	2 0– 2 6

[Cu]t Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
[Aru]ms— (Richardias), per doz. bl'ms	8 0–10 0	Myosotis (Forget-Me-Not), per doz. bun. ...	3 0– 4 0
[Car]nations, per doz. blooms, best American var.	3 6– 4 6	Narcissus— florea plena (double white) per doz. bun.	8 0–10 0
[Cor]nflower, blue per doz. bun. ...	5 0– 6 0	Orchids per doz.:	
[Gar]denias, per box — specials ...	9 0–10 0	— Cattleyas ...	18 0–24 0
— ordinary ...	3 0– 4 0	— Cypripediums	6 0– 8 0
[Gla]diolus, The Bride, per bun.	3 0– 3 6	Pelargonium, double scarlet, per doz. bun. ...	10 0–12 0
[—] Blushing Bride per bun. ...	2 6– 3 0	— white, per doz. bunches ...	12 0–15 0
[Gla]diolas, Peach Blossom, per doz. bun. ...	36 0–42 0	Pyrethrum, white	
		— —coloured ...	6 0– 8 0
		— single ...	5 0– 6 0
[Gy]psophila, per doz. bun. ...	12 0–15 0	Roses, per dozen blooms—	
		— Lady Hillingdon	3 0– 5 0
[He]ather, white per doz. bun. ...	6 0–10 0	— Liberty ...	3 0– 5 0
		— Melody ...	3 0– 4 0
[Icel]and Poppies, doz. bun. ...	6 0– 8 0	— Mme. Abel Chatenay ...	3 0– 5 0
[Iris], per doz. bun.—		— Ophelia ...	3 0– 4 0
Spanish, White	24 0–36 0	— Richmond, var.	3 0– 4 0
— Blue ...	24 0–36 0	— Sunburst ...	3 0– 4 0
— Mauve ...	24 0–36 0	—White Crawford	3 0– 4 0
[La]gerias, per doz. blooms ...	4 0– 5 0	Sweet Peas, per doz. bun.—	
		— white	10 0–15 0
[Lili]um candidum per doz, blms ...	4 0– 6 0	— coloured ...	10 0–15 0
[Lily]-of-the-Valley, per bun. ...	1 0– 3 6	Stock, Dbl. White	15 0–18 0
		Violas, per doz. bun.	3 0– 4

[RE]MARKS.—The supplies of cut blooms are again shorter. [...] white flowers are becoming dearer. Choice blooms [are] very limited. Narcissus Poeticus is finished for the [seas]on. Double white Narcissus, although in plenty last [wee]k, remained firm in price. Enquiries are already being [made] for double white Pyrethrum, the first arrival of which [is e]xpected this week. Coloured varieties are already [offer]ed, both double and single, and are selling freely. Other [...] subjects consist of Paeonies, Cornflowers, Nigella, [...]ve Statice and White Daises. Iceland Poppies are [...] plentiful, but their prices remain unchanged. Roses [conti]nue to be well supplied, but the majority are very [...]or blooms. Carnations are also reduced in quantity. [Gard]enias are more plentiful and offered at cheaper rates. [Fo]liage, with the exception of Smilax, is much cheaper.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
[...]sh Peaches [per] doz. ...	9 0–36 0	Melons, each ...	7 0–10 0
[...]an Peaches, [per] doz. ...	9 0–24 0	Nectarines, per doz. ...	21 0–36 0
[Goos]eberries, per [1]2 lbs. ...	12 0– —	Nuts—	
[Grape]s:—		— Brazils (new) per cwt. ...	85 0–90 0
[Black] Hamburgh, [p]er lb. ...	4 0– 9 0	Pineapples. ...each	4 0–10 0
[Mus]cats, per lb.	6 0–12 0	Strawberries per lb.	5 0– 9 0
[...] Fruit, per cse	55 0– —	Worthing Figs, per doz.	6 0–15 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Asparagus, English per bundle ...	2 0– 8 6	New Turnips, per bunch	2 0– 2 6
Beans, French, per lb.	1 6– 2 0	Peas, per lb. ...	1 6 –2 0
Beetroot, per bus.	6 0– 7 0	Parsley, per ½ bus.	8 0 –9 0
Cabbage per doz.	4 0– 6 0	Potatos, new, per lb.	0 6– 0 7
Carrots, per bag	12 0–15 0	Radishes, per doz. bunches ...	2 6– 4 0
— New, per doz. buns. ...	10 0–12 0	Rhubarb, forced, per doz. ...	1 6– 2 0
Cauliflowers, per doz.	6 0– 8 0	—natural, per doz.	10 0–12 0
Cucumbers, per flat	32 0–36 0	Spinach per bus.	4 0– 5 0
Garlic, per lb. ...	1 6	Spring Onions, per doz. bunches ...	5 0–10 0
Greens, per bag	6 0–10 0	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box	...Controlled
Herbs, per doz. bun.	4 0– 6 0	— English, per lb.	2 3– 2 6
Leeks, per doz. bun.	4 0 —	Vegetable Marrows, each	2 0
Lettuce Cabbage and Cos per doz.	2 0– 7 0	Watercress, per doz.	0 8–0 10
Mint, per doz. bun.	6 0– 8 0		
Mushrooms per lb.	2 0– 3 0		
Mustard and Cress, per doz. punnets	1 3– 1 6		

Supplies of Grapes are increasing daily; the most common varieties are Black Hamburgh and Muscat of Alexandria. The following are also obtainable in large quantities:—Strawberries, Melons, Figs and Peaches. Nectarines are now commencing to arrive, and green Gooseberries are becoming much more plentiful. There are about 300,000 boxes of Tasmanian Apples to hand, per S.S. "Somerset," containing from 36 to 40 lbs. each. There is also a fresh consignment of Pineapples to hand. Tomatos, Cucumbers and Vegetable Marrows are not quite so plentiful as they were last week, but Beans and Peas show an increase in supply. Heavy supplies of English Asparagus are reaching the market daily.

SCHEDULE RECEIVED.

Royal Horticultural and Arboricultural Society of Ireland's Show, to be held on June 11 and 12, 1919, in the Royal Dublin Society's premises, Ballsbridge, Dublin Secretary's address, 5, Molesworth Street, Dublin.

GARDENING APPOINTMENTS.

Mr. R. J. Reynolds, after 4½ years in His Majesty's Forces, and previously Foreman at Tortworth Court, Gloucestershire, as Gardener to Captain G. R. R. Coleman, Bixley Lodge, Norwich.—(Thanks for 2s. 6d. for R.G.O.F. Box.—Eds.)

Mr. C. H. Ryde, recently Gardener to Lt.-Col. J. H. Starkey, High Ridding, Camberley, as Gardener to D. T. Willis, Esq., The Old Mill, Frimley Green, Surrey.

Mr. A. T. Harrison, for nearly six years Gardener at Eynsham Hall Gardens, Witney, Oxon, as Gardener to the Marquis of Ailsa, Culzean Castle, Maybole, Ayrshire.—(Thanks for 2s. 6d. for R.G.O.F. Box.—Eds.)

Mr. D. B. Whitelaw, after three years with His Majesty's Forces, has resumed his duties as Gardener to Major Mainwaring, at Oteley Hall, Ellesmere, Shropshire.

Mr. Thos. Gunnis, as Gardener to Colonel Irby, Boyland Hall, Long Stratton, Norfolk.

Mr. H. Crisp, after serving for nearly three years with His Majesty's Forces in France, Belgium and Italy, has resumed his duties as Gardener to C. Ingram, Esq., Elstead House, Godalming, Surrey. (Thanks for 2s. for R.G.O.F. box.—Eds.)

Mr. R. Budd, previously Gardener to Mrs. Robinson, The Downage, Hendon, and for four and a half years with His Majesty's Forces, as Head Gardener to Col. K. Mitford, Pitshill, Petworth. (Thanks for 2s. 6d. for R.G.O.F. box.—Eds.)

Mr. P. R. Murton, for 26 years Gardener at Penrose Hilston, Cornwall, as Gardener to Colonel Sir Courtenay Vyvyan, Bart, C.M.G., C.B., Trelowarren, Mawnan-in-Meneage, Cornwall. (Thanks for 2s. 6d. for R.G.O.F. Box.—Eds.)

THE PLANTER'S NOTE BOOK.

By the late ROBERT WOODWARD, of Arley Castle.

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All particulars in fully illustrated Catalogue post free from:—
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THE CARNATION SPECIALISTS, (Department 2) HAYWARDS HEATH, SUSSEX.

TO FRUIT GROWERS.
The fruit season is now fast approaching, and you will want to know how to place your fruit to the best advantage. You cannot do so unless you are familiar with the names of the chief salesmen in the principal towns of the United Kingdom. This information is contained in the
HORTICULTURAL DIRECTORY
published by the *Gardeners' Chronicle*. It also contains a wealth of other information of the utmost value to every pomologist and horticulturist. Send 2/- to the address below, and a copy will be sent you by return of post.
41, WELLINGTON ST., STRAND, W.C.2.

SITUATIONS VACANT.

Twenty words (or three lines including headline) 3s., and 6d. for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office, 6d.

PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

NORTHAMPTONSHIRE COUNTY COUNCIL.
EDUCATION COMMITTEE.

APPLICATIONS are invited for the post of ASSISTANT HORTICULTURAL INSTRUCTOR. Candidates must be active and properly trained in the science and practice of Horticulture in all its branches.
Salary according to qualifications and experience.
Forms of application, which may be obtained from the undersigned, must be returned before 7th June, 1919.

J. L. HOLLAND,
Secretary for Education.

County Education Offices, Northampton.
19th May, 1919.

THE BERMONDSEY BOROUGH COUNCIL invites applications for the position of ASSISTANT GARDENER. The person appointed must undergo a satisfactory medical examination. Applicants must be thoroughly qualified to act as Assistant Gardener, and have been accustomed to Public Garden work, with experience in cultivation of Trees, Shrubs, and Flowers. Wages 45s. per week, plus 20s. per week war bonus.
Applications on forms, to be obtained from the undersigned, accompanied by copies of two testimonials, endorsed, "GARDENER," should reach me not later than twelve noon on Saturday, the 7th day of June, 1919.

FREDK. RYALL,
Town Clerk.

Town Hall, Spa Road,
May 27, 1919.

GARDENER wanted (HEAD WORKING), capable, energetic and interested in his work, with excellent references; one under-gardener kept; good house. State wages, age, family, experience.—W. WALE, Lapworth, Warwickshire.

WANTED, SINGLE-HANDED GARDENER, willing to help in house; no cottage, so must be single man; must have some experience.—ANTROBUS, St. Audrey's, Hatfield.

KITCHEN GARDENER wanted; must be a single man with excellent character; bothy accommodation.—Write full particulars, stating age, and wages required, to Mrs. COLMAN, Nork Park, Epsom Downs.

WANTED, KITCHEN GARDENER; must be well up in Fruit and Vegetables; no bothy; 1 o'clock Saturdays.—Apply, stating experience and wages required, to C. WILLIAMS, The Gardens, Hockley Sole, nr. Folkestone, Kent.

GARDENER (SECOND) for Pleasure and Rock Garden; married; state wages required, with house, etc.—H. HALES, Thornhaugh Hall, near Peterborough.

GARDENER (SECOND), single, chiefly for Inside work.—Please state age, experience and wages to HEAD GARDENER, The Cleve, Wellington, Somerset.

WANTED, SECOND GARDENER (single), chiefly Kitchen Garden; good references required; 30s. to commence, with bothy.—Apply The Gardens, Kingswood Court, Tadworth, Surrey.

SECOND GARDENER; Inside and Out, married; 33s., lodge and garden; also SINGLE MAN for Pleasure Grounds; 30s., good bothy; both take duty.—HEAD GARDENER, Morley Manor, Derby.

GARDENER (SECOND) wanted; well up in Kitchen Garden and Pleasure Grounds; share duty; wages 35s. weekly; free cottage.—Apply, with references, HEAD GARDENER, Llantarnam Abbey, Monmouthshire.

WANTED, good SECOND MAN (Inside), experienced in growing Fruit and Plants; also young man as Under (Inside); bothy and vegetables. State age and wages expected to HEAD GARDENER, The Lodge, Milburn, Esher, Surrey.

WANTED, UNDER - GARDENER (unmarried), with knowledge of Cows, Kitchen Garden and Pleasure Grounds; duty every three weeks; 1 o'clock Saturdays.—State wages required to SEABROOKE, The Elms, Grays, Essex.

WANTED, an UNDER-GARDENER, age about twenty; good wages.—Write or call to the Gardener, J. HUTSON, The Bungalow, Chartfield Avenue, Putney

WANTED, UNDER-GARDENER (married); experienced Kitchen Garden and Pleasure Grounds; good scythe hand essential; good wages, cottage and garden.—Lady LYTTELTON, Bell Hall, Stourbridge.

WANTED, a THIRD GARDENER (single man), one who would be willing to look after pony that mows the grass, and make himself generally useful.—Write, stating, age, wages, etc., to MRS. LLOYD, North Hall, Basingstoke.

WANTED, FOREMAN (INSIDE); well up in Fruit, Carnations, etc.; also experienced MAN for Rockery, Herbaceous and Pleasure Grounds; single men; no bothy. — Apply, stating wages, with reference, to JAS SHEARER, The Gardens, Brasted Place, Brasted, Kent.

WANTED, experienced FOREMAN or SECOND GARDENER, where three or four are kept; Inside and Out; wife experienced with Poultry; good house, coals, lights, and vegetables.—Apply, full particulars, etc., R. C. HART DYKE, Great Nast Hyde, Hatfield, Herts.

WANTED, LEADING HAND for Pleasure Grounds; state wages required, with bothy and usual allowances.—WM. HADDOW, Parkwood, Englefield Green, Surrey.

WANTED, JOURNEYMAN for Pleasure Grounds, able to use scythe; good wages, bothy, etc.; duty paid.—Full particulars to H. CHANDLER, Coombe Abbey Gardens, Coventry.

WANTED, JOURNEYMAN for Inside; wages 30s per week, bothy, etc; extra for duty; 1 o'clock Saturdays.—Apply, W. REED, Coworth Park Gardens, Sunningdale, Berks.

WANTED, six smart, active JOURNEYMEN immediately, chiefly for Pleasure Grounds; lodgings now, bothy later; state experience, age, wages expected; copies of testimonials, etc., to GEO. MORBEY, The Gardens, Lilleshall House, Newport, Salop.

WANTED, FIRST JOURNEYMAN (Inside); must be experienced man; also YOUNG MAN for Inside and Out. Apply by letter, stating age, experience, and wages required; no bothy.—HEAD GARDENER, Heathlands, Wimbledon Common, S.W 19.

WANTED, two JOURNEYMEN, one for Plant Houses, and one for Kitchen Garden. State experience and wages expected, with bothy and attendance, to J. CHILD, Porters Park Gardens, Shenley, Herts.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; also an IMPROVER, about 20, able to take duty; 36s. and 25s. per week respectively, with bothy.—Apply, with references, to H. PICKSTOCK, The Gardens, Mair Hall, Newcastle, Staffs.

WANTED, two JOURNEYMEN, chiefly Outside; 30s. per week, bothy, etc.; Sunday duty paid; 1 o'clock on Saturdays.—Apply, G. TAYLOR, The Gardens, Bulstrode, Gerrard's Cross, Bucks.

GARDENERS.—Two JOURNEYMEN wanted at once, Inside and Out; wage 30s., free furnished quarters.—Apply, HEAD GARDENER, Benmore, Kilmun, Argyllshire.

WANTED, JOURNEYMAN (FIRST), well up in Herbaceous Borders. Lawns; good scythe hand; horse machine; able to take duty; £2 per week, bothy, etc.—HEATH, Mark Hall Gardens, Harlow, Essex.

WANTED, two experienced JOURNEYMEN one Inside, other Inside and Out; state age and wages required; bothy; 1 o'clock Saturday; overtime and Sunday duty paid.—CHANDLER, Coton House, Rugby.

WANTED, several experienced JOUR[NEY]MEN for Outside; also two or three [IM]PROVERS. Good bothy and attendance provid[ed]; o'clock Saturdays.—Apply, stating experience and [wages] required, to W. AUTON, Pyrford Court, Woking.

WANTED, JOURNEYMAN for Herba[ceous] and Alpines, etc.; wages 33s. weekly; [bothy,] milk and vegetables; duty paid extra.—E. BERRY, Gardens, Pains Hill, Cobham, Surrey.

WANTED, two JOURNEYMEN, one [for] Herbaceous Border, one for Kitchen Garden [and] Houses. State wages.—Apply, J. CHAPMAN, The [Gar]dens, Badgemore, Henley-on-Thames.

JOURNEYMEN wanted for large esta[te]ment; wages 35s. and bothy (with atte[ndance] and vegetables.—Apply, with full particulars [and ref]erences, to HERD BROS., The Nurseries, Penrit[h].

WANTED, JOURNEYMAN for [...] Houses, also two Journeymen (both as Bo[thy]) one for Kitchen Garden and one for Grounds; 1 o['clock] Saturdays; duty paid; state wages required, with [...] etc.—G. SMITH, Hutton Hall Gardens, Guisbo[rough,] Yorkshire.

WANTED, JOURNEYMAN for Inside [and] out; wages 26s. per week and bothy; [...] and overtime paid.—Apply, H. A. PAGE, The Ga[rdens,] Belsize Court, Hampstead, N.W.3.

WANTED, JOURNEYMAN for Plant [and] Fruit Houses; wages 30s. per week, bothy, [milk] and vegetables; duty and overtime paid; age and [experi]ence.—W. KINGSWOOD, The Gardens, Norman [Court,] Salisbury.

WANTED, JOURNEYMAN for Fruit [and] Plant House; 32s. per week; Sunday duty [...] bothy, milk and vegetables.—H. PAGE, Stoke [...] Gardens, Slough.

WANTED, JOURNEYMAN for Inside [and] Out.—Apply, stating wages, etc., to [...] MACDONALD, The Gardens, Whetstone, Edg[baston,] Birmingham.

WANTED for Pleasure Grounds, OUT[SIDE] JOURNEYMAN, to learn motor lawn m[ower;] take duty once a month; 32s. weekly, bothy, [...] 12 o'clock Saturdays.—H. W. BROMLEY, Vale [Royal] Gardens, Hartford, Cheshire.

WANTED, two good JOURNEYMEN [for] Fruit and Plant Houses; must be well [recom]mended; good wages, bothy, milk, and vege[tables;] 1 o'clock Saturday. — HEAD GARDENER, N[...] Priory, Wakefield.

WANTED, two MEN, one for Pl[easure] Grounds, one for Inside and Out; duty all[ernate] weeks; bothy, milk and pototos.—Please state wage[s and] experience to J. AXFORD, Denham Mount Gar[dens,] Denham, Bucks.

WANTED, two MEN, one Inside Plants [and] Fruit, one Kitchen Garden chiefly; must [be ex]perienced and energetic; wages 40s. per week [and] bothy.—T. HAZELDINE, Cresswood Gardens, Car[...]shire.

WANTED, MAN for Pleasure Grounds, [able] to use scythe; wages 30s., bothy, vegetables. —W. PHILLIPS, Gardens, Derry Ormond, L[...] Cardiganshire.

WANTED, good MAN for the H[ouses,] Orchids, Fruit and Plant, also one for Ou[tside] Fruit and Lawns, and one for Kitchen Garden [...] look after two cows. — State wages (no bothy[) ...] GARDENER, Feltham Lodge, Feltham, Middlesex.

WANTED, MAN for Pleasure Grounds, [able] to Horse Mower. Also MAN for H[...] Grounds; wages 35s. and 30s. respectively, with [...] Apply, J. W. WOODCOCK, Buckland Gardens, B.S.O., Breconshire.

WANTED, MARRIED COUPLE, aged 25-30; man Gardener, indoor job; w[ife] plain Cook or House-parlourmaid.—Mrs. RUGGL[ES ...]tana, Swanage.

WANTED, SINGLE MAN for Kitchen [Gar]den and Pleasure Grounds, able to take [duty;] wages 32s., bothy, milk, and vegetables; d[uty] extra.—PARMENTER, The Gardens, Ingatestone [...] Ingatestone, Essex.

WANTED, two YOUNG MEN, experienced Kitchen Garden and Pleasure Grounds, able to use scythe; take duty; bothy and vegetables; 1 o'clock Saturdays.—Particulars and wages to J. A. MULFORD, Merevale Hall Gardens, Atherstone, Warwicks.

WANTED, YOUNG MAN, age over 20, for Kitchen Garden; take duty every third week; good bothy, vegetables and attendance. 1 o'clock Saturdays. State wages required.—WM. GAIGER, Spring Grove Gardens, Bewdley.

WANTED, YOUNG MAN for Inside and Out; state wages, with free lodging, also abilities; references required.—YATES, Newlands, Edgware, Middlesex.

WANTED, YOUNG MEN for Pleasure Grounds and Kitchen Garden; able to take duty; 32s. to commence, duty extra, bothy, etc.; 1 o'clock Saturdays.—Apply, stating age and experience, E. DUMPER, Great West Hatch Gardens, Chigwell, Essex.

WANTED, YOUNG MAN about 20, chiefly for Outside; duty alternate weeks; good bothy. State wages, etc.—W. E. WALDRON, Saltmarshe Hall Gardens, near Howden, E. Yorks.

WANTED immediately, two intelligent youths as IMPROVERS, 17-19; work under foreman, Inside and Outside as required; capable of taking duty, for which 6s. paid; wages 23s., bothy, vegetables.—Turner, Wavesbury Gardens, Welwyn, Herts.

WANTED, two SPADESMEN; single. State wages, with bothy and vegetables.—T. L. RUSHTON, Barnacre Lodge, Garstang, Lancashire.

WANTED, LADY GARDENER (HEAD), where three others are kept; thoroughly experienced in all branches, and reliable. Also Lady Under-Gardener; state age and wage; cottage.—Apply, Mrs. A., Grove Lodge, Muswell Hill, London, N.

ODD MAN wanted for usual house duties; rest of time in Garden; bothy and vegetables.—LADY ANDERSON, Nutgrove Manor, Bourton on the Water, Gloucestershire.

TRADE.

UNIVERSITY COLLEGE, READING,
and the
BERKSHIRE AGRICULTURAL INSTRUCTION COMMITTEE.

A COMMITTEE, representative of the Berkshire Agricultural Instruction Committee and of University College, Reading, will shortly proceed to select a candidate as HORTICULTURAL INSTRUCTOR for Berkshire, under the scheme drawn up by the Berkshire Agricultural Instruction Committee, and carried out in conjunction with University College, Reading.

Candidates for appointment should possess thorough knowledge of practical Horticulture and Market Gardening, and should be capable of lecturing and advising on matters connected with the Production and Marketing of Horticultural Produce.

The Salary will be at the rate of £250 per annum, together with an allowance for travelling expenses, according to scale.

Further particulars, for which a stamped addressed envelope should be enclosed, may be obtained from the Agricultural Organiser for Berkshire, University College, Reading, by whom applications will be received up to June 28, 1919.

WANTED, WORKING MANAGER or competent FOREMAN, to take entire charge; also two young men, good knifesmen.—Apply stating full particulars and wages asked.—PROPRIETOR, Boston Rose Farms, Boston, Lincolnshire.

GARDENERS with experience, for Landscape and Jobbing Gardening; wages, 10½d. hour.—Apply, WM. BIGNELL & SON, 48, North Road, Highgate Village, N.6.

WANTED, GARDENER, one who has had experience in marketing surplus produce; good fruit grower, particularly apples; knowledge of Bees and Fowls would be an advantage; commission on sales if results are satisfactory; 40s., cottage, vegetables; no glass.—Apply in first place to CARSTON, Queen's Park, Crewe.

WANTED, GARDENER (WORKING) charge of Small Nurseries; knowledge of Tomatoes. State age, wages to Box A, SMITH & SONS' Bookstall, Aberystwyth.

GARDENER wanted for attending to small Gardens; good wages to good man; permanent work.—CHANDLER, Garden Contractor, Ilford, Essex.

WANTED, GARDENER (single) for about two-acre garden of choice Fruit; no Glass.—BRADLEY, Seed and Fruit Farm, Newark, Peterborough.

WANTED, GARDENER (single); take charge ten-acre garden, part planted Fruit; one Greenhouse, Tomatos. Inside and Out, etc.—References, wages, etc., BRADLEY, Seed and Fruit Farm, Newark, Peterborough.

WANTED, for two or three months, a first-class TOPIARY EXPERT; must be a practical working man; good wages paid. — Apply, JOHN WATERER, SONS & CRISP, Ltd., The American Nurseries, Bagshot, Surrey.

TOMATO GROWER wanted on Market Nursery.—State previous experience, references, with address, age and wages required, to E. X. L., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, a GROWER; Bedding, Ferns, etc.; regular to a capable man; Nurseries, Old Southgate.—Wages required and reference, apply HOWES AND SON, Blackstock Road, Finsbury Park, N.

WANTED immediately, for General Outdoor Nursery, steady, reliable young GROWER as SECOND; able to take control in foreman's absence; used to working Fruit, Herbaceous Plants, etc.; permanency, wages, references to HOPWOOD AND SON, Nurserymen, Cheltenham.

KNIFESMAN WANTED, good Budder and Grafter, mainly for Fruit Trees and Roses. Replies must state wage, experience, age, married or single, when disengaged, with copies of testimonials.—W. W., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN WANTED, with good all-round experience for Inside and Outside charge; able to work up large stocks for mail order trade; good wages. Full particulars to SOUTH, Box 15, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, WORKING FOREMAN for small quantity of Glass, with knowledge of Fruit; energetic.—State wages, age, ALLEN, Nursery, Blaby, Leicester.

WANTED, experienced NURSERY HAND for Chrysanthemums and Tomatos.—ICETON, Putney Park Lane, Putney, S.W.

IMPROVER, small Market Nursery; Tomatos, Cucumbers, Chrysanthemums, etc.—Reply, stating wages, experience, age and references, REVELL, Amberstone Nursery, Hailsham.

MEN WANTED for Landscape work; 11d. per hour.—Apply by letter, stating experience, to JENSEN & MILNE, Finchley Lane, Hendon, N.W.4.

WANTED, two YOUNG MEN for general out-door Nursery, chiefly Roses; preference given to good Budders.—State wages required and experience, PERKINS & SON, Nurseries, Coventry.

YOUNG MAN wanted for general Nursery work (Outside), with knowledge of Herbaceous and Alpines preferred. — State wages and experience, JAMES NASH & SONS, East Horsley, Surrey.

WANTED, YOUNG MAN for Rose Department (Outside).—Apply, with particulars, to THOMAS PERKINS & SONS, LTD., 34, The Drapery, Northampton.

WANTED, for Inside and Out, two strong Young Men, age about 18, one able to drive; state wages and experience.—H. S. Holmested, Bretby Nurseries, Burton-on-Trent.

WANTED, as ASSISTANT SHOPMAN, a smart young Man, with four or five years' experience in the Seed Trade. State age, experience, and wages.—F. C. EDWARDS & SON, 2 and 3, Upperhead Row, Leeds.

SEED TRADE.—Wanted, JUNIOR ASSISTANT; must have knowledge of Market Garden seeds and used to brisk counter trade. State wages required.—Apply, WOODWARDS, 17, Moorfields, Liverpool.

WAREHOUSEMAN for Seed Corn Stores wanted by a firm in the provinces; preference given to one who has had previous experience.—Send all particulars to W. G., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, expert FLORIST with experience of Office Work; Lady preferred.—Age, experience, references, wages, to J. SLATER, Nurseryman, Skipton.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS, and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

WANTED, HEAD GARDENER'S post in College, School, or Industrial Colony; trained certificated, experienced; able to teach.—C. W., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

A. R. CUMMINS seeks appointment as HEAD GARDENER; thorough practical experience in all branches of Modern Horticulture; excellent testimonials from Brocklesby Park, Gatton Park and Brussels; age 31; married (three children.—2 Mount Pleasant, Mitcham Road, Croydon.

MR. E. G. PRETYMAN, M.P., desires to recommend his GENERAL GARDEN FOREMAN, G. BRIARS, to any lady or gentleman requiring the services of a competent Head Gardener.—Orwell Park, Ipswich.

LADY VAUX, Harrowden Hall, Wellingborough, wishes to recommend Wm. WARREN to any Lady or Gentleman requiring a Head Gardener experienced in all branches, both Inside and Out; age 38; married (one child).—Further particulars apply either to above or WM. WARREN, Shirburn, near Watlington, Oxon.

MRS. GUTHRIE, East Haddon Hall, Northampton, most highly recommends her late Head Gardener to any Lady or Gentleman requiring the services of a thoroughly competent, reliable man in all branches of Horticulture; Fruit and Carnations specialities; 29 years' practical experience gained in first-class establishments; demobilised.—TURNER, 18, Blomfield Street, Bury St. Edmunds.

MR. A. W. BLAKE, The Castle Gardens, Highclere, Newbury, wishes to recommend his Foreman, A. LEWIS, as Head Gardener; life experience in all branches; demobilised; age 32; married (no family).

MR. T. CRADDUCK, Middleton Park Gardens, Bicester, Oxon., wishes to recommend his late General Foreman as HEAD GARDENER; age 35; life experience; demobilised; highest references can be given.—Apply, W. CHATTERLEY, The Green, Snitterfield, Stratford-on-Avon.

JOHN S. DUGDALE, Esq., K.C., 29, Eaton Square, London, S.W.1, can highly recommend his HEAD GARDENER, who has been with him 12 years; first-class Gardener, excellent organiser and manager; 31 years' experience in first-class establishments, 19 years as Head; age 43; married (no family).—Blyth Hall, Coleshill, Birmingham.

MR. P. KEITH LANG, Thorn Chase, Merrow, near Guildford, Surrey, wishes to recommend Albert Day, demobilised, to any Lady or Gentleman requiring Head Gardener, where two or three are kept; life experience before the war in all branches; married (no family).—Apply, with full particulars, to above, or A. E. DAY, Orange Cottage, Merrow, near Guildford, Surrey.

MRS. TAIT can thoroughly recommend a HEAD GARDENER for a good establishment; thorough knowledge of Fruit, Flower, and Vegetable culture, under Glass and Outside; House and Table Decoration; good general knowledge of Grassland, Woods, etc.; capable and trustworthy; abstainer (two years and nine months Army).—Stafford Hotel, St. James's Place, S.W

C. A. MOREING, Esq. highly recommends his late Head Gardener; thoroughly experienced in all branches; South preferred; age 38; demobilised. —FASEY, Martins Cottage, Heywoods, Diss, Norfolk.

MAJOR DUGDALE highly recommends his temporary Head Gardener to any Lady or Gentleman requiring the services of a good all-round man; Kew experience, seven years' previous.—HENDERSON, The Abbey Gardens, Cirencester.

MAJOR E. H. THURLOW (having sold his estate) highly recommends his Head Gardener for a good establishment; life experience in Fruits, Plants, Vegetables, Rock Gardens, etc.; age 46.—E. SNELGROVE, Buckham Hill House Gardens, Uckfield, Sussex.

C. F. LIPPINCOTT, Esq., The Old Lodge, Ashford, Middlesex, can in confidence highly recommend his Head Gardener, where three or more are kept, to lady or gentleman requiring a thorough, competent man, for Fruit, Flowers, or Vegetables, etc.; Inside and Out; 22 years' experience in private establishments; age 35; married (one child).

A. EVANS, five years HEAD GARDENER to the late Miss H. Belcher, seeks situation; life experience; good references; age 43; married.—Spring Grove, Sunningdale, Berks.

GARDENER (HEAD); thoroughly experienced in the management of a large establishment; first-class references; eight years Head here; leaving through reductions; served B.E.F.; age 41; married (one child).—FRENCH, Lower Hare Park, Newmarket.

HEAD GARDENER; thorough Fruit and Plantsman, etc.; would take large place to work for market; reasonable wage and commission.—F. G., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD), where four or five are kept; thorough experience, Inside and Out, in all branches; good Fruit grower; just demobilised; married (no children); age 34. — FULLER, 80, Grenfell Road, Maidenhead, Berks.

GARDENER (HEAD), age 39. — J. Annan Bryce, Esq., highly recommends V. GAMMON, F.R.H.S., to any lady or gentleman requiring a first-class, energetic, trustworthy gardener; thoroughly experienced in all branches, including Landscape work; experience gained at Westonbirt, Didlington Hall, Middleton Park, and other large places; disengaged.—Address, c/o. 118, Church Road, Upper Norwood, London, S.E.19.

GARDENER (HEAD) or GARDENER-Bailiff; thoroughly experienced all branches; highly recommended by present and previous employers; age 47; married (one child, 10).—T. WALKER, The Gardens, Locko Park, Derby,

GARDENER (HEAD) seeks situation with lady or gentleman; life experience in first-class establishments (England and Wales); just discharged from H.M. Forces; age 30; married; good references.—ROBERTS, 36, Denmark Cottages, Diss, Norfolk.

ADVERTISER seeks re-engagement as HEAD Gardener or Estate Manager, private or other wise; thorough practical life experience in all branches; married; age 35; demobilised.—M. G., Box 9, 41 Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD) or GARDENER-BAILIFF; demobilised, C.Q.M.S.; practical experience in general routine of good establishment or Institution, including small farm; last situation before enlisting, 1915, School of Handicrafts, Chertsey; can be well recommended; age 37; married (two children).—E. W. WAKEHAM, 10, Eastworth Road, Chertsey, Surrey

GARDENER (HEAD); life experience all branches, Inside and Out; last six years in France; age 47; no family.—KETLEY, Hylands, Balmoral Road, Romford, Essex.

GARDENER (HEAD, or good SINGLE-HANDED with help); life experience all branches, Inside and Out; good references; age 38; married (one child); disengaged.—BAIRD, Rolvenden, Kent.

GARDENER (HEAD) seeks re-engagement; a competent, reliable, good all-round man in Gardening in all its branches, land and stock; good character; one son, age 14.—W. MATTHEWS, 4, Bracken Cottages, Waverley Road, Weybridge, Surrey.

GARDENER (HEAD or good SINGLE-HANDED) seeks situation; good all-round experience, both Inside and Out; excellent references; genuine place essential; recently demobilised; age 37; married (no family).—Apply E. C., 55, Bates Road, Preston Park, Brighton

HEAD GARDENER.—The Hon. A. Mulholland recommends his late Head Gardener as a first-rate man in all departments; energetic and very economical; landscape and estate work; estate sold.—MORRIS, 44, Fairclose Road, Beccles, Suffolk.

GARDENER (HEAD); practical experience Fruits, Plants, Kitchen Garden, Pleasure Grounds, House and Table decorations, gained in first-class establishments; previously Head; married (two children); age 36; demobilised.—Apply, T. LARKBEY, Battlefields, Wrotham, Kent.

A thoroughly experienced HEAD GARDENER, with first class references, seeks re-engagement; Orchids, Fruit, Decorative Work, Bedding, Successional Vegetables; age 45; disengaged.—M., The Gables Cottage, Surbiton.

HEAD GARDENER (experienced) desires management of large gardens where surplus produce is sold. Good experience in growing large quantities of all Fruits, Flowers, Vegetables; excellent references; wages £2 10s. per week, house, coal, light, plus 5 per cent. commission on sales.—E. S., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD); 25 years' practical experience, all-round; seven years' last place; changed hands while in France; married (two children 9 & 7); age 42.—E. WAGHORN, Ivy Cottage, Millfield Lane, Highgate.

GARDENER (HEAD) where two or more are kept; life experience both Inside and Out; 7½ years last situation; good references; demobilised; age 41; married (no family).—L. KETTEL, 5, Baron Row, Mitcham, Surrey.

GARDENER (HEAD); life experience in good establishments, Inside and Out; previously Foreman and Second of six; age 31; married (two children).—J. AYERS, Barmouth Cottages, Park Road, Rickmansworth.

GARDENER (HEAD); thoroughly experienced in all branches of first-class establishments; Fruit and Alpines specialities; excellent refs; age 40; also Forestry.—E. ROSE, Beecher House, Enville Road, Kinver, near Stourbridge.

GARDENER (HEAD) where two others are kept, seeks engagement; life experience Inside and Out; good references; age 37; married (one child). —CARTER, 157, Tyers Street, Vauxhall, London.

LANDSCAPE. — Experienced HEAD GARDENER seeks engagement either as Head Gardener where reconstruction of Gardens and Pleasure Grounds is contemplated, or as Landscape Manager in the Trade, thoroughly experienced in all kinds of Horticulture, with 25 years' practical experience in private gardens and nurseries; plans and estimates; energetic, good organiser of labour; age 38; first-class references, demobilised in January; just finishing Landscape job in West of England.—R. A. H., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

A GENTLEMAN can thoroughly recommend his Gardener, Head or Single-handed; 20 years' experience in all branches of Gardening; trustworthy and willing; married; age 36.—TYLER, Hay Lane, Kingsbury, N.W., Middlesex.

MR. OXLEY PARKER, of Sharpham, near Totnes, South Devon, highly recommends G. R. HORROCKS as a Head Working Gardener, where three or four are kept; previous to enlistment was employed as Foreman, Inside and Out; age 29; married when suited.—G. R. HORROCKS, Record Road, Emsworth, Hants.

MR. E. B. WISE, Oakwood House Gardens, Otterbourne, Hants., confidently recommends GEO. TAYLOR (demobilised) as Gardener (Head Working), where four or more are kept; highest references gained in good establishments; life experience; age 30; married (no family).—Address, High Wood, Watford, Herts.

MR. G. DUNCAN, Merstham House Gardens, Merstham, Surrey, highly recommends his Outside Foreman as Head Working, where others are kept, or Second; age 29; married when suited.—Full particulars apply as above.

LORD ASHCOMBE, Denbies, Dorking, highly recommends G. ALLAN as Head-Working Gardener; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

L. OPPENHEIMER, Esq., of Waltham Place, Maidenhead, highly recommends W. RENNIE as Head-Working Gardener, where several are kept; experienced in all branches; 2½ years Coldstream Guards; demobilised, A1; married (no family); age 37.—W. RENNIE, Hill View, Handcross, Crawley, Sussex.

LADY highly recommends HEAD WORKING GARDENER, or good single-Handed with help; life experience, both Inside and Out; married (no family).—T. S. HICKS, Beaver Cottage, Hatch End, Middlesex.

J. HAZELL requires situation as HEAD WORKING GARDENER where others are kept; life experience; excellent references; Kent or Sussex; disengaged June 7; age 35; married (no children); —Marringdean Cottages, Billingshurst, Sussex.

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GARDENER (HEAD WORKING), two or three kept; life experience in all branches, Inside and Out; excellent references; married (no family).—CLARK, Barton House, Moreton-in-Marsh.

GARDENER (HEAD WORKING or good SINGLE-Handed with help); good references; age 32; married (no family); demobilised.—MORBY, 2, York Cottages, Elm Grove Road, Cobham, Surrey.

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GARDENER (SECOND or SINGLE-HANDED); experienced Inside and Out; good reference; abstainer; cottage preferred; married (no family); age 35.—RUSHEN, Great Wigborough, Colchester, Essex.

GARDENER seeks situation as FOREMAN on Pleasure Grounds and Herbaceous Borders, etc.; good experience; good references; bothy preferred.—A. SNOW, Morebath, near Bampton, N. Devon.

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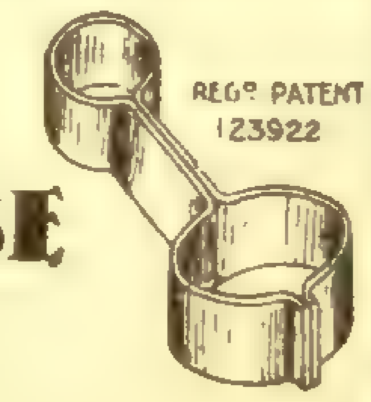

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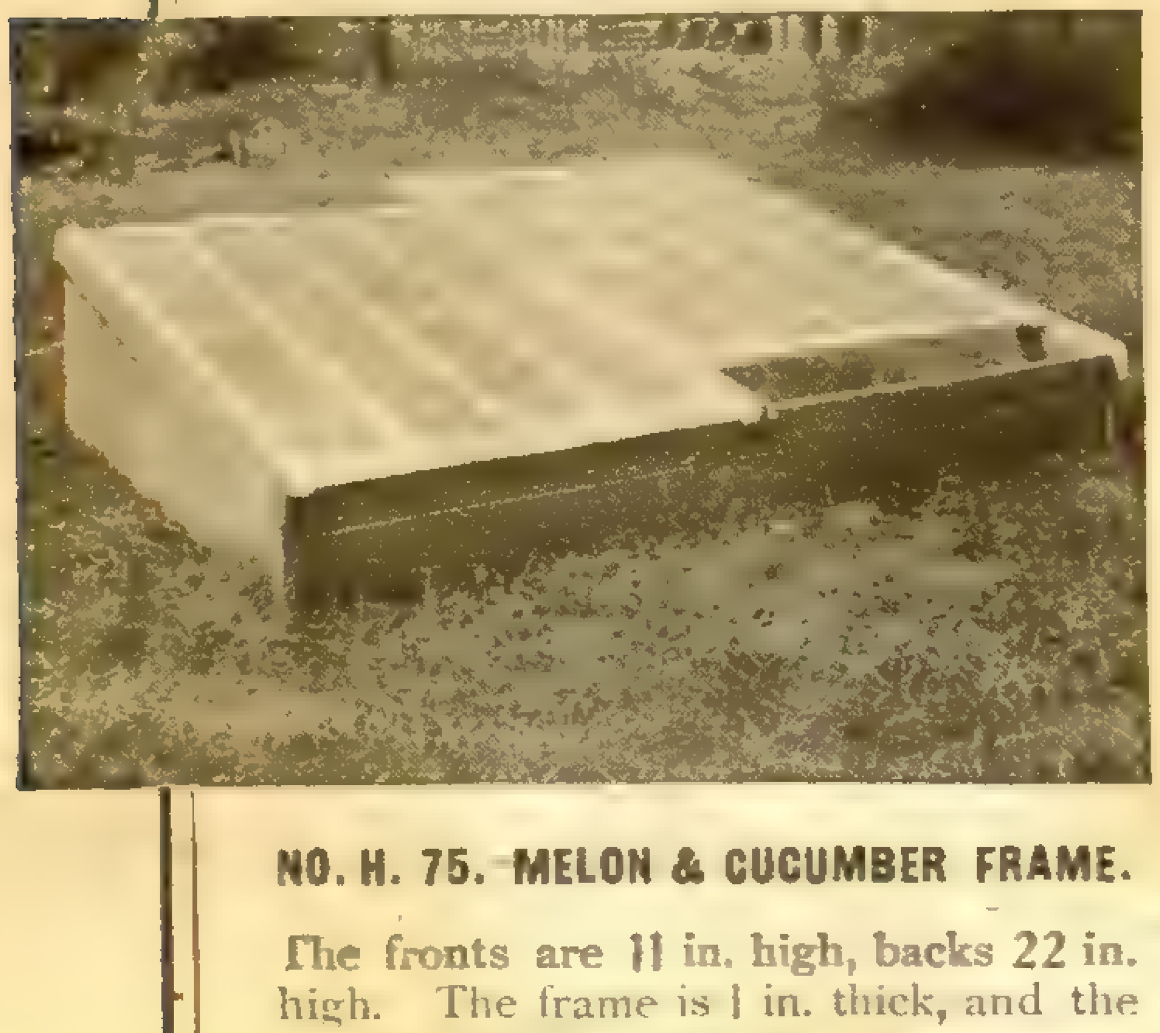

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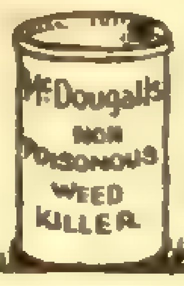

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THE

Gardeners' Chronicle

No. 1693.—*SATURDAY, JUNE* 7, 1919.

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CROWN CANKER IN ROSES.

THIS disease has in the past few years become rather widely spread in Rose gardens, and by reason of its infectious character and the difficulty experienced in treating it satisfactorily, it requires serious attention from lovers of Roses.

It is usually first discovered at pruning time, when one or more of the older branches are found to have died down to the base, and the bark just above the insertion of the bud, instead of being hard and sound, is pulpy and soft. This diseased bark is often swollen and more or less split longitudinally, and in extreme cases splits off all round the stem. Young growths have generally been found below the diseased portion, and these again became infected in the following year. The plant becomes increasingly less satisfactory and the flowers poorer in size and quality, and if the disease is not stopped the plant ultimately dies altogether. The plant, however, will often live for some years after being attacked before it finally dies.

If the split bark is examined under a lens, little strands of the mycelium of the fungus may often be observed looking like little bits of cobweb running into the bark. This mycelium produces little receptacles, containing spores, which burst the bark, and, forcing their way through it, discharge their spores, which are carried to and infect other plants, and by this means the disease is spread.

The injuries to the bark caused by the fungus are frequently situated on the stem near to the surface of the ground, but this is not always so, for they may often be found some distance up the branch; on standards they are generally found near and just above the point of insertion of the bud.

These injuries sometimes occur in only one or two places, and in others extend right round the branch, and then the bark is often split off from the wood all the way round as though the branch had been ringed. Prof. M. L. Massey tells us that these injuries may also be found upon the roots, but I have not actually observed this myself.

In the autumn I have often found little toadstools about an inch long, of a faintly greenish brown colour, growing out of the affected plants near the root. These little toadstools can scarcely be another form of the fructification of the disease, and must, I think, point to another fungus which has found its way into the diseased tissue.

Although the stage in the disease which I have described is that in which it is usually first noticed by the amateur rosarian, the beginning of the disease is somewhat different. I take the description of this stage from Mr. George Massee's *Diseases of Cultivated Plants*, p. 415:—"The disease commences on the one-year-old wood, and its presence is revealed by small reddish patches scattered over the green bark. At a later stage minute cracks appear at the injured points, and gradually continue to increase in size. At this stage the formation of callus begins, the cells of which are in turn attacked by the fungus, consequently the callus continues to grow and form large nodulous masses which may extend for many inches along the branch, forming the well-known canker."

The first reference to the disease that has come under my notice is contained in an article by Dr. Cooke on the "Pests of the Flower Garden" in vol. 27 of the *R.H.S. Journal*, p. 45 (1902). Under the name of Rose Tumour, which he calls Botryosphaeria diplodia (Moug), he describes and figures the early stage of the disease. He describes the sporidia, however, as "almond-shaped and colourless, or tinged with yellow," without mention of the black cases or perithecia in which they are contained, but I think he must be dealing with the same troublesome pest of which I am writing.

In 1909 Mr. George Massee, in the *Rose Annual*, described and illustrated the disease described by Dr. Cooke under the name Briar Scab without mention of the later form taken by the disease, which may perhaps throw some doubt on its identity. In the same year I gave an illustration in the *Rose Annual* of a plant of White Maman Cochet attacked by the disease, which I then attributed to the effect of frost. We had experienced a severe frost and fall of snow in the April previous, after the plants had begun to grow, and I then thought this might have been the cause, and I notice that Prof. Sorauer (*Zeitschr. Pflanzenkr.*, 17, p. 22) had thought the disease to be primarily due to frost. I feel now, however, fairly satisfied that the plant of which I gave the photograph was quite typical of one affected by the disease.

In vol. 34 of the *R.H.S. Journal*, p. 222, entitled "Parasitic Rose Canker—A New Disease in Roses," H. T. Güssow gives a detailed description of the disease, very fully illustrated, and calls the fungus Coniothyrium Fuckelii, which name is also adopted by Drs. Lambert and Schwartz in their book, *Rosenkrankheiten*, published in 1910. These authors refer to the serious character of the disease, and suggest that it deserves more careful study than it had received. The remedy suggested is the careful removal and burning of all affected parts of the plants.

In his *Diseases of Cultivated Plants*, also published in 1910, Mr. George Massee describes the disease, and advises the dressing of the wounds caused by the removal of the diseased stems with tar.

Prof. M. L. Massey has taken up the subject in the American *Rose Annual* for 1918, p. 64, and again in the same Annual for 1919, p. 74, the latter article dealing chiefly with the effect of the disease on Roses under glass. He thinks moisture plays an important rôle in the severity of the disease, and suggests the removal of the soil from round the crown of the plant; but the disease is not confined to the part near the soil and its occurrence in standards seems to make this remedy a doubtful one in this country. In his later article he describes it as a soil disease, and states that infected soil may remain dry for months without killing the mycelium, though the spores are killed by drying for 15 days. Frost does not kill the fungus, but it may be destroyed by heating the soil to 122° F. for 10 minutes or treating it with formalin (1 pint to 25 gallons) at the rate of two gallons per cubic foot. Careful disinfection and sanitary measures appear to be the methods on which he relies to combat the disease, which he is still investigating. He has acquired much interesting information about the fungus; thus he has measured the rate of the progress of the mycelium through soil, and we may hope he will in time discover an effective remedy for curing affected plants, which he at present advises should be destroyed.

In one case, in my own garden, I found the disease apparently ceased after some years when I raised the affected batch of plants by planting them rather higher in the soil. I think, however, that the benefit of transplanting lay chiefly in the facility it afforded for the removal of all diseased tissue, and I doubt whether in most cases it would be found to be worth while.

The disease is still obscure. At one time a plant seems to suffer little from an attack, at others it will be destroyed in two or three years' time. The acidity or alkalinity of the soil seems to make little difference, and the careful destruction of all affected parts is the only thing we can rely on until more is known of the life history of the fungus. Unfortunately, it seems to increase best at the temperature most favourable to Rose growth. *White Rose.*

NOTES ON IRISES.

IRIS HOOGIANA.

THIS recent introduction (see Fig. 139) was discovered, I believe, in Turkestan in 1913 by a collector working on behalf of the firm of van Tubergen, of Haarlem, and is, to my mind, by far the best addition that has been made for many years to the known species of the genus. It is obviously a member of the Regelia section, and therefore closely allied to I. Korolkowi and I. stolonifera, though it is curious to find a species with flowers of such pure colour in a section which is otherwise remarkable for the veining and contrasting colours of its flowers. The rhizome, with its slender, running stolons, is characteristic of a Regelia Iris, and, if it differs at all from those of the other species, the difference lies chiefly in the fact that it remains dormant in spring until several weeks after the shoots of the other species have appeared above the surface. Then, however, it grows so fast that, with the exception of the rare I. Suwarowi, which is seldom seen in cultivation, it is the first Regelia Iris to come into flower, though its stems grow nearly three feet in height and thus overtop the others.

Each stem bears either two or sometimes three flowers, which open in succession. The colour is apt to vary a little in each individual plant. In some it is the very faint blue of the sky on a sunny summer day, but in others it is many shades darker, and sometimes there is a distinct tinge of reddish purple. Perhaps it may help to say that the colour varies as it does in Iris pallida. The pale colour of I. pallida dalmatica is approximately that of the palest I. Hoogiana, though I can hardly say that any I. Hoogiana has yet appeared with flowers as dark as those of my darkest pallida seedlings. As we might have expected, a white form appeared among the collected plants, so Mr. Hoog tells me, though it is weaker than the purple-flowered forms. No example of it was, unfortunately, among those that I received, and I have not yet seen a flower. Of white pallidas I have now at least three seedling forms, even if I have lost, as I am afraid may be the case, the piece of the wild white pallida of which I found a flowering plant on the hills near Ragusa on the Dalmatian coast.

The beard of I. Hoogiana is remarkably thick behind, and then narrows gradually to a sharp point in front on the blade of the fall. It consists of closely-set golden hairs, which in the darker forms are sometimes slightly tipped with a colour so dark as to be almost brown. The standards are strongly bearded on the inner side.

This Iris was originally described in *Gard. Chron.*, Nov. 4, 1916, p. 216, as closely allied to I. Korolkowi and I. stolonifera, and this is undoubtedly the case. Its rhizome is that of the latter, and not that of I. Korolkowi, which is more compact, but I am inclined to think that herbarium specimens of I. stolonifera and I. Hoogiana, in which the flowers were badly crushed and had lost their colour, would be indistinguishable. This is one of the few cases, apart from the Onocyclus group, in which two closely-allied species of Iris cannot be readily distinguished by some structural feature. Of course, we may take the absence of veining in the flowers as a stru-

tural difference, and this is certainly remarkable, but only, I think, at first sight, for on closer inspection it will be seen that the veins are there but so faint as to be practically invisible. One of the features of I. stolonifera is the way in which the blue colour is suffused over the brown-purple ground. In I. Hoogiana in some cases there is a delightful suffusion of opalescent tints of green and brighter blue over the central portion of the falls and on the outer side of the standards.

Yet in spite of the close resemblance—apart from colour—between the two species, I am quite convinced that I. Hoogiana is a good and distinct species, for which there should be a great future in store, if only those who grow it will take up their plants about the middle of July and replant them early in October. For years I have been in the habit of taking up Regelia Irises early in June, but now I am sure that the new growths were not then mature. Consequently they did not flower well in the following season. Now, however, that I leave my plants untouched till July, I am rewarded with crowded flower stems. Last year I was pleased when I counted 36 stems of I. Hoogiana, but this year there are over 200, and these have come from a small patch of collected rhizomes which filled in 1914 about one square yard of a bed. Now I am overrun with I. Hoogiana, and have no hesitation in recommending it not only as one of the most striking of all Iris species, but also as one with an excellent constitution. *W. R. Dykes, Charterhouse, Godalming.*

FIG. 139.—IRIS HOOGIANA; COLOUR OF FLOWER PALE BLUE.

LETTERS FROM SOLDIER GARDENERS.

FRUIT AND FRUIT TREES IN MACEDONIA.

MANY times I have longed for a good English Apple since I came to this country. The very first fruits I saw after landing were Apples of a sort. On the way up from the docks to the Base Depot we espied a Greek with a donkey carrying two pannier baskets, and he signalled to us, exhibiting for sale some small Apples. Several men broke the ranks and went across to him. They had all bought a good many when the R.S.M.'s eye fell on them. The whole battalion was halted, and the great man went across to the offenders. The Greek and his donkey vanished promptly, and the Apple buyers were made to cast their purchases on the ground and rejoin the ranks. From what I could see of the fruits they were little superior to Crabs.

Since then I have not seen an Apple, though I know where there are several trees. In fact, I saw them in full bloom in the Spring, and very handsome and homely they looked.

Pears, on the contrary, are common everywhere, wild trees, some of them bearing enormous crops of fruit, growing to a goodly size. In appearance the Pears resemble the English Lammas, and ripen about the same time, but they are not so sweet. They are just eatable, and that is all. We have had some much larger Pears issued as rations at times, and I suspect these came from the Struma Valley, where fruit, I understand, is abundant. Quinces, too, were issued "in lieu of jam" very freely last summer. In England I should never have thought it possible to eat a dish of stewed Quinces. One in an Apple tart was well enough. These, however, were passable and without the roughness of English Quinces. Often they were very large fruit. I came across odd trees in several ruined and deserted orchards.

Other typically English fruits I have seen and tasted sparingly include yellow Plums, Cherries—white and rather poor—and Apricots. At one place among the hills, where the villagers had been allowed to remain, there were fairly large orchards of these trees, and the fruit was ripe quite early in July. Previous to that we had seen scarcely any fruit whatever. I found some wild Strawberries, rather larger than English ones, darker in colour and sweeter, and by the end of July Sloes, which are very abundant and of large size, were fully ripe.

The outstanding treat we had in fruits was provided by Mulberries. Wherever there is some shelter from the biting Vardar wind, there are sure to be Mulberry groves. The trees are grown for rearing silkworms, and are ordinarily pollarded to produce an abundance of leaves, but since the war began silk-production seems to have been entirely stopped, and the trees have grown up to a considerable height. Last year I was able to go daily during the early part of June to a large orchard, and feast to my heart's content. It was, in fact, one of the most delightful experiences I have had in this country to wander alone in the cool of the groves, picking the ripe fruits as I fancied them, watching the strange insects flitting through the trees and the tortoises greedily devouring the fallen fruit. Although pleasant to the taste, the Mulberries lacked the piquancy of English fruits, and were inclined to be sickly. This applies to the black variety. The white variety is better flavoured.

It is rather an odd thing, but though most things out here are a month earlier than in England, Blackberries do not become edible until quite late in the year. This is no doubt accounted for by the dryness of the air. It is not until the middle of September that there is any appreciable amount of moisture, and certainly last year I could not find a palatable Blackberry until the last week in that month. Throughout October and well into November fine fruit was abundant, particularly on bushes growing in ravines where the sun was shut out during part of the day.

So far as my experience goes, these are all the English fruits one finds here, and we would be poorly off in the autumn were it not for the Grapes. It would be a strange house which had not literally its "own vine and Fig tree." (How the meaning of these familiar old expressions comes home to us after a sojourn in these countries!) Vines of great age are found in almost every garden, planted just outside the deep verandah and supported so that they partially screen the verandah. Any overgrowth is trained into a rough arbour, which gives a pleasant shade if one wishes to sit outside the house. Practically all these vines bear white Grapes of moderate size. Beyond the rough training, nothing is done to them in the villages I have visited. Probably there are in Salonica professional gardeners or well-to-do people who give better culture and grow finer sorts, but my lines have fallen among the remote, poor villages where things seem as unchangeable as the hills about them. At any rate, these Grapes are pleasant things in the heat of August, and last year, at least, there was no lack of them. In places, there are extensive vineyards, now utterly neglected, where the so-called Currants and Raisins are mainly cultivated. The most common liquor of the country, "Samos," is, I believe, made from Raisins, but a very palatable red wine is also obtainable—not so freely, however, as in other Mediterranean countries. Wild Grapes, too, one finds growing commonly enough, but birds are too numerous to permit the fruit to ripen to any extent.

Figs are ubiquitous, wild and cultivated. No garden is without one or more Fig trees, and there are orchards with large numbers of immense trees almost everywhere. The fruit is

at its best about the last week in September, and is very delicious. As with the vine, little cultural attention is given, but there seems always to be plenty of fruit, and the drying and stringing of it is quite a business in certain villages. Throughout the winter a string of about 60 fine Figs can be bought for a drachma, and from time to time an "issue" of Figs provided a welcome change for the troops.

Pomegranates are plentiful in most village gardens, and these are, of course, an oriental feature which one notices more than the Figs. These trees vary a good deal in size, but those in full bearing are about 15 feet in height. The leaves, which remind one of those of the Box, are noteworthy as having a very rich autumn colouring and persisting on the trees long after other deciduous plants have shed their foliage. The blossom begins to appear in June. There never seems to be a great deal, just a few scattered about the bush, but the brilliant scarlet is very striking and beautiful, as is also the waxy appearance. As the fruit swells it loses its rich colour and gradually becomes a dull brown until the time of ripening, when it assumes the yellow and rose colour familiar to every schoolboy. A Pomegranate tree laden with fine fruit is certainly a handsome sight.

I suppose the Melons issued to the troops in the autumn were from the Struma valley. They were certainly fine fruits. The varieties are numerous, but I think the best I ever tasted was a small kind not larger than a good sized Orange. It had yellow, fluted skin, white flesh and white seeds, some of which I sent home to a gardening friend, but having heard nothing of them to date, I am disposed to regard them as "presumed lost." I have not seen many growing, but here they seem to give little trouble. The natives sow them, as well as Gourds and Marrows, in the Maize fields, putting in a plant here and there. They dig a shallow hole and fill it with ashes, of burnt cow-dung mostly. In this they put the seeds and apparently do nothing further. It astonished me to find these plants, which I have always regarded as water-loving, doing so well in a dry climate, and, oddly enough, in every Army garden where attempts have been made to grow them, they seem to thrive indifferently, in spite of copious watering. One needs to "wait and see" before assuming that English methods are superior to Macedonian when employed in Macedonia, as I have learnt in other directions. *Herbert Mace.*

TREES AND SHRUBS.

STYRAX JAPONICUM.

This beautiful small tree (see Fig. 140) was originally introduced to this country by Richard Oldham, in 1862, when he was collecting for Kew in Japan and Corea. But it is likely that most of the older trees in our gardens originated from the Coombe Wood Nursery of Messrs. J. Veitch & Sons, for whom it had probably been sent home by J. G. Veitch. One of the happiest memories of that ever-to-be-remembered nursery is of a tree growing near the road half way down the slope, which used to flower profusely every June. To stand beneath its branches then and look up at its myriads of tiny, pure white bells was an experience not to be forgotten. This tree is not, in fact, to be seen at its best until it is high enough for its flowers to be seen from underneath. Being pendent and ranged on the underside of the branches, they are apt to be hidden from above by the foliage. In growing the tree therefore, it is desirable to train it up to a leader and gradually remove the branches from the trunk until the lowest is on a level with the eye-line. Sargent records his having met with it in Japan 20 to 30 feet high.

Fig. 140.—Styrax japonicum; flowers white.

Like many other Japanese trees and shrubs it has the habit of pushing out its branches in a horizontal direction and it is copiously leafy. The leaves are lozenge-shaped or narrowly oval, rich green, ranging from 1 to 3 inches in length and about half as much wide; except for some tufts of down in the vein axils beneath they are glabrous. The flower has five pure white petals, downy on the outer side, and is borne on a slender, pendulous stalk, three to five flowers in a lax panicle. The fruits are egg shaped, about ½ inch long, covered with a close grey down, and they are usually produced abundantly enough to make a noticeable and pleasing feature in the autumn.

The tree is perfectly hardy, but as the flower buds appear with the young growths in April they are, in early seasons especially, liable occasionally to be injured by late spring frosts. Bleak open sites should be avoided when planting. It will thrive in either loamy or peaty soil provided the drainage is good. *W. J. Bean.*

BUD SPORTING IN TREES.

So far I have never seen a fastigiate variety of Quercus rubra, but in a western suburb of London I have noted there is a possibility of getting one. A street tree of this species has given rise to three or more upright branches from a nearly horizontal one, and these have in their turn given rise to twenty or more ramifications as upright as the original ones. Very possibly they will all get cut away if the tree is subjected to pruning or lopping. Two trees of Crataegus Oxyacantha flora plena punicea have given rise to branches bearing the rosy pink flowers of C. O. flora-plena rosea. More frequent are the trees of Acer Negundo variegatum that bear branches furnished with creamy white leaves that have no chlorophyll in them, and must be entirely supported by leaves on other branches containing chlorophyll. *J. F.*

KERRIA JAPONICA FLORE PLENA.

The fine display of bloom given this spring by this old-fashioned shrub (it was introduced more than two centuries ago) impels me to write a few lines on its behalf. It would seem to have fallen somewhat out of favour, for one seldom sees it now. In the old garden I have in mind it is at the present date (May 19) smothered with its orange-yellow rosettes; and I imagine it has benefited from war-time neglect. The gardener has not been able to use his knife so freely and

to train so tidily as of yore. The specimen is growing against a north wall, and has been there at least half a century, and possibly nearer a century. It never fails to flower profusely in this situation. Treated as a wall subject, well spread out, and with little pruning, it is one of the best flowering shrubs or climbers (if we may allow this term in the horticultural sense) for a north aspect or a shady corner unfitted for a choicer plant. Usually one looks for its orange blooms towards the end of April, but owing to the unfavourable weather of spring it was a fortnight late in flowering this year.

In Nicholson's *Dictionary of Gardening* the height attained by Kerria is given as 3 ft. to 4 ft. The double variety here, on the house wall, reaches a height of 12 feet or more, and is quite capable, if allowed, of peeping into the bedroom windows.

The double Kerria is readily increased by suckers, and soon establishes itself in a new situation. Those requiring a shrubby plant for a north wall, that will give a maximum of bloom for a minimum of attention should choose Kerria. I speak, of course, for the North-West of England. Whether it does so well in the drier parts of the country I cannot say. It would seem to delight in much moisture, and be capable of flowering well with a modicum of direct sunshine. The double Kerria is generally classed as a shrub that flowers throughout the milder months of the year. Here, it does bloom again to some extent in the autumn, and may not be without flowers in the summer; but it is really only showy, and it is strikingly so, in the spring. I am not well acquainted with the single form, but if it is capable of flowering in the same splendid way it should be more graceful in appearance. Specimens of the single form I have seen looked rather meagre and insignificant. *J. P., Carlisle.*

DOUGLASIA.

A member of the Primula family, the genus Douglasia is closely allied to Androsace, and in general habit and appearance the species in cultivation at the present time very much resemble many of the members of that choice genus of Alpine plants. There are five species of Douglasia, one of which is found on the European Alps, while the others are natives of North America. All the American plants bear rose-purple flowers, the European one alone having yellow blooms. The following species are, or have been, in cultivation :—

D. LAEVIGATA (see Fig. 141).—This plant was introduced by means of seeds received from Dr. Gray in 1886. Plants flowered in April, 1888, when the species was figured in *Bot. Mag.*, t. 6,996. It was again introduced by Messrs. Bees, Ltd., early in this century, and was exhibited at a meeting of the Royal Horticultural Society on April 1, 1913, when it obtained an Award of Merit. It is a dense-growing, tufted little Alpine, with closely-packed rosettes of narrow, pointed leaves, forming a compact cushion. The rosy-purple flowers, each one-third of an inch in diameter, are borne in clusters of 2-5 together on stems about one inch long. A native of the Alps of Oregon, in North America, the plant is usually found growing wild in the clefts of rocks near the summits of the mountains. In this country it grows freely in open places, planted in peaty, well-drained loam; the roots need plenty of moisture during the growing season.

D. NIVALIS.—This species was in cultivation in this country early in the last century, but is not at the present time. It is a taller growing plant than the above, with rosettes of linear, obtuse, hairy leaves. The pink flowers are produced in sub-umbellate clusters on stems three to four inches high. D. nivalis is found on the Rocky Mountains at an elevation of about 12,000ft., and is a charming little plant well worthy of reintroduction.

D. VITALIANA.—Also known under the names of Androsace Vitaliana and Gregoria Vitaliana, is the only European member of the genus. It is of low growing, tufted habit, forming a carpet of grey-green foliage studded during the early summer with rich yellow flowers. In the rock garden, planted in well-drained, gritty loam, the plant grows freely, but does not always produce its flowers so abundantly as one would desire. It is usually found growing in a shaley mixture that contains little soil, but which gets abundant moisture from the melting snows. Later in the year, when it has completed its growth, the plant becomes thoroughly ripened. In this country an open, sunny situation on a rocky ledge or moraine is desirable. Like the two other species, D. Vitaliana may be propagated by means of division after flowering, and from cuttings inserted in July, while all may be easily raised from seeds sown in spring. *W. I.*

FIG. 141.—DOUGLASIA LAEVIGATA : FLOWERS ROSY-PURPLE.

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Leeks.—The hardy and important Leek crop should be grown more largely than it is as the season of usefulness extends from October (or earlier) until May. Trenches are possibly the best means of cultivating Leeks for autumn use, but for the winter and spring supplies planting should be done as the ground becomes vacant, in holes six inches in depth, made with an iron bar. In these holes plant the Leeks and leave the hole open for subsequent earthing as the young Leeks grow; finally each hole should be filled, after which, if needed, the plants may still be moulded up like Potatos. Plant at one foot apart, and allow 18 inches between the rows.

Celery.—Proceed with the planting of successional batches of Celery as soon as the seedlings are large enough. Plant in single or double lines, one foot apart. Provided the trenches were prepared previously, as advised, little else is needed than a dressing of burnt earth or old potting soil, if the existing soil is heavy; if the soil is dry, water the trenches before planting, and immediately after planting give regular sprayings whenever needed. Light dustings of soot when the foliage is damp with dew are very beneficial.

Turnips.—The hot weather is very trying for this crop; therefore sowings should be made in various positions. It is a good plan to make a sowing on a site that has just been freshly dug, as the seedlings often thrive under such conditions, although they may fail on ground dug some time previously. A light dressing of short lawn mowings over the seed bed will ward off attacks of the Turnip flea and give the seedlings an opportunity to form a rough or true leaf before becoming fully exposed. Give dustings of wood ash and hoe the soil frequently between the rows to encourage rapid growth.

Coleworts.—Make a small sowing of the Rosette Colewort, to follow Potatos and early Peas; sow in drills one foot apart and cover the seeds with a little fine, fresh soil.

Radishes.—To produce succulent Radishes sow seeds in partial shade, and in extra good ground at fortnightly intervals.

Herbs.—Herbs raised from seeds sown in boxes in March should now be planted in their permanent quarters. Level and lightly tread the plot, and give a surface dressing of leaf-soil previous to planting.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Peaches and Nectarines.—It is a good plan to cut out all exhausted and superfluous growths as soon as the fruits are gathered from the earliest trees. By carrying out this operation with the trees in full foliage it may readily be seen which growths should be removed to allow the proper development of those intended for the next season's crop. The remaining growths should be tied down to enable them to receive the full benefit of light and air. The trees should be thoroughly cleansed of all insect pests at the earliest opportunity, using a suitable insecticide up to its full limit of strength. Red spider may be effectually checked by carefully vaporising with sulphur; I have found Bentley's "Spidacide" an excellent remedy. The borders should be examined, and, if not thoroughly moist, afforded a good soaking of water, applying at the same time manure in some form or other. Provided the trees have received plenty of air during the time the fruits were ripening the ventilators may now be left full open both by day and night. Syringe the trees rather late in the

afternoon, as a moist atmosphere during the night is most beneficial so long as there is a current of air passing through the house.

Successional Houses.—The fruits of the earlier varieties of Peaches and Nectarines in successional houses are well advanced. Allow plenty of ventilation, and maintain a drier atmosphere during the ripening period. Nectarines, where growing close to the glass, and fully exposed to the sun, should be afforded a slight shade during the hottest part of the day. This will prevent scalding of the skin of the fruits, which, if allowed to occur, completely spoils their appearance. A light spraying of Summer Cloud on the glass affords sufficient shade without detriment to the colouring of the fruits, but it should be removed when the fruits have been gathered. Houses wherein trees are at the "stoning" period are best kept cooler until this stage is completed, after which, if necessary, the trees may be subjected to gentle forcing. Expose the fruits fully to the light or they will lack colour. Tie down the young growths as they extend, pinching out the points when they have attained the length of twelve to fourteen inches; extension shoots may be allowed to grow considerably longer. Check any growth which is at all gross in character and likely to divert the flow of sap from its neighbours. Lateral growth should be pinched back to the first joint.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Agapanthus.—At this season of the year tubs and large pots filled with Agapanthuses will, if stood in a sunny position, need large supplies of water and liquid manure to keep them healthy.

Asters and Stocks.—When planting Asters and Stocks, lift each plant very carefully to prevent damage to the small roots. Plant firmly in deeply worked soil enriched with decayed manure, and if the land is somewhat heavy and tenacious add plenty of leaf-mould and grit. Place the taller varieties 12 to 15 inches apart; water the roots freely in dry weather, and when the plants have made good headway an occasional application of weak liquid manure, or a dusting of soot washed in with clear water, will greatly assist in the production of large quantities of flowers and healthy foliage. Giant Victoria and Ostrich Feather Asters are very imposing plants, either in beds or borders.

Roses.—Climbers trained on poles and pergolas should be examined, and fresh shoots springing from the base neatly secured before they become damaged. Only sufficient growths for next year's requirements need be retained; the others may be removed entirely.

Briars.—Examine Briars intended for budding (when the proper time arrives), and rub off all useless shoots; from two to four growths will be sufficient to leave on each stem.

Statice spicata, S Suworowii, and S. sinuata.—These and other Statices raised from seed sown in boxes should be planted out in rich loamy soil. Plant rather firmly and water freely in dry weather. These Statices should be more extensively grown both for summer and winter use, as when properly dried the spikes last a long while.

Propagating Spring Flowering Plants.—Do not neglect to increase the stock of Polyanthuses, Aubrietias, Alyssum saxatile, and other plants required for next spring flowering. A north border, well prepared, is the most suitable position in which to raise the stock. Supply the plants with an abundance of moisture until they are well established, keep them free from weeds, and give them every attention that they may develop sturdily.

Shrubs.—Any pruning necessary among flowering shrubs should be done as soon as the flowers are over, as the new growths will then have more room to develop and mature.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Rhododendron. — Greenhouse Rhododendrons are beautiful subjects for the flowering house or conservatory. It is not necessary to repot the plants annually provided the soil and drainage are in good condition. Give a top-dressing of fibrous peat and sharp sand, and ram the mixture very firm on the surface. If repotting is necessary, use only slightly larger pots and ram the fresh soil very hard around the old ball of roots. Place the plants in gentle warmth and syringe them frequently.

Pot Roses.—When Roses in pots are sufficiently hardened they may be plunged out of doors in ashes, fully exposed to the sun, and liberally fed during the summer with liquid manure. Later, less water will be needed. Spray the foliage with a weak solution of soapy water to prevent mildew and insects attacking the plants.

Cineraria.—Cineraria seeds should be sown now to provide the principal stock of plants for flowering next spring. Sow in well-drained pans filled with light soil made very fine on the surface. Before sowing, dip the pan in water to thoroughly soak the soil, sow the seeds thinly, cover them very lightly with fine silver sand, and cover each pan with a sheet of glass and a piece of brown paper. Place the pans in a cool house or frame and remove the coverings when the seedlings appear. Earlier raised batches of plants should be grown in suitably-sized pots in a mixture of good loam, leaf-mould and sand, and be placed in a frame or house where there is a cool, moist atmosphere.

Asparagus.—The different ornamental species of Asparagus are most useful either as decorative plants or for providing elegant foliage to associate with cut flowers. A. Sprengeri makes an excellent basket subject, and plants raised from seeds sown last autumn or early this year may be placed in wire baskets for hanging in a lofty greenhouse or conservatory. A single plant will soon fill a small basket; large baskets may require 5 or 6 plants. Line the baskets with moss and turfy loam, and then fill them with a compost of good loam with one fourth part each of leaf-mould and decayed manure, and a 6-inch potful of a plant fertiliser to each barrowful of soil. Make the compost firm around the plants. When established and growing freely in their permanent positions plants of Asparagus require an abundance of water, and should receive frequent applications of weak liquid manure. Asparagus plumosus sprays are often preferred to fern fronds in flower decorations. Young plants may be profitably planted in a narrow, well-prepared border, at the foot of a wall in a lean-to greenhouse, or close to the back wall of a fruit house. Supply the roots liberally with liquid manure and spray the plants frequently with an insecticide to keep them clean. A. plumosus and its variety nanus are useful decorative plants for cultivation in pots for associating with flowering plants. A. p. tenuissimus and A. p. scandens deflexus are beautiful varieties.

THE ORCHID HOUSES.

By G. H. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Peristeria elata.—This species, commonly known as the Dove Orchid, is the most popular member of its genus. The plants are strong growers, of terrestrial habit, and they require a substantial compost in which loam predominates to root in. Two parts of loam to one of peat fibre make a capital basis, and to this a little chopped Sphagnum or leaf-mould should be added and a considerable quantity of crushed crocks and coarse sand. Good drainage is most essential, and this should be carefully covered by a layer of rough moss or loam fibre. Pot the plants moderately firm; the base of the leading pseudo-bulbs should not be buried but just rest on the compost, which should be kept below the rim of the pot. Re-potting should be done just as growth commences in the spring, and after the operation the plants should be very carefully watered until the new roots have made some progress. When in full growth Peristerias require ample supplies of water at the roots, and especially when the pseudo-bulbs approach completion. After the pseudo-bulbs are well finished the water supply should be gradually diminished until, in winter, only enough to keep the compost just moist will be required. Peristeria elata should be grown in a light position in the Cattleya house, or similar warm structure, all through the year. Black spot or rot, which sometimes attacks the base of the pseudo-bulb, is usually caused by an excess of water, combined with a low temperature during the resting period.

Odontoglossum grande.—Plants of this old species are now beginning to make new growth, and before root action becomes brisk they may, if necessary, be repotted. Frequent disturbance is harmful, yet the roots must not be allowed to remain in sour compost, and as they are larger than those of most Odontoglossums, more root space should be given them. A couple of inches space all round the pseudo-bulbs is not too much, provided the plants are healthy and well rooted, the pots well drained, and the compost rough and open. Good A1 or Osmunda fibre two parts, and one part chopped Sphagnum-moss, with a good sprinkling of crushed crocks and charcoal, all well mixed together form a good rooting material for this Odontoglossum; it should be pressed moderately firm about the roots. Water must be supplied carefully for some time after repotting, and care must be taken during its application to the roots not to let any lodge in the young growths, or these may damp off. If the plants are afforded a light airy position in a cool intermediate house, no difficulty will be experienced in their cultivation. When in full growth they should be given liberal treatment, and water should not be withheld until the pseudo-bulbs are fully matured. O. Insleayi and O. Schleiperianum require similar treatment.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Thinning Stone Fruits.—All kinds of stone fruits should have their crops thinned to a desirable number, but it is as well to leave a few more fruits than will be required and make a final thinning later.

Established Fruit Trees.—Espalier and wall trees are now making vigorous growths, and should have their shoots regulated. All unnecessary shoots should be cut out, especially strong sappy growths, as these, if allowed to remain, rob the weaker ones. Tie in the remaining shoots to fill vacant spaces. Apricots should be examined and the shoots tied as they extend: gently draw the growths in the required direction as they are very easily broken if allowed to become too strong before being tied. It is better to start the work while the shoots are young and train them in gradually, as they can then be trained in any direction required.

Pears and Apples.—The trees of Apples and Pears should have their fruits thinned, as much finer fruits are produced if this is done, whereas if thinning is neglected the trees may carry an abundance of fruit one year and very few the next. The earlier the fruits are thinned the better, but care should be taken to see that they have set perfectly; usually, if the weather is good, the fruits set within a fortnight after the bloom has fallen. The best fruits will quickly take the lead in swelling; these should be retained and all the small ones removed. Two fruits are generally as many as should be left in any one cluster, but if the clusters are numerous, one fruit to each will be sufficient. On wall trees the fruits should be left about 4 inches apart. If extra fine specimens are desired, they should be left a foot apart, especially in the case of large varieties such as Pitmaston Duchess Pears and Peasgood's Nonsuch Apples. Fruits on weak trees should be severely thinned to allow the trees to make good growth.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 58.2°.

ACTUAL TEMPERATURE:—

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, June 4*, 10 a.m.: Bar., 30.1 temp., 59°. Weather—Dull.

Lord Ernle. Lord Ernle will carry with him in his retirement from the Presidency of the Board of Agriculture the sympathies and gratitude of all who know the heaviness of the burden which he had to bear during the years of war, and who can appreciate the level-headed patience which he displayed in dealing with an unending succession of intricate and difficult problems.

His greatest achievement during the critical phases of the war was to bring home to the public at large, in a series of forcible speeches, the urgency and seriousness of the food situation. Though short memories may be excused in these days when event surges on event with the remorseless sequence of ocean waves, none will forget that it was Mr. Prothero who warned us that we were a beleaguered city, and that we must therefore, and at all costs, see incessantly to our provisionment.

Horticulturists, in particular, will remember with lasting appreciation that it was due to Lord Ernle and to Lord Lee, Director General of Food Production, that the claims of "small cultivators" to encouragement and support were first recognised in full by the Board of Agriculture. They amply justified this recognition, and the contribution which they made to the food supplies of the nation is known to all.

The ample demonstration that intensive cultivation had a not inconsiderable part to play in the work, not only of food production in war time, but also in that of land settlement and peace time food production, led both Lord Ernle and Lord Lee to the decision that permanent provision must be made for the better organisation of intensive cultivation. A horticultural division of the Food Production Department was formed and at the conclusion of the war steps were taken to make that division a permanent part of the work of the Board. In referring to this fact, it must not be supposed that the Board of Agriculture had previously ignored horticulture. Much had already been done, for example, in establishing at Long Ashton and at Wye stations for research in fruit growing. Help had been given also to the Lee Valley Growers' experiment station at Waltham Cross, and in other directions the Board had shown its active sympathy with horticulture. Hence Lord Ernle's decision that yet further encouragement was to be given to "Potato culture" and horticulture generally, was a logical development of the Board's work; none the less, the gratitude of those interested in intensive cultivation is due to Lord Ernle for giving the outward and visible sign of the inward and spiritual grace which animates the Board. Furthermore, the industry of horticulture has received generous recognition from Lord Ernle. It was he who appointed the Horticultural Advisory Committee—now as we understand to be made permanent as the Horticultural Advisory Council—with the express object of bringing the horticultural industry into working relations with the administration, and providing the apparatus for considering and solving the many difficult problems which beset the industry. It will be remembered also, that Lord Ernle showed his solicitude for the more complete organisation of the horticultural industries by addressing the inaugural meeting of the British Chamber of Horticulture, and urging on its members the great importance of union among them.

Therefore, in wishing Lord Ernle in his retirement the peace and repose which he has so well earned, horticulturists, in common with the community at large, will desire to assure him that they appreciate profoundly his work for the State and for them.

Horticultural Imports into the United States. The Federal Horticultural Board (U.S.A.), have issued through their Chairman, Mr. C. L. Marlatt, an explanation of the provisions for entry of plants into the United States. It will be remembered that the much discussed "Quarantine No. 37" prohibits the importation of very many of those kinds of plants which have hitherto formed a large part of the horticultural export trade from Europe to the United States.

The explanation now makes it clear that limited quantities of new varieties,—that is "new horticultural and agricultural creations or discoveries," and also "necessary propagating stock"—may be omitted. Such stock must be used not for immediate or ultimate sale, but for the purpose of working up supplies. Though only limited quantities—sufficient that is, for this purpose—may be imported by any one person, there is no limit to the number of permits which may be issued. Application for the special permits required for these importations must be made through the Office of Foreign Seed and Plant Introduction of the United States Department of Agriculture. Application forms for the permits are to be supplied by the Federal Horticultural Board. The plants introduced under permit will be scrutinised by inspectors of the Federal Horticultural Board in specially equipped inspection houses, and if free from dangerous insects or disease will be forwarded to the consignee.

Unfortunately, however, the explanation, so full in other ways, does not contain a definition of what are dangerous insects or disease. This indeed is the fatally weak part of all these regulations. The Federal Board appear to us to be flying from dangers that they know not of, and we should feel more reassured if they would say what are the dangerous pests and diseases of the entry of which into the United States they bode so much evil.

In a notice issued to the Press, the United States Department of Agriculture gives statistics of the numbers of "infested" shipments received from various European countries, but again they are silent as to what these infestations were. We suggest that it is only just that they should publish this information. For example, they aver that since 1912 there have been 154 infested shipments from Great Britain, involving 62 kinds of insects. Would the United States Department of Agriculture add to our instruction by stating the names of these 62 insects? We should then be in a position to ascertain how many of them are pests in the proper sense of the word, and how many harmless, or already well established in the United States. It sounds very formidable to speak of so many hundreds of "infested" shipments, but the information in its present form is certainly valueless, and may be seriously misleading.

However, the "explanations" now issued seem to provide the means for keeping alive part, at all events, of the export trade between Europe and the United States; though why, after inspection in "specially equipped inspection houses" and certificates that the imported articles are free from dangerous insects or disease, it should be necessary to prevent the immaculate article from being sold directly, it is not possible to conceive.

Coloured Plate.—With our present issue we publish a coloured supplementary illustration representing Echium Wildpretii growing in the world-famous gardens of Tresco Abbey, Isles of Scilly, where so many rare and beautiful plants are finely cultivated. Since our illustration was prepared from Miss Gwendoline Dorrien-Smith's drawing Mr. T. A. Dorrien-Smith has passed away and has been succeeded at Tresco Abbey by his son, Mr. Arthur A. Dorrien-Smith. Echium Wildpretii, a native of the Canary Islands, is named after Mr. Wildpret, the Curator of the Botanic Gardens, Orotava, Teneriffe, who sent seeds to Kew in 1899. The resulting seedlings developed into large plants, and flowered when two years old. The long leaves, covered with silvery, silky hairs, are produced in a dense rosette, which in the case of plants grown in pots may measure 18 in. high and as much in diameter. Above this handsome rosette the flower spike extends for 2 ft. or more and carries an abundance of rich purplish-pink flowers. For the decoration of a cool house or conservatory Echium Wildpretii is a suitable and most attractive plant, and it presents a very distinct appearance both before and while flowering. Prospective cultivators of this fine biennial Echium will be glad to know that it ripens seeds in this country; consequently there is no difficulty in raising a batch of seedlings annually. The illustration of the flowering plants at Tresco Abbey shows what a fine effect Echium Wildpretii may produce in sheltered gardens which receive a maximum of sunshine, such as those in the south and west counties, and some parts of Ireland, where it should prove almost hardy, though needing protection from wet, cold weather during winter. Readers who wish to see a more critical illustration of the individual blooms and the thyrsoid inflorescence are referred to *Bot. Mag.* t. 7,847, and to the coloured plate which accompanied the issue of the *Gardeners' Chronicle* for October 26, 1912. On receipt of a proof of the present illustration Mr. Arthur A. Dorrien-Smith kindly wrote: "Echium Wildpretii is the most striking member of its genus. It is a biennial and flowers about July at Tresco. In the supplementary illustration Agave americana is seen in the middle distance, and the blue flowers on the left are those of Statice arborea,

one of the many fine species which inhabit the Canaries. On the right is a portion of a hedge of Escallonia macrantha, from Chili, showing its pink flowers." Mr. Arthur W. Hill, Assistant Director, Royal Gardens, Kew, writes: "E. Wildpretii. H. H. W. Pearson, was described and figured in *Bot. Mag.* t. 7847 (1902). It is a native of Teneriffe, where it occurs at altitudes of 7,000-8,000 ft. in the region known as the Canadas, a lofty ring-shaped plateau which encircles the cone of the Peak of Teneriffe, separating it from the rim of the ancient volcano, from the centre of which the peak springs. E. Bourgaeanum, Webb, is a synonym. E. Wildpretii has two near allies: (1) E. Auberianum, Webb et Berth., also a native of Teneriffe, and formerly occurring on the rim of the ancient volcano, but now apparently extinct. It is an extremely hispid plant. (2) E. Perezii, Sprague (*Bot. Mag.* t. 8617), a native of the island of Palma (one of the Western Canaries). This differs in the more branched inflorescence and paler flowers, as well as in certain technical characters. A systematic account of these three species is given in the *Kew Bulletin*, 1914, pp. 265—268. E. Wildpretii is a biennial, and the most suitable treatment for it is pot cultivation in a light, loamy compost in a sunny greenhouse."

Erica arborea alpina.—The ordinary form of Erica arborea has long been known in gardens, especially in those of the south and western counties. It is said by Aiton to have been introduced into this country in 1658. Although it survives the ordinary winters in our average climate, it is killed or severely injured by very hard ones like that of 1894-5 or 1906-7. Perhaps its greatest attraction is the sweet, honey-like perfume of its flowers, which open in March and April. Twenty years ago a variety of it was introduced to Kew, which has not yet shown the least evidence of tenderness. This is known as var. alpina, and it is a native of the mountains of Cuenca, in Spain, where it grows at altitudes of 4,500 feet and over. It has been freely propagated at Kew, and large breadths of it are planted in different parts of the grounds, one of which, with the plants in full flower, is shown in Fig. 142. Compared with typical arborea, the variety is of stiffer and more erect growth, the flowers, as may be seen from the illustration, transforming each shoot made the previous summer into a sturdy, cylindrical panicle of blossom. The tiny, bell-like flowers are dull white. Apart from its attractiveness when in bloom, the plant is a very handsome evergreen, for through all the spells of severe weather during the past twenty years its plume-like branches have maintained a cheerful, vivid green. Even if it never flowered it would be worth growing for the winter effect. Its young shoots are clothed with the same dense, short pubescence as the typical arborea, but it is very distinct in other respects, and in these days, when plants are given specific rank on easier terms than formerly, it deserves perhaps to be known simply as "E. alpina." It may, like other Heaths of its class, be propagated in July and August by taking off the little side twigs about an inch long and, after removing the lower leaves, dibbling them in very sandy peat and placing them under a bell glass in gentle heat.

Fig. 142.—Erica arborea alpina at Kew.

The Fairchild Lecture.—The Fairchild Lecture will be delivered at Shoreditch Parish Church by the Venerable Ernest Edward Holmes, B.D., Archdeacon of London, on Wednesday in Whitsun Week, June 11, at 11 a.m. From the beginning of the reign of Queen Anne, Fairchild carried on his business of a gardener at Hoxton, in the grounds formerly known as "Selby's Gardens," extending from the West end of Ivy Lane to the New North Road. By his will, dated 21st February, 1728-9, he bequeathed to the Trustees of the Charity Children of Hoxton and their successors and the Churchwardens of the said Parish of St. Leonard, Shoreditch, and their successors, the sum of £25 to be by them placed out at interest for the payment of 20s. annually for ever for the preaching of a sermon in the Church of St. Leonard, Shoreditch, in the afternoon of the Tuesday in every Whitsun Week in each year on the subjects following, viz.: "The Wonderful Works of God in the Creation," or on "The Certainty of the Resurrection of the Dead, proved by the certain changes of the animal and vegetable parts of the Creation."

Allotments.—In view of the number of cases which local authorities are submitting to the Board of Agriculture with regard to continuing possession of land acquired for war-time allotments, the Board has issued a statement of policy in regard to this matter. While the retention of land as allotments cannot be permitted to restrict the development of a town, or to prevent the erection of houses, factories, works, etc., the Board considers that no land cultivated as allotments should be given up for building purposes until immediately before building operations begin. Allotment authorities should, therefore, satisfy themselves that the plans of buildings have been approved by the local authority, and that the building material is available to commence the work. A Council should also notify applicants for possession that if building operations do not commence within one month of the date from which possession is given, the Council will have to consider whether they should not exercise their compulsory powers for the acquisition of the land. In cases where the owner proposes to sell the property either by private treaty or public auction, or to lease it, he often desires to resume possession for the purpose, and in some cases owners have stated that they were prepared to continue to cultivate the land pending its disposal. In such cases Councils should give a written undertaking to the owner that if the property is sold or agreed to be leased, they will be prepared to give up possession to the purchaser or person entitled to the agreement as soon as he requires immediate possession of the land for building or industrial

purposes, subject to the safeguards already outlined.

Erratum.—On page 270, column 3, in our last issue, the temperature to which water should be raised for destroying eelworms in Daffodil bulbs, was, owing to a printer's error, given as 11° F., instead of 110° F.

Presentation to Mr. Arthur Bedford.—At the conclusion of the business proceedings at the recent meeting of the United Horticultural Benefit and Provident Society, the Chairman, on behalf of the members of the Committee, presented Mr. Arthur Bedford with a case of cutlery as a wedding present and token of regard and esteem. Mr. Bedford has been Vice-Chairman of Committee for many years, and he is joining the ranks of the benedicts before succeeding Mr. Jas. Hudson in the charge of the gardens at Gunnersbury House, Acton.

Fuel for Glasshouses.—Gardeners would be well advised to consider the provision of fuel for their glasshouses during the coming winter. It is probable that coal will again be rationed, and only limited quantities be available for the heating of glasshouses. At present anthracite coal, which is considered by many to be superior to any other kind for boiler-heating, is free from control, and may be freely purchased. There is also less demand by the public for coke in the summer than in the winter, and where supplies are available a stock should be secured well in advance of cold weather.

Onion Smut.—The attention of Onion growers is directed by the Board of Agriculture to the disease known as Onion Smut. This disease is well known in America, where it causes very serious damage; but English specimens were forwarded to the Board of Agriculture for the first time last season. It is highly important that if further outbreaks occur they should be notified at once, and that the spread of the disease should be prevented. Onion Smut may be recognised by the presence of dark streaks in the leaves, which are at first covered by the skin of the leaf. The skin is soon ruptured and a black, sooty powder consisting of the spores of the fungus is exposed. These spores fall to the ground; and soil thus contaminated with spores will give rise to a diseased crop and be rendered unsuitable for Onion growing for many years. Affected plants should be dug up and burned before the spores escape.

Prunus yedoensis.—According to "Bulletin of Popular Information," New Series, Vol. V., No. 2 (Arnold Arboretum, Harvard University) this Cherry-tree has been planted in large numbers in the squares, parks and temple grounds of Tokyo. It is a fast-growing, short-lived tree rarely fifty feet high, with a short trunk not more than a foot in diameter and wide-spreading or erect branches. The flowers are white and slightly fragrant, and are followed by abundant small black fruits.

Colour in Leaves.—On the third day of the R.H.S. Chelsea Show, Dr. A. B. Rendle, of the Natural History Museum, gave an address in the lecture tent, in which he dealt specially with the decorative effect of foliage. Nothing, he said, is more refreshing to the eye than the tender green of the Fern, of which many varieties were represented in Messrs. H. B. May and Son's exhibit of Nephrodium fronds. There are very many shrubs which are grown solely for the sake of their beautiful foliage, some of which are evergreen, and some, such as the Japanese Maple, with a red or bronze tint, which provides a pleasing variety. I am often asked what is the cause of the red tint in the leaves of certain trees. The normal foliage leaf is, of course, green, the colour being due to a substance known as chlorophyll which occurs in the cells of the leaf in tiny, solid corpuscles of sponge-like structure, the interstices of which are filled with the colouring matter. These green corpuscles are also present in the red leaves, but the colour is masked by a bright red pigment (anthocyanin) which occurs, not in the form of corpuscles, but dissolved in the cell-sap. The colour of the leaf as we see it is thus the effect of the combination of the two colours. But why do the leaves of some plants contain this red colouring, and not those of others? Is the red colour a by-product in some process taking place in the leaf, or is it the result of a direct effort made by the plant for some special purpose? To these enquiries I would reply in the following terms. This red pigment is very widely distributed over the plant kingdom. If you dig up germinating acorns you will often find the fleshy cotyledons and the young stem tinged with red; and the brilliant autumn colouring of many leaves is also caused by it. Frequently in the spring also the opening bud and the young leaf are deeply tinged with red; the leaves of the Ash are a case in point. These instances all occur at periods in the life of the plant when chemical processes are especially active—the process of building up in the case of the seedling or young bud, that of breaking down in the dying autumn leaf. As to the effect of the colouring in the plant itself, it is probable that in the case of the autumn leaves, the blaze of colour which so delights the artist is of no value whatever to the trees which provide it. We can, however, suggest a use for the red colouring in the case of the young leaf. I may perhaps remind you that the green chlorophyll-corpuscle is the mechanism by which the plant is able to absorb from the sunlight the energy required to build up food from the carbonic acid gas contained in the air, and the water which is absorbed by the roots and drawn up into the leaf. Now, chlorophyll is a remarkably complex and unstable substance, liable to become decomposed under the influence of too much sunshine. The leaves of many plants which grow in countries where the sunlight is intense are so constructed as to be protected from injury by a covering of wax or some other method. The corpuscles have, moreover, a certain power of movement, and under the influence of intense light retire to the sides and back of the cells of the leaf. Young leaves, in which the outer protective skin is very thin, would be especially liable to injury by direct sunshine, and we can see in the red pigment a protective veil, which, by absorbing some of the sunlight, will defend the delicate chlorophyll from harm. Speaking of foliage plants, reference may be made to those plants which derive their decorative effect from what is known as "variegation." Caladiums and Crotons are two wonderfully variegated plants, of which you will have seen many fine specimens at this exhibition. Variegation is caused by the non-development of the green colour in parts of the leaf, which is sometimes yellow (from the presence of a pigment known as xanthophyll) or white from total absence of colour. In some cases there is a red effect, from the presence of anthocyanin in the sap. Absence of chlorophyll involves inability to carry out the proper nutritive function of the leaf, and in view of this fact it is remarkable to observe, in the case of Caladiums especially, how far this abnormality can be carried without apparently decreasing the vigour of the plant. Talking of abnormalities, there are certain cases in which the green colour, which should be confined to the leaf, invades the flower. The green Rose will occur to some of you as a garden curiosity, but a very remarkable phenomenon is a Primrose shown by Mr. Amos Perry, in which the flowers are almost as green as the leaf. Abnormalities are more common among plants in cultivation than in Nature. The "doubling" of flowers is really an abnormality, although in some cases—such as the Rose and the Chrysanthemum—it has become normal under cultivation.

Commercial Fruit Show at Cambridge.—Fruit growers in East Anglia have decided to hold an exhibition during the forthcoming autumn at Cambridge. The show will be arranged on similar lines to the one held by Kent growers at Maidstone in 1913. It is proposed to hold the exhibition in subsequent years at such centres of the fruit-growing industry as Wisbech, Norwich, Spalding, Ipswich, and Colchester. The date of the exhibition has not been definitely fixed, but October 3 and 4 were suggested as suitable days. A strong committee has been appointed, and Sir Douglas Newton, chairman of the Cambridgeshire County Council, has been invited to become the first President.

THE MARKET FRUIT GARDEN.

THE past month was one of the driest Mays of which I have any record. Here, in Sussex, only a quarter of an inch of rain fell on five days, and there was a drought of 19 days from the 13th, which continued unbroken at the close of the month. The showers which refreshed the western and northern districts unfortunately did not reach this locality, and the land is in consequence badly in need of moisture. Drought has its worst effect when it follows a very wet winter and spring, as the surface soil, having run together, is soon baked hard, so that horse cultivation and hoeing are almost impossible. Weeds have been quickly killed where hoeing could be done, but the work has been very slow and costly. Rain is now urgently wanted for Strawberries and bush fruits, as well as for Potatos and other vegetables.

FRUIT PROSPECTS.

Apples and the bulk of the Pears and Plums were in bloom in what many people would regard as ideal weather. Sunshine was brilliant day after day, and no frost 4 ft. from the ground was recorded during the month. Yet I did not consider the conditions good for the setting of fruit, experience having convinced me that a few showers greatly assist the process. The bloom made a wonderful display, for it is seldom that so many varieties blossom fully in one season. Amongst Apples and Pears there were practically no failures. It was on the strength of this brilliant premise, probably, that some of the daily papers predicted a record fruit crop. Careful inspection of the trees, now that the bloom has fallen, certainly does not support this prediction, at any rate in this district. A great deal of the bloom has failed to set. Speaking generally, there should still be a good fruit harvest, but not a record one. Apples will be plentiful, not because the trees are very heavily laden, but because so many varieties are carrying a fair crop. It is too early yet to go into details. Pears and Cherries, grown here only in the private gardens, have set moderate crops, disappointing after the profusion of bloom. Plums are more advanced, and a fair idea can be obtained of the prospects for different varieties. Victoria is the only sort carrying a very heavy crop, but Czar is not far behind, whilst Early Rivers gives a very fair promise. Pond's Seedling and Belle de Louvain have light crops, whilst President, Black Diamond and Monarch are practically failures. The non-setting of much of the Plum bloom I do not attribute to the April blizzard, except, perhaps, in the cases of Black Diamond and Monarch, which were fully open at the time, because Victoria and Czar, which were half open and more forward than many kinds, have set well. The only crop which can really be said to have suffered from the blizzard here is Gooseberries, which are a complete failure where the bushes were exposed. Black Currants promise very well on young bushes, but much of the fruit has dropped in older plantations, presumably owing to the drought. Red Currants, Raspberries and Strawberries are very promising.

CATERPILLARS NUMEROUS.

For the third year in succession there is a plague of caterpillars, chiefly of the Winter Moth group, supplemented by a good many larvae of the Lackey, common Tortrix and Figure-of-Eight Moths. All kinds of fruit trees are attacked, but the species of caterpillar vary. Growers who do not believe in spraying are likely to have a severe lesson this year. Fortunately, the fine, dry weather has favoured this work, which has gone on without interruption and without any of the chemicals being washed off by rain—a very unusual experience. I have never seen the results so successful, largely, no doubt, because a power sprayer has done the work quickly and thoroughly. Where it is possible to spray with nicotine and soft soap wash just before the bloom opens, and with lead arsenate as soon as it has fallen, no insect pest is likely to do much damage. Those of my trees that received both applications are now practically clean, but it was impossible to do all with the nicotine and soap before the

blossom got too forward. There is always a difficulty about this, because it is useless to start early, before the bloom buds have separated out in their clusters. If spraying is delayed until the petals have fallen the result is not so good, because caterpillars, together with aphides, and Apple suckers, have time to do much damage in the bloom clusters, where most of them start their attack. Nicotine and soft soap wash, used at the right time, clears aphides and suckers, and also kills young caterpillars, whilst lead arsenate applied after the fall of the bloom destroys any caterpillars that have escaped the first spraying and those that have hatched later. Suckers were very numerous amongst the Apple bloom, but freedom from aphides has been a most welcome feature of the season. There is now a mild attack of Plum aphis, and a few aphides have made a belated appearance on some varieties of Apple; but I have never before seen Apples so free from this pest.

GREASE BANDING SUCCESSFUL.

Grease-banding was tried for the first time on this farm last autumn, about eight acres being treated. I do not doubt that it has paid well. As a result, spraying with arsenate of lead has been unnecessary in many cases. Probably it might have been omitted for the whole plantation, were it not that Lackey Moth and Tortrix larvae were particularly numerous this year, and these are not controlled by banding. Some may argue, as I used to, that, if we must spray for some we may as well spray for all, and omit banding. There is, however, this great advantage about banding: it allows one breathing time in spraying. The banded trees, if they have to be sprayed at all, may be left till last without taking much harm—a point of great importance in a season when spraying is interrupted by bad weather. Unless these caterpillar plagues cease, I shall certainly band the plantations in turn, so that each will receive the treatment once every four or five years.

APPLE-BLOSSOM WEEVIL.

Widespread damage has been done this season by Apple Blossom Weevil. Never before has it been a serious pest here, and even this season the attack is practically confined to one plantation. It is most noticeable on some trees of Lord Grosvenor, where it has destroyed probably half the blossoms. On a visit to a fruit farm about ninety miles away I found a much more serious attack, all varieties being affected. I estimated the infested blooms at 90 per cent. of the whole, and, as many of the trees are Cox's Orange Pippin, which generally thrives in that place, the financal loss must be great. Growers who are not familiar with this pest are advised to examine their Apple trees at once. If any of the blossoms have failed to expand, but are capped over by the brown and dead petals, weevil may be suspected. If the bud is opened the white grub (larva) of the weevil will be found in the centre, or later on, the pupa. The weevil deposits her eggs in the half-open bloom bud, and ceases egg-laying when the blossoms expand, as the grub cannot live in the open blossom. Thus a season like the present, when the bloom is slow to develop, favours the pest by giving the female a longer period for egg-laying. Two remedies are available: (1) To shake off and burn the infested buds; (2) later, when the weevils have hatched out and are on the trees, to shake them on to tarred boards. They fall readily on slight vibration of the branches and are held prisoners on the sticky surface. *Market Grower.*

FIG. 143.—MESSRS. EDWARD WEBB AND SONS' EXHIBIT OF INDOOR FLOWERING PLANTS AT THE CHELSEA SHOW.
(See p. 260.)

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

The Cabbage Caterpillar.—Two simple expedients for preventing Cabbages from becoming devoured by caterpillars are worth mentioning. The first is my own discovery. Sow a row of large Carrots on a raised and flattened ridge of good compost, on either side of the row of Cabbages, Cauliflowers, etc., six inches distant from the Brassicas. The Carrots will not rob nourishment from the green vegetables, but their foliage will spread well over the Brassicas, and no butterflies will approach them. The second expedient was long practised near Paris, and was described thus, in 1844, in the *Economical Journal of France*: "Sow a belt of Hemp-seed round the borders of the ground where the Cabbages are planted, and, though the neighbourhood be infested with caterpillars, the space enclosed with the Hemp will be perfectly free."—*M. H.*

Shamrock (See pp. 160, 208).—I am much obliged to "K." for his reply in your issue of May 10, to my inquiry on this subject, and must apologise for delay in acknowledgment. It appears to me that the identity of Shamrock depends on what we want to ascertain about it; whether (1) what leaf St. Patrick is supposed to have chosen as his illustration of the Trinity, or (2) what is now recognised as the national badge of Ireland. Now with regard to (1) we shall probably never know what leaf the saint actually did select, but I imagine that he was addressing his audience in an open place, such as the slope of a bare hill, an open down, or some such clear expanse, and I have always thought that Wood-sorrel would be most unlikely to grow in such places, even in Ireland, therefore it was scarcely possible that he would have found a leaf of that plant ready to hand. It is as well to bear in mind that any leaf with three leaflets would have served St. Patrick's purpose, and it is not at all necessary that it need have been one of the Clovers or anything resembling it, such as Wood-sorrel. It is also desirable to bear in mind that the Irish word shamroge (pronounced shamrogue), of which Shamrock is a corruption, means trefoil, trifoliate, or three-leaved, and therefore gives no clue to the real identity of Shamrock; also that Shamrock was used of old as food by the Irish, and according to an article by Colgan, in *The Journal of the Royal Society of Antiquaries of Ireland* (Vol. VI., 1896, pp. 211 and 349), which very thoroughly deals with the ancient literature on the subject the species used thus were the common purple and white Clovers (Trifolium repens and T. pratense). The same author found that in response to an appeal for plants of true Shamrock from all parts of Ireland, Trifolium minus and Medicago lupulina (Black Medick) were sent in addition to the two above-mentioned, Trifolium repens and T. minus sharing the honour of being most in request in at least 25 out of the 32 Irish counties. I am inclined to think that if either of these two plants grew in Ireland in St. Patrick's time, one of them furnished the leaf he picked. *C. Nicholson, 35, The Avenue, Hale End, E.4.*

Variability in Plants (p. 251).—The occurrence of three cotyledons amongst dicotyledonous plants is frequent, even if it cannot be called common. I do not remember seeing it amongst Fuchsia seedlings, because I have not been at work amongst them; but in other members of the family, such as Clarkia and Godetia they are to be seen occasionally. It is quite common for Fuchsia macrostemma, its varieties and hybrids, to produce opposite leaves and three in a whorl on the same plant. The Sycamore (Acer Pseudoplatanus) produces two, three and four cotyle-

dons quite frequently, but one or two of the primary or original ones may undergo fission. However, it is known that three fully developed cotyledons are followed by three leaves in a whorl. In sowings of many plants I have met with a few having three cotyledons. Many dicotyledonous plants that normally produce their leaves in opposite pairs will give rise to shoots or stems bearing three leaves in a whorl, such, for instance, as Lippia citriodora, Mentha hercynica, and the above mentioned Fuchsia. Amongst tuberous-rooted Begonias I have noted greater botanical disturbances. The ovary is normally inferior, and the seed vessel closed, but I have seen double garden forms with the ovary superior, the valves of the seed vessel transformed into petals and bearing the ovules or unfertilised seeds on their upper surface. The cotyledons of some species of Anemone and Delphinium, also of Ranunculus Ficaria are united into one piece, but, of course, this is explainable, although normal. *J. F.*

—— I for many years raised considerable numbers of Fuchsias, from seeds, with the object of obtaining new varieties. In this I met with a fair measure of success, some of my raising being now recognised as standard varieties. Seedlings with three cotyledons were by no means uncommon, but the bulk of them produced leaves arranged in the ordinary, opposite manner. Occasionally some were in threes, but the plants often grew out of that irregularity. At the same time Fuchsias with leaves in whorls of threes are not so uncommon as your correspondent imagines, for I have in my garden an old-established bush of the hardy Fuchsia Riccartonii, and all the strong shoots have leaves in threes, whereas, on the minor ones, they are opposite. The scientific queries put by your correspondent are beyond me, but I have stated cases of variability that have come under my personal observation. I have met with another instance of singular behaviour in a seedling Fuchsia, or rather I should say two or three instances. One in particular grew to the height of one foot with all the leaves arranged alternately. As, however, my object was the raising of improved varieties, not curiosities, these last were destroyed when they flowered. *W. T.*

Gardeners' Hours and Wages. — *Nurseryman* (page 271) cites the case of a lady who has let her garden to a market grower, and says that she can procure her supplies at half the price she paid her gardener. For a market man to pay rent and make that garden pay him, when the employed gardener could not produce half his wages' worth, proves one of two facts. Either the gardener was incompetent, or most of his time was taken up with ornamental work. All things being equal also, what an abnormal salary that gardener must have received, considering the prices of vegetables and flowers quoted at wholesale rates in *The Gardeners' Chronicle*. Apart from this fact, is not a gardener entitled to a living wage as much as a farmer's man, even though pleasure gardening occupies most of his time? If the lady had contented herself by discharging her man nothing could have occurred to cause criticism; instead, however, she casts a slur on gardeners generally in order to gloss over either her inability or mean-spiritedness to pay a fair wage. *Henry Arnold, Highbrook Gardens, Ardingly, Sussex.*

Publications Received.—***Bulletin of Miscellaneous Information.*** Royal Botanic Gardens, Kew. Printed by J. Truscott and Son, Ltd., Suffolk Lane, London, E.C.4. Price 7d. ***Journal of the R.H.S. Gardens Club.*** No. XI., 1918. Printed by Benham and Co., Ltd., Colchester Printing Works. ***Rice Cultivation (Swamp, Upland or Mountain Rice).*** Agricultural Superintendent, Agricultural Department, St. Lucia. Leaflet No. 16. March, 1919. ***Enquiry into the Protection of Oil Storage Tanks against Lightning.*** With a memorandum by Sir Oliver Lodge, F.R.S. Bulletin No. 1. H.M. Petroleum Executive. H.M. Stationery Office, Imperial House, Kingsway, London, W.C.2. Price 2d. net. ***Muscadine Grape Paste.*** Farmers' Bulletin, 1033. United States Department of Agriculture, Washington, D.C.: Government Printing Office.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

MAY 27.—*Present:* Mr. E. A. Bowles (in the chair), Dr. A. B. Rendle, Messrs. J. Fraser, F. J. Chittenden (hon. secretary), and G. Marsden Jones (visitor).

Hybrid Geums.—Mr. MARSDEN JONES showed a hybrid between Geum sibiricum and G. bulgaricum (large leaved form). The hybrid followed G. sibiricum in the main, but had the viscid hairs of bulgaricum. Hybrids between G. rivale form and G. coccineum, had leaves mainly of the rivale type and open flowers with colours varying from orange to purplish orange. Eight distinct forms, one of them more or less inclined to doubleness, were found. Geum bulgaricum had also been crossed with Geum coccinium, and had given a form with foliage near that of bulgaricum and attractive flowers. This was a particularly interesting cross, since it was between flowers belonging to two distinct sections of the genus. These were all sterile.

Narcissus Bulbocodium × N. "Emperor."—Mr. MARSDEN JONES also showed photographs of a hybrid raised between Narcissus bulbocodium conspicuus and Narcissus "Emperor." The plant had leaves seven to nine inches long, and had flowered for the first time this season five years after the cross had been made. The strontium-yellow perianth measured 2½ in. in diameter, and the lemon-chrome trumpet 1¼in. × 1⅝ in. The latter was much frilled and cut at the mouth, and the perianth segments reflexed somewhat.

Cheiranthus crosses.—Mr. MARSDEN JONES also brought flowers of a plant resulting from the crossing of Cheiranthus alpinus and C. Allionii. Those in which the seed parent was alpinus had green buds; those where the seed parent was Allionii were coloured chestnut. Some flowers showed segregation of the lemon yellow from the orange by flecks and flakes of the former colour in the petals, and in one case flowers of both shades in the same plant.

Mr. Arkwright also brought flowers of C. Allionii ♀ × alpinus with chestnut coloured buds. The flowers of this cross were somewhat smaller than in Mr. Marsden Jones's specimens. Neither was fertile, but both are easily raised from cuttings. A Certificate of Appreciation was unanimously recommended to Mr. Marsden Jones.

Prunus Padus.—Mr. FRASER brought specimens of the long-racemed form of Prunus Padus, which he said he had not found wild outside gardens in Surrey, although the short-racemed form occurred in that county.

LINNEAN.

(Anniversary meeting.)

MAY 24.—The annual general meeting of the Linnean Society was held on the 24th ult., Sir David Prain, F.R.S., President, in the chair.

The number of Fellows was stated to be 698, leaving 12 as the number of vacancies existing. The Treasurer's Report and Statement of Accounts, as audited, were received and adopted.

The General Secretary laid his Annual Report before the Fellows, showing that during the past year the deaths of 27 Fellows had occurred, or their deaths been ascertained, also 1 Foreign Member and 2 Associates; that 11 Fellows had withdrawn, and 10 had been removed from the List of Fellows by the Council, in accordance with the Bye-Laws, Chap. II. Sec. 6. During the same period 36 Fellows, 1 Foreign Member, and 2 Associates have been elected.

The Librarian's Report showed that the total additions to the library were 163 volumes and 1,509 pamphlets and separate parts; 773 volumes had been borrowed, and 505 volumes bound or rebacked. The collection of tracts is being sorted and bound.

The General Secretary having read the Bye-Laws governing the Elections, the President opened the business of the day, and the Fellows present proceeded to ballot. The ballot for the Council having been closed, the President appointed Mr. F. N. Williams, Mr. T. A. Sprague, and the Rev. Canon G. R. Bullock-Webster scrutineers; and these, having examined the Ballot-papers and cast up the votes, reported to the President, who declared the Council to be as follows:—Edmund G. Baker, Esq., Dr. William Bateson, F.R.S., Prof. Margaret Benson,* D.Sc., F. T. Browne,* M.A., R. H. Burne, Esq., Stanley Edwards, F.Z.S., Prof. J. B. Farmer, F.R.S., E. S. Goodrich, F.R.S., Dr. B. Daydon Jackson, C. C. Lacaita, Esq., Gerald W. E. Loder,* M.A., Horace W. Monckton, F.G.S., R. I. Pocock, F.R.S., Dr. A. B. Rendle, F.R.S., Dr. D. H. Scott, F.R.S., Miss A. Lorrain Smith, Arthur W. Sutton, Esq., Dr. Harold Wager,* F.R.S., Lieut.-Col. J. H. Tull Walsh, Dr. A. Smith Woodward,* F.R.S.

The ballot for Officers having been closed, the President appointed the same scrutineers; and these, having examined the ballot papers and cast up the votes, reported to the President, who declared the result as follows:—President, Dr. Arthur Smith Woodward, F.R.S.; Treasurer, Horace W. Monckton, F.G.S.; Secretaries, Dr. B. Daydon Jackson, E. S. Goodrich, F.R.S., and Dr. A. B. Rendle, F.R.S.

The Presidential Address was then delivered, on the advantage of certain modifications in the conduct of the Society under present conditions, and advocating the establishment of a fund for the payment of fees in certain cases, to be entitled "The Goodenough Fund," after the first Treasurer of the Society.

Sir David Prain having acknowledged the vote of thanks for his address, proceeded to address Prof. Isaac Bayley Balfour, F.R.S., reciting his services to the study of botany, and handing to him the Linnean Medal in gold.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

MAY 8.—Committee present: The Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, A. Burns, D. A. Cowan, J. C. Cowan, Dr. Craven Moore, J. Cypher, A. G. Ellwood, J. Evans, J. Howes, J. Lupton, D. McLeod, J. Thrower, W. Shackleton, and H. Arthur (secretary).

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum eximium xanthotes var. Madonna; *O. e. x. Pearl White*; *O. Peerless var. James McNab* (eximium × Ossulstonii); *O. crispum var. Spot*; *O. promerens xanthotes*; and *O. eximium Canopus*, all from P. SMITH, Esq.

O. eximium xanthotes var. Madonna; *O. Conference* (Luciani × F. K. Sanders); *Odontioda Gladys, West Point var.*; and *Lycaste Skinneri atrosanguinea*, from S. GRATRIX, Esq.

AWARDS OF MERIT.

Odontoglossum crispum Backhousianum; *O. c. kinleysideanum*, and *O. xanthotes var. Madonna*, from S. GRATRIX, Esq.

O. Modus (Doris × Rolfeae), from JOHN WALKER, Esq.

AWARDS OF APPRECIATION—FIRST CLASS.

Odontoglossum crispum Ashiae, and *Odontioda Coronation delicata* (Vuylstekei × eximium), from P. SMITH, Esq.

CULTURAL CERTIFICATES.

To Mr. E. W. THOMPSON, for excellence of cultivation in Odontoglossums exhibited.

To Mr. A. BURNS, for Brasso-Cattleya Apollo Wrigleyi.

GROUPS.

A gold medal was awarded to P. SMITH Esq., Ashton-on-Mersey (gr. Mr. E. W. Thompson), for a group of choice Odontoglossums. A silver medal was also awarded to the gardener for excellence in cultivation. Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. A. Burns), were awarded a large silver medal for a group; and S. GRATRIX, Esq., Whalley Range (gr. Mr. J. Howes), and Messrs. J. CYPHER AND SONS were awarded silver medals for groups.

The annual meeting of the society was held at 2.30 p.m., the Rev. J. Crombleholme presiding. The report and balance-sheet were adopted. R. Ashworth, Esq., was re-elected president. The vice-presidents, with the addi-

* New members.

tion of Mrs. Bruce and Miss Wrigley, officials and committee, including Messrs. A. Coningsby and E. W. Thompson in the gardeners' section, were also re-elected.

The prizes were presented as follows:—Ashworth's Trophy, J. J. Bolton's Gold Medal, Charlesworth's Objet d'Art, Cypher's Gold Medal, A. Hanmer's Silver Cup, and W. Pickup's Silvert Gilt Medal: To S. GRATRIX, Esq. Gardener's prize to Mr. J. Howes. J. J. Bolton's Silver Gilt Medal, Royal Botanic Society of Manchester's Gold Medal, and W. Pickup's Gold Medal: To Mrs. BRUCE and Miss WRIGLEY. Gardener's prize to Mr. A. Burns. A. R. Handley's Prizes and Mr. P. Smith's Prizes: To Messrs. A. BURNS, J. HOWES, and J. LUPTON.

All the above prizes are again offered for competition, with the exception of the Ashworth Trophy; this, by desire, will be given by Messrs. HASSALL AND Co., and in addition Mr. J. EVANS will offer a gold medal, with a prize to the gardener, for Dendrobiums.

It was decided that prizes shall be offered for cut flower of Orchids only, not to be in competition with plants.

Obituary.

Thomas Smith.—We announce with very deep regret the death of Mr. Thomas Smith, proprietor of Daisy Hill Nurseries, Newry, Ireland, which occurred at his home on Friday, May 23rd, in his seventy-ninth year. Mr. Smith was the son of a gardener in Birmingham, and he commenced his gardener career when a lad of about thirteen years of age in a small garden at Edgbaston. About a year or so later he was employed as under-gardener at Witley Court, Worcestershire, and subsequently entered the service of Messrs. Hugh Low and Co. at their Clapton nurseries. His next appointment was as foreman in the nursery of Messrs. James Veitch and Sons, Chelsea, where he was employed for a little over three years. He left to take up an engagement as gardener to Mr. John Smith, of Dulwich, but in a very short time he was appointed manager to Mr. Andrew G. Daly, of Newry, who was succeeded by the firm of Rodger, M'Clelland and Co. Mr. T. Smith was not slow in perceiving that there was scope for a nursery conducted on different lines to those in his adopted country, and in 1887 he commenced business on his own account. The site he took was occupied with daisy-covered fields, which led him to choose the name Daisy Hill Nurseries for his new venture. The site proved an ideal one for his purpose, and his business prospered exceedingly, necessitating an extension of the area from time to time until at the present day the nurseries occupy about sixty acres, with glasshouses and commodious packing sheds and offices. Daisy Hill Nurseries are known to plant-lovers all over the world, for Mr. Smith gathered together an almost unique collection of rare and beautiful plants, and it is stated that he cultivated no fewer than five thousand distinct species, apart from varieties. It was Mr. Smith's custom to send us from time to time specimens of the more uncommon plants in his collection, and they always proved of great interest and frequently formed material for illustrations in this journal. The catalogues which he issued from time to time were quite distinct from those of the general nurseryman's lists, as the pages were filled with descriptions of rarities and novelties which he seemed to have a genius for discovering. He was essentially a plantsman, and had the rare gift of knowing the possibilities from a garden point of view of new species or varieties that came under his notice. He received the Victoria Medal of Honour in Horticulture in 1906, the highest honour conferred by the premier horticultural society of Great Britain. Mr. Smith was a skilful landscape gardener, and his services were in great request for the designing and laying out of gardens not only in Ireland, but in places beyond the confines of the United Kingdom. Many of the streets of Newry are ornamented with various trees which Mr. Smith presented to the town of his adoption, and in other directions he was a benefactor to the town. The esteem in which he was held by his fellow-citizens is shown in the following extract which we take from the local paper recording his demise:—" By the death of Mr. Smith the town of Newry has lost one of its most enterprising and distinguished citizens, and his death is sincerely mourned throughout the community. He has, however, left behind him the priceless heritage of a good name, and his memory will always be cherished by those who had the pleasure and privilege of his acquaintance." Mr. Smith leaves two sons and six daughters. The funeral took place on May 26th in St. Patrick's Churchyard, Newry, and amongst the large number who attended were the employees of the Daisy Hill Nurseries, and the members of the vestry of St. Mary's Parish Church.

TRADE NOTES.

THE Board of Agriculture and Fisheries desire to call the attention of growers and dealers in Gooseberries to the fact that Article 4 of the American Gooseberry Mildew (Fruit) Order of 1915 has been cancelled by the American Gooseberry Mildew (Importation of Fruit) Order of 1916, which prohibits the importation of Gooseberries from any place outside Great Britain, excepting the Channel Islands. With this exception the Order of 1915 remains in force, and all

THE LATE THOMAS SMITH, V.M.H.

growers and dealers in Gooseberries should take notice of its provisions, and of the fact that they will be strictly enforced. The chief provisions of the Order are:—

(1) Every consignment of Gooseberries for sale must carry a label bearing the name and address of the consignor or a distinctive name or mark whereby the consignor can be identified.

(2) Every person who consigns Gooseberries for sale without attaching a label is liable, on conviction, to a fine not exceeding ten pounds, whether the package contains any diseased Gooseberries or not. It is not necessary to disclose the name of the consignor if a distinctive name or mark whereby the consignor can be identified is added, but salesmen and fruit sellers are bound to give the name and address of the consignor to any duly authorised inspector, who may require it in writing under a penalty, on conviction, of ten pounds, should any diseased Gooseberries be found in the consignment.

(3) Any duly authorised inspector has the power to examine any consignment of Gooseberries for sale, and to require any person, having in his possession or under his charge any diseased Gooseberries:—

(a) To refrain from moving any packages containing diseased Gooseberries from the premises where they may then be until the diseased Gooseberries are removed therefrom:

(b) To remove all Gooseberries from any package in which diseased Gooseberries may be found, and forthwith to destroy all those found diseased by fire or other effectual means;

(c) To cleanse thoroughly by washing, or other suitable method, the package in which diseased Gooseberries may be found.

(4) Berries which are not badly attacked may be sent by the grower direct to jam manufacturers if packages or containers are either destroyed or returned direct to the grower after treatment with disinfectant or boiling water.

The Board desires to remind Gooseberry growers of the fact that American Gooseberry Mildew is a notifiable disease under the 1911 Order, and that growers in whose plantations an outbreak occurs are required immediately to notify the Board of its occurrence.

AN appeal has been made by the East Sussex Nurserymen's, Fruit Growers' and Market Gardeners' Association to ladies and gentlemen in the district, asking them to abstain from the practice of sending surplus fruit, vegetables, and flowers to shops for sale. The association points out that many gardeners who send the produce to shops have no knowledge of the current market values, and consequently lower the prices in the market to the bona-fide growers. The secretary of the association states that anyone who sends produce for sale, becomes a "market gardener," and that under the Corn Production Act owners of private gardens are liable to pay a minimum rate of wages to all garden employees. The appeal suggests that the surplus from private gardens should be sent to hospitals and similar institutions instead of being sent for sale in competition with market gardeners, whose living depends on supplying the markets.

CROPS AND STOCK ON THE HOME FARM.

AGRICULTURAL WAGES.

A MEETING of the Agricultural Wages Board was held at 80, Pall Mall, London, S.W.1, on Thursday and Friday, May 29 and 30, Sir Ailwyn Fellowes presiding.

On the report from the committee which had been appointed to consider the various criticisms and suggestions made by members of District Wages Committees at the conference with District Wages Committees held on May 7, the Board decided to adopt the following rules:

(1) That no unanimous decision of a District Wages Committee shall be altered by the Wages Board until the District Committee has been furnished with the Board's reasons, and has had an opportunity of further considering the matter.

(2) That after the question of harvest rates has been dealt with every notice of proposal, before being passed by the Board for publication, shall be sent in draft to the District Wages Committee concerned for consideration and report before the next meeting of the Wages Board.

(3) That copies of the Press notice of the Board's meetings shall be sent to all members of the District Wages Committees one clear day before the notice is issued to the Press.

(4) That, in addition to dealing with actual orders made, the Press notice might properly deal with proposals and other matters not finally settled, subject to proper safeguards and the omission of specific figures.

On a report from the "Allowances" Committee the Board decided to refer the question of a revision of the allowances for board and lodging for male and female workers of all ages to all the District Wages Committees for their reconsideration with a view to the fixing of uniform rates for the country as a whole. The Board also decided to make immediate alterations in the value fixed for board and lodging for women of 17 years of age and over in all areas in which such value is at present less than 13s. for a seven-day week, and also in the value fixed for board and lodging for male workers of all ages in Pembrokeshire, Carmarthen, and

Cardigan. The actual alterations made will be published as soon as the necessary steps have been taken to give legal effect to the Board's decision.

The Board decided that in the cases of those District Wages Committees in which special rates are at present in operation for special classes of workers, such as stockmen, shepherds, and horsemen, on the basis of a weekly wage for customary hours, and which have not yet made a definite recommendation for an amendment of this basis in accordance with the principles laid down by the Board the Committees should be given a further opportunity of considering the matter, but that in the absence of a recommendation from any Committee on the lines laid down by the Board, the Board would at their next meeting take steps themselves to deal with the matter.

After considering the objection lodged to District Wages Committees, the Board decided to proceed to issue proposals to fix special rates for the corn harvest in the following areas:—Cambs., Hunts., and Beds., Cheshire, Derby, Dorset, Gloucestershire, Herefordshire, Lincs., Notts., Oxon, Salop, Somerset, Suffolk, Surrey, Wilts., Yorkshire, Anglesey and Carnarvon, and Denbigh and Flint. In the case of Devon the decision of the Board to fix special rates for corn harvest was contingent upon the receipt of a unanimous recommendation from the respective District Wages Committees. No special rates for corn harvest will be fixed in the case of the other areas in England and Wales, and the payment for harvest in such areas will accordingly be a matter for mutual arrangement between employers and workers, subject to payment of the workers at not less than the minimum and overtime rates applicable to them under the orders of the Wages Board already in force. Notice of the Board's proposal to fix special rates for corn harvest in the areas mentioned above will be published in due course, but no rates can be fixed before the expiration of a month from the date on which notice of proposal is given, during which period objections to the proposals may be lodged with the Wages Board.

The Board having consulted the various District Wages Committees decided to issue a notice of proposal to increase the minimum and overtime rates at present in operation for female workers of 18 years of age and over. No variation in the present rates can, however, be made before the expiration of a month from the date of the notice of proposal, which will be published in due course.

After considering the objection lodged to their proposal of the 15th April, to provide that in Cumberland and Westmorland and the Furness district of Lancashire the Half-holiday Order shall no longer apply in the case of any workman who, under an agreement with his employer, is entitled in each half-year either to a week's holiday on full pay or a week's work on double pay, and having also considered the report on the proposal made by the Cumberland and Westmorland District Wages Committees, the Board confirmed the proposal and made an Order accordingly, which will come into operation on the 9th June.

Considerable discussion took place with regard to the question of a variation in the minimum rates at present applicable to boys and to girls. It was eventually decided not to vary the present rates for boys or for girls, but steps will be taken to provide that, in the case of those areas where the hours on which the weekly wages for boys are based are in excess of 54 in summer and 48 in winter, or in excess of 52 all the year round, such hours shall be reduced to 54 in summer and 48 in winter without any reduction in the weekly wages.

The Board adopted a recommendation from the Notts. District Wages Committee to make further alterations in the minimum rates recently fixed for male workers of 18 years of age and over, and a draft notice of proposal to give effect to this recommendation will be submitted to the Notts. District Wages Committees for their consideration.

Recommendations from the Anglesey and Carnarvon and Merioneth and Montgomery District Wages Committees that the Board's Half-holiday Order should no longer apply in the case of any workman who, under an agreement with his employer, is entitled in each half-year either to a week's holiday on full pay or a week's work on double pay, were adopted, and steps will be taken to give legal effect to the recommendations in due course

ENQUIRY.

WILL Mr. Wm. Berry, late of Castleford Gardens, Chepstow, please send his present address to me at Castleford? *T. W. Briscoe.*

ANSWERS TO CORRESPONDENTS.

ANTS IN FRUIT AND PLANT HOUSES: *J. B.* and *S. G.* Ants are very troublesome in fruit houses, as they spread such pests as mealy bug and aphides by carrying them from one part of a tree to another. If the ant nests can be located and they are in a position where boiling water can be poured into them a clearance may be effected readily by this means. A proprietary material known as the Ballikinrain Ant Destroyer is sold by Messrs. Alex Cross and Son, Glasgow.

CATERPILLAR ON PEAR TREE: *T. T. P.* The larva had pupated. There is little doubt, however, that the trees are attacked by the larva of a Tortrix moth. It is the habit of this family for the caterpillars to roll and spin the leaves together, making it impossible to kill them by contact washes. It is unlikely that further damage will be done this season, though the larva may, of course, belong to a group having more than one generation in the year. Where this and other caterpillar attack is feared it would be well to spray the trees just before the blossom opens with lead arsenate paste at the rate of 2lb. per 40 gallons of water.

GALLS ON SPRUCE BRANCH: *M. W.* The galls are caused by the working of an aphis-like insect known as Chermes abietis. Carefully remove and burn the galls, and when insects appear on the tree spray with any strong insecticide suitable for the destructon of aphides.

GARDENERS' BENEFIT AND PROVIDENT SOCIETY: *C. B.* The best benefit and provident society devoted wholly to the interests of horticulturists is the United Horticultural Benefit and Provident Society. The secretary is Mr. A. C. Hill, 35, Alexandra Road, West Kensington Park, W., and we have asked him to send you particulars.

GRAPE VINE FAILING: *J. D.* The soil you sent seemed quite suitable for vines, and the root system was in a satisfactory condition. The rod appeared to have broken irregularly, and this might be due to the use of the material you mentioned. The top buds appeared to have made satisfactory growth, and the failure of the lower buds to grow may have been due to neglect to detach the vines from the trellis and bend them down to allow the basal buds to receive as equal an amount of sap as the upper ones.

ISLE OF WIGHT DISEASE IN BEES: *W. P.* So far as we know, no definite remedy has been discovered for the treatment of Isle of Wight disease. Several remedies have been suggested, but none of them has been carried out under strict supervision, nor has it been known if the bees actually had the disease before the so-called cure was used. It is always difficult to give a definite opinion upon any preventive; certainly no authoritative opinion has yet been given on any of them. You should be able to procure the material you refer to from your local chemist. Failing this, manufacturers of bee appliances would supply you.

LADY GARDENER: *K. J. C.* We do not think that you would find much scope as a teacher in elementary schools unless you secured an appointment as a county horticultural instructor, in which case you would probably be required to supervise some of the school gardens in the county. If you are competent to teach nature study in addition to gardening, you might be able to obtain a post; in which case, your best plan would be to advertise in a scholastic paper, such as *The Schoolmaster* or *The Schoolmistress.*

NAMES OF PLANTS: *T. L. B.* (1) Asphodelus albus; (2) Lithospermum purpureo-coeruleum. *J. O.* (1) Ercilla volubilis; (2) Lepidium Draba; (3) Rodgersia podophylla; (4) Centaurea montana. *A. N.* (1) Asphodeline lutea; (2) Thermopsis montana; (3) Trollius europaeus; (4) Epimedium pinnatum; (5) Piptanthus nepalensis; (6) Ceanothus dentatus. *W. M.* Tamarix gallica. *J. H.* Leucojum aestivum. *M. W.* Not recognised; send further specimens.

OPTION FOR LEASE: "*Swanlow Nurseries.*" Assuming that the option for renewal has been properly prepared, the purchaser must take subject to it, and the option will hold good.

PROPAGATION OF CHOISYA AND CYTISUS: *E. S.* Choisya ternata may be increased by means of cuttings of half-ripened wood inserted in gritty soil and placed in gentle warmth. Cuttings of harder wood similarly inserted and placed in a cold frame will root, but much more slowly than the half-ripened wood placed in heat. The white Spanish Broom (Cytisus albus) is readily propagated from cuttings of ripe wood inserted firmly in sandy soil during August and placed under a bell glass or hand light in a frame. The covering should be removed only when watering is necessary. Roots will form in the following spring, and at a very early period after rooting commences the plants should be potted separately, or left a little longer and then planted where they are to remain. Cytisus do not transplant well after they have attained a fair size.

SLATE-COLOURED GRUBS: *A. M.* The grubs are the larvae of the Daddy Longlegs, or Crane Fly (Tipula oleracea). The Crane Fly usually lays its eggs in grassland, and the grubs feed on the roots of the grass. This pest is seldom troublesome in cultivated ground, for when the larvae hatch into the perfect insects the females deposit their eggs in pasture land. Much of the trouble experienced by allotment-holders through ground insects damaging their Potatos and other root crops that was attributed to wire-worm was caused by Leather Jackets. The Crane Fly is seldom troublesome in cultivated land the second season, whereas the wire-worm may persist for even three or four years in the larval stage.

TOMATOS DISEASED: *Demobilised.* Your fruits are attacked by the fungus known as Macrosporium solani. Spray the plants with Bordeaux Mixture and take the precaution to destroy all diseased fruits by burning. This disease also attacks Potatos; therefore in removing the old infected soil, see that it is not placed where Potatos are cultivated.

UNHEALTHY APPLE TREE: *J. D.* The unhealthy appearance of the Apple foliage is due to an attack of mildew. Attacks are common during a period of dry weather such as we have experienced of late, especially when east winds prevail. Spray the trees with a solution of sulphide of potassium or one of the advertised specifics, used according to directions given therewith.

WIRE FOR ATTACHING LABELS TO TREES: *W. H. T.*: Copper wire is more durable than lead wire and quite suitable for the purpose. Lead wire wears through in time by the constant friction of the label.

Communications Received.—W. A. C.—J. S. G.—D. S. S.—W. F. R.—B. E. G.—S. A.—J. T.—H. M.—H. G.—C. H.—C. T.—H. R. H.—G. W. B. G.—J. A. P.—J. K. D.—C. W.—Rev. H. F.—K. L. M.—A. S.—H. M.—H. H.—J. H. W., Haarlem—F. W. M.—E. L.—A. F.—T. S.—A. R. H.—M. B. Java—L. D.—P. G. D.—R. C. W.—L. H.

Supplement to "The Gardeners' Chronicle"

ECHIUM WILDPRETII

In the garden of T. A. Dorrien-Smith, Esq., Tresco Abbey.

(From a drawing by Miss Gwendolen Dorrien-Smith.)

MARKETS.

COVENT GARDEN, June 4.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's, per doz.	10 0–12 0	— Rosea, 48's, per doz.	36 0–42 0
Asparagus plumosus	12 0–15 0	Fuchsias, 48's, per doz.	18 0–24 0
—Sprengeri ...	12 0–18 0	Heliotropes, 48's, per doz.	18 0–21 0
Aspidistra green	48 0–72 0	Hydrangeas, white 48's, per doz. ...	24 0–26 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	— Pink, 48's, per doz.	30 0–48 0
Cineraries. 48's, per doz. ...	24 0–27 0	Marguerites white	18 0–24 0
Crassulas, red 48's per doz. ...	30 0–36 0	Mignonette, 48's doz.	18 0-21 0
—white and pink	24 0–30 0	Palms, Kentia ...	18 0–24 0
Ericacandidissima 48's, per doz.	18 0–24 0	—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	4 0– 5 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	3 0– 3 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	2 0– 2 6

REMARKS.—Business continues very brisk in this department. The newest subjects are Crassulas and Saxifraga pyramidalis. A few pink Spiraeas were offered last week. White, blue and pink Hydrangeas are well supplied, including some large plants of the pink sort. All bedding plants are selling freely at greatly increased prices.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arums— — (Richardias), per doz. bl'ms	15 0–18 0	Myosotis (Forget-Me-Not), per doz. bun. ...	3 0– 4 0
Carnations, perdoz. blooms, best American var.	5 0– 7 0	Orchids per doz.: — Cattleyas ...	18 0–24 0
Cornflower, blue per doz. bun....	4 0–5 0	Pelargonium, doublescarlet, per doz. bun. ...	24 0–30 0
Daises, white, large, per doz. bun.	6 0– 8 0	— white, per doz. bunches ...	15 0–18 0
Gardenias, per box specials ...	8 0– 9 0	Pyrethrum, white	10 0–15 0
— ordinary ...	2 0– 3 0	— —coloured ...	8 0–10 0
Gladiolus, The Bride, per bun.	3 6– 5 0	— single ...	5 0– 6 0
—Blushing Bride per bun. ...	3 0– 4 0	Roses, per dozen blooms— — Lady Hillingdon	2 0– 3 0
Gypsophila, per doz. bun. ...	15 0–18 0	— Liberty ...	3 0– 5 0
Heather, white per doz. bun. ...	6 0–10 0	— Melody ...	3 0– 4 0
Iceland Poppies, doz. bun. ...	6 0– 8 0	— Mme. Abel Chatenay ...	2 6– 4 0
Iris, per doz. bun.— — Spanish, White	36 0–48 0	— Ophelia ...	3 0– 4 0
— — Blue ...	36 0–48 0	— Richmond, var.	2 0– 3 0
— — Mauve ...	36 0–48 0	— Sunburst ...	3 0– 4 0
Lapagerias, perdoz. blooms ...	4 0– 5 0	—White Crawford	3 0– 4 0
Lilium candidum per doz, blms ...	4 0– 6 0	Stephanotis, 72 pips	4 0– 5 0
		Sweet Peas, per doz. bun.— — white	10 0–15 0
		— coloured ...	10 0–15 0
		Stock, Dbl. White	15 0–18 0
		Violas, per doz. bun.	3 0– 4 0

REMARKS.—Supplies of white and coloured blooms are much shorter and prices are firmer again. All Narcissi are finished for the season. Pyrethrums are now the chief flowers on sale, the double white variety being most in demand, and up to this morning there were only very limited supplies. Queen Mary is the most prominent of the coloured varieties; single sorts are better supplied. Carnations are also greatly reduced in number, and the prices for all white and scarlet blooms are likely to remain high through- this week, as there is an extra demand for flowers for Whitsun festivities. Iceland Poppies, Cornflowers, Daisies and Paeonies are daily increasing in quantity, Gypsophila elegans; the last sells freely at high prices, notwithstanding the increased supply. Roses, although fairly well supplied, are in demand, and best blooms are exceptionally scarce. Blooms of the white Frau Karl Druschki are now being offered. Sweet Peas are more plentiful and are arriving in fine condition. Choice white flowers on sale include Gardenias, Lapagerias, Stephanotis and white Gladiolus. Spanish Irises are arriving in good condition, in white, mauve, blue and yellow shades, but there is only a very limited supply.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
English Peaches per doz. ...	9 0–36 0	Grape Fruit, per cse	55 0– —
Belgian Peaches, per doz. ...	9 0–24 0	Melons, each ...	7 0–10 0
Cherries (French) per package of about 10lbs. to 20lbs.	15 0–45 0	Nectarines, per doz. ...	12 0–36 0
Gooseberries, per 12 lbs. ...	12 0– —	Nuts— — Brazils (new) per cwt. ...	85 0–90 0
Grapes:— —Blk Hamburgh, per lb. ...	4 0– 8 0	Pineapples. ...each	4 0–10 0
—Muscats, per lb.	5 0–10 0	Strawberries per lb.	4 0– 9 0
		—Southampton, per lb.... ...	4 0– 5 0
		Worthing Figs, per doz.	6 0–15 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Asparagus, English per bundle ...	2 0– 8 6	New Turnips, per bunch	2 0– 3 0
Beans, French, per lb.	1 6– 2 0	Peas, per lb. ...	2 6 –3 6
Beetroot, per bus.	7 0– 8 0	Parsley, per ½ bus.	5 0 –6 0
Cabbage per doz.	5 0– 6 0	Potatos, new, per lb.	0 6– 0 7
Carrots, per bag	12 0–15 0	Radishes, per doz. bunches ...	3 0– —
— New, per doz. buns. ...	7 0–10 0	Rhubarb, natural, per doz.	9 0–12 0
Cauliflowers, perdoz.	7 0– 8 0	Spinach per bus.	4 0– 5 0
Cucumbers, perflat	32 0–36 0	Spring Onions, per doz. bunches ...	5 0–10 0
Garlic, per lb. ...	1 6	Tomatos, Teneriffe, per bundle of 4 boxes, containing 12 to 14 lbs. per box	...Controlled
Greens, per bag	8 0–10 0	— English, per lb.	1 9– 2 3
Herbs, per doz. bun.	4 0– 6 0	Vegetable Marrows, each	1 0–1 6
Leeks, per doz. bun.	6 0 —	Watercress, per doz.	0 8–0 10
Lettuce Cabbage and Cos per doz.	2 0– 7 0		
Mint, per doz. bun.	8 0–10 0		
Mushrooms per lb.	2 0– 3 0		
Mustard and Cress, per doz. punnets	1 3– 1 6		

REMARKS.—Dessert Fruits now on offer include Peaches, Nectarines, Melons, Figs, Cherries, (French), Strawberries, Grapes Muscat of Alexandria and Black Hamburgh; and Pines. Green Gooseberries are arriving in larger quantities, Rhubarb is plentiful but supplies of Tomatos and Cucumbers are limited. Mushrooms are more plentiful. Peas are a limited quantity, but Beans are more plentiful. The consignments of new Potatos are increasing daily. The market continues to be well supplied with Asparagus.

GARDENING APPOINTMENTS.

Mr. C. Lailey, for 15 years Gardener at Kenward, Yalding, near Maidstone, Kent, as Gardener to H. L. FARRER, Esq., The Salutation, Sandwich, Kent.

Mr. W. J. Abrahams, for the past 7½ years Gardener to the Hon. H. B. MONEY-COUTTS, Stoodleigh Court, Tiverton, Devon, as Gardener to C. HANBURY, Esq., Kingston Maurward, Dorchester, Dorset. (Thanks for 2s. for R. G. O. F. box.—EDS.)

Mr. G. F. White, for 1½ years temporary Gardener to Right Hon. H. J. TENNANT, Great Maytham, Rolvenden, Kent, and previously Gardener to Mrs. MACPHERSON, Wyrley Grove, Pelsall, Staffordshire, as Gardener to Col. A. S. BARHAM, Hole Park, Rolvenden, Kent.

Mr. B. Nichols, for the past 3 years Gardener to H. WHITWORTH HALL, Esq., "Krishna," Elstree, Hertfordshire, as Gardener to the same gentleman at Bennington Park, Stevenage, Hertfordshire.

SCHEDULE RECEIVED.

Durham, Northumberland and Newcastle-upon-Tyne Botanical and Horticultural Society's Summer Show, to be held Tuesday, Wednesday and Thursday, September, 2, 3 and 4, 1919, in Leazes Park, Newcastle-upon-Tyne. Secretary, Mr. R. H. Newton, 90, Pilgrim Street, Newcastle.

CATALOGUE RECEIVED.

C. ENGELMANN, Saffron Walden, Essex—Perpetual-flowering Carnations.

PRESENT - DAY GARDENING

SWEET PEAS

NEW edition by Horace J. Wright, with chapter on "Sweet Peas for Exhibition" by Thos. Stevenson. Contains 8 plates in colour. Price 3/- post free.

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THE

HORTICULTURAL DIRECTORY & YEAR BOOK

FOR 1919.

The new edition of the Gardeners' Chronicle Horticultural Directory is now being distributed. Owing to the shortage of paper an unlimited number of copies cannot be guaranteed, and purchasers are advised to ORDER AT ONCE to avoid disappointment.

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PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.)

THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

SINGLE-HANDED GARDENER wanted at once in Watford; garden of one acre and small greenhouse; young, unmarried man preferred, who has had training and experience in a good establishment.—State wages required, write S., W. H. SMITH AND SON, 119, St. Albans Road, Watford, Herts.

GARDENER wanted (SINGLE-HANDED, help given); inside and out; small house provided; man or woman.—State wages and experience, Mrs. BROADHURST, Waterfoot, Penrith.

GARDENER WANTED, Inside and Out, glass, kitchen garden, lawns, and few poultry; cottage provided.—State age, experience, references, wages, whether married or single, and if willing to assist in slight matters, to COUSINS, Glynne Tower, Penarth.

WANTED for a Lady, good WORKING GARDENER; knowledge of Vines and Peaches under glass; wages 45s., cottage and vegetables.—HENRY PITT, Nurseryman, Abergavenny.

GARDENER AND WIFE required for Club in East Surrey; Gardener to attend tennis courts, wife for Stewardess in Club House. State combined wages required.—W., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

CHAUFFEUR - GARDENER wanted; thoroughly experienced.—Write, giving full particulars of experience, age, salary required, including comfortable rooms over garage, to A. G. GRANTHAM, Thornbury, Bromley Grove, Shortlands.

GARDENER required, SECOND man of three; strong, active, and experienced; good wages and cottage.—Apply, McCREA, Warley House, near Halifax.

UNDER - GARDENER required (Surrey); room provided; board arrangeable with head gardener on premises.—State experience and wages asked, W, 650, care Deacon's, Leadenhall Street, E.C.

UNDER-GARDENER wanted, with experience of general work Inside and Out; cottage provided.—State wages (with cottage), experience and full particulrs, J. LUMB, Rose Hill, Huddersfield.

WANTED, an UNDER-GARDENER, age about 20; good wages.—Write or call, to the Gardener, J. HUTSON, The Bungalow, Chartfield Ave., Putney.

WANTED, ASSISTANT GARDENER for Outside work, and glass when necessary; good wages and cottage to suitable man.—Apply with refs., to JOHN S. DOIG, Nettleton Lodge, Caistor, Lincolnshire.

WANTED, FOREMAN (INSIDE); must be good Plantsman.—Apply, with full particulars and wages required, to C. GARRATT, Canwell Hall Gardens, Sutton Coldfield, Birmingham.

WANTED, active FOREMAN for the Glass Dept.—Please state wages, bothy, etc., A. GIBSON, The Gardens, Headington Hill Hall, Oxford.

WANTED, FOREMAN for Plant and Fruit Houses; wages 35s. per week, bothy, milk, and vegetables.—Apply, full particulars, W. KINGSWOOD, The Gardens, Norman Court, Salisbury.

WANTED, FOREMAN for Pleasure Grounds and Decorating; wages 35s., bothy and vegetables; 1 o'clock Saturdays.—G. BRADLEY, The Gardens, Hamstead Marshall, Newbury, Berks.

WANTED, First JOURNEYMEN (INSIDE); must be experienced; also man for outside; good wages and bothy.—C. B. ELLIOTT, Blyth Hall Gardens, Rotherham

WANTED, JOURNEYMAN for Pleasure Grounds; 34s. per week, bothy, etc.; 50 hr. week; duty and overtime paid.—Full particulars to H. CHANDLER, Coombe Abbey Gardens, Coventry.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; wages 33s. to start; also good strong lad as IMPROVER; wages according to experience; also man for Herbaceous borders and general Pleasure Ground work; good bothy and attendance; 10s. extra for duty; 1 o'clock Saturdays.—State ages and full particulars, with copy testimonials, to HEAD GARDENER, King's-Walden-Bury, Hitchin.

WANTED, six smart, active JOURNEYMEN immediately, chiefly for Pleasure Grounds; lodgings now, bothy later; state experience, age, wages expected.—Copies of testimonials, etc., to GEO. MORBEY, The Gardens, Lilleshall House, Newport, Salop.

WANTED, two more JOURNEYMEN (Outside chiefly); with bothy, 32s. per week, duty and overtime extra.—Apply D. MOYES, The Gardens, Osterley Park, Isleworth, Middlesex.

WANTED, JOURNEYMAN for Inside and out; good wages.—Apply J. V. MACDONALD, The Gardens, Whetstone, Edgbaston, Birmingham.

WANTED, experienced JOURNEYMAN for Fruit and Plant House; also one for inside and out; both take duty alternate weeks; wages 35s. and 30s. respectively, with bothy and vegetables; 1 o'clock Saturdays.—Apply with reference to J. BOTTRELL, Sudbury Hall, Derby.

WANTED, JOURNEYMAN and IMPROVER for inside and out; bothy, milk and vegetables, etc.—Apply with full particulars as to experience and wages required, to T. DOWN, Basing Park Gardens, Alton, Hants.

WANTED, experienced JOURNEYMAN for Fruit and Plant Houses; also an IMPROVER, about 20, able to take duty; 36s. and 25s. per week respectively, with bothy.—Apply, with references, to H. PICKSTOCK, The Gardens, Maer Hall, Newcastle, Staffs.

WANTED, JOURNEYMAN for Fruit and Plant Houses; also one for kitchen garden, and one capable of working motor mower and assist with herbaceous borders; wages 35s., 10s. extra paid for duty, 11d. per hour overtime.—State age, particulars of experience, with copies of references, to J. BROWN, Burford, Dorking.

WANTED, JOURNEYMAN (OUTSIDE); wages 33s. to 36s. 6d., according to experience; bothy, vegetables, potatoes, etc.; seven in bothy.—Apply with particulars to H. R. WHITELAW, Hever Castle Gardens, Hever, Edenbridge, Kent.

WANTED, JOURNEYMAN for Fruit Houses.—Apply, stating age, wages, and experience, to E. BARDWELL, Holme Park Gardens, Rotherfield, Sussex.

WANTED, two good JOURNEYMEN for Fruit and Plant Houses; must be well recommended; good wages, bothy, milk, and vegetables; 1 o'clock Saturday.—HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, experienced MAN for Pleasure Grounds, Herbaceous Borders, and Hardy Fruit; wages 33s. 6d. per week, 6s. for week-end duty, with bothy, etc.—R. SPENCE, Crewe Hall, Crewe.

WANTED, MAN for Pleasure Grounds and Flower Garden; single; with knowledge of herbaceous borders; 30s. per week, good bothy, etc.—MOLES, Heathlands, Wokingham, Berks.

WANTED, MAN for Kitchen Garden—State experience and wages required, with bothy or cottage if married, 1 o'clock Saturdays, W. DOUCE, The Gardens, Calthorpe Towers, Rugby.

WANTED, good, reliable MAN for Pleasure Grounds, with experience of Rock and Herbaceous Plants; also TWO JOURNEYMEN; bothy and vegetables.—Apply, stating wages and all particulars, J. BARNARD, Mostyn Hall Gardens, Mostyn, Chester.

WANTED, SINGLE MAN used to Horse Lawn Mower, and to assist in Kitchen Garden; 35s. per week, and lodgings; 1 o'clock Saturdays. State age and height, S. MELVILLE, Stonor Park Gardens, Henley-on-Thames.

WANTED, a SINGLE MAN for general garden work and accustomed to mowing; [illegible] per week.—J. BEXTALL, Egerton, nr. Bolton, Lancashire.

EXPERIENCED SINGLE MAN required for Kitchen Garden and help in Pleasure Grounds; wages 43s.—State age, DAWSON, Hensol Castle Gardens, Pontyclun, Glamorgan.

WANTED, SINGLE MAN for Pleasure Grounds and Kitchen Garden.—State wages required (with bothy, etc.) to A. BALLARD, The Gardens, Glanusk Park, Crickhowell, Breconshire.

WANTED, SINGLE YOUNG MAN, chiefly inside; lodgings found near gardens; one o'clock Saturdays; duty paid.—Experience and wages to LUXFORD, Walmsgate Gardens, Louth, Lincs.

WANTED, YOUNG MAN (single) for Kitchen Garden, 17 miles London; must be good worker and willing to assist all-round in the production of first-class vegetables for marketing, [illegible] kept; comfortable home with employer; wages commencing £1 per week, with board, lodging, etc.—Apply Mr. HART, The Gardens, Tolmers Park, Newgate Street, Hertford.

WANTED, YOUNG MAN for General Garden Work; some experience necessary; 2[illegible]s., good bothy, vegetables, etc.; duty every third week.—HEAD GARDENER, Ellisfield Manor Gardens, Basingstoke, Hants.

WANTED, YOUNG MAN, age over 20, for Kitchen Garden; take duty every third week; good bothy, vegetables and attendance. 1 o'clock Saturdays. State wages required.—WM. GAIGER, Spring Grove Gardens, Bewdley.

WANTED, a YOUNG MAN for Pleasure Grounds; also TWO STRONG LADS, age 17 or 18 years; wages 30s. and £1 per week, with bothy, duty paid extra.—Apply HEAD GARDENER, Cuerden Hall, Bamber Bridge, Preston, Lancashire.

WANTED, strong YOUTH for Inside, under FOREMAN; wages 33s., bothy; duty extra.—[illegible] J. FOSTER, The Garden, Grimsthorpe Castle, Bourne.

WANTED, intelligent LAD for the Houses; good opportunity for learning. State [illegible] wages.—G. HUMPHREY, Gardens, Thornton Hall, Stony Stratford, Bucks.

ALL-ROUND HANDY MAN (single) wanted June 14, to run small E.L. plant and 2-seater car and manage fowls, etc.; wages 33s. and lodging.—[illegible]LOMBE, Grafton Regis, Stony Stratford.

TRADE.

UNIVERSITY COLLEGE, READING, and the BERKSHIRE AGRICULTURAL INSTRUCTION COMMITTEE.

A COMMITTEE, representative of the Berkshire Agricultural Instruction Committee and of University College, Reading, will shortly proceed to select a candidate as HORTICULTURAL INSTRUCTOR for Berkshire, under the scheme drawn up by the Berkshire Agricultural Instruction Committee, and carried out in conjunction with University College, Reading.

Candidates for appointment should possess thorough knowledge of practical Horticulture and Market Gardening, and should be capable of lecturing and advising on matters connected with the Production and Marketing of Horticultural Produce.

The Salary will be at the rate of £250 per annum, together with an allowance for travelling expenses, according to scale.

Further particulars, for which a stamped addressed envelope should be enclosed, may be obtained from the Agricultural Organiser for Berkshire, University College, Reading, by whom applications will be received up to June 28, 1919.

WANTED, WORKING MANAGER or competent FOREMAN, to take entire charge; also two young men, good knifesmen.—Apply stating full particulars and wages asked.—PROPRIETOR, Boston Rose Farms, Boston, Lincolnshire.

WANTED, MANAGER (WORKING) for high-class Florist, Seed, Bulb and General Sundries Business, situated in the Midlands; competent man, to take charge.—Full particulars to G. G., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FOREMAN MANAGER for General Nursery in the Midlands; bedding plants, tomatoes, cucumbers herbaceous and alpine plants; competent grower and salesman. Full particulars, T. G., Box 27, 41, Wellington Street, Covent Garden, W.C.2

WANTED, GARDENER (WORKING) charge of Small Nurseries; knowledge of Tomatoes. State age, wages to Box A, SMITH & SONS' Bookstall, Aberystwyth.

WANTED, FOREMAN (WORKING); Grapes, Tomatoes, Cucumbers, Cut Flowers, Fruit and Vegetables for market; cottage provided.—State wages and experience, with refs., J. W. LAWSON, The Vineries, Harby, Lincoln.

WANTED, a thoroughly practical and up-to-date WORKING FOREMAN, for a high-class Fruit farm.—Apply, Apples, Box 9, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FOREMAN to take charge of Herbaceous and Alpine plant department of a provincial nursery.—State experience, wages asked, etc., N. R., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN GROWER wanted for Dahlias, Solanums and Hydrangeas.—State experience and wages required.—CLIBRANS, Altrincham.

TOMATO GROWER wanted on Market Nursery.—State previous experience, references, with address, age and wages required, to E. X. L., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

WANTED immediately, for General Outdoor Nursery, steady, reliable young GROWER as SECOND; able to take control in foreman's absence; used to working Fruit, Herbaceous Plants, etc.; permanency, wages, references to HOPWOOD AND SON, Nurserymen, Cheltenham.

WANTED, thoroughly trustworthy, capable man as JOURNEYMAN in Carnation and Chrysanthemum nursery.—State wages and experience to J. E. LOWE, Hatton, Warwick.

YOUNG MEN wanted for the following Glasshouse Depts.; Stove and Greenhouse; Soft Wooded, Fern and Palm, Chrysanthemum, and others; 49½ hour week; 12 o'clock on Saturdays.—State experience and wages required, CLIBRANS, Altrincham.

YOUNG MEN wanted for Herbaceous and Alpine Dept.; 49½ hour week, 12 o'clock on Saturdays. — State experience and wages required, CLIBRANS, Altrincham.

WANTED, YOUNG MAN for Rose and Fruit Department; good budder.—State experience, wages required, MORSE BROS., Deben Nurseries, Melton, Woodbridge.

A WELL-KNOWN SEED FIRM, with large Retail business, requires a thoroughly competent man to take entire control of the Horticultural side; must have had considerable experience and be capable of handling staff; permanent position and good salary to the right man.—Apply with full particulars, and stating salary required, to S.M., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

WAREHOUSEMAN for Seed Corn Stores wanted by a firm in the provinces; preference given to one who has had previous experience. Send all particulars to W. G., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, expert FLORIST with experience of Office Work; Lady preferred.—Age, experience, references, wages, to J. SLATER, Nurseryman, Skipton.

FLORIST (LADY), thoroughly experienced, wanted, capable of taking full charge.—State age, experience and wages expected, LEIGHTON, Florist, 36, Renfield Street, Glasgow.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

TO EMPLOYERS.

THE BRITISH GARDENERS' ASSOCIATION is in a position to place EMPLOYERS requiring HEAD GARDENERS in communication with men holding first-class qualifications. SINGLE-HANDED GARDENERS, FOREMEN, WOMEN GARDENERS, INSTRUCTORS, TRAVELLERS, and JOURNEYMEN may also be engaged through the medium of the B.G.A. NO FEES. — Apply, CYRIL HARDING, GENERAL SECRETARY, 22, BUCKINGHAM STREET, STRAND, W.C.2.

WANTED, HEAD GARDENER'S post in College, School, or Industrial Colony; trained certificated, experienced; able to teach.—C. W., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

MR. T. CRADDUCK, Middleton Park Gardens, Bicester, Oxon., wishes to recommend his late General Foreman as HEAD GARDENER; age 35; life experience; demobilised; highest references can be given.—Apply, W. CHATTERLEY, The Green, Snitterfield, Stratford-on-Avon.

MRS. TAIT can thoroughly recommend a HEAD GARDENER for a good establishment; thorough knowledge of Fruit, Flower, and Vegetable culture, under Glass and Outside; House and Table Decoration; good general knowledge of Grassland, Woods, etc.; capable and trustworthy; abstainer (two years and nine months Army).—Stafford Hotel, St. James's Place, S.W.

COL. TREFUSIS highly recommends his HEAD GARDENER for a good establishment; 11½ years' excellent character; good all-round qualifications; age 41; married (one boy, 15).—Apply, MORGAN, Porthgwidden Gardens, Devoran, Cornwall.

C. A. MOREING, Esq., highly recommends his late HEAD GARDENER; life experience in all branches; South preferred; age 38.—G. FASEY, Martin's Cottage, Heywoods, Diss, Norfolk.

LADY VAUX, Harrowden Hall, Wellingborough, highly recommends Wm. Warren, Head Gardener; life experience, inside and out; married, age 38.—Apply above, or WM. WARREN, Shirburn, Watlington, Oxon.

MAJOR E. H. THURLOW, having sold his estate, highly recommends his HEAD GARDENER for a good establishment; life experience in Fruits, Plants, Vegetables, Rock Gardens, etc.; age 46.—E. SNELGROVE, Buckham Hill House Gardens, Uckfield, Sussex.

THE Honble. R. Boyle highly recommends his GARDENER (HEAD OR SINGLE-HANDED with boy); excellent references; 11 years in last place; just demobilised; married, 2 children, and wife extremely useful as caretaker or help in house.—Address, A. CLARK, Walton Leigh, Manor Road, Walton-on-Thames, Surrey.

MR. E. G. PRETYMAN, M.P., desires to recommend his General Garden Foreman, G. BRIARS, to any lady or gentleman requiring the services of a competent Head Gardener.—Orwell Park, Ipswich.

C. F. LIPPINCOTT, Esq., the Old Lodge, Ashford, Middlesex, can with confidence highly recommend his Head Gardener, where 3 or more are kept, to any lady or gentleman requiring a thorough, competent man for Fruit, Flowers, or Vegetables, etc.; Inside and Out; 22 years' experience in private establishments; age 35; married, 1 child.

MRS. H. GRAHAM, Barford House, Warwick, highly recommends her late HEAD GARDENER; life experience in all branches; excellent references; age 38; married (one child); discharged from Army.—F. BOSWORTH, 11, Prospect Road, Birchington, Kent.

THE HON. A. MULHOLLAND, having sold his estate, personally recommends his late HEAD GARDENER as a first-rate man in all departments; energetic and very economical; Landscape and Estate work.—MORRIS, 44, Fairclose Road, Beccles.

A GENTLEMAN going abroad and giving up estate wishes to recommend his HEAD GARDENER to Lady or Gentleman requiring a thorough experienced man in all branches, Inside and Out; age 39; two children (age 10 and 17 months).—HAWKINS, Gadsden, Hayes, Kent.

GARDENER (HEAD) is open to engagement with Lady or Gentleman; life experience all branches; 15 yrs. HEAD in first-class establishments; highest refs.; age 44 yrs; demobilised A 1; one daughter, 10 yrs.; disengaged.—PESKETT, 62, Eastfield Road, Peterborough.

GARDENER (HEAD) seeks situation where two others are kept; life experience, Inside and Out; good references; married (one child).—CARTER, 157, Tyers Street, London, S.E.11.

A thoroughly experienced HEAD GARDENER, with first-class references, seeks re-engagement; Orchids, Fruit Decorative Work, Bedding, Successional Vegetables; age 45; disengaged.—M., The Gables Cottage, Surbiton.

GARDENER (HEAD) or GARDENER-BAILIFF; demobilised, C.Q.M.S.; practical experience in general routine of good establishment or Institution, including small farm; last situation before enlisting, 1915, School of Handicrafts, Chertsey; can be well recommended; age 37; married (two children).—E. W. WAKEHAM, 10, Eastworth Road, Chertsey, Surrey.

GARDENER (HEAD); 25 years' practical experience all-round; 7 years last place; changed hands while in France; married (2 children, 9, 7); age 42.—E. WAGHORN, Ivy Cottage, Millfield Lane, Highgate.

GARDENER (HEAD) where two or more are kept; life experience both Inside and Out; 7½ years last situation; good references; demobilised; age 41; married (no family).—L. KETTEL, 5, Baron Row, Mitcham, Surrey.

GARDENER (HEAD); thoroughly experienced in the management of a large establishment; first-class references; eight years head last place, left through reductions; age 41; married, one child.—FRENCH, High Street, Uckfield, Sussex.

GARDENER (HEAD).—Captain Drury-Lowe, Locko Park, Derby, will highly recommend advertiser as above, thoroughly experienced all branches; age 47; married (one child, age 10).—Please apply to T. WALKER, The Gardens, Locko Park, Derby.

GARDENER (HEAD), where several are kept; twenty years thorough practical all-round experience; inside and out; highest references; age 38; single; demobilised.—H. A., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD) or GARDENER-BAILIFF; thoroughly experienced in all branches; 28 years' experience.—STEWARD, c/o Russell's Nurseries, Haverstock Hill, N.W.

HEAD GARDENER, thorough Fruit and Plantsman, etc., would take large place to work for market; reasonable wage and commission.—F. G., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

ADVERTISER seeks re-engagement as HEAD Gardener or Estate Manager, private or otherwise; thorough practical life experience in all branches; married; age 35; demobilised.—M. G., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

LORD ASHCOMBE, Denbies, Dorking, highly recommends G. ALLAN as HEAD WORKING GARDENER; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

MR. E. B. WISE, Oakwood House Gardens, Otterbourne, Hants, confidently recommends GEO. TAYLOR (demobilised) as Gardener (Head Working) where four or more are kept; highest references gained in good establishments; life experience; age 30, married, no family.—Address High Wood, Watford, Herts.

MR. G. DUNCAN, Merstham House Gardens, Merstham, Surrey, highly recommends his Outside Foreman as Head (Working) where others are kept, or Second; age 29; married when suited.—Full particulars, apply above.

T. BREWIS, Esq., highly recommends his present GARDENER as a fully competent man, Head-working or Single-handed in small, well-kept place; life experience; age 35; one boy, 10; place being sold; good cottage; Council school.—ASHMORE, Stakes, Waterlooville, Hants.

LADY highly recommends HEAD WORKING GARDENER, or good single-Handed with help; life experience, both Inside and Out; married (no family).—T. S. HICKS, Beaver Cottage, Hatch End, Middlesex.

GARDENER (HEAD WORKING), demobilised, seeks situation where three or more are kept; 26 years experience gained in large establishments; inside and out; 14 years head; excellent references; married; age 43.—SWAINE, Sarratt, Rickmansworth, Herts.

GARDENER (HEAD WORKING), previously FOREMAN; 10 and 11 respectively; demobilised; excellent all-round experience; married (no children); age 30.—E. BLICK, Horsley Road, Nailsworth, Glos.

GARDENER (HEAD WORKING) where several are kept; life experience in all branches, both inside and out; fruit, flowers and vegetables; good ref.; married, 2 children.—HEXTALL, Hill Top, Atherstone.

GARDENER (HEAD WORKING) where several are kept; thorough life experience, inside and out; married, age 36, one child; good references.—Apply DRAGE, Ambury Cottage, Ambury Road, Huntingdon.

GARDENER (HEAD WORKING or good Second): life experience, Inside and Out; good references; married (one child); age 29.—G. SAVILL, Milestone Farm, Colne Road, Copford, Colchester.

GARDENER (HEAD WORKING of two or more), married, no family; life experience in all branches; excellent references; age 29; demobilised.—A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING), demobilised, seeks post where several are kept; twenty years' practical experience in all branches; good manager; last post three years and eight months head to the Hon. Carr and Lady Mary Glyn; excellent references.—A. MORPHETT, Wootton, Near Ashbourne, Derbyshire.

HEAD GARDENER (WORKING); life experience in all branches, Inside and Out; 15 years as Head; age 42; married.—SNELL, Buckwood Cottages, Notley Road, Braintree, Essex.

GARDENER (HEAD WORKING) age 43 married (one daughter, age 15); life experience, Fruits, Plants, Orchids, Carnations, Vegetables; highest recommendations, past and present. — SCHOFIELD, Wraxall Court Garden, near Bristol.

GARDENER (HEAD WORKING) where three or more are kept; life experience in all branches; 11 years' last situation; highest references.—S. G. SMITH, Bryntirion, Bridgend, Glam.

GARDENER (HEAD WORKING where four or five are kept) or good GENERAL FOREMAN; advertiser seeks situation as above in good establishment; thoroughly experienced; 4½ years present place as foreman; good references.—WALKER, Faly Garn Gardens, Pontyclun, Glam.

GARDENER (HEAD WORKING), age 46, highly qualified man, life experienced, with excellent testimonials, desires engagement in good establishment, where Choice Fruits, Orchids, Carnations, Vegetables, Salads, etc., are required; 18 years head late situation.—BURFOOT, 28, King's Road, Ditton Hill.

HEAD WORKING GARDENER, just demobilised, seeks situation in good establishment; life experience; 10 years last situation; excellent references.—HUDDY, Chesham, Bucks.

GARDENER (HEAD WORKING) or good FOREMAN; life experience; age 36; married, one child age 3 years; excellent references; demobilised.—MARSTON, 14, Crystal Square, South Street, St. Leonards-on-Sea.

GARDENER (HEAD WORKING or SINGLE-HANDED) seeks situation; life experience, Inside and Out; excellent references; can be well recommended from last place; married (no family); age 39.—PADGHAM, 3, Cork Street, Eccles, Aylesford, Kent.

GARDENER seeks situation as HEAD WORKING or FOREMAN in good establishment; Foreman before the war; good experience in all branches; (demobilised); highest references; age 30; married when suited.—J. PREECE, Six Ashes, Bridgnorth, Salop.

GARDENER (HEAD WORKING of three or more); first-class experience, Inside and Out; previously Foreman and Second of six; estate to be sold; age 31; married (two children).—AYERS, Barmouth Cottage, Rickmansworth.

GARDENER (HEAD WORKING), life experience in all branches; four years Head previous to service; can be well recommended; age 35.—F. O. LOVE, Titchfield, Fareham, Hants.

GARDENER (SINGLE-HANDED or good Pleasure Ground Gardener); good references; age 33; married (two children); 35s. week with cottage.—REED, Gravelye Lane, Lindfield, Hayward's Heath.

GARDENER (SINGLE-HANDED), experienced kitchen and lawns; knowledge of inside; age 30, married, one child.—Please state wages, with cottage, CANDY, Wellands Road, Lyndhurst, Hants.

GARDENER (SINGLE-HANDED or with help); 12 years' experience Inside and Out; excellent references; demobilised; aged 30; married (no children).—T. JACKSON, c/o Mrs. R. Lipscombe, Wood Street, near Guildford, Surrey.

GARDENER (SINGLE-HANDED or where help given); life experience, Inside and Out; excellent references; married (no family; age 28; accustomed to animals; demobilised from Navy.—LACEY, The Cottage, Elmer, Leatherhead.

SITUATION WANTED as KITCHEN or SINGLE-HANDED GARDENER; married; [illegible] years' experience; good references; at liberty when suited.—JAS. GASSON, Wittington, Marlow.

LT.-GENERAL SIR H. CHERMSIDE can highly recommend WM. DUTTON to any Lady or Gentleman requiring the services of a capable GARDENER; experienced in all branches of gardening.—Pepper Arden, Northallerton, Yorks.

MR. T. SIMPSON, Gardener to Lady Markham, Newstead Abbey, wishes to recommend W. COLE as SECOND (Inside and Out) or good SINGLE-HANDED; 14 years' experience in all branches; age [illegible] married; good refs; wages with cottage.—W. COLE, 6, Mile Place, Chislehurst.

SECOND GARDENER, Inside or Inside and Out.—Mr. Arnold, Gardener to the Hon. Mrs. Portman, Hestercombe, Taunton, can with confidence recommend H. JOHNSON as a thorough practical man; married, age 25; please state wages.

GARDENER (SECOND) seeks situation; Inside and Out preferred; age 31; married, one child; good reference; abstainer.—H. STARMES, Bartley Cottages, Bartley, Southampton.

GARDENER seeks situation as SECOND; well up in Kitchen Garden and Pleasure Ground work; nine years' experience; good ref.; married; age 37.—PEARCE, 19, St. John's Road, Southall.

GARDENER (SECOND) seeks situation; six and half years' experience; good references, age [illegible] demobilised.—J. BURT, Higher Wraxall, Rampisham, Dorset.

YOUNG MAN seeks situation as SECOND; Inside or Inside and Out; nine years' experience; age 28; single; Surrey district preferred.—H. SMITH, c/o Mrs. Brereton, Twemlow Lane, Cranage, Holmes Chapel, Cheshire.

FOREMAN or LEADING HAND on Pleasure Grounds; large establishment; first-class experience; recommended by Mr. Rogers, Hinton Admiral, Christchurch, Hants; bothy preferred; age 26; single.—Apply, A. BLAND, "Castlemead," King's Road, Windsor.

FOREMAN (INSIDE or GENERAL); 14 years' experience in first-class establishments; demobilised; age 31; married, 1 child; excellent references.—PUMMELL, Grange Gardens, Cockfosters, New Barnet, Herts.

FOREMAN (INSIDE) seeks situation; good references from well-known establishments; demobilised; age 28; single.—ALLEN, 1, Clarkson Road, Moordown, Bournemouth.

FOREMAN (INSIDE).—Thos. Beeson, Head Gardener to Mrs. Mappin, Headley Park, Epsom, can with confidence recommend E. Tickner, single, [illegible] years' experience, 2 years here.

GARDENER seeks situation as Kitchen Garden FOREMAN or good Fruit man; age [illegible]; married; no family; demobilised; good references.—State wages with cottage, F. THATCHER, 56, Chertsey Street, Guildford.

FIRST-CLASS CRICKETING GROUNDSMAN seeks situation; experienced in Horticultural Inside and Out.—Apply, GROUNDSMAN, c/o Mrs. Martin, 54, Ermine Road, Chester.

YOUNG MAN, aged 17, requires situation as IMPROVER, inside; general knowledge indoor work; present place 4 years.—Apply, giving full particulars, J. JONES, Knoyle House Gardens, Salisbury.

MR. HOLDEN, Head Gardener, Woburn Place, Addlestone, strongly recommends young woman as JOURNEYWOMAN, under Glass; 3½ years good experience in all classes of plants, Orchids and Vines; also recommended by Mr. Thos. Stevenson (previous Head).—Full particulars as to wages, etc., to Miss E. COOPER, 21, Queen Street, Chertsey.

GENTLEWOMAN, four years' good experience, Inside and Out, in large Private and Market Gardens; robust; good references; experience of horses.—Miss YORKE, Wiveton Hall, Oley, Norfolk.

LADY GARDENER seeks post under good Head; general experience, training; lodge or cottage and allowances; highest references; Scotland preferred.—R. L. WARD, Waterloo Villa, Blackwater, Hants.

ELECTRICIAN for private plant; also to wash car; good references; married (one child); Richmond, Surrey, or near preferred.—A. E., 11, Raleigh Road, Richmond, Surrey.

HANDYMAN seeks situation; life experience with cows, pony, trap; useful in garden, etc.; married; age 40; 3 boys, ages 17, 14, 5½ years.—H. MOORE, 21, Prattling Street, Aylesford, near Maidstone, Kent.

TRADE.

MANAGING FOREMAN; aged 40; life experience Cucumbers, Tomatos, Chrysanthemums, Ferns, Liliums, Bedding Stuff, Bulbs, Mushrooms, Vegetables, etc., in large quantities; re-engagement, or accept post as Fern Raiser or Soft-wooded Propagator; within 50 miles London.—A. B., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

WORKING MANAGER or FOREMAN (just demobilised) requires situation in Market Nursery; 15 years' experience in Tomatos, Grapes, Peaches, Ferns, Carnations, etc.; first-class references; age 35; single.—For further particulars apply to WILSON, 29, St. Kilda's Road, Stoke Newington, N.16.

MANAGER or FOREMAN (WORKING), Market, or Retail, Cucumbers, Tomatos, Chrysanthemums, Soft-wooded and Bedding Stuff, Ferns, Palms; Outside Fruit, Vegetables, Salads, etc.; married; 20 years' good reference; abstainer.—FOSTER, 56, South Street, Ponders End, Middlesex.

MANAGER desires post in Nursery; life experience in all branches; business capabilities and organisation; practical grower for market; landscape work, including floral decorations; age 38; married; state salary.—FRANCIS CROSBY, F.R.H.S., 84, Falkland Road, Hornsey, N.8. Near London preferred.

ADVERTISER seeks situation as MANAGER or FOREMAN in Hardy Plant Nursery; 13 years with T. S. Ware and Co., last 10 years sole charge of Herbaceous, Alpines and Aquatics.—W. GOODMAN, 29, Danesbury Road, Feltham, Middlesex.

MANAGER'S POSITION required by EX-NURSERYMAN; lifelong experience in all branches of the trade, including Floral Decorations, Seed, Bulb, Plants and Horticultural Sundries; General Nursery Stock, Inside and Out.—Particulars to C. A. PALMAR, 37, Hitchman Road, Leamington Spa.

WANTED, situation as LANDSCAPE MANAGER; expert in Rock, Water and Formal Gardens, Tennis Courts and Bowling Greens; smart and energetic; demobilised.—K., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (demobilised); expert Budder and Grafter; life experience; Roses, Fruit Trees, Herbaceous, Trees and Shrubs, used to correspondence and drawing, requires responsible Position; England only; age 28; married.—TIMMERS, 11, Sambourne Road, Warminster, Wilts.

GARDENER seeks situation; experienced expert Budder, and Packer; requires good wage. —H. BROWN, Rose Grower, Leeming, nr. Bedall, Yorkshire.

FOREMAN GROWER or CHARGE HAND seeks situation; age 34; Cues., Tomatos, Chrys., Grapes; vegetables and fruit growing for Market; Inside and Out; knowledge Stock and Agricultural work; good refs.—K. R., 18, Freshwater Road, Reading.

FOREMAN GROWER of Fruit, Ornamental Trees and Flowering Shrubs; good reference; married; age 40; Cambridge or Suffolk preferred.—SIMPSON, 8, Cheshunt Folly, Flamstead End, Cheshunt, Herts.

FOREMAN GROWER and PROPAGATOR (married); Carnations, Pot or Cut Culture for Market, Ferns, Flowers, Bedding Stuff, Cues, Tomatos; excellent references.—Apply, PARISH, Longfield Road, Tring, Herts.

KEEN MANAGING FOREMAN (WORKING), to take charge of small Nursery; roses and Fruit Trees preferred; lifetime experience with leading firm; highest references; age 32; married.—E. P., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (WORKING); thoroughly experienced in Vines, Cucumbers and Tomatoes for market; over twelve years' reference as above in last situation.—Apply to G., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, situation as Nursery FOREMAN (Outside); thoroughly experienced in Fruits, Roses, and Shrubs; expert Budder and Grafter; married.—B. T., 69, Kingsland Road, Broadwater, Worthing.

FOREMAN, WORKING (Outside); thoroughly experienced in Retail Nursery of Fruit and Rose Tree growing and attending to customers; good reference; age 36; married.—Apply P. HUGHES, 26, Westbank Road, Hampton Hill, Middlesex.

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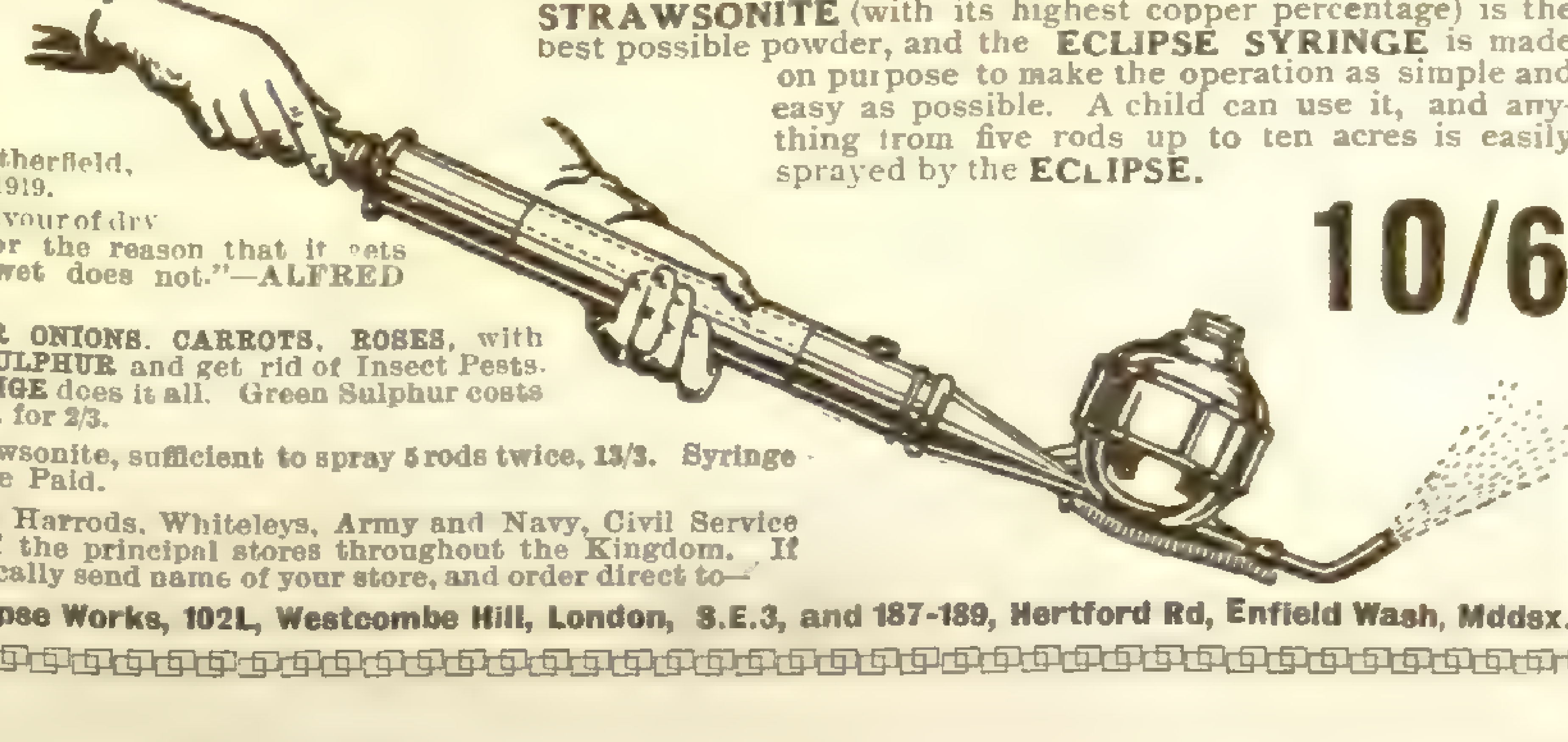

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THE

Gardeners' Chronicle

No. 1694.—SATURDAY, JUNE 14, 1919.

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CELERY AND WHITE WORMS.

THE problems which the gardener has to face to-day, so far from becoming simpler with the advancement of science, seem ever to grow more complex and manifold. And among all these problems, few give more occasion for anxious thought than the ever-increasing lists of parasites and pests. The choicest plants are ever liable to attack, and it seems impossible, even by the aid of all the new methods which modern research has put within our reach, to compass the limitation or destruction of the pests.

During the past thirty years I have made a special study of the different kinds of worms which abound in gardens, lawns, pastures, woodlands and manure heaps, and recently I have been investigating as to whether the small white worms, known as Enchytraeids, are friends or foes. As I was taking up the last of my Celery plants during the past spring, I observed about the roots a number of white worms which were, to all appearance, engaged in eating away the rootlets which they so closely resemble. Thus I was led once again to ask myself the question—are these tiny creatures really responsible for the mischief which is so often wrought by some pest in the Celery crop?

In 1837 Henle first employed the Greek term Enchytraeus, meaning something found in pots, to designate the white worms with which most gardeners are familiar. He had observed them at the roots of plants in flower pots, and on that account introduced this very appropriate name. Twelve years later (1849) Hardy described the commonest species as the Putrid Worm (Lumbricus putredinis) because it abounded among evil smelling, decaying Turnips. In 1865 it was stated that the same worm, which had already received a variety of names, was common in this country, and was usually to be found "in the soil under the bark of rotted trees, in decaying leaves, and at the roots of decayed vegetables." It was forty years after Henle had described Enchytraeus, however, before attention was drawn to the fact that other members of the family were found in connection with diseased plants, and were suspected of causing the trouble. Vejdovsky, who some years before had made observations on the subject, wrote a pamphlet in 1891 with the title (in German), "Can Enchytraeids cause diseases in roots?" He dealt especially with the Sugar Beet, and enumerated several species of worms which were under suspicion, but did not carry out any experiments.

The first reference to injury due to Celery, presumably by their agency, came from myself. In January, 1902, I received from Professor Carpenter, of Dublin, a consignment of worms with the following note: "They are burrowing in Celery stems, and the person who has sent them believes them to be the primary destructive agent. I think they may have got into the stem through old fly-maggot humus, but they are enjoying themselves there now." Reporting on the subject in *The Irish Naturalist* (May, 1902, page 110), I wrote: "A pocket lens at once revealed the presence of a destructive and well-known white worm (Enchytraeus parvulus, Friend), which has been known in England since July, 1897, when I discovered it in the vicinity of Birmingham, doing immense harm among Asters. I therefore named it the Aster Worm, and soon received specimens of sick Asters, suffering from the same pest, from many parts of the country. I have now to point out a curious fact. In the winter of 1897-8, after I had described the Aster Worm and recorded it for many different parts of the country, besides obtaining it under circumstances which clearly showed it was an indigenous British species, I found it had attacked my Celery. During the early stages of the Celery sickness only Enchytraeus parvulus was noted. As the sickness progressed, however, a new form made its appearance. Presently the two forms were equal in number, but eventually, in March, 1898, the second form entirely predominated, and Enchytraeus parvulus was nowhere to be found. The strange fact is that these same two worms appeared in equal numbers in the material sent me from Ireland. This is a most remarkable coincidence. Doubtless, here again, Enchytraeus parvulus led the way. In January two forms were at work in equal numbers, and one may expect that by March parvulus will have disappeared, and the larger form be in supreme possession."

Again in 1903 and 1904 Celery with disease and Enchytraeids at the roots reached me from Professor Carpenter, but I unfortunately failed to keep copies of my reports. I find, however, that not only E. parvulus, Friend, but E. albidus, Henle; Julus, the larvae of the Celery fly, a species of Fridericia, and other entomological specimens were recorded as being present.

In 1906 my correspondents included Mr. Chittenden and Mr. Kenneth D. Scott, of Messrs. Scott Bros., Hurst, Twyford. The latter reported on February 8: "Recently I found the worms simply surrounding the bases of Celery plants, and well in amongst the tissues of outer leaf stalks." I believe they were chiefly Enchytraeus albidus, but here again I am guided by memory and brief memoranda, as my letters were not copied.

On February 8, 1910, Mr. Hayton wrote from Kirkby Stephen asking: "Can you give me any particulars regarding the long, white worms in the enclosed manure? They are very troublesome in my garden, and I think they ruin my Celery, destroying the roots. Every year they are always in abundance." In this case the worms were again E. albidus, a species which abounds in manure heaps, and, as a consequence, is almost invariably introduced in large numbers into the Celery trench.

Since 1910 I have had no definite inquiries of this kind relating to Celery, and the matter had almost passed from my memory till the past spring, when more than one species of Enchytraeus and Fridericia made their appearance in my trenches. What is the judgment? Were the worms the cause of Celery disease or not? If they were, which species is guilty, or can any white worm be the aggressor? If the white worms were not primary agents in the matter, what part did they play, and what originally started the disease? It was such questions as these which led me in 1914 to commence a series of experiments under the Board of Agriculture, and I hope to be able at an early date to give the definite results obtained from my researches.

In the meantime, may I ask gardeners and others to send me specimens of worms of all kinds which they find either in connection with diseased flowers and plants, or under any circumstances which invest them with interest? Specimens should be sent in tin boxes, not perforated, addressed: Department of Zoology, University, Edmund Street, Birmingham. *Hilderic Friend.*

CULTURAL MEMORANDA.

SUMMER CULTIVATION OF FRUIT TREES.

THE roots of fruit trees should receive a soaking with liquid manure as soon as the fruits start swelling, and afterwards be heavily mulched with farmyard manure to prevent evaporation of soil moisture. The surface dressing of manure will also promote the growth of fibrous roots near the surface. Fruit trees that have been planted for several years require a stimulant to enable them to bring the crop to perfection, and this is especially necessary in the case of trees planted in light, gravelly soils. The best time to apply concentrated food is during the next two months. Stone fruits, including Peaches, Nectarines, Apricots, Cherries and Plums, need calcareous matter in the soil, for if lime be absent from the soil the fruits are liable to drop at the stoning stage. Summer pruning of all fruit trees should be carried out systematically. It consists of periodically pinching or stopping all side and spur growths to four leaves in the case of Apples and Pears, and five for Cherries and Plums. If the trees are fully grown, and it is not desirable they should attain a greater height, the leaders should be similarly shortened. This shortening of the shoots will allow sunlight and air to reach all parts of the trees and exert their influence on the ripening of the wood. Young, newly-planted trees should be treated according to their individual requirements; no hard and fast rule can be laid down. The usual practice is to retain the leading shoots two-thirds their length, merely pinching out the tips and making provision for furnishing the trees, where required, with a further series of branches by leaving the necessary number of young shoots in suitable positions: these again should be merely tipped. All other growths may then be stopped at the fourth or fifth leaf to form fruit spurs. If this system of stopping is continued, very little winter pruning will be required, and the trees will crop freely and regularly. Morello and Sweet Cherries require somewhat different treatment. In their cases the young growths are best shortened about half their length, and any congestion of wood arising from this mode of treatment should be attended to either after the crop has been cleared or in winter. Guard against over-cropping, especially in the case of young trees, and take measures to eradicate insect pests directly any are detected. *Victor Gregson, Penrose Park Gardens, Helston, Cornwall.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM HARVENGTENSE PITT'S VARIETY.

AT the meeting of the Royal Horticultural Society's Orchid Committee, on May 27, H. T. PITT, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a First-Class Certificate for this beautiful Orchid (see Fig. 144). The flowers are pale canary yellow, with white bases to the sepals and petals, the latter and the lip bearing distinct dark red blotches. Mr. PITT obtained a similar award for the earliest form of this hybrid between O. crispum and O. triumphans, under the name of O. harvengtense, Rosslyn variety, on May 24, 1896. proof of his long connection with Orchid culture, and especially with Odontoglossums, which have always been a leading feature in his collection. O. harvengtense was originally imported with Odontoglossum crispum, and doubt as to its origin existed until it was found to be a natural hybrid between O. crispum and O. triumphans, the latter species having been found growing with O. crispum. One of the earliest plants to flower bloomed in the establishment of M. Chas. Vuylsteke, at Loochristy, Ghent, and was named O. loochristyense, a name which was commonly used in British collections until the name now given was established by right of priority.

ORCHIDS FROM ST. ALBANS.

Messrs. SANDERS, St. Albans, send, for recording, flowers of the following fine novelties :—

ODONTOGLOSSUM SIREN (nebulosum × Fascinator). A very distinct hybrid, adhering closely to O. nebulosum in form, but with broader segments. The flowers are pure white with clusters of purplish red spots on the inner halves of the segments, and around the fleshy, yellow crest.

ODONTOGLOSSUM ROSSINATOR (Rossii majus × Fascinator). The ground colour of this hybrid is blush white; the sepals are spotted with claret-red, the petals having similar markings at the base. The lip is entirely blush white, with a yellow crest.

ONCIDIODA SANDERAE (Odontioda Sanderae × Oncidium macranthum). A worthy companion to the brilliant O. Cooksoniae, but with longer and more acuminate segments. The colour is deep scarlet with a light, golden shade.

ODONTIODA FRED SANDER (Miltonia Warscewiczii × Odontoglossum illustrissimum). The sepals and petals are chocolate-purple, with white tips. The white lip has a chocolate-purple base and yellow crest.

ODONTONIA FANTAISIE (Miltonia Warscewiczii × Odontoglossum crispo-Harryanum). The lanceolate sepals and petals are tinged with purple. The lip also is purple, but with a white front.

ODONTIODA MAGALI SANDER (Oda. Charlesworthii × Odm. Magali Sander). A large, finely-formed flower of a rich vinous-purple colour, with slight whitish markings, the lip being freckled with rose colour.

LAELIO-CATTLEYA RALPH SANDER. A pretty flower obtained by crossing Cattleya Mossiae Reineckiana Forget's variety and Laelio-Cattleya Phryne (C. Warscewiczii × L. xanthina). The flower, which is larger than the C. Mossiae parent, has white sepals and petals, with a very faint yellow shade derived from L. xanthina, the broad lip being bright purple, shading into rose-purple towards the margin.

FIG. 144.—ODONTOGLOSSUM HARVENGTENSE PITT'S VARIETY (R.H.S. FIRST-CLASS CERTIFICATE, MAY 27, 1919).

TREES AND SHRUBS.

EUCOMMIA ULMOIDES.

IT may be of interest to record the fact that a specimen growing here of the above Chinese tree —rare in cultivation in this country—produced flowers (male ones) this spring for the first time. It was planted in May, 1910, in a sunny position in dry ground, and has a girth of eleven inches and a height of seventeen feet. It would, no doubt, have been bigger all round if it had not had to submit to some pruning to keep it within bounds, as unfortunately it has been put in a part of the garden unsuitable for a permanent tree; consequently it may have to be sacrificed shortly. This tree is not likely to meet with favour in gardens, as its flowers are very inconspicuous and its foliage possesses no particular attraction. It is of interest, however, botanically, both on account of belonging to a monotypic genus of somewhat doubtful affinity and also by reason of the presence of "elastic" threads in its leaves and bark. *J. Parkin, Blaithwaite, Wigton, Cumberland.*

AN ALLOTMENT GARDEN IN INDIA.

THE following notes on an allotment started for our depôt in India may prove interesting. The allotment was started by me when our depôt moved to Belgaum—the regiment still being on service in Mesopotamia—as an experiment; and has proved so successful that it is likely to be repeated on a larger scale next year.

Belgaum is in the Deccan, on the eastern slope of the Ghats, 300 miles south of Bombay. The altitude is little under 3,000 feet, and it is sufficiently near the sea—70 miles—to enjoy sea breezes right through the hot weather. The rainfall is variable, averaging perhaps 40 inches; but it may be so little as 10 inches or so much as 100 inches. However, as our garden records only cover a period from January to March, we need not anticipate what will happen when the rains come. Throughout this period the average daily shade maximum was about 90°F., while at night the temperature often dropped to 60°F. The soil is derived from laterite and volcanic trap, which appears everywhere on the stony hillsides.

The garden was cut out of a slope, on the terrace system to facilitate irrigation, and immediately below the sepoys' bath-house, whence we obtained our water; indeed, it was with a view to using this surplus water—in a district where water is none too plentiful—that the garden was started. We began early in January, and by the end of the month had made nine terraces 90 ft. by 30 ft., the banks being from six to nine inches high. The ground was so hard it had to be broken up with picks, and the solid clods smashed up; the grass was then removed and an immense number of loose stones and boulders were finally taken out. The result was soil, of sorts, which was enriched with ashes from the incinerator. This was the only way we had of getting rid of the ashes, so that the garden served its turn in more ways than one.

Our seeds were obtained from the municipal gardens, Poona, the largest military station in southern India, and comprised dwarf Marrowfat Peas, French Runner Beans, White Globe Onion (acclimatised), Spinach, Walcheren Cauliflower, Lettuce, Cabbage (Neapolitan), Radish (long scarlet and Turnip scarlet), Carrot (Altrincham Scarlet), and Tomato. Enough were obtained to fill the garden, and they cost us sixteen rupees.

The earth was hoed up in rows, with channels between, down which the water from the bath-house ran, and was allowed to flow from terrace to terrace. None was wasted, it was too precious; for we were not permitted to use any but overflow water.

Sowing began on January 24, when Peas, Beans, Cabbage, Cauliflower, Onion and Spinach were put in; on the 25th, Carrot, Lettuce and Radish, and on the 26th, Tomato.

The first to appear above ground were the Radishes, on January 29, followed by Peas, which appeared next day, together with a few Lettuces and Onions. By January 31 the Peas and Radishes were growing well, and Cabbages and Cauliflowers were showing above ground; these were followed by Beans on February 1. By February 3 the Beans were doing well, and a few Carrots and Tomatos were showing; but it was really a case of Peas and Radishes first, the rest nowhere.

Trouble now appeared amongst the Onions, which had germinated well. They seemed to be "damping off," so I reduced the water supply. Before the end of the month they had completely recovered, and though growing very slowly, showed no further symptoms of distress.

By this time the Radishes were almost fit for eating, and both the Pea and Bean terraces looked fine. Cabbages and Cauliflowers were doing well, too, in a steady, unostentatious way; the seeds of these last had been sown too thickly, but they stood transplanting well and rapidly recovered. The Tomatos, too, were doing all that was expected of them.

Not so the Carrots and Lettuces. Only a small portion of these germinated, and they

grew very slowly; the same is true of the Spinach.

The next trouble appeared amongst the Peas and Beans, the lower leaves in each case turning sickly and dying. However, this did not appear to affect the plants adversely, and I came to the conclusion that it must be due to ashes having been showered carelessly on them, or piled up around them.

It was extraordinary the number of birds which visited this somewhat unattractive little garden plot. Numbers of crows, wagtails and larks came to the terraces daily, some to bathe in the irrigation channels, others to poke about amongst the beds. The crows were a serious menace, and we had to place a sentry over the garden, whose duty it was, besides driving away inquisitive dogs and goats, to throw stones at birds.

By February 24 several Runner Beans were in flower. On the same day green caterpillars were found on the Peas, and severely handled by a working party of Sepoys. On March 1 we pulled the first Radishes and sent them to our hospital; some of them were of enormous size. On March 7 we almost cleared out one bed of Radishes, getting just over 30 lbs., which were divided amongst the companies. This was the long Scarlet Radish, of which we had sown 2 oz. of seed. We had already had some from this bed, and there were numbers of plants still left after pulling up the 30 lbs. This was exactly six weeks after sowing.

On March 4 the Peas were in flower and looked like doing well till a hungry cow came one dark night and ravaged both Peas and Beans. However, those which were left after her visit did well.

On March 10 a start was made on the Turnip Radishes, 30 lbs. being taken from the bed, which, a week later, hardly looked as though it had been touched. By the middle of the month the first Tomato was in flower; the plants had done splendidly, all the seeds germinating.

The Onions, too, had made progress, and were almost ready for pulling, while the Cabbages and Cauliflowers looked fine, in spite of increasing difficulties with water, and a shade temperature of nearly 100°F. every day. There was not an atom of shade in the garden.

What happened after that I do not know as I was demobilised and left Belgaum on March 19; but by that time a good start had been made, and the Sepoys knew how to run the garden by themselves. *F. Kingdon-Ward.*

FERTILISERS FOR POTATOS.*

It has repeatedly been shown that a small dressing of dung—10 tons to the acre—supplemented by artificials, usually gives larger crops Potatos and of better quality than larger dressings of dung.

A suitable dressing is 10 to 15 tons of dung at the time of planting in the North, but in winter, if possible, in the South and West, and supplemented by the following:—1 cwt. sulphate of ammonia, 4 cwt. superphosphate, 1 cwt. sulphate or muriate of potash; or 1½ cwt. sulphate of ammonia, 4 cwt. superphosphate, 1½ cwt. sulphate of muriate of potash.

Where no dung has been used the dressing of artificials must be increased. In these circumstances the Lancashire recommendation is 2½ cwt. sulphate of ammonia, 6 cwt. superphosphate, and 2 cwt. muriate of potash. In many districts, however, this dressing of superphosphate would be excessive; probably in the Eastern Counties considerably less might be used. In North Wales, however, phosphates are very effective and can be liberally applied: possibly the nature of the soil and the high rainfall are important factors.

There is no point in giving too much nitrogen or too much phosphate; excess of nitrogen only produces excess of haulm and may reduce quality, while excess of phosphate may hasten ripening and bring the growing season to an end. These points are illustrated in the following experiments taken from the Devon Report:

YIELD OF POTATOS PER ACRE.

	T.	cwt.
Increasing Phosphate.		
400 lb. super + sulphate of ammonia and sulphate of potash	8	8
533 lb. super + sulphate of ammonia and sulphate of potash	7	13¼
Increasing Nitrogen.		
256 lb. sulphate of ammonia + sulphate of potash	8	8
341 lb. sulphate of ammonia + superphosphate and sulphate of potash	7	11¾
Increasing Potash.		
192 lb. sulphate of potash + superphosphate and sulphate of ammonia	8	8
256 lb. sulphate of potash + superphosphate and sulphate of ammonia	8	18½

In the Glasgow experiments a mixture of basic slag and superphosphate (3 cwt. of each) was better than superphosphate alone; at Holmes Chapel steamed bone flour (3 cwt.) was better than either. In the Northumberland and Durham districts 2 cwt. of high grade basic slag is recommended in partial replacement of the superphosphate, and the following dressing is suggested: 10 to 12 tons dung, 1 cwt. sulphate of ammonia, 2 cwt. basic slag, 1½ cwt. superphosphate.

In the North, Potatos are usually planted in drills about 30 inches apart. The drills are first opened with a double mould-board plough, and the dung is spread evenly in the bottom of these drills. On the top of the dung the artificial manures are applied, then the Potatos are planted, and the drills covered. It is advantageous to apply the basic slag by itself, as when this fertiliser is mixed with sulphate of ammonia and superphosphate there is likely to be a loss of ammonia, and, further, the mixture does not distribute well.

Where dung was applied the omission of potash did not prove serious in cool, moist districts, e.g., Lancashire, Wales and Somerset, or in land in good condition in Herts. In these circumstances, therefore, the grower need not be over anxious if he cannot get potash, so long as he has dung; he can use 1 to 2 cwt. of sulphate of ammonia and 4 cwt. of superphosphate, or 2 cwt. of bone meal, in addition to the dung.

Where no dung was applied, and in the more forward districts on lighter soils, however, e.g., Herefordshire, Devon, Bedford, Wiltshire, potash has proved more necessary, and greater efforts must be made to secure it.

On peaty soils the dressings of sulphate of ammonia may be reduced, and in the Fens it can be dispensed with altogether.

On clay Fen land the following has worked well: No dung, up to 6 cwt. superphosphate; on silty Fen lands—no dung, 4 to 6 cwt. superphosphate, ½ cwt. sulphate of potash.

On the whole, sulphate of ammonia and superphosphate have proved better than nitrate of soda and basic slag, both of which rather tend to set up alkaline conditions favourable to scab. Lime is to be avoided for the same reason.

* *Notes on Manures for May.* From the Rothamsted Experimental Station, Harpenden, Herts. Reprinted from the *Journal of the Board of Agriculture*, Vol. XXVI., No. 1, April, 1919.

FIG. 145.—CARNATION CLEOPATRA; A BORDER VARIETY OF RICH OLD ROSE COLOUR.

CARNATION CLEOPATRA.

The fine border Carnation Cleopatra illustrated in Fig. 145, attracted a great deal of attention at the Chelsea Show by reason of its fine size and excellent form. It was raised and exhibited by Mr. James Douglas. The colour of this broad petalled variety is rich and deep old rose—a shade that is very popular at the present time and not hitherto well represented among finely formed varieties of border Carnations. This variety, like The Grey Douglas and the deep scarlet Surrey Clove, carries its big blooms on long, wiry stems, consequently it is particularly useful for floral decorations where its charming colour is suitable. Cleopatra is a border Carnation of the best type, and it was granted an Award of Merit by the Royal Horticultural Society's Floral Committee on May 20.

THE ROSARY.

ROSE VICTORY.

THE beautiful, rich crimson H. T. Rose named Victory, illustrated in Fig. 146, was shown by Messrs. McGredy and Sons, Portadown, Co. Armagh, at the spring show of the National Rose Society, held on April 29 last. The variety was the only seedling on that occasion to receive the award of a Gold Medal, and those who saw the beautiful blooms exhibited by the raisers generally agreed that the novelty was worthy of the high award conferred on it by the Floral Committee of the National Rose Society. As will be seen on reference to the illustration, the flower has great beauty of form, both in the expanded stage and in the developing buds. The colour is rich, velvety crimson which tones with age, and shows a rose tinting. The raisers state that the plant possesses a good habit, that the foliage is a shining, rich green, and rarely affected with mildew. Victory promises to become of great value as a garden Rose, and may perhaps be best described as an improved Richmond. Red Roses—a popular term that embraces those of crimson shades—are favourites with the general public, and in consequence valuable to the grower for market. Richmond has proved a splendid market Rose, and if the newcomer possesses the merits claimed for it, market growers and florists will doubtless include it amongst popular sorts grown for the cut flower trade.

FIG. 146.—ROSE VICTORY: A RICH CRIMSON H.T. VARIETY.

THE ALPINE GARDEN.

POTENTILLA NITIDA.

AT one time, when good alpines were scarcer than now, the dainty Potentilla nitida was frequently cultivated. Now, although seen in many good collections, it does not come under one's ken in every rock garden. This is due to no lack of charm, but probably to an almost inveterate shyness of flowering unless it receives special consideration, which many do not give. It is almost impossible to over-praise a good plant of this Potentilla, two or three feet across, thickly starred with little flowers rising from a cushion of charming, silvery foliage. To ensure success, not so much in the growth of the plant, but in flowering it, special requirements are needed. It is not difficult to grow and will form good masses in almost any soil, provided the ground is not excessively stiff or wet. But to persuade it to flower is another matter, and there appears to be one or two desiderata called for by P. nitida. One is a dry, poor soil, such as the medium afforded by a dry moraine. Another is a supply of lime, which can be easily supplied by working among the foliage of an established plant old mortar, broken small, or small limestone chips, and then watering it well in. Pieces of limestone should also be set around the plant. Such treatment will generally induce the plant to flower freely. There are two forms, one with rose and another with white flowers. *S. A.*

The Week's Work.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

The Early Vinery.—Where the fruits of Black Hamburgh and other early Grapes have become fully ripe cooler treatment should be afforded, fire-heat being employed only to maintain a temperature of 60 degrees; at the same time the house should be freely ventilated. If Madresfield Court, Duke of Buccleuch and other varieties liable to crack their fruits are forced early, condensation of moisture on the fruit must be carefully prevented, as this is one of the causes of cracking. A sudden rise of temperature and a moist atmosphere will cause a good deal of mischief in a very short space of time. To prevent this danger a small amount of ventilation should be provided at the top of the vinery at all times, and a gentle warmth constantly maintained through the hot-water pipes. Afford ventilation early in the day so as to prevent the heating of the fruit. To obviate the need of applying water while ripe Grapes are hanging on the vine provide a mulch of strawy manure, previously sweetened out of doors. Allow the laterals to grow with a little more freedom, but avoid overcrowding of the foliage. To conserve the colour of Black Grapes some light shading should be placed over the house. When the weather is bright path and wall surfaces in the vinery should be damped occasionally, but always when the ventilators are open.

Late Vines.—The final thinning and tying up of the shoulders of bunches of Grapes should be finished or nearly so. Grapes intended for late keeping should have all the inner berries removed, as these berries are the most likely to decay in the autumn, and it is then difficult to remove them without spoiling the appearance of the bunch. Sub lateral growth should be stopped at frequent intervals to prevent overcrowding of the foliage. Increase the ventilation early on bright mornings and close the house early to take advantage of sun heat. A little air should be admitted late in the evening and during the night. Lady Downe's is a Grape very apt to scald, and where the vines are exposed to the early morning sun it is most essential that sufficient ventilation should be left during the night to ensure a free current of air throughout the house when the first rays of the sun reach the roof. Outside borders should be mulched with light, strawy litter. Mulchings of a heavy character do more harm than good, particularly during a wet season.

Young Vines.—Growths on canes planted in spring should be stopped when they are about six feet long; the resulting leading growth should be allowed to extend to the top of the house and then be again stopped. Tie in the shoots regularly, in order to prevent injury occurring to the leading growths. Pinch back all side growths to one leaf. Syringe the vines frequently and afford abundance of air. Vines that were recently planted while in a growing condition should be kept moderately moist at the roots until they have rooted freely in the new border.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Rhododendrons.—As soon as Rhododendrons have passed out of bloom lose no time in removing all seed pods, as these are very weakening to the new growths. Top dress, if necessary, very choice plants and prune straggling growths. The variety Pink Pearl makes a brilliant display of large trusses, and is always admired.

Carnations.—To obtain large blooms, every attention must be afforded these plants, especially in dry weather. Give the roots liberal supplies of water, with liquid manure at intervals. Dis-

bud freely and tie the flowering stems neatly to suitable stakes. If large quantities of Carnations are grown to provide blooms for cutting, twigs of Birch or other trees may be placed around and among them instead of using stakes and ties.

Herbaceous Borders.—The warm dry weather will injuriously affect late-planted subjects and plants with roots near the soil surface unless water is given them freely. Liquid manure should be given to the roots at intervals. In many gardens the water supply is inadequate to meet the requirements of large, well filled herbaceous borders, and as a consequence the plants fail to produce a fine effect. Heavy waterings, mulching and frequent hoeing will keep the plants in active growth and assist them to produce a good supply of flowers. Support all tall growing subjects early and as neatly as possible. Remove dead foliage and the faded flowers of early-flowering plants and fill up open spaces with plants suitable for continuing the display.

Roses.—Now that the flowering season is at hand special attention must be given to Roses it fine flowers in abundance are desired. Disbudding should not be overlooked. Thin out weak shoots and remove suckers, hoe the surface soil freely, water and mulch the soil as necessary, and syringe the trees overhead occasionally, late in the afternoon, with a suitable insecticide, to destroy aphis and other pests.

Spring Flowers.—If seeds of Wallflowers and other spring-flowering plants have not been sown, the work should be delayed no longer. Make the seed bed firm and moist, and if the weather proves dry after sowing place mats over the beds to conserve moisture, but remove them immediately the tiny seedlings appear.

Lawns.—Give careful attention to all newly-turfed or newly-sown lawns. The latter should not be mown too closely or the roots will be exposed to the full influence of the sun. Watering may be necessary but give a thorough soaking in preference to small quantities at short intervals.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Carrots.—A sowing of short-horn Carrots should be made on narrow borders for the supply of succulent roots throughout the late autumn months. If the site has yielded a crop of early Potatos, very little will be needed in preparing the ground, except working it finely and dusting the drills with sifted burnt garden refuse. Draw the drills 14 inches apart and 1½ inch in depth, and water them before sowing the seeds. Inimitable and Golden Ball are useful small sorts and Scarlet Horn and Early Gem are a little larger, but of fine quality. Hoe the ground frequently, and afford occasional dustings of soot after the seedlings appear.

Onions.—Onion seedlings planted out from boxes are growing rapidly; they revel in the hot weather, provided they are moist at the roots and the Dutch hoe is used frequently between the rows. It is very beneficial at this date to give the bed a slight mulch of leaf-soil or very light, decomposed manure. Onion fly and Onion mildew must be guarded against. It will do the plants no harm if slaked lime is strewn broadcast over them before either of these pests appear; mildew very seldom attacks plants after this treatment. The main crop Onions will respond to the above treatment, and in both cases occasional dressings of some concentrated fertiliser or sulphate of ammonia should be given.

Peas.—Especial care is needed to obtain late Peas. Open sites are to be preferred as less mildew appears than when the sowings are made in close, walled-in gardens. Trenches should be made and manure, with bone meal, or superphosphate of lime, added to the soil. Make the whole firm and sow the seeds as soon as the site is ready. Gladstone, Latest of All, Autocrat and Rearguard are most reliable late varieties of Peas.

Leeks.—Leeks that are being grown for exhibition purposes will now be elongating their stems. Encourage them to extend by means of brown paper collars 8 inches in length and 2 inches in diameter; gradually draw these collars up as the stems lengthen, adding fine soil below but never allow the soil to reach the heart or centre of growth. Continue this process until the desired length of blanched stem is attained, when the collars should be removed entirely, the soil being then made firm and secure.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Mignonette.—The large-flowered, giant-spiked and pyramidal varieties of Mignonette are indispensable for greenhouse and conservatory decoration. Seeds sown now will provide early autumn flowering plants. Sow the seeds in the pots the plants are to flower in, and thin the seedlings to about six in a pot. Fill the pots with a mixture of loam, leaf-mould, mortar rubble and wood ash, and when the seeds are sown place the pots on an ash base in a cold frame with a north aspect. When Mignonette seedlings are growing freely syringe them daily. Pinch out the early flowers until the desired symmetry is obtained, and place twigs of Birch round the edges of the pots to support the plants. When fully established give Mignonette frequent waterings with liquid manure.

Euphorbia pulcherrima and E. jacquiniaeflora.—Cuttings of these useful winter-flowering plants should now be taken, with a heel of the old wood, and inserted singly in small pots in sandy soil. Plunge the pots over bottom heat, keep the cuttings shaded until rooted, and spray them twice daily. When rooted place them on a shelf near the glass and afford them more light and air.

Begonia Gloire de Lorraine.—Cuttings of this Begonia may still be taken and successfully rooted in sandy soil in well-drained pots. Fill the pots with cuttings, and place them near the roof glass, but give them shade from sunshine. Earlier cuttings, now rooted, should be potted singly in 3-inch pots and placed on plant staging that is covered with ashes. For potting, use a mixture of loam, peat and sand, and pot rather loosely. Keep the plants in a temperature of not less than 60°, syringe them daily, and keep the staging and paths moist. As a preventive against insect pests fumigate the Begonias occasionally and dust some soot amongst the pots.

Ixora.—Plants showing flower—provided there is a desire to prolong the period of flowering—should be placed in a cooler house and given less water and ventilation.

THE ORCHID HOUSES.

By G. H. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cymbidium.—The best species and hybrids of this genus occupy a foremost position among useful Orchids for late winter and spring displays. During the last few years some elegant hybrids have been raised from the beautiful C. insigne, a species which has proved valuable as a parent of a new section of these charming plants. The lasting qualities of the flowers, either on the plant or in a cut state, is well known, but for the benefit of the plants the spikes should not be allowed to remain on too long, and all should have been removed ere this. Cymbidiums are mostly strong-growing plants, with thick, fleshy roots, and all through the season of active growth the roots require plenty of moisture. Some recommend giving an abundance of water to the roots, but I prefer, at all times, to treat Cymbidiums as ordinary greenhouse plants, always allowing them to become somewhat dry before giving a thorough watering. The principal causes of failure with these Orchids are over-watering the roots, too much shade, and a stuffy atmosphere. While a cool, intermediate temperature is proper for them, they do not mind sun heat by day provided this is accompanied by abundance of fresh air and plenty of atmospheric moisture, and there is a cool atmosphere at night to recuperate in. They must be shaded from the direct rays of the sun, and in bright weather the syringe should be freely used about the foliage, a good spraying with clean water being the most effectual way of keeping down red spider, a pest which sometimes attacks the undersides of the leaves during hot, dry weather.

Repotting.—New growth has now commenced, and any necessary repotting should be done at once. Refrain from disturbing any plants so long as the soil is not sour and there is sufficient room for development. Plants in a root-bound state are always most productive of flower-spikes. If large specimens are desired, healthy plants should be given a moderate shift every two years, while young healthy seedlings require annual potting up to the time they reach the flowering stage. Where large specimens are in a bad condition they should be divided and the best portions, with new leads, potted separately. The pots should be well drained, the crocks covered with a thin layer of turf, and the plants potted like ordinary plants—that is, with the pseudo-bulbs resting on the surface of the soil just below the level of the rim of the pot. The mixture for potting should be composed of good loam fibre one half, peat or A.1 fibre one quarter, leaf-soil and chopped Sphagnum-moss one quarter, with plenty of crushed crocks, charcoal and coarse silver sand added to keep the mixture porous. The material should be carefully worked among the roots and made moderately firm. If the soil about the roots of the plants is in a moderately moist state, and the new material is employed in a similar condition, watering should not be necessary for a week after repotting. Then give a thorough soaking of water, which should suffice for some time. The usual precautions against over-watering must be taken with newly-potted Orchids, especially with those that have had all the material shaken from their roots, and extra shade should be given them when the sun is bright.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Protecting Cherries from Birds.—Nets should be placed over the trees as soon as the fruits begin to swell, as birds take them very early, especially if the weather is hot and dry. Small meshed netting is best as it will keep out the small birds. Over wall trees the nets should be fastened at the top and pegged down at the bottom, and where there is no coping sticks should be used to keep the netting well away from the wall, otherwise blackbirds will settle on the net and peck the fruit through it.

Feeding Fruit Trees.—All trees that have set heavy crops should be liberally supplied with water and receive liquid farmyard manure once a week at least, but this should never be given at too great a strength. More harm may be done by giving very strong liquid manure than if none at all is given. Trees carrying heavy crops should also have good mulchings of manure, or, if this is not available, litter or grass mowings should be spread over the root area to keep the sun from drying the surface severely.

Propagating Strawberries.—The best method of propagating Strawberries is by layering the runners as soon as they are large enough. The earlier the runners commence to root the better will be the plants for forcing. Three-inch pots should be used as they may be easily removed from the beds when the runners have rooted. One crock should be used to cover the drainage hole, with some rough fibre over it; then fill the pots with loamy soil passed through a half-inch riddle, with a little leaf-soil added. Choose the strongest runners from the best fruiting, one year or two-year-old plants. Each layer should be pressed into the soil in the pot and fixed with either a wire or wooden peg. Bracken stems make excellent pegs for this work. The soil in the pots should at no time be allowed to become dry. All superfluous runners should be removed.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, JUNE 17—
Royal Horticultural Society's Committees meet. Lecture at 3 p.m.; by Mr. H. E. P. Hodsoll on "The Care of the Plant."

WEDNESDAY, JUNE 18—
York Gala (three days); Gardeners' Royal Benevolent Institution, Festival Dinner at the Grocers' Hall, City, E.C.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 59.8°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday,* June 11, 10 a.m.: Bar., 30.3; temp., 76. Weather—Bright.

The Sun-Drying of Vegetables. The duress of war induced many people in this country to practise forms of thrift hitherto disregarded, and among them was what may be called the home-drying of vegetables. On a larger scale also the drying of vegetables was carried out in order to provide the prescribed rations for H.M. Forces. The technique of drying is simple and when drying is practised with care and attention to detail a product is obtained which is of good appearance and almost as palatable as the fresh vegetable. The reduction in volume and weight brought about by drying, together with the long-keeping property of properly dried vegetables make them an extremely convenient form of food for large bodies of men.

But researches carried out at the Lister Institute by Dr. Chick and her colleagues indicate that dried vegetables, at all events as prepared in this country by ordinary commercial methods, are deprived in the process of drying of those health-maintaining substances known as vitamines which are Nature's medicines against such diseases as scurvy. This discovery, although perhaps of no great importance so far as the domestic use of dried vegetables is concerned, for such vegetables could in ordinary cases only form a small part of the daily ration and other fresh vegetable food would supply the vitamines, is of first rate importance when the feeding of armies is concerned. For in the difficult circumstances which obtain in the field, reliance would tend to be placed exclusively on the food materials most readily available. Where that is the case and where vegetables only in the dry state are used the health of armies suffers.

It is, therefore, of peculiar interest that according to investigations carried out into the drying of vegetables in India (Quetta) when sun heat is used, the dried product retains its anti-scorbutic and anti-beri-beri vitamines.

The experiments* which were conducted by Mrs. Gabrielle Howard on behalf of the Indian Army Authorities at the Fruit Experiment Station at Quetta, demonstrate that sun-drying in the hot and windy hill country of Baluchistan is remarkably successful and this no doubt because it takes place so rapidly. In these experiments, both the commoner vegetables, Spinach, Peas, Tomatos, and also certain Indian vegetables were dried, all apparently with complete success. Inasmuch as vegetable growing can only be carried out in the neighbourhood of Quetta during the "summer," there should be in drying a means of providing supplies of vegetables for local winter consumption. It should also be possible to develop a vegetable drying industry for the supply of other parts of India at periods when fresh vegetables are unobtainable.

But the results obtained at Quetta are of yet wider interest for they show first that there is in sun-drying a ready means of obtaining supplies of wholesome food, not only in India, but also in such countries as Egypt, and when it is remembered that the sun-dried vegetable may be briquetted—compressed into consolidated and easily transported form—the problem of supply to armies would appear to have been solved.

Furthermore, if sun-drying does not destroy the vitamines it would appear certain that artificial drying could be so improved as to prevent the destruction of the vitamines which is said to take place under the conditions at present used in commercial drying machinery. A useful piece of work, therefore, would be to determine by what change of procedure commercial drying may be made to yield a product with the health-giving qualities unimpaired.

In any case, with this information now available at their disposal, the army authorities should be able to provide, in the regrettable contingency of another war, for the supply to the troops in the field of full rations of wholesome dried vegetables.

The Sun Drying of Vegetables, by Gabrielle L. C. Howard, Fruit Experiment Station, Quetta Bull. No. 8, March, 1918.

Fruit and Vegetable Growing by Ex-Service Men.—At Shippea Hill, near Lakenheath, Suffolk, 25 ex-Service men are receiving practical instruction in fruit and vegetable growing. The next course, which will last 8 weeks, commences on July 7, and ex-Service men desiring to enter for it should apply to the Secretary, Board of Agriculture, 72, Victoria Street, London, S.W.1. Ex-Service men receive allowances during their period of training; and an extra allowance is given to married men.

American Gooseberry Mildew.—The appearance of the summer stage of American Gooseberry Mildew has been unusually late this year, doubtless owing to the dry weather, the first report of it having been made the week before last. It would be interesting to know whether the district in which the outbreak occurred (in Sussex) was one of those in which rain fell on Sunday, May 25. Information on this head would be valuable in helping to determine whether this fungus depends for its initial spread on rainfall, or whether it may occur even during a spell of drought. It is to be hoped that those amongst whose Gooseberry bushes American Gooseberry mildew occurs will take every means of checking it. Spraying with lime sulphur or ammonium sulphide is undoubtedly efficacious; so is spraying with weak Burgundy mixture. These means of control together with tipping, should by no means be neglected.

Gardeners' Royal Benevolent Institution.—Mr. W. Priest, gardener at Eglinton, Kilwinning, has forwarded postal orders to the value of £1 11s. 6d., from himself and other members of the garden staff at Eglinton, for the Gardeners' Royal Benevolent Institution, in response to the Hon. Treasurer's appeal for funds in the issue for May 10, page 230.

Croydon Horticultural Society's Exhibitions.—On Wednesday, 25th inst., the Croydon Horticultural Society will hold a flower show in the Park Hill Recreation Ground (by permission of the Corporation of Croydon), and on Saturday, July 19, an exhibition of vegetables and fruits in the Public Halls, George Street.

New Fertilisers Order.—By "The Acids and Fertilisers (Suspension) Order, 1919," from June 1, 1919, until further notice, the operations of the several Orders heretofore made by the Minister of Munitions, the dates and short titles of which are specified in the first two columns of the schedule hereto, controlling the materials or articles specified in the third column of the same schedule are suspended, but such suspension shall not affect the previous operation of any of the said Orders nor the validity of any action taken under any of the same, nor the liability to any penalty or punishment in respect of any contravention of or failure to comply with any such Orders prior to this suspension nor any proceeding or remedy in respect of any such penalty or punishment.

Date of Order	Short Title.	Materials or Articles controlled
April 30, 1918	Fertiliser Prices Order 1918...	Superphospate, Sulphate of Ammonia, and Ground Basic Slag.
June 4, 1918	Compound Fertiliser Order 1918... ...	Compound Fertilisers
May 29, 1917	Sulphuric Acid Order 1917...	Sulphuric Acid.
May 10, 1918	Sulphuric Acid (Amendment of Prices) Order 1918...	Do.
Nov. 8 1918	Sulphuric Acid (Amendment of Prices) No. 2, Order 1918...	Do.

A Useful Innovation at Kew.—Always an interested visitor to Kew, it was a happy and much appreciated suggestion of the Speaker of the House of Commons to have notice boards put up at the principal entrance gates at Kew recording the most interesting "objects of interest" from day to day. By the side of the subjects named is a plan of the gardens, and against each item a reference number to the plan is given. This week attention is called to Davidia laeta, Rosa Hugonis, the Alpine House, the Rock Garden, rare Rhododendrons near King William's Temple, the Crataegus family, the Blue Water Lilies in House XV., and the Rhododendron Dell.

Hampton Court Gardens.—The First Commissioner of Works, Sir A. Mond, has appointed an expert committee to consider (1) whether any suggested alterations to the Hampton Court gardens are desirable, and (2) if so, what changes the Committee would recommend for consideration. The six members of the Committee are Sir Aston Webb, President of the Royal Academy, Chairman; Col. F. R. S. Balfour, nominated by the Royal Horticultural Society; Mr. W. Watson, Curator, Royal Gardens, Kew; Mr. Robt. Wallace, Colchester, landscape gardener; Miss Willmott, V.M.H., Warley Place, Great Warley; and Mr. Ernest Law, the historian of Hampton Court.

Queensland Fruit Production.—As fruit preserving and fruit transportation become perfected, the more distant British Dominions like Queensland, which is one of the most fertile and productive areas in the world, will undoubtedly be called upon to contribute to Britain's and Europe's supplies. Every year sees an increase in the area of land devoted to fruit-growing in

Queensland, the greatest attention being paid to Citrus fruits, Pineapples and Bananas, and in the districts west of Toowoomba, Apples, Pears, Apricots, Peaches and other deciduous fruits. There are three distinct fruit-growing belts in the State. First, the eastern seaboard, and the land adjacent to it, suitable for the raising of purely tropical and semi-tropical fruits. Next in order come the coastal table-lands, suitable for the growth of deciduous fruits such as Apples, Pears, Plums, Cherries, Grapes, Olives, Figs and, in many parts, Citrus fruits, but requiring, in certain districts, water for irrigation. Of late years, the northern table-lands in the neighbourhood of Atherton and Herberton (2,000 feet above sea level) have come largely to the front in the production of most fruits of temperate climates. A late return, issued by the Government statistician for the year ending June 30, 1917, gives the following information as to the results of fruit growing in the Atherton district:—Bananas, 29 acres, 3,877 bunches; Pineapples, 4 acres, 338 dozen; Oranges (bearing), 10 acres, 980 bushels; Oranges (not bearing), 12 acres; Mangoes (bearing), 3 acres, 245 bushels; Mangoes (not bearing), 4 acres; Apples, 2 acres; Peaches, 7 acres, 195 bushels; Plums, 1 acre, 2 bushels; Lemons, 5 acres, 415 bushels; Papaw Apples, 4 acres, 718 dozen.

National Horticultural Society of France.—At the first exhibition, since the war, of the National Horticultural Society of France, in Paris, on June 5 to 9, Messrs. Dobbie and Co., Edinburgh, were awarded a large gold medal and a Prix d' honneur for a large exhibit of Sweet Peas. Mr. Bruce Macfie and Mr. David Cuthbertson represented the firm on this occasion.

The Kew Flagpole.—In the hope of having the Douglas Fir spar ready for flying the Union Jack during Peace celebrations, preparatory work in connection with its erection commenced on Monday, May 26. The new pole is to occupy the site of its predecessor, which was also obtained from British Columbia. Compared with the first flag-staff which was 159 feet in length, the present one is much more bulky and has a length of 214 feet. Canadian officers are taking an active part in the arrangements in consultation with H.M. Office of Works.

The Wages Board and "Summer" and "Winter" Time.—According to Clause 5 of the Order varying the minimum rates of wages at present in force for male workers of eighteen years of age and over, throughout England and Wales, for the purpose of the hours of work on which the weekly minimum wage is based, "summer" is defined as the period commencing on the first Monday in March and ending on the last Sunday in October, and "winter" as the remainder of the year, with the exception of certain special classes of workers in Derbyshire. The Wages Board have no power to fix the hours of labour, and consequently the number and arrangement of working hours are a matter for mutual agreement between employer and worker, subject to the time worked being paid for at not less than the minimum rates applicable to the worker concerned under the Wages Board's Orders. Minimum rates of wages fixed by the Wages Board apply to all classes of workers employed in "agriculture," in accordance with the definition of that expression contained in the Corn Production Act, wherein it is expressly defined as including employment in market gardens and nursery grounds.

The Hay Control.—In view of enquiries which continue to reach the Board of Agriculture with respect to the control of hay, we are asked by the Board to explain that the hay control is not exercised through the Board of Agriculture. The lifting, use, price and distribution of hay and straw are regulated by an Army Council Order and Regulations thereunder. So far as civil supplies are concerned, all arrangements are made by Forage Committees in each county. These Forage Committees, on which both the producers' and consumers' interests are represented, act under the direction of the Central Forage Council for Civil Supplies. Owing to military requirements and the absence of foreign hay from our markets, supplies are very short; and the Central Forage Council has great difficulty in making adequate and regular provision for towns and non-producing areas generally. The Government, it is understood, proposes to decontrol hay as soon as this course is practicable.

Checking Apple Mildew.—Considerable loss is caused by Apple Mildew in some specially susceptible varieties of Apple, and reports received by the Board of Agriculture show that it is very prevalent in some districts this year. Among the varieties reported as being attacked are Bismarck, Lane's Prince Albert, Allington Pippin, and Cox's Orange Pippin. Experiments have shown that Apple Mildew can be kept under control if proper measures are adopted. After wintering in the buds, the mildew appears as these unfold in the spring. This is known as "primary" infection, and no spraying will prevent its development. Where possible, all infected buds should be cut off so soon as they are seen and burnt. "Secondary" infection by spores from this first infection may be controlled by spraying with lime-sulphur, made by mixing 1 gallon of concentrated lime-sulphur (1.3 specific gravity) in 30 gallons of water. In the case of Cox's Orange Pippin, however, half the strength should be used (viz., 1 gallon of concentrated lime-sulphur to 60 gallons of water). The Board of Agriculture gives further particulars of the spread and control of this pest in Leaflet No. 204, which may be obtained, free of charge, on application to the Secretary, 3, St. James's Square, S.W.1.

ANTHURIUM PFITZERI.

One of the most enthusiastic gardeners I have ever met is William Pfitzer, nurseryman, Stuttgart. He was at Van Houtte's nursery when a young man, some forty odd years ago, and Sir Frederick Moore, of Glasnevin, was there at the same time. It was only natural, therefore, that when Sir Frederick and I were "doing" the botanic gardens and nurseries of Germany, etc., in 1907, Stuttgart should be visited, and we had a most interesting time with Pfitzer in his nurseries, which were well stocked and cleverly managed. Among the plants obtained there for Kew was a hybrid Anthurium, which the raiser, after whom it was

Fig. 147.—Anthurium pfitzeri.

named by Engler, kindly presented to Kew, where every year since it has been one of the most attractive of the large-leaved Anthuriums. Its parents are A. Warocqueanum and A. crystallinum, and it is a happy blend of the leaf characters and habit of these two large-leaved species, the leaves measuring 4ft. by 20in., and their colouration being that of A. crystallinum, which is dark velvety green with silvery veins; their crinkliness is inherited from the other parent. The plant represented in Fig. 147 is growing in a low rock bed over the water tank in the Nepenthes house at Kew, where it revels in the heat and moisture provided for the ultra-tropical inmates of this house, which include Calatheas, Costuses, Alocasias, Fittonias and such-like foliage plants. *W. W.*

NURSERY NOTES.

IRISES AT COLCHESTER.

By the invitation of Messrs. R. Wallace and Co., we were afforded the opportunity, on Thursday, the 5th inst., of inspecting the firm's summer-flowering Irises at Colchester. The Kilnfield Nurseries, as they are termed, are devoted entirely to hardy, flowering plants, including Alpines and ornamental trees and shrubs, especially such as are suitable for associating with rock and water gardens, which are the firm's specialities and for which they have gained high awards at exhibitions. In common with most nurseries of this character, only a minimum amount of labour has been available during war-time for the cultivation of the extensive stocks of flowering plants, the care of the extensive water and bog garden, the dry wall, which on our last visit we found so exceedingly interesting, and the upkeep of the necessary glass-houses which a nursery of this character includes. But the most had been done that was possible, and although it would require a vast amount of time and labour to bring the place back to the neatly-ordered condition of pre-war times, we found much that was interesting and the Irises especially were in their full beauty and provided sufficient to interest and admire throughout a long day.

It would be a difficult matter to decide which is the finest flower for gardens in summer time, but surely the claims of the summer-flowering Irises would make them rank high in any list, whilst it would be difficult to name any plant that produces such gorgeous flowers with less care and attention from the grower. The summer Irises have an old-world charm, for they were favourites with our forebears, and they seem always to be found in the beds and borders of old-time establishments where the gardens seem as though they owe less to design than to a happy association of beautiful plants with the natural amenities of woodland and water.

During recent years the hybridist has so intermingled the various tall, flowering Iris species such as pallida, plicata, neglecta and squalens, that it is almost a matter of impossibility to keep them grouped accurately, and the modern tendency is to lump them into one big group under the general title of late-flowering bearded Irises. The late Sir Michael Foster, as is well known to our readers, was very successful in raising beautiful hybrids, and many of his novelties have been illustrated in these pages. His work, although not perhaps on the same lines, has been continued by others, including Mr. W. R. Dykes (whose beautiful Goldcrest (see Fig. 148) was flowering in its full glory at Kilnfield Nurseries on the occasion of our visit), Mr. A. J. Bliss and Mr. Farr. The varieties were so numerous that we have space only to enumerate some of the newer ones, including many which have not yet been placed in commerce, and for the most part Mr. Bliss's productions. Perhaps the finest variety in the whole of this very choice collection is the one named Dominion, with a fine spike of large flowers, each bloom having glorious falls of violet purple with a maroon sheen, the base having pretty reticulations passing to chestnut red colour, and with standards of heliotrope blue; a rich gold beard forms a pleasing finish to the blooms. The habit is sturdy and dwarf, and if a fault is to be found it lies in the rather heavy [illegible] of the inflorescence. The variety named Rodney is quite distinct, for the colour is Oxford blue and the flowers are smaller and the segments narrower than usual, but of a delicate and refined appearance that appeals to the lover of the beautiful. The blooms are borne on very straight stems and with great freedom; the habit of the plant is very neat. Sweet Lavender has standards of pale heliotrope colour and broad, reddish purple falls. The colouring is quite distinct and, as the plant produces blooms in plenty and each flower is of the largest size, the effect of a bed of this variety is exceedingly fine. Francina is a white flower with heavy reticulations of reddish purple and it has also a little colour in the standards, the edges of which are pleasingly turned backward. Tatarin is another flower of bold appearance, with broad, purplish heliotrope falls and a prominent orange beard on a pale ground; arising above these are pale blue standards of the largest size. The next variety that came under notice was Rosalind, of which there was a big clump, the plants giving a generous display of their pretty flowers of a rosy shade, with a deeper tone in the falls, which are reticulated at their bases. There is considerable gold colouring in this variety, both in the beard and in the style arm. Tristran is a dwarfer-habited plant than most, but its small stature does not detract from the beauty of the flowers; the falls are deep maroon, with reticulations, and the standards are blush colour. Drake may be described as a counterpart of Rodney, but instead of Oxford blue the colour is Cambridge blue. The spikes carry large, bold flowers, and grow as much as three feet six inches high.

In the variety Phyllis Bliss, which is one of the choicest of Mr. Bliss's productions, the young flowers open a rather deeper shade than is seen in the fully expanded blooms. The tone is perhaps best described as lavender, overlaid with rose, and there are reticulations of purple. The long, drooping falls are not quite so wide as the standards. E. H. Jenkins may be described as a bicolor Catarina. The very broad, purplish lavender falls have brown reticulations at the base, on a white ground; the large, waved standards are sky blue colour. The plant is very free in blooming, and has the habit of branching freely, so that a small specimen will bear a great profusion of blooms. A rather unusual form was seen in the variety Clematis, for instead of having a well-defined standard, the segments hang down as in the falls, and, moreover, the standard segments have beards, so that the flower must be regarded as an abnormality. The effect was that of a more regular flower than is usual in Irises, and it is from this fact that the name Clematis was given to it. One of the freest blooming of all was named Azure, which possesses rich, purple falls, reticulated at the base, and azure blue standards.

The large, branching inflorescences of Camelot bear flowers having a creamy-white ground, faintly suffused with blue at the edges of the falls, and with more blue in the standards. The flower is rather unique in that it fades with age almost to cream-white. Gules is a variety with claret-colouring in the falls, and brown veining towards the limb and under the prominent orange beard. The very broad standards, which are of a purplish lilac colour are much arched. Dimity is a very delicate flower having faint reticulations of purple on a cream ground, and with pale lavender-coloured standards showing a white ground. The variety blooms with freedom, and the plant possesses a robust constitution. One of the gems of the whole collection is what appears to be a Cengialtii seedling, and is appropriately named Tomtit from its dwarf stature. The falls are more horizontally spread than in most varieties, and the whole flower has a rich, purplish shade which, seen in the mass, gives an impression of deep violet blue. The foliage has a rather peculiar drooping character, which marks the variety as distinct. In Cretonne, we have a flower giving a more bizarre effect, the falls being crimson maroon with

FIG. 148.—IRIS GOLDCREST: FLOWERS BRIGHT VIOLET-BLUE, WITH GOLDEN BEARD.

chocolate veining and carrying a fine orange-yellow beard. The standards are of a violet shade edged with bronze. Quite distinct from the foregoing is one named Mrs. H. Cowley, a flower with very broad, rounded falls of vinous red colour, with white veining at the base. The standards are gold-coloured at the base, the blade being faintly suffused with mauve on a bronze ground. Morwell is one of the older varieties already in cultivation in gardens. The large flowers have purple falls, and pale, clear blue standards; the spike is very large and branching, and the segments are also of large size.

Blue Bird derives its name from the spreading falls, which appear like deep blue wings, adorned by a rich gold crest. It has a paler blue standard. Knysna is one of the best of the variegata forms, and quite distinct from any others in cultivation. Above the deep chocolate-coloured falls arise tall, golden-coloured standards, with a little veining on the inner surface of the segments. The habit is dwarf, sturdy and very free-blooming. Dora Longden is another dwarf Iris, the colour of which is rosy-magenta at the base of the falls, which have a considerable amount of veining, the tone passing to chestnut brown under the rich gold crest. The standards are faintly flushed with lilac, and are bronzy at the base. Mrs. G. F. Tinley is a very large variety, with blooms of massive proportions. The falls are purplish violet, on which the orange-coloured beard shows prominently, and the beautifully arched standards are lavender-coloured.

The Irises described above by no means exhaust the list of varieties noted, but we can only give a selection of some of the older sorts we saw and with which many of our readers will be familiar. They include Shalimar, Alcazar, Isoline, Troost, Mrs. Alan Gray, Iris King, Eldorado, Dawn, Lord of June and Celia.

FLORISTS' FLOWERS.

THE SWEET WILLIAM.

Though often regarded as an old-fashioned flower, Dianthus barbatus, the Sweet William, is nevertheless intrinsically beautiful, and on account of its hardiness and freedom in flowering should be grown in every garden. Seeds may be sown any time in May or June. Where the soil or climate is such that germination takes a long time early sowing is advised. I have had excellent results from a sowing made about the middle of May. The usual preparation of the soil for seed sowing is needed and shallow drills should be made one foot apart, the seeds being thinly scattered therein and covered with fine soil. There will probably be other seeds sown at the same time, including Canterbury Bells, Wallflowers, Myosotis, Daisies and Polyanthuses, so that the whole bed when completely sown, and raked level, may be covered with a protecting net. By sowing thinly and allowing a distance of 12 inches between the rows, firm, dwarf, sturdy plants are obtained, there being abundant space for hoeing between the rows, keeping the seedlings clear of weeds and allowing air and sunshine to reach the plants freely. If more seedlings appear than are required, they should be thinned at an early stage. The protecting net should be removed and the soil between the rows loosened with a Dutch hoe as soon as the seedlings are well through the soil. If the plantlets, despite the thin sowing and subsequent thinning, show a tendency to crowding, they should be transplanted. By that time it is probable that some of the earlier vegetables will be harvested, and the ground released, when cleaned and made fine, will form a suitable nursery bed for the plants. Before setting them out a slight dusting of the surface soil with superphosphate of lime will have a beneficial effect. If the seed drills are dry at the time of transplanting, it would be wise to water them an hour or two previous to planting and then lift the seedlings with a small hand-fork. The distance between the rows will depend on the space at disposal. A distance of 12 inches will admit of frequent hoeings, but where so much space cannot be spared the plants may be set in eight rows at 6 inches apart, and a space of 12 to 18 inches left before planting another eight rows. This method, whilst economising space, will enable the plants to be reached for cleaning purposes. One, or at most two, waterings should suffice until the plants can be transplanted, in October or November, in well worked and enriched soil. Plants treated as described should easily fill the space if set out 18 inches apart. A measure of intensive flower cropping may be practised by setting the plants squarely at 18 inches apart and midway between every four plants setting a plant of the common purple Aubrietia raised from seeds early in the summer and duly pricked off. These will flower in the spring and, having no great value, may then be removed. In this way a double display of flowers may be obtained on the same plot.

A splendid mass of colour may be produced by growing self-colours of such varieties as Pink Beauty, Sutton's Scarlet and Sutton's Giant White. If a large bed or border is filled with Pink Beauty a very pleasing edging would be a double row of Nepeta Mussinii. If the beds are filled with scarlet Sweet Williams Cerastium tomentosum would form a suitable edging, and the colour in the inner part of the border may be toned down by groups of Giant White placed 6 to 8 feet apart. Seeds may be saved of the best flower heads, or rooted cuttings may be taken off the old plants in the succeeding autumn and re-planted for fresh stock. *William F. Rowles.*

MIGNONETTE.

There are gardens in which it is well-nigh hopeless to sow Mignonette. The ills to which this popular plant fall victim have not, I think, been sufficiently studied, but, whether it is some deficiency in certain soils or some insect pest, the crop can generally be saved if the bed, or border, is thoroughly soaked with strong lime water before the sowing is done. Sprinkling with lime is less efficacious. Two ounces of lime to one gallon of water is the correct quantity: the seedlings may be watered with a solution half this strength when they are an inch high. The incorporation of vegetable charcoal with the soil is a great help to Mignonette. *M. H.*

SUMMER MANURING.

However well soil may be cultivated during the winter, it is a recognised fact that crops reach a higher state of perfection, with a corresponding increase in the yield, if manuring in some form is practised during the summer months. In gardens where the routine of soil preparation was only partially carried out last winter, owing to labour difficulties, steps should be taken to supply crops with the necessary fertilisers to ensure a fair yield.

Where there is an ample and handy water supply fertilisers in liquid form are easily applied, but where this method is impracticable, fertilisers have usually to be applied in a dry state. For most garden crops the time-honoured fertiliser made by plunging in a tank of water a coarse sack three-parts filled with either cow, sheep, or deer manure is a valuable aid, and were it available and could be used freely it is questionable if outdoor crops would need any other assistance than it affords during summer.

Unfortunately, in only a few gardens is such liquid manure available in quantity, and chemicals have to be substituted. There is satisfaction in knowing that this is not at the expense of the crops, but rather the reverse, owing to the success manufacturers have met with in preparing effective fertilisers economical in use. Most of the proprietary fertilisers may be used in a dry state, but the directions that accompany them should be adhered to whether they are used dry or in liquid form.

Some difficulty is experienced in obtaining chemical manures in certain forms, but when obtainable and carefully used most of the popular kinds are highly beneficial for summer use. Among these, phosphate of potash and nitrate of potash are fairly well known, and are useful when combined together. For the exhibitor of fruit and flowers who does not always require a complete manure phosphate of potash is suitable for securing a superior "finish" to fruit and to such flowers as Carnations, while for Roses and similar gross feeders, nitrate of potash provides a capital stimulant, used at the rate of ½oz. to 1oz. per gallon of water. The stimulating effect that nitrate of soda has on plants grown chiefly for their leaves and stems makes this chemical almost indispensable in gardens, but to obtain the best results from its use it should be applied "little and often," and more freely in a dry season than in a wet one. Extra care should be taken when it is found necessary to use it on crops that have to stand the winter, because if used too freely it causes a luxuriance of growth that has a poor chance of withstanding the biting winds, wet weather and frost of an average winter without suffering. Half an ounce to a gallon of water is strong enough to begin with, but for crops that reach maturity in good weather this amount may be subsequently doubled.

Sulphate of ammonia, sulphate of potash and superphosphate are manures which, though not as rapid in action as the foregoing, are nevertheless useful for summer use in solution. Together, they form an economical food for outdoor crops generally, mixed at the rate of 2lbs. of each of the two first-mentioned to 7lbs. of the last, and applied at the rate of ½oz. to 1oz. in each gallon of water.

In a dry season, keeping the roots of plants as cool and moist as possible goes a long way towards obtaining the best results. Once the soil has become thoroughly warmed, mulching, where possible, should be practised. The free use of the Dutch hoe is essential at all times, not merely for the destruction of weeds, but to prevent the escape of valuable moisture.

Where watering on an extensive scale is impossible, the grower may do much to improve the condition of all crops, and the beauty of the summer displays of flowers, by judicious top dressings of good fertilisers and chemicals in a dry state. After distributing the fertiliser the ground should be well hoed and, if possible, showery weather should be chosen for making the application. In this way nitrate of soda will prove valuable sown at the rate of ½oz. to 1oz. per square yard; superphosphate two parts, and one part of sulphate of ammonia applied, from 3oz. to 6oz. per square yard, may be used with good effect on all crops; while for fruit trees a useful dressing is three parts of superphosphate to one of muriate of potash, or the sulphate of potash. *F. J.*

VERONICA FILIFORMIS.

Most books of reference and catalogues are silent on the subject of Veronica filiformis, a pretty Speedwell which comes from Asia Minor, which I grew first some fourteen or fifteen years ago. It has since come occasionally under my notice, but nowhere have I observed it so fine as in the wall garden of Sir Herbert Maxwell at Monreith, where so many good alpines find a congenial home. In such a wall garden, with a good bank of earth behind, it seems perfectly happy, as it is also in a cool crevice of rockwork, although it can do with a fair amount of sun if not parched at the roots. I well recollect, when I first saw the plant in flower, how much I rejoiced at its fairy-like habit, its charming, fine foliage and its exquisite little blue flowers. It loves to hang slightly down over the rocks or stones, but there is nothing aggressive about it, while it can be planted beside the choicest alpine without any sense of incongruity. When I last saw it, Sir Herbert Maxwell's plant was a magnificent specimen and an object of much pleasure even when out of flower, but of extreme grace when in bloom. V. filiformis is apparently quite hardy, and will last for years with fair treatment, but it must not be choked or overrun by other and stronger growing subjects. It is increased readily by means of cuttings. Many of the Veronicas are capital garden plants and V. spicata Royal Blue, which lately came under notice, is very suitable for massing. *A.*

FORESTRY.

THE BLACK WALNUT..

Amongst the various broad-leaved trees suitable for experimental planting for the production of timber Juglans nigra, the Black Walnut, may be suggested as one of the most likely to produce timber of high commercial value. Its successful cultivation will probably be limited to regions where the common Walnut (J. regia) thrives, but that offers a fairly wide range of country in Britain, for well-developed trees are to be met with in various parts of Scotland, even though the nuts do not ripen with the same regularity as in the south of England. In many parts of this country it may be expected to grow quite as well as it does in the neighbourhood of London, where numbers of trees may be found between 80 and 100 feet high, and a few have been recorded which exceed 100 ft.

Juglans nigra is a native of North America, where it enjoys a wide distribution on the eastern side of the Rockies, extending from Southern Ontario to the southern United States. It varies a good deal in character, and is found from a moderate-sized tree 50 ft. high with a girth of 6 ft. to giant specimens 150 ft.. high and 20 ft. in girth. Two fine examples near London measured a few years ago were in Syon House Park, Brentford, and Marble Hill Park, Twickenham. The former was 116½ ft. high and 13 ft. 7 in. in girth, and the latter 98 ft. high and 14 ft. 3 in. in girth at 5 ft. from the ground, and both trees contained a goodly quantity of clean timber.

A considerable quantity of Black Walnut timber is imported from America, and it finds a ready market It is easily distinguished from ordinary Walnut by its rich dark brown, purplish-brown, or almost black heart-wood with yellowish sapwood. Young trees contain a good deal of sapwood, but in trees 80 years old the proportion of sapwood is small. Timber from trees felled in this country is quite equal in appearance to that of imported wood, and has been very favourably reported on by manufacturers. Black Walnut is a good furniture wood, and is valuable for gunstocks. Finely marked logs are sometimes found amongst straight-grained trees, and such are usually cut into veneer. The tree has one disadvantage when compared with the common Walnut, for although nuts are borne freely and mature, they have very little food value, for the shells are thick and hard and the kernels small; in fact, it is difficult to open the nuts without breaking the kernels.

The cultivation of the Black Walnut in this country should be restricted to the lower elevations, certainly below 500 ft. The best results may be expected by planting it in loamy soil, although good loam is not essential, for well-developed specimens may be seen growing in sandy loam. This Walnut succeeds as a park or hedgerow tree, and could be planted more successfully under woodland conditions than the common Walnut, particularly as there need be no question of planting it for the production of nuts, which would mean considerable branch development. Grown amongst other trees it forms a tall, straight trunk with comparatively small branches, but in the open the head spreads over a considerable area of ground. In planting in woods it would be advisable to so place it that it could be left to mature, nurse trees of other species being so placed that they could be cut away when thinning became necessary. By this system 200 trees of Black Walnut to the acre would be ample. Fertile nuts ripen freely on the older trees. These may be sown in the positions the trees are to occupy; whenever that is not possible the nuts should not be kept in the nursery long, for the sooner seedlings become established in their permanent places the better trees are they likely to make. For parks, avenues, and hedgerows the tree might well be substituted for the too prevalent Elm, and if a little care were exercised in the proper removal of the lower branches and the subsequent dressing of the wounds with an antiseptic, such as coal tar, there would be little danger of the wood becoming coarse or parts of it decayed, which is too often the case with park and hedgerow timber of the present day. *W. D.*

THE APIARY.

By Chloris.

The Queen Bee.—Much mystery surrounds the history of this wonderful female insect. Her functions are well known, but her power in the hive cannot be entirely elucidated. Some beekeepers of considerable note assert that she rules, while others, equally eminent, contend that she does not. This much is certain, that her female republic knows she must be fed according to the needs of the whole community. Instinct tells them that, during the height of the honey flow, she must have a plentiful supply of highly stimulating food in order that she may produce as many eggs as possible, and as the honey flow is reduced in quantity, so the stimulating food must be reduced in quality, consequently there is a gradual decrease in the number of eggs laid, for workers seem to know that the greater the population the greater will be the consumption of food.

The life of a queen bee may be so long as five years, but she is not profitable for such a prolonged period. Before reaching that age, her egg laying powers are nearly exhausted, and then she is deposed and a younger queen takes her place. There seems to be little doubt that her unfertile sisters perform this act. The most wonderful part of the life history is that both worker and queen are produced from eggs precisely alike. This is proved by the fact that queen raisers transfer worker eggs from worker cells to queen cells, or rather the bases of such cells. What then produces the difference so marked and wonderful? The difference arises from the kind of cell and the quality of food supplied by the nurse bees. The queen cell in hives, naturally formed, is found on the edge of the comb as a rule, but sometimes it may be found in the middle in a hole eaten out of the comb, and is somewhat like an acorn and pointing downward. The food is known as "chyle." This is a thick milky white fluid of the consistency of cream, with an acid flavour, and goes thick quickly when exposed to the air. This food is predigested, and is regurgitated from the second or chyle stomach of the nurses, which are young bees fresh from the cells, and all authorities are agreed that this power to produce chyle gradually diminishes after two weeks from leaving the cell.

When the young queen has been out of the cell about a week she leaves the hive if the weather is suitable to meet the drone or male. For this purpose she soars into the air chased by a host of drones. After an eager chase mating takes place while on the wing, and the victor is generally one of the strongest males, because the weak fall out in the rapid flight. After mating has taken place, and this only happens once in the life of the queen, she returns to the hive and is able to produce fertilised eggs from which workers will hatch, or unfertilised from which come drones, and both of these at her own will. The drone which gained the race and fertilised the queen may return, but has to pay the penalty of death, for he has laid down his life in order to perpetuate his race.

When bad weather prevails and a queen is thus prevented from leaving the hive for a period of about six weeks, she will then be incapable of becoming fertilised, and will lay "unfertile" eggs, and be known as a drone breeder.

Swarming.—In a hive where a young queen has been hatched the ruling queen becomes very excited and jealous, being filled with the keenest desire to kill her rival, and this is only prevented by the workers taking watchful care over the reigning queen. She would even rip open queen cells as the time nears for the young queens to emerge, her sex hatred is so strongly developed. However, a summons is given in some mysterious way, and many of her subjects leave the hive, and she joins them, and after flying wildly about for a short time the bees begin to settle on something—often the bough of a tree in the vicinity of the hive. Here they cluster in the form of a bunch of grapes. To hasten the settling process a syringe may be utilised by driving the water into the air, which will descend as a shower of rain. Sometimes the bees are not disposed to settle near the old hive, unless water is used to hasten the decision to settle, and in this case they follow the queen and settle in the place she chooses. In some instances pioneers have been out some days in advance, and have chosen a new home—either an empty hive or a hollow tree or wall.

The bees are very easily handled at swarming time, because they fill themselves with honey before leaving the hive, so that they can build up a new wax city wherever they are put, or have chosen to make a new home. Wax is formed in the body of the bees from honey—20 lbs. of honey being needed to produce one pound of wax. The wax is passed out of the "wax pockets" of the bees—these are six in number, and are on the under side of the abdomen of the worker.

The time of swarming is generally between the hours of 11 a.m. and 4 p.m.—Greenwich time—although during very hot weather it may be as early as 9 a.m. The first swarm is the largest generally, and those that follow at intervals of eight or nine days are termed "casts" and decrease in size; these small swarms are headed by virgin queens. Have everything in readiness for swarming and take care to keep the hive under observation should swarming be anticipated.

The queen is at her best during her second year, and all successful apiarists take care to have their colonies headed by second year queens only, and these selected from young and proved queens of their own raising in the previous year.

NOTES FROM IRELAND.

Allotment holders around the Milesian Metropolis show no lack of enthusiasm, and their only anxiety at the moment seems that of retaining what they are given to understand is cnly to be regarded as temporary tenure.

It has been hard toil in many instances to convert the most uncongenial of soil and unfavourable sites into what has proved pleasant and profitable work. Here, as elsewhere, plot work has not only proved of value in our political economy, but looks like going a long way towards settling the Irish question. The stimulus given to gardening generally has been very great and the majority of amateur growers may be expected to continue to garden after peace is signed and in other directions than vegetable cultivation.

Widely and well known as was the late Mr. T. Smith, of Newry, wherever the good things of hardy plant life were appreciated, it was perhaps here, in the land of his adoption, he was best known, and by most, sooner or later, respected, for even those who were apt to resent his somewhat dogmatically expressed opinions eventually recognised that his prescient grasp of possibilities invariably proved him right. "Smith o' Newry" was a name to conjure with in his own particular sphere of the great gardening world, while his unpretentious but comprehensive published plant lists were the *vade mecum*, as Daisy Hill Nursery became the Mecca of the many interested in this most fascinating phase of floriculture. Some of the most enjoyable hours the writer of these notes has spent were occasional ones in his company, and the late Mr. F. W. Burbidge in the Botanic Gardens of Trinity College, Dublin.

Less known in the gardening world, but honoured and respected by those privileged to come in touch with him and his beloved alpines, was the late W. Seymour Bird, K.C., some time County Court Judge of Kerry, who died after a lingering illness at his residence, Churchtown House, Dundrum, Dublin, on the 1st inst. He had probably the best private collection of alpines and rock garden plants in the county.

A specimen flowering spike, one of a colony of a dozen similar examples, of Saxifraga longifolia, which he showed at the Council meeting of the Royal Horticultural Society of Ireland, June 13, 1913, was a perfect pyramid eighteen inches high and twenty-seven inches in circumference at the base, with every flower perfectly fresh from top to bottom. The old-fashioned garden which "the Judge" loved was the happy home of many choice and interesting plants. *K. Dublin.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Variability in Plants (pages 251, 285).—When working in the Manchester University greenhouses a Fuchsia plant developed a shoot bearing three leaves at each node. I inserted a cutting of it, but as it is 15 months since I left Manchester, I do not know if the plant still exists. or if it continued its abnormality. *M. E. Edmonds.*

—— The "freakishness" of growth noted by your correspondent in seedling Fuchsias is not uncommon in F. Riccartonii and F. pumila, when they are treated as herbaceous plants. The leaf arrangement of the young shoots is variable, often in 3-4 leaved simultaneous whorls; often irregular, lateral shoots bear the normal, opposite leaves. Of seventy-seven young plants of F. Riccartonii I raised from cuttings, forty-two have been taken from such abnormal growths and have the three-leaved whorl arrangement; one plant only having the four-leaved whorls. The value of this in the number of shoots produced at the first "break" is apparent. A low percentage of tricotyledonous seedlings are produced by Chenopodium album (noted in 1912). Another search gave me five seedlings, each with a three-leaved whorl of ordinary leaves above the tri-cotyledons; the leaf arrangement of this plant is also very variable. Some conifers naturally have 3-5 cotyledons. Departures from the normal appear to be of little biological or horticultural value unless they are fixed. *P. Sargeant, Pirbright.*

Chelsea Floral Fete.—So great has been the response to the appeal for exhibits of flowers for the Floral Fête of the Royal Horticultural Society's War Relief Fund, at the Chelsea Hospital Gardens, on June 24, 25, and 26 next. that the Council of the Society has decided to appoint a deputation of its members to make awards of gold and silver medals and diplomas. The Wigan Cup for the best group of Roses, one of the chief awards in the gift of the Society, will also be in competition. One outstanding feature of the Fête is that the National Sweet Pea Society, the British Carnation Society, and the National Rose Society will be largely represented. Entries should be made to Mr. W. E. Bisset, at the offices of the War Relief Fund, 17, Victoria Street, S.W., on or before June 17. *Herbert Grover, Press Representative.*

Publications Received. — ***Paper Pulp: Possibilities of its Manufacture in Australia.*** Published under the authority of the Advisory Council of Science and Industry. Bulletin No. 11. Melbourne, 1919. H. J. Green, Acting Government Printer. Melbourne. ***Bacteria—Friends and Foes.*** By D. H. Jones, B.S.A. Ontario Department of Agriculture. Ontario Agricultural College Bulletin 265. ***Redemption of the Rent Charge and Corn Rents: the Tithe Act, 1918.*** Leaflet No. 329. Board of Agriculture and Fisheries, 3, St. James's Square, London. S.W.1. ***Journal of Genetics.*** Edited by W. Bateson, M.A., F.R.S., and R. C. Punnett, M.A., F.R.S. Cambridge University Press. London: Fetter Lane, E.C.4. Vol. 8, No. 2. Price 12s. ***The Carnation Year Book, 1919.*** The British Carnation Society. Edited by J. S. Brunton. Burnley: Hortus Printing Co., Ltd. Price 2s. ***Growing Sugar Cane or Sirup.*** Farmers' Bulletin, 1034. United States Department of Agriculture. Washington, D.C.: Government Printing Office. ***International Review of the Science and Practice of Agriculture.*** Monthly Bulletin of Agricultural Intelligence and Plant Diseases. No. 1, January, 1919. Rome: International Institute of Agriculture, also Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W. ***Income Tax.*** How to Avoid Overcharges and Obtain Repayments. By A. D. Macmillan. London: Effingham Wilson. Price 1s. 6d. net. ***Commercial Forestry in Britain.*** Its Decline and Revival. By E. P. Stebbing. London: John Murray. Price 6s. net. ***Grapes and How to Grow Them.*** By J. Lansdell. London: W. H. & L. Collingridge. Price 3s. 6d. net.

SOCIETIES.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

The monthly meeting of this Society was held in the R.H.S. Hall, on Monday, June 2, Mr. Chas. H. Curtis presiding. One new member was elected. The Army Form of one member killed in action was received, and the sum of £10 15s. 11d. was passed for payment to his nominee. The sick pay for the month on the ordinary side amounted to £62 4s. 3d., on the State section £26 7s. 6d., and maternity claims to £4 10s.

BRITISH GARDENERS' ASSOCIATION.

The annual general Council meeting of the British Gardeners' Association was held at Birmingham on Whit Monday. Delegates representing over 5,000 members were present. It was decided to press for a 44-hour working week for horticultural workers and for a minimum wage of £3 per week for adult horticultural workers. Mr. R. Greenfield, Leamington Spa, was elected President for the ensuing year. It was reported that over 2,000 members had been enrolled in a month, and that a working agreement had been arrived at with the National Agricultural and Rural Workers' Union.

The Executive was elected as follows:—Messrs. J. R. Groundwell (Leeds), T. H. Candler (Bournville), F. J. Longmire (Putney), Alex. Duncan (Dundee), V. H. Lucas (Sheffield), J. Young (Chesnunt), A. G. Cann (Chudleigh), and G. Hockney (Reading). Mr. Thos. Winter, (Marylebone), was re-elected Treasurer, and Mr. C. Fletcher (Tottenham), was elected Vice-President.

THE WAKEFIELD AND NORTHERN TULIP.

May 26, 27.—The annual show of the above Society was held in the Club Room of the Brunswick Hotel, Wakefield, on Monday and Tuesday, the 26th and 27th ult. There was a fine display of blooms—about 500 being staged by 14 entrants. Mr. J. W. Bentley, of Stakehill, near Manchester, showed some fine examples of the florist's Tulip, his Flamed Paxton, staged in the class for "pairs," being the finest flower seen at Wakefield for several years. Indeed, all his rectified blooms, which were grown at Llandudno, were big and well marked, the density of colour being remarkable. Mr. Needham, of Hale, Cheshire, followed closely, and he excelled in the Breeder classes. Mr. Needham has officiated as judge at this show for a number of years, and did so again this season with Mr. Bentley, Ald. Wood (of Middleton), and Messrs. J. Netherwood, T. Spurr and W. Garside (of Wakefield).

The prizes were awarded as follows:—Six Rectified Tulips (Open Class)—1st, Mr. Bentley, with Samuel Barlow (Premier flamed), Wm. Annibal, Talisman. Bessie (premier feathered), Mabel and Mrs. Akins. 2nd. Mr. Needham, with Saml. Barlow, Cavendish. Talisman. Bessie, Annie M'Gregor, and Mrs. Collier. 3rd. Mr. H. Gill, with Paxton, William Wilson. Bertha, Stockport, Mabel and Modesty.

In the Local Class for Six Rectified Tulips, Mr. H. Gill was placed 1st; 2nd, Mr. J. Hardwick; 3rd, Mr. W. Blakey.

In the Open Class for Six Breeders Mr. Needham excelled with the varieties S. Barlow, A. Lloyd, Talisman, Columbine, Rose Hill, and Hall's Seedling. 2nd, Mr. Bentley, with S. Barlow, A. Lloyd, Talisman, Seedling, Mabel and Rose Hill. 3rd, Mr. R. Robinson.

In the Local Class for Six Breeders, Mr. R. Robinson was awarded the 1st Prize. 2nd, H. Gill.

Mr. Needham also excelled in the class for Three Breeders, with the varieties A. Lloyd (premier), Julietta, and Columbine. 2nd, Mr. Robinson, with Goldfinder, Bridesmaid, and Rose Hill. 3rd, Mr. Bentley.

In the class for "Pairs," one feathered and one flamed variety, Mr. Bentley showed best, with Paxton flamed, Bessie feathered. 2nd, Mr. Needham, with Hardy flamed, Mrs. Collier feathered. 3rd, Mr. R. Robinson.

CROPS AND STOCK ON THE HOME FARM.

State Aid for Agriculture and Horticulture.

It is pleasing to know that the Government proposes to expend a considerable sum of money on the advancement of both agriculture and horticulture.

It is to be hoped that assistance will be given to the advancement of the practical as well as the scientific aspect of the question. In each county there should be an experimental farm which farmers could turn to when requiring aid on any subject, such as enlightenment on diseases and type of manures to apply for certain soils and crops. The analysis of soils might also be undertaken, for it would be a boon to the farmer if he knew what constituent his soil lacked, and he would also know how to arrange his cropping to the best advantage. The experimental farm should be situated where it would best serve the interests of each individual county. The committee of management should be practical men who know from experience the kind of information required. Men with no first-hand knowledge of agriculture are useless on such committees, and the work should include investigation of diseases of crops and animals. The superintendent of such a farm should have a practical knowledge of farming and be able to reply to questions that are troubling growers about their crops and diseases.

In the horticultural section, the commercial side needs most aid. The selection and retention of the best varieties and types of such crops as Strawberries, Currants, Raspberries, Peas, Beans and Cabbages would form subjects for profitable investigation. One of the greatest of all problems that confronts the horticultural committee is to provide a direct outlet for the produce when grown, whereby the dwellers in towns may have the advantage of the best vegetables and fruit at reasonable prices. It is a common occurrence in rural districts to see acres of such crops as Cabbage and Brussels Sprouts which cannot profitably be marketed under the existing conditions owing to a glut of these particular crops at certain seasons.

What is needed is a system of motor transport by State aid to convey such crops into the towns. Such a step would tend to the increased production of vegetables.

These are some few of the problems such committees should set themselves to solve, and thus be a channel of useful information to those who are commercially engaged and at the same time confer a benefit on town dwellers.

Stimulating Cereal Crops.

The long continued drought is having its effect on the growth of Oats where the land is not in good heart, and especially where sowing was retarded, owing to various causes. The plant is not vigorous, nor is it of good colour, the flag being pale green. Where the soil varies in character in the same field a judicious application of sulphate of ammonia at the rate of 1cwt. per acre will give a fillip to growth, improving the straw and the grain in bulk and quality.

Swedes.

Among root crops the Swede is perhaps the most important of all to the sheep farmer, and valuable also to the cow-keeper. After Turnips in August, September and October, Swedes bridge over the period, until Mangolds are ready for use in December, January and onwards. To the sheep farmer Swedes are a boon from January until the middle of May, as they keep better than Turnips and have greater feeding value. For a flock of 400 ewes and lambs, thirty acres of Swedes is none too much. I sow Rape with the Swedes, as I find lambs appreciate the extra green food

which Rape produces. This plant is hardier, too, than the Swede greens. With a five coulter drill I sow one row of Rape; if this is from the outside coulter the two rows of Rape come together, which the shepherds approve, as it suits their folding better, and it is wise to accommodate the shepherds in their method of working.

If the land has previously carried a straw crop, is free from weeds, was autumn ploughed and any previous root crop did not show any tendency to finger-and-toe disease, the ground, with the application of 4 cwt. 30 per cent. superphosphate, will grow a full crop of Swedes. If there has been the slightest sign of the disease noted, apply 6 cwt. of basic slag per acre in the place of the superphosphate, as previous dressings of the former may have "soured" the land.

In southern counties where Swedes are largely grown for sheep, the middle of June is early enough to sow the seed. As a rule, if the sowing is made earlier and dry weather sets in during July, the Swedes suffer much from mildew, which is fatal to a successful yield of clean, full-sized roots that will keep sound until the middle of May.

Ploughing the land repeatedly before sowing the seed is important. In dry weather it is a good plan to sow the same day as ploughing is done to ensure a quick germination of the seed, which is all important, as the Swede plant should make free, quick growth from the commencement. The Turnip Fly is very troublesome to Swedes, especially if the growth of the plant is slow owing to retarded germination.

It is wise to roll the land in front of the drill to retain the soil moisture, especially if the surface is rough. The seed, too, will be sown at a more even depth as the coulters run more uniformly in preparing the drills for the seed.

Directly the plants in the rows can be seen across the field, stirring the soil about them with the horse-hoe, or even harrows drawn crosswise over the rows before thinning is done will hasten growth. Two pounds of seed per acre is ample and one pound of Rape seed. Dunn's Defiance and Toogood's Purple Top are excellent varieties for general use, although there are probably other sorts that will give a heavier weight per acre. *E. Molyneux.*

Destruction of Charlock.

Charlock (Wild Mustard, Kedlocks) appears to be plentiful this year. In view of the immense number of seeds produced by a single plant and the extraordinary vitality of the seed (which may remain buried in the ground for years without losing its germinating power), it is most important that seeding should be checked as far as possible. If only small numbers of plants are found they may be pulled by hand, but in a badly infested field spraying is the only remedy. Charlock is more easily killed when in full flower than at any other stage. The corn in which it is growing will be damaged a little, but will soon recover. In the eastern counties it is usual to apply 40 or 50 gallons per acre of a 3 per cent. solution of copper sulphate (*i.e.*, 15lb. copper sulphate to 50 gallons of water per acre), but in western districts a 4 per cent. (*i.e.*, 20lbs. to 50 gallons per acre), or even a 5 per cent. solution may be employed.

GARDENING APPOINTMENTS.

Mr. R. P. Scriven, late of R.G.A. and previously Gardener at Brandear House, Alresford, Hampshire, as Gardener to Mrs. Faith, Weyhill Lodge, Andover, Hampshire.

Mr. R. J. Tanner, previous to the war Gardener to the Rt. Hon. Lady Sydenham, The Priory, Lamberhurst, near Tunbridge Wells, Kent, as Gardener to H. Bull, Esq., Wells Bridge House, Ascot, Berkshire.

CATALOGUES RECEIVED.

The Newman-Bates Chemical Co., Dunster House, Mark Lane, London, E.C.3.—Anti-Blightol for Potatos.

Dickson & Robinson, Cathedral Street, Manchester—Bulbs for early forcing.

THE WEATHER.

WEATHER IN SCOTLAND.

May was a relatively dry month, the total rainfall being but 0.97 inch distributed over nine days, with a greatest fall of 0.39 inch on the 6th. There was a shower of hail on the 3rd, and a sharp thunderstorm on the afternoon of the 11th. The number of hours of sunshine was well over the average of the past four years, being 194.5 hours, a daily average of 6.3 hours, and a percentage of 38.6. There were four sunless days. With a mean of 30.09 inches the barometer varied between a highest of 30.34 inches on the 7th and a lowest of 29.365 inches on the 2nd. Temperature varied considerably, the highest maximum being 73° on the 28th, and the lowest minimum being 29° on the 2nd, thus giving an absolute range for the month of 44°. The lowest maximum was 45° on the 6th and 7th, and the highest minimum 48° on the 13th, 28th and 29th. The mean maximum was 58°, and the mean minimum 41°, with a mean temperature of 48.5°, and a mean range of 17°. On three nights the temperature fell below 32°. On the grass the mean minimum was 37°, with a lowest of 20° on the 2nd; there were four nights of ground frost. For the dry bulb thermometer the mean was 51.9°, and for the wet bulb 48.3°, showing a relative humidity of 74 per cent. At one foot deep the soil temperature, with some fluctuations, rose from 45° to 57°. Light winds prevailed during the month, mostly easterly and southerly. *James Malloch, Director of Studies, Training College Gardens, Kirkton of Mains, near Dundee.*

ANSWERS TO CORRESPONDENTS.

Agricultural Wages: *G. W. B. G.* The new rates of wages fixed by the Agricultural Wages Board do not apply to employees in private gardens and pleasure grounds. You can obtain particulars of the Order on application to the Agricultural Wages Board, 80, Pall Mall, London, S.W.1.

Red Spider on Carnations: *L. L.* The simplest method of clearing indoor plants of red spider is to syringe them with clear water. The pest is always troublesome where much fire heat causes a dry, hot atmosphere. In cases of bad attacks, the insects may be destroyed by the use of sulphur, and when the hot water system is employed the sulphur may be painted on the pipes. At this season of the year flowers of sulphur may be mixed with water and the mixture syringed on the foliage, taking care that the under surfaces of the leaves are treated as well as the upper ones. Spraying with clear soot-water is also a good preventive of attacks of red spider.

Character of Soil: *J. S. G.* The ground you describe would not be suitable for Rhododendrons or any of the Ericaceae, but if properly treated it should grow good Roses. Nearly all the commoner flowering shrubs, such as Berberis, Brooms in variety, Spiraeas, Deutzias, Weigelas, etc., will be found to do well in such soil. Deciduous trees, such as Oak, Elm, Ash, Horse-Chestnut, Poplar, Sycamore, and Norway Maple can be planted, but not Birch, Lime, or Beech. Of evergreen trees and shrubs, Holly, Yew, Box, common and Chinese Junipers, Lawson's Cypress, Austrian and Corsican Pines, Cedars, Deodara, and common Spruce are the most useful, but a rough idea of the most suitable trees can be obtained by noticing those which are growing most freely in the locality.

Loss of Peach and Nectarine Leaves: *C. R.* Your description of the leaves which fall from your Peach and Nectarine trees suggests an attack of red spider. This pest is not red in its young state, and is very minute. Leaves should have been sent for examination. Examine through a magnifying glass some of the leaves which have not yet fallen, and if the mites or their eggs are discovered apply one of the advertised remedies for red spider according to the directions given with it. This will also check the mealy bug until the autumn, when stronger applications may be made. Remove the suckers as they appear, and in the autumn lay bare those roots which produce suckers, and cut them away.

Mangetout Peas (French Sugar Peas): *T.C.* The time for picking depends somewhat upon the actual variety. The pods are generally ready for the table when the Peas are about half to two-thirds developed. If too young, the result is rather mushy and the flavour is not fully developed; on the other hand, the Peas should not be hard or bullety. A variety such as P. mangetout à très grande cosse, in which the pods "balloon" up, should be picked just before this occurs. After boiling, if "tossed" in the bacon fat, they make an addition to the ordinary breakfast rasher, as in fact, do shelled out Peas or Beans.

Names of Plants: *Correspondent.* You send more than twelve specimens, which is contrary to our rules. Nos. 1, 4, and 14, Pinus tuberculata; 2 and 6. Pinus austriaca; 3, Cedrus Deodara; 5, Pseudotsuga Douglasii var. glauca; 7, Pinus insignis; 8. Juniperus excelsa var.; 9, Pinus excelsa; 10. Cupressus sempervirens; 11, C. macrocarpa; 12, Berberis vulgaris; 13, Thuya dolabrata; 14, Abies Pinsapo; 15, Cupressus nootkatensis; 16, Pseudotsuga Douglasii; 17, Picea excelsa var.; 18 and 19, Cupressus Lawsoniana vars.; 20, Pinus Laricio; 20, Tsuga canadensis (two specimens were numbered 20); 21, Pinus ponderosa; 22 and 23, Picea excelsa. *A. N.* (1) Tradescantia virginica; (2) Exochorda Giraldii; (3) Nepeta Mussinii; (4) Hemerocallis flava; (5) Veronica gentianoides; (6) Viburnum rhytidophyllum; (7) Trillium sessiliflorum; (8) Olearia stellulata; (9) Tamarix aestivalis; (10) Calycanthus floridus; (11) Lonicera Maackii; (12) Halesia tetraptera. *H. T.* (1) Thuya plicata; (2) Ulmus montana; (3) Acer monspessulanum; (4) Asphodeline lutea; (5) Staphylea colchica; (6) Exochorda Giraldii. *P. G. D.* 1, Rhus Toxicodendron (Poison Ivy, a very dangerous plant); 2, Kerria japonica flore plena; 3, Philadelphus coronarius; 4, Aesculus parviflora; 5, Stachys lanata; 6, Helianthemum vulgare var. cupreum; 7, Heuchera sanguinea var.; 8, Phlomis fruticosa; 9, Diervilla "Eva Rathke"; 10, Spiraea japonica; 11, S. Van Houttii; 12, Choisya ternata.

Rose Beetle on Apple Blossom: *H. E. M.* The handsome beetle sent is an example of the Rose Beetle or Golden Rose Chafer (Cetonia aurata). This beetle sometimes eats away the stamens of Strawberry and other rosaceous blooms, and of Turnips. In the grub state it feeds on the roots of Strawberries and grasses. The beetles should be caught and destroyed; they are sluggish and easily caught with a net. The grubs may remain in the ground for two or three years; therefore the soil should be freely worked during the winter in order to expose the grubs to insectivorous birds.

Scutellaria baicalensis var. coelestina.—*Enquirer.* This is a perennial plant of erect habit, forming a bushy plant from 1 ft. to 2 ft. high. The sessile leaves are narrow and entire, while the blue flowers, about one inch long, are produced in long racemes in August. The plant is quite hardy and will grow in ordinary soil in the herbaceous border. It may be increased by means of seeds, which are produced freely, or the plants may be divided in the autumn or early spring. It is a native of Siberia, and as also known by the name of Scutellaria macrantha.

Wire Worm in Turf: *E. L.* You would be very unwise to use old turf that is infested with wireworms for use as potting soil for Carnations. Wireworm is a very difficult pest to eradicate from soil, but if you can obtain gas lime, that would probably prove effective, placing the gas-lime in layers between the turves as the stack of loam is built. It would not be safe to use such compost until it had been stored for a season, as gas-lime is harmful to plant life until after it has lost its corrosive action by exposure to the atmosphere.

Communications Received.—W. E. P.—C. K.—A. N.—A. E. A.—K. L. M.—H. H.—W. A. C.—R. A. M.—T. E. W.—C. B. H.—F. W. M.—R. W.—A. G. S.—J. C. P.—P. W. K.—S. G. O.—F. T.—D. S. W.—Miss P.—G. I.—J. A. P.—C. T.—B. G.—Pte. G. K. D.—J. P.—H. R. H.—W. J. T. (Hongkong.)—H. M.—D. G. P.—S. A. L.—F. W. B.

MARKETS.

COVENT GARDEN, June 11.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's, per doz.	10 0–12 0	Rosea, 48's, per doz.	36 0–42 0
Asparagus plumosus	12 0–15 0	Fuchsias, 48's, per doz.	18 0–24 0
—Sprengeri ...	12 0–18 0	Heliotropes, 48's, per doz.	18 0–21 0
Aspidistra green	48 0–72 0	Hydrangeas, white 48's, per doz. ...	24 0–26 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	— Pink, 48's, per doz.	30 0–48 0
Cineraries. 48's, per doz. ...	24 0–27 0	Marguerites white	18 0–24 0
Crassulas, red 48's per doz. ...	30 0–36 0	Mignonette, 48's doz.	18 0–21 0
—white and pink	24 0–30 0	Palms, Kentia ...	18 0–24 0
Ericacandidissima 48's, per doz.	18 0–24 0	—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	4 0– 5 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	3 0– 3 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	2 0– 2 6

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Arums— — (Richardias), per doz. bl'ms	8 0–10 0	Myosotis (Forget-Me-Not), per doz. bun. ...	3 0– 4 0
Carnations, perdoz. blooms, best American var.	3 0– 5 0	Orchids per doz.: — Cattleyas ...	18 0–24 0
Cornflower, blue per doz. bun....	2 6– 3 6	Pelargonium, doublescarlet, per doz. bun. ...	8 0–10 0
Daisies, white, large, per doz. bun.	4 0– 6 0	— white, per doz. bunches ...	15 0–18 0
Gardenias, per box specials ...	8 0– 9 0	Pyrethrum, white	6 0– 8 0
— ordinary ...	2 0– 3 0	— —coloured ...	4 0– 5 0
Gladiolus, The Bride, per bun.	3 6– 4 0	— single ...	3 0– 4 0
—BlushingBride per bun. ...	3 0– 4 0	Roses, per dozen blooms— — Lady Hilingdon	2 0– 3 0
Gypsophila, per doz. bun. ...	10 0–15 0	— Liberty ...	3 0– 5 0
Heather, white per doz. bun. ...	6 0–10 0	— Melody ...	3 0– 4 0
Iceland Poppies, doz. bun. ...	6 0– 8 0	— Mme. Abel Chatenay ...	2 6– 4 0
Iris, per doz. bun.— — Spanish, White	18 0–36 0	— Ophelia ...	3 0– 4 0
— — Blue ...	18 0–36 0	— Richmond, var.	2 0– 3 0
— — Mauve ...	18 0–36 0	— Sunburst ...	3 0– 4 0
Lapagerias, perdoz. blooms ...	4 0– 5 0	—White Crawford	3 0– 4 0
Lilium longiflorum, por bunch ...	15 0–18 0	Stephanotis, 72 pips	4 0– 5 0
		Sweet Peas, per doz. bun.— — white	6 0–15 0
		— coloured ...	6 0–15 0
		Stock, Dbl. White	12 0–15 0
		Violas, per doz. bun.	3 0– 4 0

Remarks.—The chief flowers on sale last week were white and coloured Pyrethrums, Sweet Peas, white Daisies, white Pinks Mrs. Sinkins. and Paeonies, of which there was a goodly supply. Carnations were only moderately supplied, and best quality blooms sold for 9s. per dozen. Good Roses were also very scarce, and many orders for white blooms could not be executed. A few bunches of white Gladiolus sold freely at 5s. to 6s. per bunch. Richardias (Arums), although fairly plentiful, were only of medium quality, but those sent were soon sold. A few boxes of double white Narcissus arrived from Scotland in fine condition. The supplies this morning were more plentiful, and prices are again normal. Pyrethrums appear to be finishing, owing to the dry weather. White Pinks are sufficient for the demand; there are also abundant supplies of Paeonies and Sweet Peas. Roses grown under glass are still offered for sale: best red and white blooms are still very scarce. Mme. Abel Chatenay is the best variety. The newest subject is Gladiolus Brenchleyensis. Lilium longiflorum is offered at lower prices. The blooms are most welcome by florists, having been absent from the market for several weeks past.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
English Peaches per doz. ...	9 0–36 0	Nectarines, per doz. ...	9 0–30 0
Belgian Peaches, per doz. ...	9 0–24 0	Nuts— — Brazils (new) per cwt. ...	85 0–90 0
Cherries (French) per ½ bus. ...	35 0–40 0	Pineapples. ...each	4 0–10 0
Gooseberries, per ½ bus ...	16 0–18 0	Plums (French) per package	35 0
Grapes:— —Blk Hamburgh, per lb. ...	4 0– 8 0	Strawberries per peck	14 0–20 0
—Muscats, per lb.	5 0–10 0	—Southampton, per skip ...	3 0– 8 0
Grape Fruit, per cse	55 0– —	Worthing Figs, per doz.	6 0–15 0
Melons, each ...	5 0– 8 0		

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Asparagus, English per bundle ...	1 9– 4 0	MustardandCress, per doz. punnets	1 3– 1 6
Beans, French, per lb.	1 9– 2 6	New Turnips, per bunch	2 0– 3 0
Beetroot, per bus.	8 0– 9 0	Outdoor Peas, per bus.	34 0
Broad Beans. per ½ bus. ...	7 0– 8 0	Peas, per lb. ...	2 0 –3 0
Cabbage per doz.	5 0– 6 0	Parsley, per ½ bus.	5 0 –6 0
Carrots, per bag	12 0–15 0	Potatos, new, per lb.	0 4½–0 5
— New, per doz. buns. ...	5 0– 7 0	Radishes, per doz. bunches ...	2 0–3 0
Cauliflowers, perdoz.	12 0	Rhubarb, natural, per doz.	9 0–12 0
Cucumbers, perflat	28 0–32 0	Spinach per bus.	8 0
Garlic, per lb. ...	1 6	Spring Onions, per doz. bunches ...	8 0–18 0
Greens, per bus.	6 0– 7 0	Tomatos, English,	16 0–20 0
Herbs, per doz. bun.	4 0– 6 0	VegetableMarrows, each	1 0–2 0
Leeks, per doz. bun.	6 0 —	Watercress, per doz.	0 8–0 10
Lettuce Cabbage and Cos, per doz.	2 0– 4 0		
Mint, per doz. bun.	8 0–10 0		
Mushrooms per lb.	2 0– 3 0		

Remarks.—Supplies of Grapes (black and Muscats) are increasing, and Nectarines and Peaches are fairly plentiful. There are some good Melons on offer, and Figs continue in fair supply. Oranges, Californian Sweets or New Valencias, are now on offer. A consignment of South African Pears and Grapes has arrived in the markets, the Pears consisting of the varieties Winter Nelis and Glou Morceau. Cherries and Plums (French) are on offer, and English Gooseberries are more plentiful. Strawberries are now arriving from Southampton, the West of England and Kent. The forced berries are coming to an end. Asparagus crops are finishing, and Cauliflowers are limited in supply. Outdoor Early Peas and Broad Beans are on offer, and fair supplies of forced Peas and Beans (dwarf)) are arriving daily. Supplies of Tomatos are increasing, and English and Dutch Cucumbers are very plentiful. New Potatos are arriving in sufficient quantities, and Mushrooms show an increase in supply.

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THE B.G.A. has adopted a new standard of wages and hours, and employers and employees may obtain a copy by sending stamped foolscap envelope to the General Secretary. Before accepting fresh situations, demobilised men are advised to write the General Secretary, B.G.A., 22, Buckingham Street, Strand, W.C.2. Journeymen are required for good situations. Send full particulars of past experience.

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GARDENER (HEAD) wanted, near Eastbourne; experience cultivating vegetables, fruit, flowers; two kept; cottage free.—Write, stating experience and wages, Box "RES," c/o Davies and Co., Finch Lane, E.C.3.

GARDENER (HEAD WORKING), two under, for County Hotel near London; some Glass; must be well up in early Vegetables and Salads, accustomed to growing for large consumption; small amount Lawn and Ornamental Flowers; few pigs and chickens.—P. A., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, good SINGLE-HANDED GARDENER; boy kept; small flower garden, lawn, few vegetables, stove, fernery, two vinehouses, conservatory; rooms provided.—H. H., 60, Brixton Hill, S.W.2.

WANTED, SINGLE HANDED GARDENER; must be thoroughly experienced, practically no glass; flowers, vegetables, lawns; on account difficulty lodging accommodation, single man desirable; wages 45s.—Apply, with full particulars, past experience, references, to R. M. WOOD, Fruit Cottage, Box Hill, Dorking.

GARDENER (SINGLE-HANDED); must be well up in work, Roses, Rhododendrons, Rock Garden, etc.; small place; state age, experience, wages required, with cottage and light, also number children (if any).—PILE, Kenilworth House, Willesden Lane, London, N.W.2.

GARDENERS wanted; good SINGLE-HANDED with help; married; cottage provided. State wages and experience.—Mrs. TURBUTT, Hinchleywood, Ashbourne, Derbyshire.

GOOD ALL-ROUND GARDENER wanted; near Chichester; also required to work electric light plant; good cottage; lad kept.—Write, stating wages required, to Mrs. NORTON HESELTINE, 33, Eaton Place, Brighton.

WANTED for a Lady, good WORKING GARDENER; knowledge of Vines and Peaches under glass; wages 45s., cottage and vegetables.—HENRY PITT, Nurseryman, Abergavenny.

WANTED immediately, efficient all-round WORKING GARDENER; help given; knowledge of Greenhouses, Forcing, and Cultivation of Fruit Trees; wages 35s. a week with house; married man; children not objected to.—Apply Rev. C. BLENCOWE, Marston House, near Banbury.

GARDENER (SECOND) for Pleasure Grounds.—State experience, wages required with good cottage, GOODBOURN, Harwood Lodge Gardens, Woolton Hill, Newbury, Berks.

GARDENER (SECOND) required with experience of general Inside Work; good wages, with bothy, milk, and vegetables; 1 o'clock Saturdays.—HEAD GARDENER, Rhiewport, Berriew, Montgomeryshire.

WANTED, SECOND, Inside and Out; good cottage and garden. State wages and experience.—Apply, J. C. BROTHERSTON, The Gardens, Hill Hall, Epping.

WANTED, ASSISTANT GARDENER for Outside work, and glass when necessary; good wages and cottage to suitable man.—Apply with refs., to JOHN S. DOIG, Nettleton Lodge, Caistor, Lincolnshire.

ASSISTANT GARDENER wanted, with experience, for North London; unmarried; three kept; duty every third week; pleasure, kitchen, glass; no bothy. State experience and wages required.—C. G., Box 2, 41, Wellington Street, Covent Garden, W.C.2

WANTED, GENERAL FOREMAN, also JOURNEYMAN, for Kitchen Garden and Pleasure Grounds; bothy, milk, vegetables, and attendance; duty alternate weeks.—Apply, stating experience, wages required, etc.—A. NOBBS, Gennings Gardens, Hunton, Maidstone, Kent.

WANTED, two good JOURNEYMEN for Fruit and Plant Houses; must be well recommended; good wages, bothy, milk, and vegetables; 1 o'clock Saturday.—HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, JOURNEYMAN for Plant Houses; 1 o'clock Saturdays.—State age, experience and wages required, to BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, six smart, active JOURNEYMEN immediately, chiefly for Pleasure Grounds; lodgings now, bothy later; state experience, age, wages expected.—Copies of testimonials, etc., to GEO. MORBEY, The Gardens, Lilleshall House, Newport, Salop.

WANTED, JOURNEYMAN for Herbaceous and Alpines, etc.; wages 33s. weekly; bothy, milk and vegetables; duty paid extra.—E. BERRY, The Gardens, Pains Hill, Cobham, Surrey.

WANTED, JOURNEYMAN for Inside and Out; must have experience in Fruit and Plant growing under glass; duty, bothy, etc.—Full particulars and wages required to J. DICKIE, Voeles, Bettws-y-Coed.

WANTED, two good JOURNEYMEN, one for Inside and one for Outside; wages 35s. and 33s. per week respectively, with bothy, etc.; extra for duty.—Apply, stating full particulars, to H. CHARMAN, Stanford Hall Gardens, Loughborough.

WANTED, two active JOURNEYMEN; chiefly for Pleasure Grounds and Kitchen Garden. Wages 35s. per week; bothy, milk and vegetables; duty extra; 1 o'clock Saturdays.—Apply with particulars to, DAVID GIBSON, The Gardens, Belvoir Castle, Grantham.

WANTED, two good JOURNEYMEN; one for Fruit and Plant Houses, other Inside and Out. State age and wages required; bothy, etc.; 1 o'clock Saturdays.—H. E. TYNDALL, Tandridge Court Gardens, Oxted, Surrey.

WANTED, in large garden, a thoroughly experienced JOURNEYMAN for Inside, not under 22 years old; take charge of Fruit range and Chrysanthemums; wages 34s. weekly; bothy and usual allowances; good pay for duty and overtime; 1 o'clock Saturday.—H. LLOYD, Tewin Water Gardens, Welwyn, Herts.

WANTED, experienced JOURNEYMAN for Fruit and Plant range; 38s. per week, with bothy and allowances; duty paid extra.—Apply, with testimonials, stating age and experience, to W. SMITH, Lambton Castle Gardens, Fencehouses, Durham.

WANTED, two IMPROVERS for the Pleasure Grounds; wages 25s. per week, with bothy, vegetables, etc.; duty monthly, for which 5s. is paid.—Apply, J. C. IRELAND, Lynford Hall Gardens, Mundford, Norfolk.

MAN required for Kitchen Garden; single; wages 33s.—HEAD GARDENER, Beenham House Gardens, near Reading.

WANTED, MAN for Pleasure Grounds, able to use scythe; 30s. per week, bothy, vegetables, etc. — W. PHILLIPS, Gardens, Derry Ormond, Llangybi, Cardiganshire.

WANTED a MAN for Lawns and Pleasure Grounds, used to the work; wages 40s. per week; no bothy; 1 on Saturdays.—Apply to E. SMITH, Falcon Wood, Shooter's Hill, London, S.E.18.

WANTED, MAN for general Garden work; wages 35s., with good Cottage and Garden; 1 o'clock Saturdays.—State age, experience and family to W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

YOUNG MAN wanted for Kitchen Garden, chiefly; to live in; bothy, vegetables given.—LADY ANDERSON, Notgrove Manor, Bourton on the Water, Gloucestershire.

WANTED, Young Man for General Garden Work; some experience necessary; 25s., good bothy, vegetables, etc.; duty every third week.—HEAD GARDENER, Ellisfield Manor Gardens, Basingstoke, Hants

WANTED, SINGLE MAN for Pleasure Grounds and Kitchen Garden.—State wages required (with bothy), to WM. PENTON, Warren House, Kingston Hill, Surrey.

WANTED, SINGLE YOUNG MAN, chiefly inside; lodgings found near gardens; one o'clock Saturdays; duty paid.—Experience and wages to C. LUXFORD, Walmsgate Gardens, Louth, Lincs.

WANTED, at once, a YOUNG MAN, age about twenty, chiefly for Kitchen Garden work; duty alternate weeks; no bothy; 37s. 6d. per week; 5s. for duty; 1 o'clock Saturdays; 10½d. per hour overtime.—HART, Hockley House Gardens, Twyford, Winchester.

WANTED, strong YOUTH, age not less than 16, for General Garden work; bothy and attendance; 1.30 Saturdays.—Apply, stating experience and wages required, BLAKE, Clandon Park Gardens, Guildford.

WANTED, strong, willing LAD, age about 16; good wages, with bothy, etc.—Apply R. CROCKFORD, The Gardens, Weston Park, Stevenage, Herts.

WANTED, a strong LAD, age about 17, for Kitchen Gardens and Pleasure Grounds; wages 6d. per hour (48-hour week); overtime paid; no Sunday duty.—Apply, stating experience, to HEAD GARDENER, Monmouthshire Training College, Caerleon.

WANTED, ESTATE CARPENTER for rough joinery work, to take charge of oil engine and general repairs; cottage found.—State wages expected.—BEES, LTD., Sealand Nurseries, Chester.

TRADE.

WANTED, Nursery WORKING FOREMAN, experienced man, for small Nursery; good Budder of Roses, Fruit trees, Shrubs, etc.—Reply, giving full particulars with copies of discharges and wages expected to ARTHUR S. RITCHIE & CO., Seedsmen, Belfast.

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WANTED, smart MAN for Tomatos and Chrysanthemums; one preferred with a good general knowledge of Inside work; good permanent place to the right man; single preferred.—WRIGHT, Nurseries, Pangbourne.

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YOUNG MEN wanted for the following Glasshouse Depts.; Stove and Greenhouse; Soft. Wooded, Fern and Palm, Chrysanthemum, and others; 49½ hour week; 12 o'clock on Saturdays.—State experience and wages required, CLIBRANS, Altrincham.

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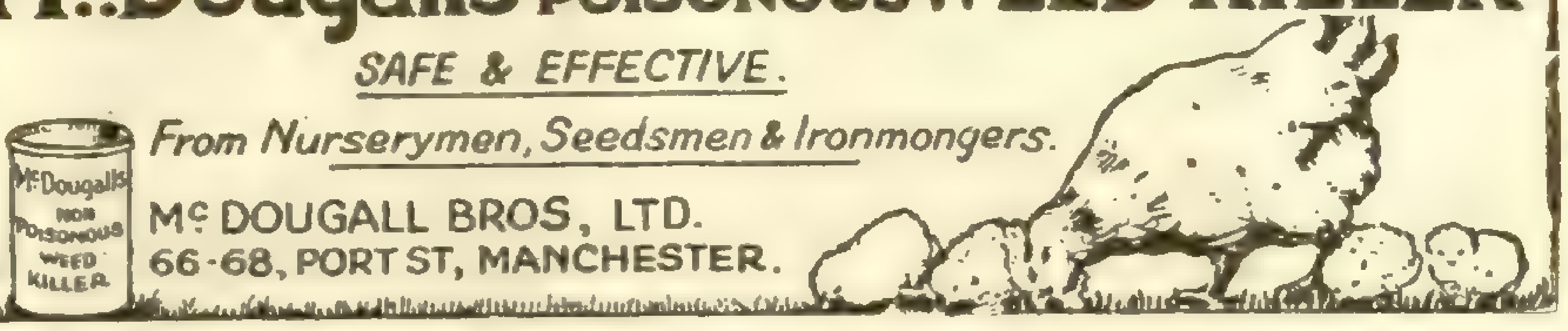

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BIRCH BROOMS, heavy and long in brush, 6s. doz., quantities cheaper, on rail.—HENRY SELL, Elmbrook Road, Cheam.

4 UNUSED IDEAL BOILERS for 8,000 ft. 4 inch pipe each; 2,000 Corrugated galvanised sheets; 2,000 Uralite Boards, 8ft. × 4ft. × ⅛in.; 2,000 yards Light Rails; 50,000ft. Glass; 50,000ft. ½ to 4in. pipes; quantity H. W. Fittings; Glasshouses, various sizes; Boilers; Portable Buildings, etc., Price against specification.—C. A. CHRISTIANSEN, Southall. 'Phone 63.

SALES BY AUCTION.

WEDNESDAY, JUNE 25th, AT 3 O'CLOCK.

40 PAIRS STANDARD and PYRAMID BAYS.
25 ARAUCARIAS in 40's and 32's.
350 BEGONIAS in 60's.
200,000 PALM SEEDS, KENTIA BELMOREANA and FORSTERIANA.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction at their Sale Rooms, 67 and 68, Cheapside, E.C.2.
On view morning of sale. Catalogues had.

A Grand Collection of
REMARKABLE OLD JAPANESE PIGMY TREES,
in fancy Porcelain Pots and Pans, consisting of some
SPECIMENS 100 YEARS OLD.
Also a Collection of MINIATURE ROCK GARDENS, with Temples, Bridges, Ornaments, Tiny Trees, etc., together with Japanese Bamboo Poles, Canes and Porcelain Pots in variety.
Also a few important pieces of Ivory.

MESSRS. PROTHEROE & MORRIS will sell the above by auction at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on Friday, June 27, at 1 o'clock. View morning of sale. Catalogues had.

BUSINESSES FOR SALE.

FOR SALE, the old-established CARNATION NURSERIES at March, Cambridgeshire. These nurseries have long been noted for perpetual-flowering Carnations, and comprise about 1,600 ft. run of Glasshouses, two dwelling-houses, motor garage and the necessary potting and packing sheds, standing on two acres of land. The property is freehold, and the stock consists of nearly 40,000 Carnations in the most up-to-date varieties, including novelties not yet in commerce. Only principals dealt with.—Apply to the owner, GEO. CLARKE, Carnation Villa, Heath Road, Leighton Buzzard.

FOR SALE, IN CANADA. — Two large Florists Establishments, doing a large wholesale and retail business; in British Columbia, 20,000 feet of glass; in sunny Southern Alberta, 40,000 feet glass; write for full particulars.—FRACHE BROS., LTD., Grand Forks, B.C.

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NURSERY (freehold) for sale; two minutes from Wrotham Station (L.C. and Dover Railway); Villa Residence, three 60ft. Greenhouses and three 80ft. ditto, heated, and fitted with rainwater dip tanks; two Stokeholes, fited with white rose, sectional and Mona boilers, feeding 3,300ft. of 4in. pipes; growing stock, frames, hand lights, tools, shop fittings. Immediate possession. All at £1,050.—Apply, BENNETT, Platt Flour Mills, Wrotham.

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Schedules on application to the Secretary.

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AND EXHIBITION OF SWEET PEAS,
SATURDAY, JUNE 28, 1919,
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From Noon to 8 p.m.
Schedules and particulars on application to Hon. Secretary, Windsor.

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NOTICES.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W.14.

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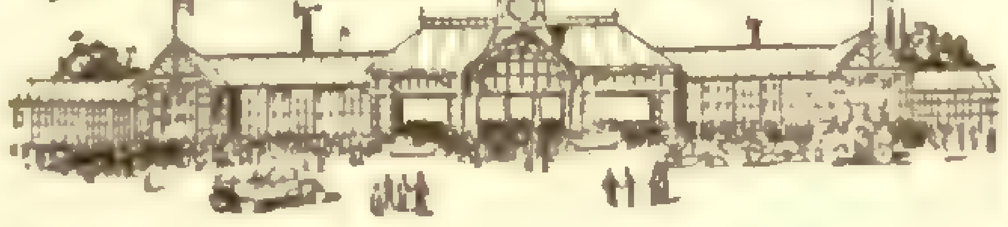

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Gardeners' Chronicle Horticultural Directory.

There are still a few copies of the *Horticultural Directory* on sale, but the 1919 edition is now nearly exhausted, and those who wish for a copy should write at once.

Gardeners who have surplus fruit for which they desire to find a market should consult the list of SALESMEN in all the largest towns of the United Kingdom, which is to be found on page 275 *et seq.*

Demobilised men who desire information of the whereabouts of their gardener friends will find the list of gardeners' names and addresses invaluable.

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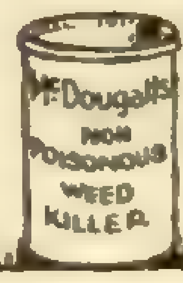

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THE PERFECT INSECTICIDE WASH FOR FRUIT, VEGETABLES, FLOWERS.
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Fig. 2. A Quality. Fig. 2. A or B Quality.

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THE

Gardeners' Chronicle

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.

I. THE BURMA-CHINESE ALPS.

On the Road.

ONCE more I am off on track for the hills. But in an unknown land among unknown peoples and conditions, and with no Purdom and no Mafu to show me the ropes and protect my ignorance. However, let us hope good will come of it: and now for the start. This time, though, my whereabout is not hard to tell: but few maps will give its details, and in some of its parts there are no people at all to supply local names, even if I could spell them if they did, or you pronounce them. One other caution, too: undeterred by cold-blooded criticism, I intend to continue describing my plants as I myself see them. Nothing more surprises and pains me, indeed, than to have some plant-portrait of mine alluded to as being "in somewhat enthusiastic terms" when, to my own eyes, its colours have only erred in their rigid, frigid accuracy. At the same time I have discovered that a species in cultivation does not always bear the same brilliancy of hue as it affects in the wild hills: so that those who have read my impressions of it as it was, may fairly think they have occasion to blaspheme when they see it as it is, in their gardens, a pallid weed. A sad case in point is my purple Salvia F. 169. No one who sees its shrunken anaemic blooms in a border could easily help thinking me untruthful for describing its imperial purple glory in the Tibetan hayfields. Yet so it was. Therefore I must here enter a preliminary warning against being too certain that a plant in exile will necessarily be as beautiful as the same plant at home. But it will be the plants at home that I shall be describing; and only, and exactly, as they are at home.

Myitkina is the rail-head and jumping-off place from Upper Burma into the Alps that border on China, a region sparsely and wildly inhabited, and only very recently taken over by Great Britain, in an easy sway that leaves the country pretty well alone, content so long as China does not try to occupy it. Myitkina itself is still tropical—a pleasant settlement, lying along beneath the embankment of the placid Irrawaddy. But cool breezes descend on it from the not far-distant snows, with the result that it gives an impression of a great, homely, green park, with squatting bungalows embowered in verdure and gay with familiar garden-flowers. Never, for instance, have I seen Hollyhocks so brilliant in flower, so neat and refined in habit. But across the Irrawaddy the trail finds itself at once in the wild jungle where tigers prowl; and for a week or so pursues its course through the heavy opulence of that uncharted tangle. At first the bigger trees are curtained with Petrea volubilis, now gone out of bloom, but with the velvety plum-colour of its innumerable developed calyces, producing as beautiful an effect as when with masses of giant Honeysuckle-heads, not a bit more brilliant than its meek diminutive at home; and an Actinidia with little orange trumpets falls in curtains, with bunches of leaf-bracts so vividly white that at first sight one thinks one has come on some snowy multiflora Rose. But the great beauty of these parts is the Bauhinia just now. This forms a graceful tree, so unanimously flowered that on the high slopes of the jungle it stands out like a blooming Cherry-tree on some mountain-side in a Chinese picture. It occupies, too, a very rigidly defined zone, between two and three thousand feet. From such an altitude I dare not hope it will prove hardy, but it shall go badly with me but it must have its chance, for it is a most lovely thing, intensely fragrant like a hyacinth-scented Cattleya, and not unlike a reversed Cattleya,

[*Photograph by H. M. Cox.*

FIG. 149.—THE HOME OF RHODODENDRON INDICUM ON THE NGAW CHANG.

they are lavender-blue, and contrast so finely with the violet-velvet of its flower-stars. (My names must, in nearly all cases, of course be taken as merely tentative).

In due course the Nmai Hka is reached, the great eastern branch of the Irrawaddy, that comes down from the mountains bordering on Tibet. For some days the road continues up and down, and in and out above it through the jungle, circumnavigating the countless spurs and ravines that descend to the river; and occasionally, on lofty suspension-bridges, crossing the tributary torrents that now, at the end of March, still sleep quietly in the depths of their profound gorges, but in the rains of June awake to ravening furies. Though still chiefly tropical, with various Palms and an unbelievable abundance of Banana, the jungle now has a few familiar things. Buddleia asiatica is the most welcome, Lonicera Hildebrandtii drapes tall trees too, in its great flowers (see fig. 151) of tenderest pale shell-pink, with a crimson flame on their upper segment. In the river shingles Rosa bracteata is now opening among the boulders; and all the Scottish-looking lengths of dark granite bluffs and reefs and islets that make the huge Nmai Hka so like a magnified version of some Scotch stream are now aflare with the furious scarlet of Rhododendron indicum, smeared like an interminable bloodstain, just above high-water mark, all along either bank of the river.

But at last the road, long since dwindled to a mule-track, turns away from the Nmai Hka, eastward, and sets itself to mounting a high pass or two, before sinking again into the bed of the Ngaw Chang, a notable tributary of the Nmai Hka, drawing its waters from the Border Alps, now so close that one can see some of their lower ranges dimly through the haze of the many jungle-fires that are clearing strips of

hill-flank for planting. But the passes, though ascending to 7,500 ft., are still in the tropics, though deep and dense now, with the heavy rainfall. Huge-fronded Palms without trunks lurk in the darkest chines, whose steepness is such that their trees have to develop bare boles of gigantic stature; and on tall, stately trunks Tree-ferns expand their sumptuous fronds. By the mossy alpine looking pathside, emerging clots of pink Begonia-blossoms mimic early Hellebores coming up, and the rich blue Gloxinia-blooms of Gesnera make a telling contrast; while on one stretch of the ascent occurred a remarkable Campanulad of graceful arching habit, like a Solomon's Seal, swinging from each axil-meeting a single fruit, large as a round Black Hamburgh Grape, of porcelain-like surface, and rich blue-violet colour. But, though we were now well up in the alpine levels, and above the bare austere magnificence of Mont Cenis, no one could have found a sign of this, in the profound green stillness of that primeval tropic forest, with Magnolias making a carpet of their creamy petals.

Nor were there as yet even any Rhododendrons, until we turned a corner, and there came into view a tall tree with a gaunt, bare bole like a Scotch Fir, but of brilliant lacquered-looking red, carrying a domed crown of solid soft pink*. As this trunk, a foot through and some fifty feet high, offered no foothold, it was necessary to shoot down blossoms of this, our first Rhododendron (for to the gardener, R. indicum is always Azalea), since one never dares pass by a first specimen, for fear of its also being the last. This Rhododendron, however, proves general at about 7,500ft. in the range even ascending to Hpimaw, so that I have fair hopes that it may be hardy, though of course its extreme precocity of blossom may spoil its usefulness in England, unless it can be taught to adopt lazier habits. These blossoms (see Fig. 150) though carried in their best abundance on a naked-trunked tree, are true "Azaleas" in style, rather than Rhododendrons—of a very pale pink, darkening slightly to the edge with a yellowish flush in the throat, and the darker rose of the tube showing through, thus suggesting a deep "eye" to the flower, which is large and of the most ravishing fragrance. Small wonder if we had, then, but scant attention for another Rhododendron that was also there—a true Rhododendron, though out of flower, that may very likely turn out to be R. Kyawi. And of other flowering trees in this high forest there were also a beautiful Cherry of bright pink, and a pure white Styrax that scented the air. The Cherry occurred occasionally, and the Styrax more often as we drew nearer the big mountains. But both of these were trees of such height and nudity that again the shot-gun was our only resource. The echoes clattered, the birds scattered, and a few petals or a torn shoot were all that came fluttering slowly down in the quiet air. *Reginald Farrer.*

* Rh. sp. F., 801.

[*Photograph by H. M. Cox.*

FIG. 150.—RHODODENDRON SP. FARRER'S No. 801.

LETTERS FROM SOLDIER GARDENERS.

PALESTINE.

THE first impression a visitor receives of Palestine is scarcely of the best, for the country throughout is lacking in engaging landscape. To describe it as beautiful would convey an inaccurate notion of the features which constitute beauty of scenery. For miles one may journey and not see a sign of life or habitation. Yet it is remarkable how many ruins are met with on the numerous hills, such as fragments of ancient walls, foundations of buildings, and piles of stones, all of which indicate a past habitation and confirm the age which belongs to Palestine. One is inclined to ask if these stony, arid hills, deserted valleys and large stretches of plain are cultivable, yet the answer is decidedly in the affirmative. The country at one time supported a much larger population than now, and could be made independent of food from other countries now that misrule is removed. Steps should be taken speedily to make the plains and valleys seas of grain, which would alleviate the poverty that is evident at the present time and cause the country to be more self-supporting in the near future. At the present time there are remains of terraces that were formed in a past age to hold up the soil on the steep declivities, where, doubtless, the Vine and Fig once flourished. Some of these are still in a good state of preservation, but in many cases the supporting walls are neglected and in ruins.

The country for the most part is bare of forest timber of any commercial value. The humble stature of the Olive trees clothing the hills helps to accentuate, from the appearance of the foliage of these trees, the grey hue peculiar to many parts of the country. There are a few good plantations of Eucalypti, chiefly in the proximity of Jewish colonies, and these trees will, I presume, be planted more largely in future, for they are well suited to the climate.

The fortune of war has made considerable travel possible to me. Few Date Palms were seen, and their rarity over wide tracts of country attracted my attention. Here and there isolated trees of Phoenix occur, but not of the noble dimensions which distinguish them in the Sinai Peninsula. Leaving Palestine proper, and passing into the Anti-Lebanons, one sees pleasant landscape. The villages have extensive orchards of Quince, Apricot, Apple, Plum, and Walnut, with vineyards, encircled or separated by hedges of Hawthorn and Buckthorn freely mixed with Dog Rose and Blackberry. Land cropped extensively with vegetables, chiefly Potatos, Marrows, Turnips, Cabbages, Cauliflowers, Tomatos, Aubergines, Leeks, Onions, Spinach and Radishes, gives the district a distinct European appearance.

Timber trees assume the same proportions as in Europe, and a number of trees familiar in Great Britain may be seen. The climate is much cooler in this zone of Syria than in Palestine, and it is not so arid, as streams and springs abound. Oak trees are met with, but the specimens I saw were very stunted and gnarled, including those of Quercus Ilex. Poplars and Willows appear to be abundant, but Maples and Planes were not so numerous. I did not see any Cedars, but Pines were growing in fair quantity. A few trees of Ash were seen, but I think they may possibly be in greater quantities in other parts of the country. *F. Gooch, Hants Battery, R.H.A., E.E.F.*

PLANT NOTES.

ELAEOCARPUS CYANEUS.

ACCORDING to the *Dictionary of Gardening*, this charming greenhouse plant was introduced from Australia in 1803, where it is known as the pink-flowered, Blue Olive-berry tree, and is a native of Victoria, New South Wales, Queensland and Tasmania. It belongs to the Lime family (Tiliaceae), and, as is the case with some other species, the flowers are remarkably showy. The plant is said to reach a height of 15 feet in its native country, but it will flower freely when much smaller than that; indeed, young plants that have been propagated from cuttings will bloom when but a few inches high. This Elaeocarpus will, if the main shoot is secured to an upright stick, assume a more or less pyramidal form, while the branches will often be disposed in a horizontal manner, or nearly so. This allows the drooping, somewhat bell-shaped flowers to be seen to considerable advantage. They are pure white, with the edges of the petals beautifully fringed. This last feature is so pronounced as to cause a well flowered example to be universally admired. Messrs. James Veitch and Sons showed at the summer meeting of the Royal Horticultural Society on June 4, 1912, a delightful group of this Elaeocarpus, and the plant was awarded a First-class Certificate. While the specific name of cyaneus is regarded as the correct one, the species is sometimes met with in cultivation as E. reticulatus, a name which refers to the veining of the undersides of the oblong leaves. The name of cyaneus is derived from the blue colour of the Cherry-like fruits. The cultural requirements of this Elaeocarpus are simple. It will thrive in a mixture of loam, peat and sand, and, like most hard wooded plants, it requires good drainage and firm potting. Propagation is effected by means of cuttings. These should be formed of the shoots of the current year, taken when in a half ripened condition, that is to say, when they have lost their succulent character and before they become too woody. They should be dibbled firmly in sifted, sandy peat, and placed in a close propagating case in gentle heat. A supplementary illustration of Elaeocarpus cyaneus was published in *The Gardeners' Chronicle*, October 15, 1904, prepared by the late Mr. Worthington Smith, from specimens supplied by Mr. Bedford, Straffan House Gardens, County Kildare, Ireland. *W. T.*

THE ROSARY.

SEASONABLE WORK WITH ROSES.

To carpet the Rose beds with Violas and other lowly plants, or to restrict them to Roses, is a question that has long vexed the mind of amateur rosarians. There is much to be said for and against both practices, but during the present abnormal season the advantages of restricting the beds to Roses have been most apparent.

Drought has been the great enemy, and unless there have been abundant labour and water available the carpeted beds have suffered. With the bare soil it has been a comparatively easy matter to stir the surface frequently, and thus obtain the fine, loose tilth that so effectively conserves the soil moisture. When this desirable state has been obtained it is a good plan to temporarily relinquish the hoe in favour of an iron-toothed rake, for this tool is much more speedy and is equally effective. Weed seedlings are but little bother, and weekly rakings under the broiling sun soon kill those that germinate, though many seeds will remain dormant, waiting for rains and a cooler atmosphere, and then the hoe must again be called into use. While hoeing alone is an excellent practice during droughts, thorough soakings of the soil are also to be recommended when circumstances permit. If the surface soil is bare, watering once in ten days will be sufficient even on light soils, if it is followed the next day by raking over the beds. Too much water, whether artificially applied or by rains, is well known as a fertile source of mildew.

Some object to mulching on account of the somewhat unsightly appearance of the material lying on the soil, but a mulch is such a valuable aid to Rose culture, particularly during periods of drought, that this objection should be quite a secondary consideration. Where a convenient supply of soil exists some gardeners place a layer over the mulch, others rake off two or three inches of soil from the bed, apply the mulch and place the soil over it. Both practices lead to weed troubles, for weeds soon put in an appearance.

With established beds, it is usually necessary to give some manurial assistance at this season, and in this one has the choice of watering with liquid manure, spreading a concentrated fertiliser on the surface, or applying natural manure in the form of a mulch. When artificial manure is used it should be worked into the surface soil and the latter well watered.

Those who require large blooms, for either show purposes or home decoration, must resort to disbudding, removing the side buds as soon as they can be handled; if this work is delayed there is but little advantage in disbudding. For garden display the best results are usually obtained from naturally grown bushes. The need for prompt removal of spent blooms is not so appreciated as one would expect. Most Roses seed freely and, when grown as standards and dwarfs, this seed production is exhausting to the plants. Many varieties will yield a later crop of bloom if the shoots are cut back about two-thirds of their length as soon as all the flowers on them have faded.

Although Roses this season have been exceptionally free from insect and fungus pests, aphides seem to be almost always with us. Forcible spraying does much to check these pests, but in cases of bad infestations other measures may be necessary. When the material is obtainable, nothing is better for the purpose than spraying with a quassia infusion. Next in order probably comes soft-soap wash, made by dissolving 1lb. of soap in 25 gallons of water. Many proprietary mixtures are valuable, but it must always be remembered that the growing Rose is a tender plant and the application of strong, corrosive mixtures may easily have disastrous results to the plant as well as to the pest. At this season the cuckoo-spit insect is often very troublesome and may become more harmful than is generally realised. This insect may be cleared by forcibly spraying with water, applying an insecticide, or by hand picking. Other insect pests, including sawflies, leaf miners and leaf rollers, have not been unduly troublesome as a rule, but at the first signs of injury by them resort should be made to hand picking or spraying. After the first rains a careful search should be made for the first appearance of mildew and rust, and the bushes sprayed with a solution of potassium sulphide, mixing half an ounce to each gallon of water, adding a tablespoonful of liquid glue to make the spray adhesive. *Devonian.*

NEW CHINESE CHERRIES AND PEARS.*

Among the numerous Cherries raised at the Arnold Arboretum from seeds collected by Wilson in Western China there are six which are good additions to the early spring flowering trees which can be successfully grown in the Eastern United States.

The handsomest probably is Prunus serrulata pubescens. This tree is of the same species as the Sargent Cherry (P. serrulata sachalinensis), but is smaller, rarely growing in the forests which are its home to a greater height than fifty feet; the flowers open nearly a week later and are white faintly tinged with rose, and somewhat smaller. The leaves, too, are less deeply tinged with bronze colour as they unfold. As it grows in the Arboretum the branches of this Cherry are ascending and slightly spreading, and form a narrow, open, graceful head. Plants raised from seeds which were gathered on the mountains of China only twelve years ago are seventeen or eighteen feet high, and have been covered this spring with flowers.

[*Photograph by H. M. Cox.*
Fig. 151.—Bauhinia sp. on the high slopes of the jungle (see p. 301).

Prunus serrulata spontanea differs from the last only in the absence of hairs on the young leaves and flower-clusters which are peculiar to that species, although the flowers, at least in some individuals, are slightly more tinged with rose, and the unfolding leaves are of a deeper colour. This tree is almost as widely distributed as the last but does not range as far north in Japan. Prunus canescens is a smaller tree. Its greatest beauty, perhaps, is found in the bark of the trunk which is dark orange-brown, very lustrous, and separates freely into large, persistent, papery scales much curled on the margins. The flowers, which are small and purple-rose colour, cover the leafless branches from end to end and are more fragrant than those of any other Cherry in the collection. Another Cherry which should find a place in collections for the beauty of its dark, lustrous, Birch-like bark is Prunus serrulata thibetica, an inhabitant of the forests which cover the high mountains of the Chinese Thibetan border. It has a low, broad, round-topped head with a trunk unusually large for the height of the tree. This tree has not yet flowered in the Arboretum. Prunus Dielsiana, in habit and colour of its bark, resembles the European Prunus Avium, but the flowers are slightly larger and sometimes faintly tinged with pink. Prunus pilosiuscula is a tree of medium size and is chiefly valuable for the earliness of its flowers which open with those of P. concinna and P. tomentosa; they appear before the leaves and are pink, and solitary or in small two or three-flowered, short-stalked clusters.

Among the Pear trees raised from seeds collected by Wilson in Western China Pyrus Calleryana has created the most interest among American pomologists, who now believe that they have in it a stock on which to graft the garden Pears more resistant to blight than any that has yet been tried; and the seeds now produced in large quantities by the trees in the Arboretum are sought by the Department of Agriculture of the United States and by nurserymen who are anxious to provide the country with a possible remedy for the disease which has destroyed many American Pear orchards. The new Chinese Pears have grown even more rapidly than the Chinese Cherries, and among them are beautiful clean-stemmed specimens from seventeen to twenty feet high, only twelve years old from the seed, and now giving every promise of reaching the height of fifty feet which these trees often attain on their native mountain sides. P. Calleryana is a shapely pyramidal tree more compact in habit than the other Chinese species. The flowers are smaller, and the globose, brown fruit is hardly more than a third of an inch in diameter.

To all students of cultivated fruits Pyrus serotina, another of Wilson's introductions, is of particular interest, for this tree of the mountain forests of Western China is now believed to be the origin of the brown or yellowish, round, hard and gritty Sand Pears which, in many varieties, the Japanese have cultivated from time immemorial and which must have been introduced into Japan probably by the way of Korea. In the early days of Western intercourse with Japan, many varieties of the Sand Pear were brought to the United States and Europe, but except for the beauty of their flowers and fruits they have proved to be of little value, for the fruit is so hard and so full of grit that it is not even worth cooking. It was probably forms of the Sand Pear crossed with one of the cultivated garden Pears which produced the Leconte and Keiffer Pears from which much was at one time expected in America, especially in the Southern States, but which have proved so susceptible to blight that the cultivation of these trees has been now largely abandoned. The flowers of Pyrus serotina are larger than those of P. Calleryana, but there is little beauty in their small brown fruit; and the habit of the tree, with its long spreading branches forming an open irregular head, is not particularly attractive. Of better habit is Pyrus serrulata, a fast growing tree with large flowers which have been only sparingly produced in the Arboretum. The Chinese form of Pyrus pashia raised from Wilson's seeds is also established in the Arboretum, where it has just flowered. The Himalayan form of this tree was first sent to Europe in 1825, but has not been tried in the Arboretum.

In addition to these four Pear trees from Western China there are five other Chinese species in the Arboretum, P. ussuriensis, the wild Pear tree of Korea and Manchuria, and extending into northern China and into Japan; P. Bretschneideri, a northern tree with grey yellow fruit of good flavour; P. ovoidea, another northern species with yellow fruit tapering from a broad base to a narrow apex; and P. betulaefolia and P. phaeocarpa, species with small brown fruit, that of the latter globose on some individuals and pyriform on others. Taken as a whole the Chinese Pear trees make one of the most interesting groups in the Arboretum, and as early spring flowering trees they take rank with the Crab-apples, although the open flowers, which are often tinged with pink while in the bud, are white and so lack the variety of colours which add so much beauty to the flower buds and blossoms of the Asiatic Crab-apples.

* *Arnold Arboretum Bulletin of Popular Information.* New Series, vol. v., No. 3. (Cambridge, Mass, U.S.A.)

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM PLATYCHEILUM.

In the early nineties a few plants of a small-growing Orchid purchased at a sale, without name or habitat, appeared in gardens, and later one of them flowered in Mr. Measures' collection at Camberwell and received an Award of Merit at the Royal Horticultural Society on March 22, 1892, as Odontoglossum platycheilum. The flowers were white with a pale pink tinge on the labellum, which was decorated with purplish red spots, the petals also having a few brownish red markings at the base. On April 28, 1908, O platycheilum superbum, with a darker rose shade, was shown by the late Sir Trevor Lawrence, Bart., and gained a similar award. For some years no definite particulars had been gleaned as to the habitat of the plant, and no importation had been made, but the species was generally considered to be a native of Central America. The plant has since been identified at the Kew Herbarium with dried specimens in the collection of Mr. Oakes Ames, gathered at Chiul, in the Department of Quiché, Guatemala, altitude 2,600 metres, in April, 1892.

With the exception of a few plants imported by Messrs. Sanders, no stock of this pretty little species has been distributed, and its appearance in gardens is rare. So much so that when a good example of it was shown in the group staged by Mr. Harry Dixon, Spencer Park, Wandsworth Common, at the Chelsea show, many orchidists failed to recognise it. O. platycheilum appears not to have been made use of by the hybridist, which is rather an oversight, for its very distinct form and neat habit suggests that it might be a satisfactory parent crossed with other Odontoglossums or Miltonias. Probably its modest proportions may have caused it to be slighted, but when the results of using the small-flowered Cochlioda Noezliana and other species of moderate size as parents are considered, the experiment would be worth making.

FIG. 152.—ODONTOGLOSSUM PLATYCHEILUM: FLOWERS WHITE, WITH PURPLISH BROWN SPOTS.

VERONICA SAXATILIS.

Of the mountain Veronicas, few are greater favourites with Alpine lovers than V. saxatilis, the rock Speedwell. It is an occasional denizen of some of the Scottish mountains, where it inhabits the higher parts, but it grows well in lowland gardens under the treatment generally afforded to other alpine flowers. V. saxatilis will do well on rockwork, and according to a well-known authority it is the "easiest and most thriving of Veronicas." It is also one of the prettiest species, though its flowers are short-lived. Yet they are charming, with their brilliant blue colouring, set off by a basal crimson ring, while they harmonise well with the glossy foliage, which grows near the ground. There are several varieties—one called fruticulosa, which is rose coloured; another named Grievei, of a different shade of rose, and a third called Balfouri, of a deeper blue. This delightful little Speedwell will succeed in the usual compost afforded to other alpines. It grows in peat, but that material is not essential, and loam, leaf-mould soil and sand form a suitable rooting-medium. The plant succeeds both in sun or partial shade, and it must be a cause of regret that it seems to be less in favour than twenty or more years ago. *S. Arnott.*

The Week's Work.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Climbing Roses.—Climbing Roses planted in narrow borders will need copious waterings at the roots. Keep the shoots neatly secured, the leaves free from insect pests and syringe the plants freely late on fine bright afternoons to keep the leaves healthy and clean.

Vases on Terraces.—Plants in vases should receive every attention. Stake and tie the growths and afford abundance of water to the roots to encourage rapid growth and a display of flowers.

Pyrethrum.—For general decoration and for cutting, Pyrethrums are among the best hardy perennials. They thrive in deeply-cultivated, rich soil, and are readily raised from seed or increased by division of the roots. At the present season plants thoroughly established should be well supplied with water and liquid manure, and mulched with decayed manure.

Dahlia.—Support Dahlias to stout stakes and do not train up too many shoots. Retain the stronger and remove the weaker growths. Afford a mulching where the soil is light and water freely in dry weather.

Seasonable Reminders.—June is a very busy month in the flower garden and all labour possible should be utilised to keep pace with the work. The requirements of all kinds of bedding plants should be attended to so as to secure a display quickly. Water should be supplied freely to all bedding plants late in the afternoon. Keep the surface soil over the roots loose, as nothing is more harmful to growth than a hard, baked surface.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Parsley.—To maintain an unbroken supply of Parsley during the winter and spring months, seeds should be sown in well prepared ground. Add lime rubble or burnt earth to the surface of the seed bed if the soil is of a heavy nature, and choose a site with a south or western aspect. In districts where Parsley is a partial failure during the winter, seeds should be sown direct in frames, or even turf pits, where lights can be used during the winter. This latter method should always be adopted where possible. Thin the seedlings to 6 inches apart, hoe between them regularly, and dust with soot at intervals. Sutton's Winter and Perfection are two excellent varieties.

Tomatos.—A sowing of Tomato seeds should be made for ensuring a late autumn and winter supply of fruits. Sow in pots, and place them in a shady part of a greenhouse. The seedlings will soon appear, and they should be potted as necessary until the final 8-inch pot is reached. Grow the plants sturdily until 4 to 5 clusters of blooms have set, when the points of the leading growths should be stopped to assist the fruits to develop. Winter Beauty and Sunrise succeed well under this treatment.

Endive.—Make a liberal sowing of Curled and Batavian Endives to maintain a plentiful supply of salads during the autumn. Always water the drills previous to sowing the seeds, and use finely sifted soil for covering them.

Runner Beans.—Another sowing may still be made to provide a late autumn crop after the earlier rows become exhausted.

Broccoli.—The autumn varieties should be planted out with all possible speed. Plant in firm ground, at 2 feet apart, and afford water until the plants are established. Finish the planting of autumn Cauliflowers.

Lettuce.—Make frequent sowings of Cos and Cabbage Lettuces to supply the demand. The ridges of Celery trenches form an ideal position for these crops.

Mulching.—Perhaps no season can be remembered wherein mulching was more needed than the present. Old Spinach stems may be laid along the rows of Peas and Beans. Stable litter and partially decayed leaves provide a good mulching for heavy soils, whereas heavy and partially decayed manure may be used on light soils. In the absence of manure, ply the hoe freely among the crops, and top dress with the accumulated decayed material from the garden rubbish heap.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Lackey Moth on Apples.—This troublesome pest seems to be very prevalent this year in certain districts, and the hot, dry weather is all in its favour. The caterpillars usually appear in April and May, and form large colonies in a web which is enlarged as required. From this web the pests emerge to feed and return again at night, and in wet weather. They remain for some time in these colonies, but when full grown they separate and make cocoons. To destroy the caterpillars a cloth should be spread under the trees, and the latter shaken vigorously; the pests will fall on to the cloth, and may then be gathered and killed. Where the attack is very bad the nests of webs and caterpillars should be cut off, dropped into a pail, and then burnt. The best remedy is continual cleanliness, *i.e.*, the removal of loose bark and rubbish from the trees in winter, and winter spraying. Spraying the trees with Paris green at the rate of one ounce to 18 gallons of water before the blooms expand, is a good remedy, but when this material is used care should be taken to see that none of it comes into contact with anything likely to be eaten raw.

Gathering Strawberries for Dessert.—Too much care cannot be taken in gathering Strawberries for dessert as over-ripe, under-ripe or otherwise defective fruits spoil the dish. The best time for gathering is in the morning, as soon as the dew has gone, as the fruits are then cool, and in the best condition. They should be gathered with sufficient stalk by which to hold them. Mice are sometimes troublesome, as they are fond of Strawberries, and will soon do a lot of damage by nipping off the fruits. Where cats are kept in the garden they generally look after mice, but where they are not permitted it is necessary to use traps, and the best of these I know is the break-back Little Nipper, baited with cheese or bacon. It is a good plan to trap mice before the fruits ripen.

Suckers on Fruit Trees.—Many fruit trees, and particularly Plums, produce sucker growths, and these, if not removed, tend to weaken the trees. Suckering is often the fault of the stocks that are used. To remove them the soil should be carefully taken away from the roots and a sharp knife used to cut them out. If pulled off or broken near the surface new sucker growths will appear.

Thinning Plums.—This work should now be done where necessary. It is a mistake to allow a very heavy crop as this exhausts the trees for the following year. It is rarely that Plum trees carry heavy crops two years in succession. Trees which have not been watered during the recent hot weather will cast many fruits, therefore it is necessary to see that the fruits are properly set before thinning is done.

Watering.—All kinds of fruit trees should receive copious supplies of water; if allowed to become dry now, many trees will cast their fruits. Liquid manure should be given occasionally.

Protecting Fruits from Birds.—Raspberries and Currants planted against south walls for the production of early crops, should be netted as soon as the fruits show signs of colouring. The very dry weather and scarcity of fruit will render the crops liable to the attacks of birds if not protected early.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Autumn and Winter-flowering Plants.—Cyclamens, Heliotropes, Celosias, Cockscombs, and Balsams should be repotted before they become pot-bound, and during the warm weather they may be grown in unheated pits or frames, arranging them so that they are near the glass. Close the frames early to obtain the full benefit of sun-heat, and give the plants an occasional spraying with quassia extract to keep them clean.

Salvia splendens.—This is a most useful autumn-flowering plant. Cuttings rooted early in the season, treated liberally and potted as necessary in a rich compost, will make good specimens by the autumn. During the warm weather the pots should be plunged in a bed of ashes, in a shaded spot out of doors. When established in the new soil, they should be fed liberally with liquid manure. As they are subject to attacks of red spider, syringe them frequently with clear soot water.

Bouvardia.—Young plants rooted this spring should be potted into larger pots as required, in a compost of good, turfy loam, leaf-mould, and sand. Grow them in a house with a medium temperature and moist atmosphere. Pinch out the points of the shoots to induce the formation of bushy specimens. Spraying the plants twice daily will keep them sufficiently moist at the roots for the time being.

Herbaceous Calceolaria.—Calceolarias are most serviceable at this season of the year in the conservatory, and they should be kept shaded from bright sunshine. Fumigate them occasionally to check green fly, and remove any growths that have finished flowering. Add a little artificial manure to the water when supplying water. To raise plants for flowering next season, sow the seeds in July, in pans, on the surface of light soil made thoroughly moist previously. Place the pans in a cold frame in a shady position, and cover them with a sheet of glass until the seeds have germinated.

Primula.—Greenhouse Primulas raised from seeds sown in the early spring and afterwards grown in boxes in favourable conditions, should be potted in a compost of two parts turfy loam, one part leaf-mould, and some sharp sand; place them in a cold frame or cool greenhouse, and give shade and water as necessary.

Campanula pyramidalis.—Seeds should be sown now to provide plants for flowering next season. One year old plants, showing flower spikes and growing in pots, should be kept out of doors in a shady place until the flowers begin to open. Feed them liberally until they are placed in the flowering house or conservatory.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Epidendrum prismatocarpum.—This species is now flowering, and it is a fine Orchid for exhibition purposes. If properly grown it is robust, free-flowering, and remarkable for the lasting qualities of its flowers. Frequent root disturbance is resented by this species, but when really in need of fresh material the plants should be turned out of their pots directly they have done flowering. Remove decayed roots, bulbs and rhizomes, also sour compost, and pot the plants in larger or smaller pots, according to their condition. The roots should not be too much restricted, but to prevent sourness in the compost add plenty of hard, porous material and drain the pots thoroughly. The usual mixture of Osmunda or A1 fibre and Sphagnum-moss in a rough condition, suits this species well. Make the material firm about the roots and keep the bases of the pseudo-bulbs about on a level with the rim of the pot. Being a strictly evergreen plant the water supply must be regular so long as growth is active, and even when at rest water must not be withheld entirely. A position in the Cattleya house or similar structure, where plenty of light and air is secured, with shade from bright sunshine, is suitable for this Orchid. Insects seldom trouble plants thus grown, but should scale or red spider put in an appearance they must at once be destroyed, or the fine healthy appearance of the foliage will soon be marred.

E. vitellinum majus.—This very ornamental and easily grown Orchid usually flowers during the summer months. If kept in a shady position its flowers will last two to three months in perfection, but it is not wise to allow the spikes to remain for so long on the plants, or the latter will not have sufficient time or strength to develop flowering pseudo-bulbs for another season. The cultural requirements of this species are like those of E. prismatocarpum, except that it should be afforded a cool, moist temperature all the year round. The plants are easily cultivated, and being of dwarf habit, they may be grown in shallow pans suspended from the roof rafters close to a ventilator, as they delight in abundance of fresh air.

E. radicans.—This species, and its hybrids E. O'Brienianum and E. Boundii, are beautiful Orchids flowering now, and it is astonishing the length of time the individual spikes will continue in perfection, for as fast as the lower blossoms fade, fresh flowers open at the top. As these reed-like Epidendrums produce aerial roots freely, propagation is easily effected by removing a portion of the growth with roots attached. Given a cool-intermediate temperature, and a position where the plants receive plenty of light and air at all times, and frequently syringing the plants during bright weather in summer, their cultivation is easy. Desirable specimens may be had by planting a number of stems together in well-drained pots and training the stems round neat stakes. All through the summer and while these plants are in full growth afford them plenty of moisture at the roots and in the atmosphere.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Mid-Season Grapes.—Grapes intended to ripen in succession to the earliest crop are colouring. They should receive plenty of air on every favourable occasion, and less atmospheric moisture will be necessary, but the structural conditions of the house must be taken into consideration with regard to the supply of moisture in the atmosphere. In lofty, well ventilated houses damping should be more frequently done than in a low, badly ventilated house. Admit a little air during the night through the top ventilators, but maintain a little warmth in the hot-water pipes to ensure a circulation of air. This will prevent condensation of moisture on the berries and tend to prevent the berries from cracking and splitting. The foliage should be frequently examined, and on the first signs of red spider sponge the affected leaves with a suitable insecticide. Where the vines are growing close to the glass, a slight shade may be necessary to prevent injury to the leaves from the sun's rays. Summer cloud lightly sprayed on the glass answers the purpose admirably.

Strawberries.—As the end of the forcing season has arrived, the necessary preparation for next year's supply of plants for forcing will need attention. For very early forcing an early start is essential to secure strong, healthy plants. The best runners are obtained from plantations made the previous year, and which have not been allowed to flower. The plants set apart for the production of runners should receive plenty of water during dry weather. King George and Royal Sovereign are excellent varieties for forcing. For the earliest batch I prefer to layer the runners into small 60-sized pots. These pots are soon filled with roots and the plants are quickly ready for transferring to their fruiting pots after removal from the parent plants. The later batches may be layered direct into their fruiting receptacles. In all cases use clean pots, afford good drainage, and take means to keep the pots free from worms after the final potting. The later batches of forced Strawberries grown under cool treatment may be turned to good use in forming an early fruiting plantation out of doors.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, JUNE 24—
Floral Fête and Exhibition in aid of the Royal Horticultural War Relief Fund, Royal Hospital, Chelsea (3 days).
Royal Agricultural Society's Show, Cardiff (4 days).

WEDNESDAY, JUNE 25—
Croydon Horticultural Society's Rose Show at Park Hill Recreation Ground, Croydon.

FRIDAY, JUNE 27—
City of London Rose Show at Cannon Street Hotel.

SATURDAY, JUNE 28—
Windsor Rose and Horticultural Show.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 61.2°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, June 18, 10 a.m.: Bar., 30.1; temp., 69°. Weather—Dull.

The Drought. Although it is always dangerous to generalise with respect to the crops of a country so little uniform in soil and climate as Great Britain, it is probably as safe as it is sad to say that the weather conditions culminating in the prolonged droughts have spoiled all chances of a bounteous harvest. Even under the relatively intensive cultivation which obtains in gardens there are reports of many failures, and in the light soils early crops—as, for example, Peas—are very small indeed. If this be so in the case of land which can be cultivated continuously and mulched, the disappointments experienced on land under less intensive cultivation are bound to be severe. For these disappointments the drought, though the chief, is not the only cause. The prolonged period in the early part of the year during which work on all but the lighter soils was impeded caused an accumulation of arrears which the shortage of labour has made it impossible to overtake. After that period of waiting the sudden arrival of summery weather led many people to entertain high hopes that, after all, Nature intended to be kind to us, though the wise gave the warm weather of late spring only a dubious welcome. Yet, who could help being hopeful when the fruit trees put forth such a marvellous wealth of blossom? As the dry weather continued it became evident, however, that the fruit crops could not be other than light, if only because any condition which tends to check natural growth acts automatically in favour of plant enemies. And so it has come to pass. Insect pests are ravaging the orchards of the country, and the general public, unaware of the difficulties with which growers have to contend, and childishly credulous of the value of improvised remedies for evils of origin long anterior to their manifestation are wondering what steps we might now take to stop the ravages of the pests which are spoiling our crops. The experienced grower, whilst doing all he can with the labour at his disposal, knows full well that when weather conditions are so against him, as is the case this year, remedial measures applied at the eleventh hour are very costly and must, if they are to repay their cost, be persisted in with expensive thoroughness. These measures, moreover, increase the costs of production, which is a serious matter, particularly at the present time, when they are already high, and what is no less unfortunate, extremely difficult to compute.

Although it is not to be doubted that the first crops will be disappointing, it is even now very difficult to form an estimate of these crops. So far as may be learned, the Gooseberry crop, which is so important to the jam boiler, and was of such excellent promise, will not be better than that of last year. Strawberries are bound to be a light crop. Plums are, apparently, still uncertain, though Pershores, famous for their consistency of cropping, are said to be below the average. This year should be a Damson year, but it seems likely that this fruit will also be a partial failure. Pears are said still to promise a good crop, but the prospects of a satisfactory yield of Apples are diminishing rapidly

Here and there, however, occasional rains have fallen, and where that has been the case these gloomy prognostications will not hold. Growers in these districts will probably do well, but it is to be feared that, in general, they will have little chance of recouping themselves for the losses which last year's scarcity and controlled prices imposed upon them. For one thing, at all events, the commercial fruit growers may be thankful, and that is the abolition of controlled prices. One of the necessary evils which had to be accepted during the war, their continuation in peace or quasi-peace time, could not be defended. It is a relief to turn away from this tale of misfortune to the garden which, in spite of drought, has been, and remains wonderful in its wealth of blossom, evanescent perhaps, but brilliant beyond the usual: for the high temperature and bright sunshine, which are unkindly to fruit growers, are friendly to the first stage thereof—that of the formation of flowers — and well-established garden plants are enjoying a season of exceptional floral beauty.

Royal Horticultural Society's War Horticultural Relief Exhibition.—The Royal Horticultural Society, in establishing the War Relief Fund to supply our Allies with seeds, plants and implements to restore their gardens and orchards, has not only done a most commendable charitable act, but has fulfilled a national duty. With the object of bringing home to the masses of the people the reality of the necessity for adequately sustaining this movement, the committee of the War Relief Fund is holding a Floral Fête at Chelsea Hospital Gardens on June 24, 25 and 26. All the resources of the Royal Horticultural Society are being used to help to make the Fête a great success. Leading horticulturists, both amateur and professional, are sending gifts of flowers. The National Sweet Pea Society, the British Carnation Society, and the National Rose Society are all contributing exhibits, and awards, including the Wigan Cup, the "blue riband" of the Rose world, will be bestowed just as at the regular meetings of the society. There will be plenty of other popular attractions at the Fête, which is designed to draw attention to the real work of the fund as well as provide a splendid round of intellectual entertainment. The admission has been fixed at one shilling, except during the first part of the opening day. Mr. Reginald Cory, Duffryn, Cardiff, has contributed £1,000 to the fund in connection with this Floral Fête. The Queen, who has displayed the deepest interest in the War Relief Fund of the Royal Horticultural Society, has intimated her intention of sending a special assortment of flowers and fruit from the conservatories and grounds of Windsor Castle, for sale at the Fête, and the royal gifts will be sold at the stall presided over by Mrs. James Lowther.

Women Gardeners at Kew.—As the journeymen gardeners return from the war, or suitable new men apply for admission, they are taking the places of the women gardeners at Kew. A year ago upwards of forty women were employed in the greenhouses, herbaceous ground, and flower garden. Less than a dozen now remain.

Royal Society of Arts.—The One Hundred and Sixty-fifth Annual General Meeting of the Royal Society of Arts will be held on Wednesday, June 25th, at 4 p.m. The Council attended at Clarence House on Friday, the 6th inst., when His Royal Highness the Duke of Connaught and Strathearn, K.G., President of the Society, presented the Albert Medal to Sir Oliver Joseph Lodge, D.Sc., LL.D., F.R.S., "in recognition of his work as the pioneer of wireless telegraphy."

War Cultivation in the Royal Parks.—The report published by the First Commissioner of Works on the financial results of planting food crops in the Royal Parks shows that that essay in food production proved eminently satisfactory. The profits range from £655 at Bushey to £11 8s. 5d. at Greenwich. The utilisation of vacant glass-houses in Hyde Park resulted in a profit of £425 2s. 7d., and at Regent's Park food crops grown in the vine-house brought in £152 11s. 2d. In one case only, that of Richmond Park, was there an adverse balance, and it amounted to £120 18s. 1d. The net profit derived from all the cultivations—after deducting this loss—was £1,638 6s. 9d. Besides this profitable side of the movement the model allotments established in Kensington Gardens were a means of instructing many beginners and many allotment-holders in the art of vegetable gardening.

St. Dunstan's Flower Show.—The splendid work of St. Dunstan's Institute for Blinded Soldiers ensures that any well-devised scheme having for its object the augmentation of the Institution's funds will appeal strongly to everyone. The flower show, which is to be held on behalf of the funds in the Royal Hospital Gardens, Chelsea, on July 2, 3, 1919, will have the support of both traders and amateurs. Classes are provided for both indoor and outdoor flowers, fruits and vegetables in a manner that should enable every owner of a garden to show something. Floral art will also be a great feature, and there will be exhibits of horticultural sundries. Over 200 silver cups and pieces of plate, ranging in value from £2 10s. to £50, are offered, as well as 100 silver and 100 gold medals. Schedules and particulars may be obtained of the Organising Secretary, Mr. T. Geoffrey W. Henslow, 306, Regent Street, W.1.

Visitors to Kew.—On Whit Monday, the 9th inst., 48,000 people paid for admission to Kew Gardens, the receipts exceeding £200. This constitutes a record attendance since a charge for admission was instituted in January, 1916. Picnic parties were much in evidence, and the National Kitchen Department of the Ministry of Food, which now controls the refreshment pavilion, was very hard pressed during the teatime rush.

Victory Loan Demonstration in Trafalgar Square.—The demonstration in Trafalgar Square arranged for the Victory Loan has now been fixed for Thursday, June 26th, and two following days in order to avoid clashing with the Floral Fête of the Royal Horticultural Society War Relief Fund at Chelsea Hospital Gardens, which is fixed for the 24th, 25th, and 26th. The Trafalgar Square function was originally designed as a floral fête, but the scope and even the title will be broadened to include many other attractions, including a huge choir. The Committee of the Royal Horticultural Society is now co-operating with the Victory Loan Committee by sending

y surplus flowers left over from their Fête to falgar Square. It was realised that the ught has had a serious effect upon the output flowers, to the extent of rendering the supply both functions precarious. By the re-arrangent the best interest of two of the most tstanding efforts in reconstruction have been died and over-lapping avoided.

Kew Post Office.—All Kewites will learn with terest and some measure of regret that the old at office at Kew Green is likely to be closed. fact a notice has been posted on the door ating that the office would be closed on June 14 st. This step was due to the inability of the thorities to find a successor to the present postistress, the small remuneration of £140 not ing tempting enough. On Monday last we found hat the office was still open, and on inquiry ere informed that the present postmistress had een requested over the 'phone early that morng by the G.P.O. to temporarily continue, so it ems probable that a successor has been found. therwise there will be no office or public telene facilities nearer than Kew Gardens station. e Kew Green office has been in existence for

society, which he subsequently sent to the society. It was impossible to guess how the seal had left the custody of the society to be now found in possession of an "illiterate" man; the only entry in the minutes was in March, 1789, "Ordered, that the seal exhibited be engraved." The seal itself was in use until the granting of the Patent of Arms in 1802, for there was an Order in January, 1803, for the immediate engraving of the present seal, "with the arms of the society." The exhibitor put forward a possible explanation as to why the original seal was suffered to leave the custody of the society, to which it had now been returned after more than a century's absence.

Phaius grandifolius in the Botanic Gardens, Hongkong.—The illustration kindly sent by Mr. W. J. Tutcher, Botanic Gardens, Hongkong, of between forty and fifty pots of Phaius grandifolius, reproduced in Fig. 153, gives an idea of how this Orchid grows in Hongkong. Mr. Tutcher gives the following particulars. The plants are growing in 10-inch pots filled with a mixture of equal parts ordinary garden soil,

day. The challenge cup and trophies won at the show will be presented at the conversazione.

Cabbage Lettuces at Wisley.—Visitors to Wisley will find the trial of 284 Cabbage Lettuces, raised from seed sown on April 7, exceptionally interesting. All types of the Cabbage Lettuce are represented, from the large, loose, non-hearting kinds to those of the small, Tom Thumb section. As is to be expected in such a large collection, many of the sorts are synonymous. There are two long rows of each variety, one of plants growing where they were sown, and the other of those transplanted. The difference between the two rows in every case is most marked, those growing where they were sown being, on an average, almost double the size of the transplanted ones, and, moreover, the latter in many cases show indications of bolting, which are absent from the others. Members of the Fruit and Vegetable Committee of the R.H.S. inspected the trial on Friday, the 13th inst., and it was the unanimous opinion of those present that it was the finest trial of vegetables they had seen.

Fig. 153.—PHAIUS GRANDIFOLIUS IN THE BOTANIC GARDENS, HONGKONG.

ver 150 years, and has been controlled by the rrey family for 106 years.

Linnean Society.—At the meeting of the innean Society held on the 5th inst., the general ecretary exhibited a medallion portrait in ronze of Carl von Linné, hitherto unknown, nd wanting in Professor T. Tullberg's *Linné-ortrātt*, the comprehensive catalogue of Linnean ortraits. The base of the head showed the ame "G. Wallis." George Wallis (1811-91) was n art teacher in London, Manchester and Birmingam, and became Keeper of the Art Collections, outh Kensington, in 1858, a position he etained till the year before his death. Like early all plastic representations of Linné, it as made from portraits, as the period of the rtist declares. The medallion has been kindly ent for exhibition by Mr. W. J. Wintle, secreary of the Malacological Society. The secretary lso exhibited the original seal of the society, hich had been lost since the beginning of the ast century. A month previously he received letter from Mr. John Slade, of Worthing, tating that on winding up the estate of an old entleman of more than 90 years of age, he ound in a deed-box the original seal of the

Canton mud leaf-soil, and old stable manure. After the plants have finished flowering they are divided and repotted. As soon as they have become established in their new pots, a small quantity of Clay's fertiliser is given them every week up to the time they begin to open their flowers. They grow best in a somewhat shady situation. Most of the pseudo-bulbs send up two scapes of flowers, and occasionally there are three scapes to a pseudo-bulb. In Hongkong the plants grow wild on the banks of streams, but they are never such fine examples as those shown in the photograph.

National Sweet Pea Society.—The annual exhibition of the National Sweet Pea Society will be held, in conjunction with the Royal Horticultural Society's Meeting, on July 1, 1919, in the London Scottish Drill Hall, Buckingham Gate, Westminster. The Secretary, Mr. Henry D. Tigwell, asks us to announce that entries for the competition classes must be sent to him on or before the 24th inst., at Harrow View, Greenford, Middlesex. The Society will hold a dinner and conversazione at the Holborn Restaurant, at 7.30 in the evening of the same

They congratulated the Superintendent, Mr. S. T. Wright, and the Fruit and Vegetable Foreman, Mr. J. Wilson, on the superb condition of the plants. As most readers are aware, the soil at Wisley is very sandy, and the trial was a splendid object lesson of how well plants succeed in light soil in a dry season when the hoe is used freely to promote a fine tilth. At the R.H.S. meeting on Tuesday last the Committee recommended the Council to give Awards of Merit to several varieties and highly commend others.

Registration of Novelties.—At the Horticultural Congress, held in Paris at the beginning of June, one of the principal questions discussed was that of the registration of novelties and the protection of the rights of the raisers. To many, the problem seems insoluble, and there appears no means of securing the rights of a producer in a plant, in the same way as they are secured to the producer of a work of art or literature. The Congress recalled what had already been attempted, namely, the registration of novelties in a list, national or international, with the description of the plant, and the issue of a certificate to the

raiser, and thought the matter might well be studied by a special commission. The demand was formulated that the names of plants submitted for award should in every case be followed by the name of the raiser or introducer. On the proposition of Monsieur Rivoire, of Lyons, the Congress resolved that a national bureau for the study of novelties should be created, with a sufficiency of funds for the purpose.

Gift of Reed Mats to Belgian Horticulturists.—The Gardeners' Company is endeavouring to raise a fund of £12,250 in order to supply reed mats to Belgian horticulturists. The company has already telegraphed to Belgium an order for 29,000 mats as a first instalment. It was stated at a meeting held by the company on the 11th inst. that, in 1913, Belgian horticultural exports exceeded £610,000, and the whole volume of trade has now to be rebuilt. The most pressing need is for reed mats to replace those commandeered by the Germans. The Clerk (Mr. E. A. Ebblewhite), in announcing subscriptions to the fund, said that all the glass-houses of Belgium were exposed to the elements, the glass being destroyed, and the plants required protection. Each mat would cost about 1s., and the gift would be doubly beneficial, as the mats would be made by Belgians otherwise out of employment. The company had that day voted £200. Sir Charles Wakefield had given £1,000, and among other contributors were: Mr. Joseph Francis, £250; Mr. Renter Warden Agar, £250; Mr. Julius Weil (Master-elect), 100 guineas; Capt. Sir Rowland Blades, M.P., 50 guineas;; and Mr. C. G. Ashdown, Capt. Hansford, C.B., and Mr. E. A. Ebblewhite, 25 guineas each. The grand total was £2,560.

Onion Smut in Great Britain.—This disease, due to the fungus Urocystis cepulae, Frost, which causes serious losses to Onion growers in the United States and in Europe, is probably new to this country. At all events no authenticated record of its occurrence in England previous to this year is to be found, although it is known to have appeared in Edinburgh about seven years ago. In any case, as recorded in the *Journal of the Board of Agriculture*, Onion Smut has now appeared, and every means must be taken to prevent it from establishing itself. It is probable that it was introduced with foreign seed. Attempts were made in the case of an outbreak at Northampton to trace the origin of the seed, but, beyond the fact "that it was purchased locally," no information could be obtained. As a result of the publicity given by the Board of Agriculture to the occurrence or recurrence of this disease, it was pointed out by Mr. S. P. Mercer that an outbreak had occurred in 1914 in Northumberland, when Leeks —which are very susceptible to the disease—were attacked. Onion Smut may be recognised in its early stage by the presence of dark opaque spots or streaks on the leaves. At first, covered by the skin of the leaf, the streaks soon become ruptured and expose a sooty mass of spores. The liberated spore masses contaminate the soil. The plants are only attacked in the very young stage, infection occurring below the ground level, probably in the first leaf. Hence, at least so far as gardeners are concerned, it is easy to prevent the disease by raising seedlings in sterilised or uninfected soil and transplanting them, for by the time they are ready for transplanting, all risk of infection is past. The spores retain their power of infection for years, and records in America indicate that even after twelve years an infected field may still produce the disease. In case of an outbreak it is of great importance that diseased plants should be pulled up and burned, if possible before the spores have been shed.

Price of Vegetable Seeds in Lille during the War.—In the course of an interesting article in *Jardinage*, May, 1919, on horticulture in Lille during the war, Dr. Ad. van der Heede mentions that the price of vegetable seeds in Lille rose to enormous heights. For example, Leek seed cost £18 per pound, Carrots over £1 per pound. The seed was smuggled at the risk of the smugglers' lives—all importation being forbidden.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Reconstruction.—For many years past there has existed among a small section of young English gardeners a desire to improve and extend their knowledge of their profession and learn a foreign language by a visit abroad. There have been some notable cases in which these men have reaped substantial reward for their voluntary exile. The number of them has, however, been far smaller than that of young foreigners who have come to England for a like purpose. Thirty years ago a few French gardeners, resident in London, recognising the advantage of united effort in this direction, founded the Société Française d'Horticulture de Londres. Under the benign influence of its highly respected president, George Schneider, a Frenchman long resident in this country, the society flourished and did invaluable work. It placed young French and Belgian gardeners in suitable situations in this country, not, be it observed, as competitors, and to a very much more limited extent because of the smaller demand, it found places on the Continent for those young Englishmen who desired to gain a continental experience and acquire a foreign tongue. But George Schneider is dead, and, alas! there appears to be no one competent to fill the vacant place. Philippe de Vilmorin, the honorary president whose influence was far-reaching, is dead also, and the society for four years and a half has been absolutely dormant because all its active members in this country were obliged to return home and fight in the defence of their native land. The society, however, does not consist wholly of foreign members —many prominent English nurserymen, gardeners and others who have, from an international point of view, almost as great an interest in the revival and maintenance of the society as those on the other side, were in pre-war days active supporters of it. I do not hesitate to say that if English horticulture is to preserve and extend the excellent relations that have always existed between it and continental horticulture, more necessary perhaps after peace than ever before, it will soon be time for somebody to make a move in the awakening of the society. Young English gardeners, the sons of nurserymen, seedsmen and others in the trade who desire to perfect themselves in their calling, ought not to be debarred from the facilities for doing so. Continental ones, too, will also require the means of reciprocal interchange, and it needs no great business acumen to say that the revival of the active working of such a society will be as productive of substantial benefit to English as it will to French, Belgian, Swiss and other French-speaking horticulturists. *C. H. P.*

The Garden Chafer (Phyllopertha horticola).—This insect is causing serious damage to the Apple crop in the Leatherhead and Dorking district of Surrey. In some gardens the chafers are so numerous that three of them may be seen feeding on one fruit; they also devour the leaves, and in many instances this would seem to be their usual food, as none of our standard works on gardening mention the fact that young fruits are eaten, with the exception of *Johnson's Gardeners' Dictionary* (2nd ed.). The attack appears to be rather local at present and is said to occur chiefly where the soil is sandy. Some people have not seen the pests until this season, and there are those who say it is a new pest from California, which shows that its numbers are increasing. In colour it is brown, with a dark purple head, and the under wings are pale brown; its shape is very similar to that of the common May Bug or Cock Chafer (Melolontha vulgaris), but it is only about a quarter of the size, and flies more swiftly. It lays its eggs in the ground or in heaps of manure; these soon hatch, and live about three years in the grub or maggot stage under ground before developing into the perfect chafer. During this time they feed on the roots of grasses and other plants. Birds are said to destroy them when they can find them. In the beetle or chafer stage, spraying the trees with arsenate of lead stops their ravages, and they may be shaken off the trees on to a cloth and burnt. Where they become plentiful the destruction of young fruits and foliage is terrible, and every means should be taken to stop their increase. The insect bears the common names of Bracken Cleek or June Bug, and is known to anglers by its old Welsh name of Coch-y-bondhu, often corrupted by them into Cockerbundy. *W. H. Divers, V.M.H.*

Variability in Plants (see pp. 251, 285, 299).—I am much obliged for the exceedingly interesting contributions from *W. T.* and *J. F.* Since first writing, my attention has been called to a Fuchsia with a whorl of four leaves, and also to a case the opposite of the specimen of Fuchsia Riccartonii mentioned by *W. T.*, in which the main stem of the plant had opposite leaves, and the minor stems leaves in whorls of three. But what does it all mean? May I suggest one line of explanation, which, whatever it may be worth in itself, may perhaps set other minds thinking? Evidently, with tricotyledons appearing so commonly as seems to be the case, the Fuchsia, at any rate, cannot be regarded as a dicotyledonous plant, pure and simple. A three-fold arrangement appears to spring from within its nature, as well as a two-fold, while a four-fold has also been observed. Are varieties, then, to be considered as being intravolutionarily included within the nature of the species? But, in that case, how is the nature of the plant to be considered? The least common multiple of two, three and four is twelve. Is the Fuchsia to be considered in some way as of a duodecimal nature? And are the many others, in which the five-fold arrangement appears—in sepals, petals, etc.—as of a decimal nature? And is there a common universal plant nature, characterised by the least common multiple, the factors of which are continually recurring in the numerical arrangements of the specimens observed by botanists? If such a view can be established and help in elucidating problems of classification, etc., it might be known as a theory of intravolution, rather than of evolution. For the appearance of a variety, which is such a stumbling block to the theory of evolution, would be seen then to be the outcropping of an element or factor in the nature, which previously had remained latent. I offer the suggestion quite tentatively. Perhaps others, besides myself, may at least be interested in the facts of variability as regards Fuchsias, established by your correspondents. They certainly do not seem to me explainable along the line of the accepted theory of evolution, whatever the true explanation of them may be. *E. Judson Sage, A.R.C.Sc., Exeter.*

Potentilla fruticosa.—Mention of the pretty little Potentilla nitida in *Gard. Chron.*, June 14, p. 292, suggests a shrubby member of the genus which is worth more attention than it usually receives. This is Potentilla fruticosa, a small-growing shrub of wide geographical distribution throughout the northern hemisphere both in the old and new worlds. It occurs in the north of England and in Ireland. This Potentilla forms a somewhat upright-growing bush, usually from two to four feet in height. The leaves, which are pinnate in shape, are markedly hoary underneath. The flowers are fully one inch across, and in some cases more. Of a rich yellow colour, their value is chiefly from an ornamental standpoint, and is greatly enhanced by the fact that they are borne from July until early autumn, when few flowering shrubs are at their best. This Potentilla in its varied forms is not particular as to soil. It will flourish even in comparatively dry, warm situations. As may be expected of a plant which is so widely distributed, there are several well-marked varieties, which differ from the type and from each other. One particularly striking form is Veitchii, which has been by some regarded as a distinct species. It was sent home by Wilson from Hupeh, China, when he was travelling there on behalf of Messrs. James Veitch and Sons. The leaves of this plant are hoary, while the comparatively large flowers are pure white. Other varieties include grandiflora, with large flowers; ochroleuca, pale yellow; and Vilmoriniana, resembling a creamy-coloured form of Veitchii. *W. T.*

SOCIETIES.

ROYAL HORTICULTURAL.

JUNE 17.—A comparatively small exhibition was provided for the Fellows and others who attended the R.H.S. meeting at Westminster on Tuesday last, and the attendance, like the display, was small. The most prominent features were Paeonies, Irises, Flowering Shrubs and Orchids. The Floral Committee's awards consisted of nine medals and five awards of merit; the Fruit and Vegetable Committee made no awards; the Orchid Committee recommended four awards of merit to novelties and awarded two medals to groups.

Floral Committee.

Present: Messrs. H. B. May (in the chair), John Green, J. W. Barr, Sydney Morris, G. Reuthe, John Heal, J. W. Moorman, A. Ireland, Thos. Stevenson, W. Howe, C. Dixon, Chas. E. Pearson, W. P. Thomson, Jas. Hudson, E. H. Jenkins, H. R. Darlington, J. F. McLeod, C. R. Fielder, A. G. Jackman, R. C. Notcutt and E. A. Bowles.

NOVELTIES.

AWARDS OF MERIT.

Cheiranthus Pamela Pershouse.—A perennial Wallflower obtained by crossing Cheiranthus alpinus with C. Allionii. The rich yellow flowers are large and freely produced in long spikes. The blooms shown on this occasion were not so fine as those exhibited on May 27 (see R.H.S. report, May 31, p. 272). Shown by Mr. E. MARSDEN JONES, Tilston, Malpas.

Cistus Silver Pink.—A pretty and free flowering shrub which carries large numbers of bright pink flowers. The leaves are thick, broadly lanceolate, one to three inches long, deep green above and grey green beneath; they are opposite and closely set on the grey stems. C. Silver Pink is a choice seedling and probably a hybrid between C. villosus and C. cyprius. Shown by Messrs. HILLIER AND SONS, Winchester.

Paeonia Lord Cavan.—A strong growing single variety with broad petals that make up a flower of large size. The colour is violet rose, with a large central mass of narrow petaloid stamens, which are violet-rose coloured, with pale yellow margins, and a creamy under surface. Shown by Messrs. J. KELWAY AND SON.

Lonicera ciliosa.—A handsome Honeysuckle with clusters of elongated orange scarlet flowers, yellow on the inside. The two upper leaves are united at the base around the stem. Shown by Lady GURNEY.

Sweet Pea Royal Scot.—This showy variety bears large and regularly placed flowers. The colour is rich salmon cerise, with a little touch of purple at the bases of the segments, and a light shading of this colour on the pale keel. Shown by Messrs. DOBBIE AND Co.

GROUPS.

A very large group exhibited by Messrs. KELWAY AND SON filled almost the whole of the tabling along one side of the hall. Paeonies were the chief feature, but Delphiniums occupied a central position. The large-petalled single Paeonies, with their big bosses of yellow stamens, were particularly attractive, and notable varieties of this section were British Empire, rose red; Lena Ashwell, rosy crimson; Victoria, pink; Millais, crimson-scarlet; Queen Alexandra, white; and Sea Shell, pale pink. The Delphiniums were scarcely at their best. (Silver-gilt Banksian Medal.)

Paeonies and Delphiniums, with golden Spanish Irises, were grouped effectively by Messrs. R. H. BATH. Delphiniums Moerheimii, Humboldt, Lamartine, and Mrs. Creighton were good. Very many of the Paeonies were charming seedlings, shown under numbers only (Silver Flora Medal).

The bearded Irises shown by Messrs. R. WALLACE AND Co. were very bright, but the spikes showed the effects of the recent hot weather. The dwarf, free flowering, rich purple Tomtit (see Fig. 154); Marsh Mallow, gold and crimson; Blue Lagoon, light and dark blue; Rodney, soft blue, free; and Knysna, deep yellow and crimson, were all shown well (Silver Banksian Medal). Mr. G. REUTHE exhibited Paeonies as a background for numerous choice and interesting plants, such as Halesia tetraptera, Roscoea cautiloides, Allium pedemontanum, Aciphylla squarrosa, in bloom; Crinodendron Hookeri, Magnolia Soulangeana nigra, and a flowering specimen of Beschorneria yuccoides, with a yard high pink-stemmed spike furnished with large pink bracts (Silver Banksian Medal).

In the group of Roses contributed by the Rev. J. H. PEMBERTON, the new pillar variety Star of Persia, semi-double, occasionally single, and deep golden yellow, was the outstanding variety. It has neat foliage, is free flowering, and scented—but by no means pleasantly. Pax, Miriam and Moonlight were other varieties in the group (Silver Flora Medal). A handsome group of Roses, arranged by Mr. ELISHA HICKS, included fine sheaves of bloom of Rosa Moyesii, Cupid, Trier, the lovely White Una, Léontine Gervais, Princess Mary, and Joanna Bridge (Silver Gilt Banksian Medal).

A delightful little exhibit of Carnations from Messrs. ALLWOOD BROTHERS included clean flowers of Triumph, Mary Allwood, May Day, White Wonder and Beacon (Bronze Flora Medal). Standard Fuchsias and Heliotropes, with dwarf Pelargoniums, Hydrangeas and Verbenas were grouped with palms and ferns by Messrs. H. B. MAY AND SONS (Silver Flora Medal).

Early flowers of Star Dahlias made a bright patch of colour in Messrs. J. CHEAL AND SONS' group, but the shrubs were even more interesting, especially the flowering branches of Olearia Gunniana, Kalmia angustifolia, the beautiful Leptospermum scoparium var. Boscawenii, Lonicera flava nana, Robinia hispida, and Philadelphus Bouquet Blanc (Silver Banksian Medal). Messrs. HILLIER AND SONS exhibited flowering branches of Solanum crispum, Lonicera tragophylla, Rosa Moyesii and Lavatera Olbia. Miss WILLMOTT sent large branches of Pyracantha crenulata var. Warley, clothed in small, cream white flowers; Paeonia Woodwardii, pink; Deutzia longifolia var. Warley, with large rosy-pink blooms; and Helichrysum frigidum, a dwarf, grey-leaved and white-flowered alpine.

Mr. C. ELLIOTT massed Nepeta Mussinii with Lychnis viscaria splendens plena, and showed a few interesting alpines. Mr. G. W. MILLER sent a few Pinks, and Messrs. PIPERS showed the elegant Silene Armeria pallida, the bright Pentstemon isophylla, and Dianthus Napoleon III.

FIG. 154.—IRIS TOMTIT: COLOUR, RICH PURPLE.

Orchid Committee.

PRESENT: Sir Jeremiah Colman, Bart. (in the Chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. Secretary), W. Bolton, Arthur Dye, Frederick J. Hanbury, W. H. White, C. J. Lucas, Fred Sander, W. J. Kaye, S. W. Flory, T. Armstrong, Chas. H. Curtis, Walter Cobb, Richard G. Thwaites, Pantia Ralli, and R. A. Rolfe.

AWARDS OF MERIT.

Odontioda West Point Beauty var. Exquisita (*Oda. Bradshawiae* × *Odm. eximium*) from Sir JEREMIAH COLMAN, Bart., Gatton Park (gr., Mr. J. Collier). A very richly-coloured hybrid of large size, and still retaining the bright red of Cochlioda Noezliana, but deepened in tint. Colour deep red, with blush white markings on the tips of the petals and front of the lip.

Odontoglossum Miguelito (*Dora* × *Doris*) from Dr. MIGUEL LACROZE, Bryndir, Roehampton (Orchid grower, Miss Robertson). A fine form, which had previously secured a Preliminary Commendation when shown with its first flower.

The flowers on the plant now shown were large and of perfect form. The colour is bright claret red, with whitish markings at the tips and bases of the sepals and petals. The lip is well developed—blush white in front, blotched claret red at the base; crest yellow.

Sobralia Lyoth (*macrantha* × *Charlesworthii*) from Messrs. CHARLESWORTH AND Co., Haywards Heath. A great improvement on the S. Charlesworthii, although the latter in its dwarf habit and richly-coloured flowers is a distinct advance on its ally S. Ruckeri. The flowers are bright rosy mauve, the lip deep reddish crimson, with yellow base.

Laelio-Cattleya San Juan var. Victory (*C. Mendelii* × *L.-C. Aphrodite*) from Mr. C. F. WATERS, Deanlands Nursery, Balcombe. The flowers are large and showy, adhering most nearly to the Laelio-Cattleya parent, but of firmer substance. The sepals and petals are white tinged with lavender blue; the lip broad, of deep purple color, with yellow base.

PRELIMINARY COMMENDATION.

To *Odontoglossum Fabia* (*eximium* × *Aglaon majesticum*) from C. J. LUCAS, Esq., Warnham Court, Horsham. A perfect flower, of large size, white, with groups of violet blotches on the inner parts of the segments, and a surrounding band of violet markings on each.

CULTURAL COMMENDATION.

To Mr. J. COLLIER, gr. to Sir Jeremiah Colman, Bart., for a fine plant of the Philippine Dendrobium acuminatum, with five strong spikes of pink and red flowers.

To Mr. THURGOOD, gr. to H. T. Pitt, Esq., for a very fine plant of the curious Bulbophyllum Balfourianum, with fourteen large fleshy flowers closely arranged on three short spikes. The ground colour is cream white, densely spotted with purple.

OTHER EXHIBITS.

Sir JEREMIAH COLMAN, Bart. (gr. Mr. Collier), staged a fine selection of rare Orchids, including three specimens of Dendrobium Dalhousieanum luteum; the handsome D. illustre Florence Bartels, for which he had previously received an Award of Merit; the rich violet Odontoglossum Gatton Emperor; and Dendrobium acuminatum, with five spikes.

Messrs. CHARLESWORTH AND Co., Haywards Heath, were awarded a Silver Flora Medal for a group of Miltonias, Odontoglossums, and other hybrids. A very interesting exhibit was the new Charlesworthеara Alpha (Miltonioda Ajax × Oncidioda Cooksonia), with flowers uniformly orange scarlet. It was recommended to the Scientific Committee for a Certificate of Appreciation. Other novelties noted were Odontioda Hilda (Odm. Dora × Oda. Royal Gem), with showy flowers and promising Odontoglossum seedlings.

Messrs. SANDERS, St. Albans, were awarded a Silver Banksian Medal for a group in which the best plants were Odontioda Bradshawiae Cookson's variety, fine in shape and bright in colour; Oda. Thwaitesii, Oda. Diana, and some good Laelio-Cattleyas, the best being L.-C. Isabel Sander, with white sepals and petals veined with purple and deep purple lip.

Messrs. FLORY AND BLACK, Slough, showed a selection of hybrid Odontoglossums and other Orchids. The best was the new Brasso-Cattleya grandis (B.-C. Thorntonii × C. Mendelii), with large blush white flowers, with yellow disc to the lip, which has a few purple markings in front; and the profusely-flowering Sophro-Laelio-Cattleya Nerissa.

OTTO BEIT, Esq., Tewin Water, Welwyn, Herts (gr. Mr. H. Lloyd), sent the brightly-coloured Vuylstekeara Thera var. Tewin, with an elegant branched spike of dark scarlet flowers with blush white front to the lip. It was raised between Miltonia Warscewiczii and Odontioda Cooksoniae.

Fruit and Vegetable Committee.

Present: Messrs. W. Poupart (in the chair), O. Thomas, W. Bates, E. Beckett, J. C. Allgrove, A. R. Allan, H. Markham, F. Jordan, A. Bullock, W. J. Jefferies, F. Perkins, G. P. Berry, W. H. Divers, H. S. Rivers, G. F. Tinley, and Rev. W. Wilks.

FIG. 155.—MESSRS. DOBBIE AND CO.'S EXHIBIT AT THE PARIS EXHIBITION.

The only exhibit submitted for award was a new Strawberry named Crimson Beauty. It was exhibited by John Chivers, Esq., Wyctfield, Cambridge (gr. Mr. F. J. Sage), who described it as a seedling, mid-season variety of strong, vigorous habit and mildew-proof. The Committee recommended the variety be sent for trial at the Wisley Gardens.

Mr. EDWIN BECKETT brought two fruits of a small, unnamed Melon for the Committee's inspection. The fruits were of small size, about 6 or 8 inches long and elongated somewhat like the shape of a small Marrow. The flavour was considered very fair and, as the fruits come to maturity quickly, it would possibly be a useful addition to existing varieties.

Mr. S. T. WRIGHT showed specimens of the June Bug referred to by Mr. Divers on p. 308. Mr. Wright stated that the pest was doing enormous damage in the gardens and was especially troublesome to the Apple trees. It had spread to gardens and farms all round the neighbourhood of Wisley, and was even attacking the Wheat in some places.

SOCIETIE NATIONALE D'HORTICULTURE DE FRANCE.

JUNE 5-9.—The very interesting and creditable exhibition organised by the above Society at Cours-la-Reine on the dates given was the first show—worthy of that name—to be held in Paris since the exhibition of 1914. It really attained, in spite of adverse circumstances, to a degree of equality with pre-war shows.

In spite of the numerous losses due to the war, all the usual exhibitors were present, glad to meet again after the last terrible five years, and to feast their eyes on the beautiful fruit trees of NOMBLOT, the Rhododendrons of CROUX, the Roses of NONIN, the Begonias of VALLERAND, the Orchids of MARON and of VACHEROT, the vegetables of VILMORIN, and all the other horticultural products grown with such loving skill, and arranged with all the grace native to the country. We may also mention an interesting exhibition of "indoor" rock gardens—pretty little boulders, small enough to carry about, decorated with dwarf Campanulas, Saxifrages, Sempervivums and young Ferns.

The Sweet Peas brought from Edinburgh by DOBBIE & Co. made a fine display (see Fig. 155). The flowers stood the long journey well, and looked as fresh as if they had been grown in France. The more delicate shades, such as Mrs. A. Hitchcock, Mrs. Tom Jones, and Old Rose appealed most to the Parisian taste. The exhibit covered a space of over 150 square feet. Another notable exhibit was that of the Orleans Railway Company, who staged an excellent collection of fruits and vegetables grown in the districts served by the railway.

Among new or interesting plants, we may mention a few, including some new Hydrangeas shown by M. MOUILLIERE—Maréchal Foch, a beautiful bright rose shade (Certificate of Merit); Paris 1919, with large pink festooned petals (Certificate of Merit). Then there were some very beautiful seedlings from M. CAYEUX, Head Gardener of the town of Havre, including Madeleine le Clerc (Cert. Merit), Suzanne Cayeux (Cert. Merit), and Beauté Hâvraise (Cert. Merit), all three of a lovely shade of pink. New Rex Begonias were shown by M. CHANTRIER, including Le Resplendimant (Cert. Merit), Mme. Chantrier Mère (Cert. Merit), Maréchal Foch, La Perle de Mortefontaine with pink petals, and others. Roses were excellently shown by M. NONIN, including Paul's Scarlet Climber (said to be a hybrid of Wichuraiana, with flowers of an attractive red something like those of Rosa Moyesii), Louise Crète (a pure white flower, very like the celebrated Frau Karl Druschki), Château de Clos Vougeot (a curious vivid red), and Joseph Guy (a large-flowered Polyantha Rose, said to be very free-flowering, and the petals firmly attached). It received a Certificate at Bagatelle in 1918. From Monsieur VALLERAND came a very fine tuberous Begonia with deep red flowers, called Verdun (Certificate of Merit). Monsieur MARON showed one of the best varieties of the series of Iris Ricardii obtained by M. DENIS, at Balaruc, named Madame Durrand. The flowers are very large, but the colour is, unfortunately, a little dull. Messieurs VILMORIN, ANDRIEUX & CIE showed specimens of their new varieties of Iris germanica, including Magnifica, Opéra, Ambassador, Eldorado, Grévin, Ambigü and Ballerine. They also showed a dazzling display of annuals, the colour scheme representing the tri-colour of France. Altogether the exhibit was a very fine one, and covered a space of about 1,000 square feet. Messieurs CAYEUX & LE CLERC showed a number of pretty varieties of Paeonies with single flowers, such as Akaku, Cendrillon, Scioba and Rinokino. The exhibit of MM. CROUX ET FILS consisted chiefly of a fine series of Rhododendrons, not named; and the celebrated firm of MARON showed Orchids in fine display, including some new Odontioda hybrids.

Among the exhibits of the Orleans Railway Co. were noticed some baskets of Strawberry Alphonse XIII., which was raised some time ago by VILMORIN, ANDRIEUX & Co. It is now extensively cultivated in the Orleans district, and is the variety chiefly grown for export to England. The great "Prix d'Honneur," given by the President of the Republic, was accorded to the last-mentioned firm.

As was the custom before the war, the holding of the Annual Horticultural Congress coincided with the date of the exhibition. Many topical questions were discussed, notably that of the restoration, from the horticultural point of view, of the regions devastated by the war. The subject of horticultural labour was also considered, and the future part which the horticultural societies should play. Last, but not least, the important question came up, how to obtain for the raiser the benefit of the new plants he obtains. This was the subject of an interesting paper read by M. Ducomet, of the Rennes National Agricultural College. It was followed by an interesting discussion, in which MM. LEMOINE (Nancy), RIVOIRE (Lyons), and CAYEUX (Paris) took part.

The weather was very fine during the whole period of the exhibition; indeed, on some of the days it was exceedingly warm, the thermometer registering over 90° in the shade. The usual large tent was not employed, but for the principal exhibits a wooden structure was provided, with a roof of white canvas, which was very much more suitable, and might with advantage be adopted at other similar exhibitions. The show was opened by the President of the Republic, and there were many notable visitors, including Marshal Foch and Mr. Lloyd George.

ROYAL HORTICULTURAL AND ARBORICULTURAL OF IRELAND.

JUNE 11, 12.—A successful show was held by the above society, in conjunction with the Royal Dublin Society's Agricultural Summer Exhibition, Ballsbridge, Dublin, on the 11th and 12th inst. The somewhat belated issue of the schedule, combined with transit and labour troubles, confined entries to narrow limits, but a few classes for large groups, in which liberal prizes were offered brought a good response and added considerably to the very interesting function of the Royal Dublin Society. In the Open Champion class for a group of foliage, flowering, and decorative plants and cut blooms, staged on a space of 400 square feet, prizes of £15, £10 and £5 were offered. There were three competitors, and the awards were made in the following order:—1st, Messrs. CHAS. RAMSAY AND SON, Royal Nurseries, Ballsbridge; 2nd, the DONARD NURSERY Co., Newcastle, Co. Down; and 3rd, B. H. BARTON, Esq., D.L., Straffan, Co. Kildare (gardener, Mr. F. Streeter). In a similar class for a group staged on a space of 200 square feet, traders excluded, the first prize was won by Mrs. STEPHENSON, Cranford, Dublin; 2nd, Major KELLY, Montrose, Donnybrook. Prizes were offered for flowering and ornamental shrubs and trees, shown as cut sprays or plants, on a space of 150 sq. ft., but only one entry was forthcoming, for which the second prize was awarded. In a similar class, staged on a space of 75 sq. ft., Capt. RIALL, D.L., Old Conna, Bray (gardener, Mr. T. Webster), was awarded the first prize; Mrs. STEPHENSON was a close second. Following the groups came classes for collections, in which the outstanding feature was a collection of hardy flowers shown on a space 20 x 4 ft., in which Messrs. WM. WATSON, LTD., Clontarf Nurseries, and Killiney Nurseries, made a brilliant display. Apparently it was too early for Sweet Peas and Roses, although the class for a collection of the first-named flowers, staged on a space 12 x 3 ft., resulted in a fine exhibit from Viscount POWERSCOURT'S gardens (gardener, Mr. W. H. Lee); 2nd, Miss OSBORNE. Mr. E. D'OLIER showed the best Roses, and was placed 1st in the class for 24 blooms. Mr. S. A. JONES, nurseryman, Kilkenny, showed excellent Pansies, for which he was awarded 1st prize; and he also showed an interesting exhibit of Violas not for competition. In the Viola class Mr. ED. KELLY, Kingstown, and Canon KINGSMILL MOORE, D.D., were placed first and second respectively, and Canon KINGSMILL MOORE had a fine exhibit of British Ferns, gaining the first prize.

Vegetables were well shown, especially by Viscount POWERSCOURT, who won in the champion class for a collection staged on a space 12 x 4 ft., with produce of outstanding merit. Single dishes displayed good quality generally. Messrs. BAKERS, Wolverhampton, showed alpines and hardy flowers, for which a silver medal was awarded. A silver medal was also awarded to a group of foliage and flowering plants from Trinity College Botanic Gardens, Dublin, set up by Mr. S. G. WILD, who succeeded the late Mr. F. W. Burbidge in charge of these noted gardens. Messrs. ALEX. DICKSON AND SONS, Newtownards, were awarded a Gold Medal for Sweet Peas. Messrs. HOGG AND ROBERTSON, Dublin, and Rush, Co. Dublin, set up a magnificent exhibit of Spanish Irises, which provided a feature of the show, and received a Gold Medal. A Silver Medal was awarded to Messrs. CHAS. RAMSAY AND SON, for a table of decorative plants and floral designs.

GRAND YORKSHIRE GALA.

JUNE 18, 19 AND 20.—After a break in its long series of shows, due to the war, the Council of the Grand Yorkshire Flower Show and Gala resumed business in Bootham Park, York, on the above dates, and held its 57th Show. Many circumstances combined to make a resumption of the Show a very difficult matter but these were all overcome in a greater or less degree, with the result that although the exhibition was by no means so extensive as so many the present reporter has seen during a period of twenty-one years previous to the war, it was unquestionably a fine display. The trade groups were excellent, and both the gala authorities and the trade are to be congratulated upon their mutual enterprise in face of great labour and transport difficulties. Hardy flowers, ever a great feature at York, were exceptionally good, and the Roses were far ahead of the displays of some previous years, though perhaps a trifle behind the very best we have seen in this ancient and walled city.

The Gala Council suffered many disappointments after they agreed to resume operations, and the worst of these was the wholesale requests from exhibitors, a month before the Show, to be excused. However, energy and initiative won through, and even at the last moment, when railway difficulties rendered it impossible for some thirty exhibitors to bring their goods to York, the Council turned to account what would otherwise have been vacant space by turning one tent into a suitably-floored dancing hall, and another into a place for holding cinema entertainments. Of course, the usual outside attractions were present, including a large pleasure fair.

Notably absent features were the huge trained Pelargoniums, for which York is famous, as in few other places have these been seen during recent times. The large groups arranged for effect, the giant specimen stove and greenhouse plants, and the many fine competitive exhibits of fruits and vegetables that were a source of wonder and delight to thousands, were wanting on this occasion. Nevertheless it was a great Show, and an entirely new feature was provided by the educational exhibits sent by the Royal Horticultural Society, the Board of Agriculture, and the garden designs from Messrs. J. Cheal and Sons and Messrs Milner, Son and White.

Major Dent, the President; Sir J. Sykes Rymer, Treasurer; Mr. H. W. Pulleyn, the new Secretary; and Mr. T. E. Hodgson, Chairman of the Floral Committee, and all the other officers, are to be congratulated upon the success which attended their almost superhuman efforts on behalf of horticulture in the northern province.

Orchids.

The premier award for a dozen Orchids was won by Messrs. J. CYPHER AND SONS, Cheltenham, who showed admirable examples of Thunia Magoniana with eight spikes; Cypripedium niveum, Cattleya gigas Sanderiana with six grand flowers, C. Whitei, Cypripedium Lawrenceanum, Laelio-Cattleya Fascinator with ten blooms, and Masdevallia Harryana.

Messrs. J. CYPHER AND SONS were also first for six Orchids, and here they showed good examples of Thunia Magoniana, Laelio-Cattleya Fascinator splendens, L.-C. Aphrodite, Cattleya gigas, Laelic Pacavia and Brasso-Cattleya Cliftonii. Mr. JAS. SUNLEY second with small specimens. The same firm also excelled for three Orchids, with a blotched Odontoglossum crispum, Laelio-Cattleya Aphrodite, and L.-C. Canhamiana. Mr. JAS. SUNLEY, Wighill, Tadcaster, second. For a specimen Orchid Messrs. J. CYPHER AND SONS were placed first, with the lovely white Cattleya Queen Mary.

Mr. JAS. HARTLEY, The Knowle, Morley, led in the amateur class for half a dozen Orchids, and his Miltonia Bleuana aurea and Odontoglossum Vulturia were his best specimens; Mr. J. SUNLEY, second. Mr. HARTLEY was first, and Mr. SUNLEY second, for three Orchids.

Roses.

Three competitors came forward in the large class for seventy-two Roses in not fewer than thirty-six varieties, and Messrs. D. PRIOR, Colchester, won first prize with a series of very fresh, clean and good-sized blooms, among which the varieties J. B. Clarke, Mildred Grant, Mélanie Soupert, Mme. Jules Gravereaux, Bessie Brown, Nita Weldon, Capt. Hayward, and Mrs. Dudley Cross were particularly good. Mr. ELISHA HICKS, Twyford, was second, and Messrs. JARMAN AND CO., Chard, third.

Messrs. D. PRIOR AND SON led in the class for forty-eight Roses in not fewer than two dozen varieties, and in their stand they had fine examples of J. B. Clarke and Souv. de Pierre Notting; Mr. ELISHA HICKS second. In the class for thirty-six Roses in not fewer than eighteen varieties Messrs. PRIOR AND SON and Messrs. JARMAN AND CO. were the first and second respectively, with Mr. ELISHA HICKS third. Messrs. PRIOR'S Roses were again to the front in the class for twenty-four distinct varieties; Mr. ELISHA HICKS came second. For eighteen Roses, distinct, it was the same story.—Messrs. PRIOR first and Mr. E. HICKS second.

In an amateurs' class for eighteen Roses the Misses F. and S. SPICER, Rack Close, Chard, were first, and Mr. R. PARK, Aiskew, Bedale, second; while Mr. G. W. READER, Naburn Ferry, York, led for twelve Roses, with Mr. R. PARK second.

Mr. ELISHA HICKS was first prize-winner for a group of Roses, but his pillars of bloom were too formal to make the display a good one. Mr. W. LANGSTAFFE, Garth Terrace, York, was awarded a second prize for a group of Roses in pots.

Groups and Plants.

In the principal class for a group of miscellaneous plants arranged for effect—a class which has on other occasions provided the great feature of a York Gala—there were but two exhibitors. Mr. W. A. HOLMES, Chesterfield, was awarded first prize for a handsome arrangement that consisted very largely of Codiaeums, Alocasias, Marantas, Dracaenas, Palms, and Ferns, with a few Orchids and Clarkias. The general arrangement, with a wide central arch, was quite good, but it was practically a group of ornamental foliaged plants. Messrs. R. SIMPSON & SON, Selby, second with a poor display of Schizanthus, Marguerites, Coleus, Pelargoniums, and foliage plants.

For the best collection of flowering and foliage plants arranged effectively on a semi-circular space 10 ft. by 6 ft. Messrs. J. CYPHER & SONS secured first prize, with a charming group of Orchids, Anthuriums, Crotons, and Aralias, put up with their usual taste. Mr. W. A. HOLMES was awarded second prize for a group in which bright Crotons figured largely. Mr. T. M. PETCH, Bridlington, came third with a bright but rather crowded exhibit of Carnations, Sweet Peas, Statice, Astilbes, Hydrangeas, and Standard Roses. There were five competitors in this class.

Mr. W. ATKINSON, Middlethorpe Lodge Gardens, Dringhouses, York, contributed a group of Carnations in pots, and was awarded first prize. It was a rather dense group of perpetual and Malmaison varieties, and there was an abundance of bloom. Mr. W. LANGSTAFFE second. A second prize was awarded Mr. PETCH for a group of bedding plants in a class that might prove interesting in future years.

Messrs. C. E. SIMPSON, LTD., Spurrier Gate, York, were awarded first prize for the only group of Calceolarias staged; they showed bedding varieties around a central massing of C. Clibranii. Dr. MACDONALD, Ouse Lea, York, showed a fine set of eight well-grown herbaceous Calceolarias, and was deservedly awarded a first prize.

Hardy Flowers.

Hardy flowers were exhibited largely and in fine style, as is always the case at York.

For two dozen bunches of hardy flowers Messrs. GEO. LONGSTER AND SONS, Malton, secured first prize with boldly and legibly-labelled vases of Inula grandulosa, Geum Mrs. Bradshaw, Nepeta Mussinii, Erigeron B. Ladhams, Achillea serrata grandiflora, and Verbascum Caledonia, with Lupins, Irises, Paeonies and Pyrethrums; Messrs. HARKNESS AND SON, Bedale, were a close second, and they showed Papaver Mrs. Perry, P. Perry's White, and P. Sir Douglas Haig (clear scarlet), in fine condition.

The glorious group of cut hardy flowers which won a first prize for Messrs. HARKNESS AND SON was fine alike in quality and effect, and consequently was greatly admired. It contained

great sheaves of the Oriental Poppies Joyce, Nancy, Perry's White, Oriflamme, Mrs. Perry, Sir Douglas Haig, and Oriental King, with Pyrethrums in variety, Anchusas, Liliums, Verbascums, and Lupins, but the Poppies were the outstanding feature of a first-rate group.

Two large pear-shaped groups of hardy herbaceous perennials, cut flowers, created a fine effect. Each competitor was allowed a space not exceeding 350 sq. feet, and was requested to produce a natural effect thereon. Messrs. W. ARTINDALE AND SON, Sheffield, were awarded the £15 first prize for a display that was very effective but lacked something in "finish." Verbascums, Delphiniums, Erigerons, Campanulas, Liliums, Astilbes, Tritomas, Pyrethrums, and Paeonies, were capitally shown. Messrs. HARKNESS AND SON, Bedale, filled their space with Lupins of the polyphyllus type, a harmonious blend of various shades of blue, rose, pink, and cream, with a low margin of Oriental Poppies. The margin was the weakest part of a novel and bold exhibit.

Sweet Peas and Other Classes.

Messrs. E. W. KING AND CO., Coggeshall, led in the class for a group of Sweet Peas, their more artistic arrangements helping them to score over Messrs. BIDE AND SON, Farnham, who were placed second. Gladys, pale lavender blue, and Doris, light salmon cerise, were two good new varieties in Messrs. KING's display, while Gladys Bide and Victory were conspicuous in Messrs. BIDE's stand.

Mr. E. HICKS showed the best epergne of flowers, and won with a dainty arrangement of Irish Elegance Roses; Mrs. JEFFERSON, Acaster Malbis, York, second; and Mr. T. M. PETCH, third, each with Sweet Peas.

Educational Exhibits.

The Royal Horticultural Society filled a large space with their Food Production Exhibit, as they were allowed ample room for setting out the charts of food-values; nozzles and diagrams showing the density and spread of spray fluids; cases showing the life histories of insect pests, grouped according to the kind of fruit or group of vegetables on which the pests prey; diagrams of pruning, budding, and grafting; models of digging and trenching; a set of the Society's medals; Haricot Beans and notes of their productiveness; photographs showing the effects of Eelworm disease in Daffodils and methods of treatment; and photographs of the Wisley Laboratory and Gardens. Messrs. SUTTON AND SONS lent their interesting series of models of vegetables, and Mr. V. Banks, representing the Food Preserving section of the Board of Agriculture, put up about 200 bottles of fruits and vegetables. The whole of this educational display proved greatly interesting to visitors, and enhanced the reputations of the R.H.S. and the Board of Agriculture. Messrs. J. CHEAL AND SONS, Crawley, and Messrs. MILNER, SON AND WHITE, Westminster, exhibited plans of gardens showing a great variety of designs.

Trade Exhibits.

A large and elegantly arranged group of perpetual Carnations from Messrs. ALLWOOD BROTHEXS, Wivelsfield, attracted a great deal of attention. The disposition of the flowers in vases of various heights and in hanging baskets was good. The varieties Lady Meyer, Wivelsfield Beauty, Wivelsfield White, Destiny, Triumph, Beacon, and Mary Allwood were handsomely represented. Mr. C. H. TAUDEVIN, Willaston, showed Carnations and Paeonies, arranged over a groundwork of green moss. Kenneth, Saffron, Enchantress, Robin Clover (yellow ground fancy, a robust eedling from Sunstar), Lady Northcliffe, and Peerless were the leading varieties of Carnations. Messrs. STUART LOW AND CO., Enfield, were exhibitors of Carnations, and their best blooms were of Triumph, Beacon, Saffron, and White Enchantress.

Messrs. MANSELL AND HATCHER, Rawdon, set up a charming group of Orchids, in which every plant was seen to full advantage in a setting of moss and ferns. The centre piece was a fine specimen of Coelogyne pandurata; in front was a colony of Cypripedium niveum, and on either side and at the back were Miltonias and forms of Laelio-Cattleya Fascinator. This part of the group was flanked by high mounds of Miltonias with handsome Odontoglossum spikes rising therefrom. The white Cattleya Holdenii was a notable plant in this group.

Messrs. JAS. BACKHOUSE AND SON, LTD., York, had a grouping of Carnations, blue Hydrangeas, Astilbes, Lilium candidum, Sweet Peas in pots and a capital assortment of elegant foliaged plants. Messrs. BACKHOUSE had also a rock garden exhibit with a little moraine. This was a daintily-gay arrangement, wherein Primulas, Dianthuses, Saxifrages, Mimulus Brilliant, Edelweiss, Veronicas and small ferns nestled between the grey stones in front of a background of Pines.

Messrs. S. BROADHEAD AND SON, Thongsbridge, Huddersfield, arranged a rock garden on a very solid wooden staging. The Yorkshire stone was most naturally disposed, and little Pines were used as a background. In such a narrow arrangement it was only possible to use dwarf plants, and these, such as Sedums, Veronicas, Thymus, Dianthus, Linaria, Campanula, and Cistus were grouped in pretty little colonies. Some small plants of Juniperus communis aurea were delightful, and so was a group of Sempervivum Moggridgei.

A fairly large rock garden was arranged by Messrs. KENT AND BRYDON, Darlington, and here the natural grey stone was used artistically, and a background cf Pines and Japanese Maples was provided. There were delightful groupings of Saxifraga cochlearis minor, Hieracium villosum, Aster alpinus albus, Campanula Miss Willmott, Allium pedemontanum, Linum arboreum, Erigeron Asa Gray, and Hypericum gracile. The same firm contributed a water garden, with Irises and Liliums around a Waterlily pool.

Very interesting was the group of hybrid and cross-bred Irises and Hemerocallis shown by Mr. GEORGE YELD, Burton Lane, York, who is continuing the work he began at least a score of years ago. Irises Sunshine, Asia, Lord of June, and Neptune, all of which have received the R.H.S. Award of Merit, were shown in superb condition, as also were Hemerocallis Corona, Darius, Miranda, Melissa, and Marigold. H. Melissa, with its faint orange flushing on a gold ground, is very fine in form and colour. A beautiful semi-circular group of Kalmia latifolia, grandly flowered, was contributed by Messrs. JOHN WATERER, SONS AND CRISP, Bagshot. Very rarely, if ever, have such finely flowered specimens, and in such quantity, been seen at a flower show.

Messrs. G. GIBSON & SON, Leeming Bar, were represented by a large bank of cut hardy flowers; the arrangement was good, but rather formal, and the group included Paeonies, Poppies, Irises, and other popular subjects in great variety. Mr. E. J. PARSONS, Wocester, staged Canterbury Bells in fine form, with Roses and large specimens of Nephrolepis. Messrs. C. E. SIMPSON, LTD., York, filled a large table with seasonable fruits and decorated it with a large variety of cut flowers.

The beautiful Pyrethrum, Queen Mary, was a conspicuous feature in the group of hardy flowers shown by Mr. G. W. MILLER, Wisbech; other good things were Erigeron B. Ladhams, Pink Gladys Cranfield, Campanula Miss Willmott, Sidalcea Rosy Gem, Paeonies, Irises, and a series of Heucheras.

AWARDS TO NON-COMPETITIVE EXHIBITS.

President's Prize for best exhibit in the Show.—To Messrs. ALLWOOD BROTHERS.

Large Gold Medal.—To Messrs. ALLWOOD BROTHERS, Messrs. MANSELL AND HATCHER, Messrs. KENT AND BRYDON, Messrs. I. CHEAL AND SONS (for garden designs), and Messrs. MILNER, SON AND WHITE (for garden designs).

Gold Medal.—To Messrs. JAS. BACKHOUSE AND SON, LTD.; Messrs. S. BROADHEAD AND SONS, LTD.; Mr. G. W. MILLER; Mr. CHAS. E. SIMPSON; Messrs. STUART LOW AND CO.; Mr. C. H. TAUDEVIN; Messrs. JOHN WATERER, SONS AND CRISP; and Mr. GEORGE YELD (for hybrid Iris and Hemerocallis).

Silver-Gilt Medal.—To Messrs. G. GIBSON AND CO.; and Messrs. G. and W. BURCH.

Silver Medal.—To Messrs. PADGETT AND WATSON; and Mr. E. J. PARSONS.

Special Certificate of Merit.—To the Royal Horticultural Society for an educational horticultural exhibit; and to the Board of Agriculture for bottled and dried fruits and vegetables.

CROPS AND STOCK ON THE HOME FARM.

THE DROUGHT.

IN the South of England we are experiencing an unprecedented spell of dry weather at a very critical period of the year, and this is likely to have a damaging effect on the various crops. During the month of May only 0.66 inch of rain was registered, and but 0.07 during the present month. Couple this absence of rain with hot sun and parching winds, and the result to many crops can easily be imagined. In the month of April we had only 2.59 inches of rain. Spring-sown Oats in land well cultivated are looking wonderfully well in colour, but exceptionally short in the straw. The winter-sown varieties are heading well, but are very short. Barley, where sown early in good ground, has a promising appearance, but where the conditions of sowing were unfavourable the plant has a doleful look and needs rain very much.

No farm with a sufficiency of horse or tractor power should have foul land after this spell of drought. The value of motor ploughs and tractor power for the cleaning of land is a boon to the farmer. All too often during the busy hay season, where some hundreds of acres of grass have to be made into hay, the arable land is of necessity neglected for a time, but with the aid of a tractor the cleaning of the land can proceed at the same time. As an example of what can be done, my tractor and the two men ploughed 18 acres in three days, and this, with the ordinary two-horse teams ploughing an acre daily, would have occupied twelve horses for three days, probably more, as it is not every team that will plough an acre daily. After ploughing a field with the tractor and a four-furrow plough I use a Ransome thirteen-tine cultivator, crosswise of the ploughing, which loosens the soil, pulls up the weeds, and exposes their roots to the sun and wind. Following this treatment, and within a few days, heavy drags or harrows are drawn over the land, still further exposing the roots of couch or other weeds.

TEMPORARY LEY FOR WHEAT.

Where a field of Broad Clover or a mixture of Clover and Italian Rye Grass has recently been cleared of its hay crop, to be followed by Wheat in the autumn, the inexperienced will be puzzled to know how to treat the field in the meantime. In the ordinary course of management, where a regular flock of penned sheep are kept, the Clover and Grass would be retained for a second crop, which the sheep would eat off during September and the early part of October, and then the land would be ploughed and dressed ready for the Wheat crop; but where sheep are not kept the best method of procedure is to plough as soon after the hay crop is taken as possible, and summer fallow. Sow with Mustard early in August—which is a good substitute for the sheep dressing—and supplement the ploughing-in of the Mustard with basic slag at the rate of 4 or 6 cwt. per acre. When sowing the Wheat, this method of dealing with the field has the advantage of eliminating patches of couch which would remain when ploughed after sheep have fed off the second growth, and interfere with the Wheat crop, and also the Oats which usually succeed the Wheat.

POTATOS.

The early varieties of Potatos, such as Epicure, Sharpe's Express, Midlothian Early, and Mills's Seedling, where "sprouted" and planted from boxes, are looking remarkably well. Repeated hoeing during dry weather will aid growth before finally earthing up the haulm. Late planted Potatos are not yet showing through the soil, especially where the land was rough at planting time. *E. Molyneux.*

Obituary.

Mrs. Wray Hunt.—We learn with deep regret that Mrs. Wray Hunt, the youngest daughter of Sir Joseph Paxton, died at her home, Ruddington Manor, Nottinghamshire, aged 77. Her remains were laid to rest in Edensor Churchyard on the Chatsworth Estate (according to her expressed desire), near to the famous gardens which her father created for the Duke of Devonshire. As little Annie Paxton, she was probably the first person in this country to be photographed sitting on a leaf of Victoria regia some 70 years ago. Her love of everything pertaining to gardens and her great interest in gardeners fostered in early life continued to the end.

Her charming way of recounting incidents and impressions of famous gardens and gardeners caused her conversation to be both interesting and educative, and added to this charm of personality was her fixed resolve to help any who sought her assistance on the subjects so dear to her.

She was held in high esteem by the members of the Ruddington Garden Society.

John Wallis.—We regret to report the death of Mr. John Wallis, for many years gardener at Orwell Park, Ipswich, Suffolk. His length of service at Orwell Park, firstly under Colonel Tomline and afterwards under the Rt. Hon. E. G. Pretyman, M.P., covered a period of 44 years, and during that time many extensive alterations and improvements were successfully carried out under his directions. He was a clever all-round gardener, but specially good in the management of Bambusa, Arundinaria and Phyllostachys, of Strawberry British Queen (both inside and out), and of Epiphyllums. Mr. Wallis retired about ten years ago and went to live at Trimley, near Felixstowe, where for some time he enjoyed good health, but latterly he suffered greatly and, after a lingering illness, passed away on the 8th inst., in his 86th year. He was interred in Nacton Churchyard, which is situated within a short distance of Orwell Park, the place he loved and tended so long.

TRADE NOTES.

In view of the difficulties imposed on importers of Dutch bulbs by the recent licence notice, the Chamber of Horticulture requested the Department to consider the possibility of a revision. In reply to this enquiry, the following letter has been received:—

Board of Trade,
Department of Import Restrictions,
22, Carlisle Place, S.W.1.
June 14, 1919.

SIR,

In reply to your letter of 10th June, respecting the import of bulbs, I have to inform you that the position is as follows:—

I am prepared to issue licences to importers on application for the importation of certain varieties of bulbs only, viz., Hyacinths, early single and double Tulips, Crocus, Spanish Iris, Gladiolus, Chionodoxa, and Scilla sibirica.

Applications should show the number of packages of bulbs of the varieties named above which the importer anticipates being in a position to import before September 1.

With regard to Belgium, licences will be issued for all bulbs and plants on receipt of the number of packages with marks and numbers of same, for each consignment.

(Sd.) JOHN B. KARSLAKE,
Deputy Controller.

The Board of Agriculture and Fisheries have issued an Order which allows Gooseberries free from American Gooseberry Mildew to be imported under licence into this country for jam making purposes. Such licences will only be issued on condition that the Gooseberries are free from American Gooseberry Mildew and consigned to a jam factory.

Reports received recently by the Board of Agriculture and Fisheries show that in certain Continental exporting countries American Gooseberry Mildew is prevalent, and importers should therefore exercise great care in purchasing; as only those consignments which are passed as "free from American Gooseberry Mildew" by the Board's Inspectors at the port of entry will be permitted to be forwarded to their destination.

Application for licences, which should be made to the Secretary, Board of Agriculture and Fisheries, 72, Victoria Street, S.W.1, should state quantity of fruit to be imported, name and address of importer, name and address of jam manufacturer. The port of entry must also be stated so that arrangements may be made for the necessary inspection.

The Sevenoaks Farmers' Union Auction Mart, Ltd., has decided to open a stand and office in Covent Garden Market for the disposal of the members' produce. A salesman and staff have been appointed, and it is proposed to commence trading at an early date.

MARKETS.

COVENT GARDEN, June 18.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's, per doz.	10 0–12 0	Rosea, 48's, per doz.	36 0–42 0
Asparagus plumosus	12 0–15 0	Fuchsias, 48's, per doz.	18 0–24 0
—Sprengeri ...	12 0–18 0	Heliotropes, 48's, per doz.	18 0–21 0
Aspidistra green	48 0–72 0	Hydrangeas, white 48's, per doz. ...	24 0–26 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	— Pink, 48's, per doz.	30 0–48 0
Cineraries. 48's, per doz. ...	24 0–27 0	Marguerites white	18 0–24 0
Crassulas, red 48's per doz. ...	30 0–36 0	Mignonette, 48's doz.	18 0–21 0
—white and pink	24 0–30 0	Palms, Kentia ...	18 0–24 0
Ericacandidissima 48's, per doz.	18 0–24 0	—— 60's ...	15 0–18
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	4 0– 5 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	3 0– 3 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	2 0– 2 6

REMARKS.—Growers are now reducing their stocks of bedding plants, and more attention is being given to Palms and Ferns and flowering Plants. The last chiefly consist of Heliotropes, Petunias, Hydrangeas, Rambler Roses, Marguerites, and Crassulas. Ericas are almost over.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d		s. d. s. d.
Arums— —(Richardias), per doz. bl'ms	8 0–10 0	Orchids per doz.: — Cattleyas ...	15 0–18 0
Carnations, perdoz. blooms, best American var.	2 6– 4 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Cornflower, blue per doz. bun....	1 6– 2 6	— white, per doz. bunches ...	15 0–18 0
Daisies, white, large, per doz. bun.	3 0– 4 0	Roses, per dozen blooms—	
Gardenias, per box specials ...	8 0– 9 0	— Lady Hillingdon	2 0– 2 6
— ordinary ...	2 0– 3 0	— Liberty ...	2 6– 3 0
Gladiolus, The Bride, per bun.	2 6– 3 6	— Melody ...	3 0– 4 0
—Brenchleyensis, per doz. spikes	4 0– 5 0	— Mme. Abel Chatenay ...	1 6– 2 6
Gypsophila, per doz. bun. ...	8 0–15 0	—Mrs. J. Laing...	2 6– 4 0
Iceland Poppies, doz. bun. ...	3 0– 4 0	— Ophelia ...	3 0– 4 0
Iris, per doz. bun.—		— Richmond, var.	1 6– 2 6
— Spanish, White	15 0–24 0	— Sunburst ...	3 0– 4 0
— — Blue ...	15 0–24 0	—White Crawford	2 0– 3 0
— — Mauve ...	15 0–24 0	Stephanotis, 72 pips	4 0– —
Lapagerias, perdoz. blooms ...	3 0– 4 0	Sweet Peas, per doz. bun.—	
Lilium longiflorum, per bunch ...	9 0–10 0	— white	6 0–12 0
Myosotis (Forget-Me-Not), per doz. bun. ...	3 0– 4 0	— coloured ...	6 0–12 0
		Stock, Dbl. White	9 0–12 0
		—Dbl. Pink ...	10 0–12 0
		—Dbl. Mauve ...	12 0–15 0
		—Dbl. Purple ...	12 0–15 0
		Violas, per doz. bun.	3 0– 4 0

REMARKS.—All Pyrethrums are finishing up quickly, owing to the dry weather. White and coloured Stocks are taking the place of the above; there is also a good supply of white Pinks. Lilium longiflorum is getting more plentiful and prices are gradually lowering. Lily of the Valley is unobtainable at the present time. The best sorts of indoor Roses are Mme. Abel Chatenay, Ophelia, Melody, Sunburst, and Molly Sharman Crawford. Outdoor varieties are now more attractive, these chiefly consist of Général Jacqueminot, Mrs. John Laing, General McArthur, and Frau Karl Druschki. Carnations are again sufficient for the demand, and have dropped considerably in price since last week. Choice white flowers chiefly consist of Gardenias, Lapagerias, Pancratiums, White Gladiolus, and Stephanotis. The coloured Gladioli now on offer consists of Brenchleyensis Fairy Queen, Ne Plus Ultra, and Blushing Bride. Gypsophila elegans is arriving in excellent condition, and Gaillardias are now being offered. There is an abundant supply of Sweet Peas, Cornflowers, Iceland Poppies, and Spanish Iris.

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d
Apricots (Spanish) per box .	5 6– 6 6	Grape Fruit, per cse	55 0– —
English Peaches per doz. ...	9 0–36 0	Melons, each ...	2 6– 6 0
Belgian Peaches, per doz. ...	9 0–24 0	—Canteloupe ...	35 0–55 0
Black Currants (French) ½ sieve	35 0– —	Nectarines, per doz. ...	9 0–24 0
Cherries (English) per strike ...	25 0– —	Nuts— — Brazils (new) per cwt. ...	85 0–90 0
per ½ bus. ...	50 0– —	Pineapples. ...each	4 0–10 0
Gooseberries, per ½ bus ...	15 0–16 0	Strawberries per peck	16 0–20 0
Grapes:— —Blk Hamburgh, per lb. ...	3 0– 7 0	—Southampton, per skip ...	4 0– 8 0
—Muscats, per lb.	5 0–10 0	Worthing Figs, per doz.	6 0–18 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s d
Asparagus, English per bundle ...	2 0–14 0	Mustard and Cress, per doz. punnets	1 3– 1 6
Beans, French, per lb.	1 6– —	New Turnips, per bunch	1 0– —
—Broad per bus.	4 0–10 0	Peas, per bus, ...	20 0– —
Beetroot, per bus.	4 0– 9 6	Parsley, per ½ bus.	14 0– —
Cabbage per doz.	4 0– 6 0	Potatos, new, per lb.	0 4½– —
Carrots, New, per doz. buns. ...	6 0–16 0	Radishes, per doz. bunches ...	3 0–4 0
Cauliflowers, perdoz.	6 0–12 0	Rhubarb, natural, per doz.	9 0–12 0
Cucumbers, perflat	24 0–30 0	Spinach per bus.	4 0– 8 0
Garlic, per lb. ...	1 6	Spring Onions, per doz. bunches ...	5 0–16 0
Greens, per bag	10 0– —	Tomatos, English, per lb.	1 4– 1 6
Herbs, per doz. bun.	4 0– 6 0	Vegetable Marrows, each	1 0– 1 4
Leeks, per doz. bun.	6 0 —	Watercress, per doz.	0 9– —
Lettuce Cabbage and Cos, per doz.	2 0– 7 0		
Mint, per doz. bun.	8 0–18 0		
Mushrooms per lb.	2 0– 3 0		

REMARKS.—Fruits now on offer include Grapes (Muscats and Black), Melons, Strawberries, Peaches, Nectarines, Figs, Cherries, Black Currants (French), Apricots (Spanish), Canteloupe Melons (French), and Green Gooseberries. These are all obtainable in fairly large quantities. Consignments of Cape fruits to hand this week, consist chiefly of Pears. Strawberries are now yielding a full supply from all sources, packed in punnets, chips, and pecks. There are increased quantities of Asparagus to hand this week. Peas and Broad Beans are now plentiful, but supplies of Cauliflowers and Cabbages are somewhat limited. Dwarf Beans are more plentiful, and so are Cucumbers (English and Dutch). Supplies of Tomatos are increasing daily.

GARDENING APPOINTMENTS.

Mr. Henry Charman, as gardener to Sir PHILLIP SASSOON, at Beleaire, Lampsea, near Hythe, Kent.

Mr. N. Nash, as gardener to Sir ARTHUR MAYS-ROBSON, at Seale, Farnham, Surrey.

Mr. J. Gilbert, recently gardener to Lady COWELL, Clifton Castle, Bedale, Yorkshire, as gardener to Rt. Hon. LORD MASHAM, Godmersham Park, Canterbury, Kent.

Mr E. T. Kirtland, for 12 years gardener to ARTHUR BRAY, Esq., Walton Heath, Surrey, and for some time temporary gardener to the Lady MARGARET RYDER, High Ashurst, Dorking, as gardener to COLONEL WARDE, Barham Court, near Maidstone, Kent.

Mr. E. G. Jones, for the past 5½ years gardener to Mrs. TAYLOR, Stoney Ware, Marlow, Bucks, and previously 14½ years gardener, Homestall, Barley, Herts, as gardener to W. C. BOND, Esq., Shalesbrooke, Forest Row, Sussex. [Thanks for 2s. for R.G.O.F. Box.—EDS.]

CATALOGUE RECEIVED.

ELISHA J. HICKS, Twyford, Berks.—Roses.

SCHEDULES RECEIVED.

National Chrysanthemum Society.—Exhibition to be held in conjunction with Royal Horticultural Society's meeting on November 4, 1919. Secretary, Chas. H. Curtis, 35, Wellington Street, Covent Garden.

City of London Rose Society.—Book of arrangements and schedule of prizes for the Fifth Annual Exhibition, to be held at the Cannon Street Hotel, Cannon Street, London, E.C., on Friday, June 27, 1919.

Answers to Correspondents

Abelia floribunda: *J. B.* Your plant of Abelia floribunda making abundant growth and flowering sparsely suggests that it is in a somewhat shaded situation in the unheated greenhouse. The best plants in the London district are usually seen growing on south or south-west walls, where the shoots get well ripened. Pruning may be done now. If your specimen is too large to move, root a few cuttings and try growing the plants against a sunny fence or wall.

Apples Injured by Grubs: *H. M.* The leaves were shrivelled when they reached us, but from their appearance and the presence of a Syrphid fly larva they were probably attacked by the Rosy Apple Aphis—A. malifoliae. As aphides only suck the juice of the leaf and do not eat the leaf tissue, spraying with lead arsenate is useless. A contact wash is necessary, but, owing to the extensive curling of the foliage caused by this insect, spraying must be done early in the season; the best time is in the spring when the petals are showing pink but not open. Paraffin emulsion or any good proprietary contact wash is then effective. The trees should be thoroughly wetted until they just begin to drip, and the specific should be applied with as much force as possible. The worst of the attack is probably over.

Arsenate of Lead: *D. S. S.* During the past two or three years large numbers of complaints have been made alleging failure on the part of arsenate of lead. This may have been due to the fact that during the war there has been a very serious shortage of lead. It is quite possible that the users have been dealing with very inferior preparations. It is sometimes a common practice to mix arsenate of lead with soft soap, which tends to render the arsenate very harmful to the foliage of the trees. Messrs. Voss and Co., Ltd., 8a, Millwall, E.14, supply a very fine quality of arsenate of lead in the paste form, which requires mixing with water only. One pound of this preparation is sufficient to make about 30 gallons of spray. It is now very late in the season to apply arsenate of lead, the best time being when the buds on the trees are just beginning to open. It is far more economical to spray at that time of the year, as considerably less fluid is required to cover the trees. However, much may be done to control such pests as the caterpillars of the lackey moth and vapourer moth on Apple trees now. Arsenate of lead may also be used against the attacks of the codlin moth, Gooseberry and Currant moth, Raspberry moth, winter moth, Pear and Cherry sawfly and Raspberry beetle. It would be advisable to pick the Gooseberries and Currants before spraying your trees, otherwise you run the risk of poisoning when the fruits are eaten. With regard to vegetables growing under trees, provided they will not be required for use for at least a month, there would be no danger from the spray fluid coming in contact with them.

Box Hedge: *Enquirer.* June is the most suitable month in which to clip the young shoots of Box, for the work must not be done until all danger from frost is over.

Bush Apple Tree Failing to Fruit: *F. W. M.* The tree probably failed to fruit because it was growing too freely and required root pruning. Seeing that you root-pruned it in January last, it would receive a check, and that would account for the fruit not setting this season. Doubtless next year, when the roots are re-established, the fruits will set satisfactorily.

Diseased Lilies: *T. S. C.* Your Lilies are affected with a species of Botrytis. The fungus attacks all kinds of Lilium without any exception, either wild or cultivated, and may appear at any stage of their growth. In its first stages it usually forms buff coloured spots on the leaves or buds and finally becomes covered with a greyish mould. As soon as the disease appears all affected parts should be cut off and burned, while the healthy plants in close proximity should be sprayed with Bordeaux mixture. If the disease persists in spreading take up the plants and bulbs and burn them.

Diseased Tomatos: *F. W. B.* The Tomatos are suffering form a disease commonly known as "Sleepy Disease," which is caused by the fungus Fusarium lycopersici. The disease can always be identified by the brownish ring just within the bark at the base of the stem. The fungus flourishes in the soil and enters the plant by the root. With regard to treatment, it is useless trying to save plants which are diseased and, as the organism is inside the plant, it is useless to spray. All diseased plants should be uprooted immediately the disease appears and burned. The soil in which the plants grow should be either cleared out of the house and fresh compost used, or the affected soil may be rendered free from infection by sterilising by heat at a temperature of 180° to 200° F. for half an hour. In the winter every part of the greenhouse should be washed with a solution of carbolic acid and water (1 of the acid to 20 parts of water). Every care should be taken in growing the plants; allow them ample room, for they need plenty of air, and light.

Insects: *C. F.* The insects are probably sawfly larvae, but when they reached us they had pupated, and it will be necessary to wait a few days for the perfect insects to emerge before they can be identified.

Land for Ex-Soldiers: *A. E. A.* There is every prospect of an energetic man succeeding on a small holding conducted on proper lines, and probably the best method of cropping is that which may be described as "semi-intensive" cultivation. For further particulars write for copies of guides to small holders supplied by the Board of Agriculture and Fisheries. The guides deal with the following subjects:—1, Market Garden Crops; 2, Potato Growing; 3, Fruit Growing; 4, Pig Keeping. All enquiries should be addressed to the Estates Management Branch, Board of Agriculture, 72, Victoria Street, London, S.W.1.

Names of Plants.—*A. N.* 1, Potentilla fruticosa; 2, Funkia ovata marginata; 3, Inula orientalis; 4, Clematis recta; 5, Phlomis fruticosa; 6, Chrysogonum virginianum; 7, Rhazya orientalis; 8, Buddleia globosa; 9, Deutzia scabra fl. pl.; 10, Periploca graeca; 11, Poterium Sanguisorba; 12, Ononis rotundifolia.—*L. H.* 1, Missing; 2, Amelanchier canadensis; 3, Pyrus Aria (White Beam Tree); 4, Tilia platyphyllos var. asplenifolia; 5, Salix purpurea.—*T. E. N.* 1, Laburnum Adamii; 2, Cupressus Lawsoniana var.; 3, Laburnum Parksii; 4, Lonicera alpigena; 5, Cupressus pisifera var. plumosa aurea; 6, Spiraea canescens; 7, Crataegus Carrièrei.—*R. C. W.* Aegopodium Podagraria (Gout Weed). The best method of eradicating the weed is to dig up the root-stocks and burn them.—*W. E. P.* So far as can be determined by the faded and imperfectly developed flowers sent, they are:—1, Laelia-Cattleya Gottoiana (C. Warneri × L. tenebrosa); 2, 3 and 4 varieties of Laelia purpurata.—*E. L. L.* We do not recognise the variety of Rose; send a bloom to some nurseryman who can compare it with those in his collection.—*C. K.* Populus trichocarpa.—*D. G. P.* 1, Spiraea van Houttei; 2, Azalea pontica; 3, Syringa persica; 12, Azalea calendulacea var.; 22, Spiraea canescens.—*T. A. L.* Crataegus Douglasii.

Raspberries Attacked by Insects: *O'B., Reading:* The insects you send are Raspberry Beetles, Byturus tomentosus. They attack the Loganberry also, and are found in Apple flowers, but appear to do no damage to that fruit. There is no satisfactory method of control. The insects are sometimes shaken or pulled out into receptacles (*e.g.*, household dustpans) covered with tree grease, but deep cultivation of the soil from May to September gives the best results.

Rose Conrad F. Meyer Unhealthy: *L. D.* There is no evidence of any attack by fungus or insect pests on the parts of the tree sent. The dark "canker"-like marks on the surface of the stem do not appear to have been caused by a fungus. The unhealthy condition of the plants must be due to some unfavourable condition, such as unsuitable soil, drought or imperfect drainage, which only those on the spot could determine.

Tennis Court: *J. F. R.* The dimensions of a tennis court, with a diagram, were given in *Gard. Chron.*, April 19, 1919.

Tenant Removing Trees: *J. H. B.* The trees were your property and the tenant had no right to cut them down without your sanction. In any case, the wood belonged to you, and in using it as firewood for his own purposes, the tenant has rendered himself liable to you in damages. In the case of trees destroyed to prevent the spread of incurable disease, the amount of damages payable by a tenant would be limited to the value of the wood which he used for his own purposes. If, however, this act was unnecessary, he would be liable, in addition, for the general damage to the garden, including loss of shade. In our opinion, silver leaf is not curable by means other than total destruction.

Tented Caterpillars on Privet: *Miss E. S.* The best methods of destroying the Tented Caterpillars on Privet are: (1) by hand picking, (2) by flaming with a plumber's blow lamp, (3) by spraying with a mixture of composed of soft soap (20lbs.), paraffin (2 gallons), nicotine (½lb.), water (101 gallons). Emulsify the paraffin and soft soap, dissolved in 10 gallons of hot water, by means of a garden syringe with rose attached, add the nicotine and make up with the rest of the water. Sub-multiples of the formula may be taken. Please send fresh specimens packed in a tin box.

Vine Leaves Turning Yellow: *A. B.* The leaves of your Muscat of Alexandria vines are not diseased, but they show a great lack of substance and are more or less etiolated. These conditions may arise from sourness of the border, which sometimes occurs when light and air are excluded, or when the damping of the paths and other bare spaces is carried out to excess. If you have reason to suspect that sourness of the soil is the cause, a handful of newly slaked lime to the yard, and watered immediately, should counteract the sourness. Old lime is useless for this purpose, it must be fresh from the kiln. Two or three days afterwards apply sulphate of iron, at the rate of ¼oz. dissolved in one gallon of water, to every square yard of border, using a water pot with a rose for the purpose. This application should be followed by ½oz. of sulphate of ammonia or nitrate of soda, in a finely powdered state, spread evenly over the same place and lightly watered in. Saltpetre (nitrate of potash) would answer the same purpose. Stir the surface of the border frequently when the soil is fairly dry, to the depth of one inch, and do not allow the temperature to rise too high by sun heat before the leaves show the normal colour or they will burn. When applying the lime if the border is inside the vinery, do not allow it to come in contact with fresh nitrogenous manure. In any case it would be safer to open the ventilators a little for an hour or two in the morning.

Communications Received. — W. K. — A. M. — F. P. H.—D. R. W.—H. M.—L. M. M.—F. W. F.—A. A.—C. A. B.—G. P.—W. C.—A. M. (thanks for donation to R.G.O.F. box)—R. G. T.—W. D.—S. H. G.—A. O.—W. T.—R. W.—M. W. A.—W. A. C.—H. M. V.—S. W.—A. N.—W. R. H.

SITUATIONS VACANT.

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PRIVATE.

BRITISH GARDENERS' ASSOCIATION. (Reg. No. 1666 T.).

THE Standard of Wages and Hours adopted in January last is now withdrawn and a new Standard is under the consideration of the Executive Council. When this is published, an announcement will be made in these columns.—CYRIL HARDING, General Secretary, 22, Buckingham Street, Strand, W.C.2.

WANTED, HEAD WORKING GARDENER, must be capable and experienced in flowers, fruit, vegetables and lawns, three under, cottage found.—State wages required, with experience and all particulars to, A. TAYLOR, The Warren House Gardens, Stanmore, Middlesex.

WANTED, experienced GARDENER (SINGLE-HANDED), married; with good knowledge of herbaceous gardens; willing to clean and attend to motor-car and make himself generally useful in house and outside; small greenhouse; good all-round man essential; highest references required; wages 35s. to 40s. a week and cottage.—Apply, giving references and stating experience, age, and number in family, to CLAUDE BARTON, Clapham, Yorkshire.

WANTED, GARDENER (used to Vines), with wife, but no family, to live in and caretake and clean offices.—Apply, MESSRS. HYDES, Solicitors, Worcester.

GARDENER (single), to live in, 12 miles from London. Good wages; splendid home (cottage). Testimonial.—67, Wigmore Street, W.

GARDENER (SECOND) for Pleasure and Rock Garden; married; state wages required, with house, etc.—H. HALES, Thornhaugh Hall, near Peterborough.

WANTED, SECOND GARDENER able to take charge of Vines and Peaches, Pot Plants, etc.; state wages required with bothy.—S. HAYES, The Gardens, Plymyard, Eastham, Cheshire.

WANTED, an UNDER-GARDENER, age about 20; good wages.—Write or call to the Gardener, J. HUTSON, The Bungalow, Chartfield Avenue, Putney.

WANTED, ASSISTANT GARDENER for Outside work, and glass when necessary; good wages and cottage to suitable man.—Apply with refs., to JOHN S. DOIG, Nettleton Lodge, Caistor, Lincolnshire.

GROOM-GARDENER wanted (single); must understand Glass, Fruit, Flowers, Vegetables; good wages to first-class man.—Apply, with references, to C. C. BAILEY, Ashby, Northwood, Middlesex.

FOREMAN wanted for good estate in the Home Counties, good wages; bothy; milk and vegetables.—Apply, stating experience and references, to, R. and G. CUTHBERT, Southgate, Middlesex.

WANTED, FOREMAN, also JOURNEYMAN for Glass.—Apply with particulars, stating wages with bothy, veg., etc., to J. PEPLOW, Compton Verney Gardens, Nr. Warwick.

WANTED, two FOREMEN, one for Pleasure Grounds and decorating, and one for Kitchen Garden and Hardy Fruit; wages 38s. per week, bothy, etc.; 1 o'clock Saturdays.—G. BRADLEY, The Gardens, Hamstead Marshall, Newbury, Berks.

WANTED, JOURNEYMAN (INSIDE); must be good Plantsman.—Apply, with full particulars and wages required, with bothy, etc., C. GARRATT, Canwell Hall Gardens, Sutton Coldfield, Birmingham.

WANTED, a thoroughly experienced JOURNEYMAN for Fruit and Plant Houses; wages 38s. per week, bothy, etc.—Apply, stating age, particulars of experience, with copies of testimonials, to the HEAD GARDENER, Stoodleigh Court, Stoodleigh, Tiverton, Devon.

WANTED, three good JOURNEYMEN for Pleasure Grounds, Kitchen Garden, and general outside work, accustomed to use scythe; wages 34s. per week, bothy, etc.—Apply, stating age, with copies of testimonials, to the HEAD GARDENER, Stoodleigh Court, Stoodleigh, Tiverton, N. Devon.

WANTED, JOURNEYMAN for Houses; must be energetic and well recommended; duty and overtime paid; 1 o'clock Saturdays; bothy and usual allowances.—With full particulars, apply to E. C. KINNS, Blenheim Gardens, Woodstock.

WANTED, JOURNEYMAN for Fruit and Plants, Carnations, Chrysanths., etc.—State age, experience, and wages required, bothy, milk, and veg., MILLER, Underley Hall, Kirkby Lonsdale.

WANTED, JOURNEYMAN for Inside and Out; must have experience in Fruit and Plant growing under glass; duty, bothy, etc.—Full particulars and wages required to T. DICKIE, Voeles, Bettws-y-Coed.

WANTED, JOURNEYMAN for the Houses; wages 30s. per week, with bothy, etc.; Sunday duty and overtime paid.—Apply, with particulars of experience to, W. H. BACON, The Mote Gardens, Maidstone, Kent.

WANTED, experienced JOURNEYMAN, also Improver, for fruit and plant houses; wages 35s. and 23s., good bothy, vegetables, milk and attendance, 10s. duty, overtime 10½d. per hour. Full particulars of experience, and ages, to,—HEAD GARDENER, Kings-Walden-Bury, Hitchin.

WANTED, two IMPROVERS for the Pleasure Grounds; wages 25s. per week, with bothy, vegetables, etc.; duty monthly, for which 5s. is paid.—Apply, J. C. IRELAND, Lynford Hall Gardens, Mundford, Norfolk.

WANTED, IMPROVER; excellent experience for intelligent youth; 22s., bothy, vegetables, etc.; Sunday duty paid.—W. PHILLIPS, Gardens, Derry Ormond, Llangybi, Cardiganshire.

WANTED, good LEADING MAN for Pleasure Grounds; understand lawns, Shrubberies, etc. State wages required, with cottage (free). E. W. PULL, The Gardens, Petworth Park, Sussex.

WANTED, experienced, practical MAN (single) for Rock Garden work chiefly; rooms, etc., provided.—State wages required and full particulars to HEAD GARDENER, Woodcote Grove House, Gardens, Coulsdon, Surrey.

WANTED, two active MEN for Pleasure Grounds; one willing to learn the electric light plant; wages 32s. 6d. weekly, bothy, etc.; extra for Sunday duty and overtime.—Apply, with particulars, to W. HEWITT, Head Gardener, Ashlands, Billesdon, Leicestershire.

WANTED, experienced single MAN for Pleasure Grounds; vegetables, good accommodation; wages 30s.; 6.30 a.m. to 5 p.m., 1 o'clock Saturdays.—Apply, HEAD GARDENER, Devonshire House, Twickenham Road, Teddington, Middlesex.

WANTED, MAN about 30 for Kitchen Garden; married; cottage and garden found.——Apply, stating wages, with copies of testimonials, to F. W. SPENCER, Tockenham Manor Gardens, Wootton Bassett, Wilts.

WANTED, experienced MAN for Pleasure Grounds, including Herbaceous borders, knowledge of Out-door Fruit Pruning an advantage, wages 35s. with good house. Full particulars of experience and age to,—HEAD GARDENER, Kings-Walden-Bury, Hitchin.

WANTED, TWO MEN (experienced) for kitchen garden and pleasure grounds. Able to take turn with duty at week-ends; wages 40s. per week.—Apply, E. JONES, Maesmynan Hall Gardens, Afonwen, Nr. Mold, Flintshire.

WANTED, experienced, active MARRIED MAN, chiefly kitchen garden, with boy preferred. Please state wages, with good cottage and garden. Apply with references.—HEAD GARDENER, Knowlton Court, Nr. Canterbury.

WANTED, good MAN for Inside Fruit.—Apply, stating wages asked, experience and testimonials; house (rent free) will be found.—SIR OSWALD MOSLEY, Rolleston Hall, Burton-on-Trent.

WANTED, single MAN to take charge of Fruit and Plant Houses, under Head; duty alternate weeks.—State age and wages required, with refs., to W. H. SWANBOROUGH, Haines Hill, Twyford, Berks.

WANTED, MAN thoroughly understanding Pleasure Grounds, Flower Borders, etc.—Please send particulars, wages (no bothy), experience, G. PLATT, The Cottage, Fitzroy Park, Highgate, N.6.

WANTED, experienced SINGLE MAN for Plant and Fruit Houses, with knowledge of Orchids; 40s. per week, no bothy; duty paid; good references required.—Particulars to J. WOOLFORD, Wokefield Park Gardens, Mortimer, Berks.

WANTED, a SINGLE MAN for Lawns, Rockery, Herbaceous Borders.—Please state wages and particulars. to H. GOOD, The Manor House Gardens, Woodmansterne, Banstead, Surrey.

YOUNG MAN to assist in Orchids; good knowledge essential; wages 52s., bothy and attendance.—Apply, stating age, experience, with copies of references, CHEADLE, Wallhouse Gardens, Torphichen, Scotland.

WANTED, young MEN for Kitchen Garden and Pleasure Grounds; able to take duty; wages 32s., bothy, etc.; 1 o'clock Saturdays.—Apply, stating age and experience, E. DUMPER, The Gardens, Great West Hatch, Chigwell, Essex.

WANTED, one or two energetic young MEN wishing to learn Orchid Growing where a large collection is grown.—Apply, W. MAY, The Clock House, Forty Hill, Enfield.

WANTED, YOUNG MAN for general garden work, Inside and Out; 27s. per week, 6s. duty; bothy and vegetables; 1 o'clock Saturdays.—W. MILES, The Gardens, Caversham Park, Reading.

WANTED, YOUNG MAN for Kitchen Garden work; wages 30s., bothy and vegetables; duty every third week; 1 o'clock Saturdays;—Apply, G. BEALE, The Gardens, Rockshaw, Merstham, Surrey.

WANTED, for general garden work, strong active YOUNG MAN, age from 18 to 20; duty alternate weeks; wages 30s. per week, duty 3s.; 1.30 Saturdays; god bothy and attendance.—BLAKE, Clandon Park Gardens, Guildford.

WANTED, YOUTH for Inside, under foreman; wages £1 per week, bothy, milk, etc.—WILKS, Hamptworth Lodge Gardens, Nr. Salisbury.

WANTED, YOUNG WOMAN for Orchid Houses, with some previous knowledge of Greenhouse work.—Apply stating wages required, with reference, etc., to J. COLLIER, Gatton Park Gardens, Reigate.

TRADE.

BOARD OF AGRICULTURE AND FISHERIES. HORTICULTURAL DIVISION.

APPLICATIONS are invited for a vacancy in the Technical Inspectorate of the Horticultural Division, Board of Agriculture and Fisheries, at a salary of £300 p.a. together with travelling expenses according to grade. Candidates must possess an up-to-date knowledge, both technical and practical, of the culture and marketing of commercially grown fruit and market garden crops.

Forms of Application, which must be returned duly completed not later than Saturday, June 28th, 1919. may be obtained from the Secretary, Board of Agriculture and Fisheries, 72, Victoria Street, S.W.1.

WANTED, capable WORKING FOREMAN for Greenhouse department, Bedding Stuff, Dahlias, Chrysanthemums, Tomatos, Cucumbers and Bulb Forcing.—State experience and wages required, R. H. BATH, Ltd., Wisbech.

WANTED, FOREMAN for small Market Nursery; must be good Grower of Bedding stuff, Cucumbers, Tomatos, Chrysanthemums, Ferns.—State age, wages required, by letter, to MARKET, 97, Ellerton Road, Tolworth.

WANTED, Nursery WORKING FOREMAN, experienced man, for small Nursery; good Budder of Roses, Fruit trees, Shrubs, etc.—Reply, giving full particulars with copies of discharges and wages expected to ARTHUR S. RITCHIE & CO., Seedsmen, Belfast.

FOREMAN GROWER wanted for Dahlias, Solanums and Hydrangeas.—State experience and wages required.—CLIBRANS, Altrincham.

WANTED, MAN for Rose and Fruit Tree department; successful Budder and Grafter.—State experience and wages required, WILLIAM RANDALL, West of England Nurseries, Exeter.

WANTED, GENERAL NURSERY HANDS.—Apply, ICETON, Putney, S.W.

YOUNG MEN wanted for the following Glasshouse Depts.; Stove and Greenhouse; Soft. Wooded, Fern and Palm, Chrysanthemum, and others; 49½ hour week; 12 o'clock on Saturdays.—State experience and wages required, CLIBRANS, Altrincham.

YOUNG MEN wanted for Herbaceous and Alpine Dept.; 49½ hour week, 12 o'clock on Saturdays. — State experience and wages required, CLIBRANS, Altrincham.

WANTED, young, energetic MAN for growing Tomatos, Carnations, Chrysanthemums, &c. State age and wages required.—JARMAN & CO., Chard, Somerset.

WANTED, YOUNG MAN for Tomatos, Cucumbers and Chrysanths.—State age, and wages. G. BENNETT & SON, Hanwell, W.7.

WANTED, young MAN (single) for Tomatos, cucumbers and general Pot Stuff, also HANDY MAN for Painting, Glazing, Carpentry.—Particulars to Box 23, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, YOUNG MAN with experience of Decorating and Hotel work.—References and wages required to BROOKE, BRAY & SONS, Nurserymen, Sheffield.

WANTED, energetic HEAD SALESMAN, thoroughly experienced in all branches of Seed, Sundries and Nursery Stock; able to undertake management when required. Send copies of discharges and wages expected.—Address, ARTHUR S. RITCHIE AND CO., Seedsmen, Belfast.

FLORIST. — Lady (experienced), capable of executing own designs.—Apply, stating age and wages, W. H. SIMPSON & SONS, Florists, Moseley, Birmingham.

WANTED, a competent HANDY MAN for Nursery; used to boiler and pipe fitting, carpentering, bricklaying, painting and glazing, etc.; permanent position to suitable man.—Apply stating experience, with references and wages required, to W. H. PAGE, Tangley Nurseries, Hampton, Middlesex.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

MR. C. J. CONWAY, High Beech, Hollington, near Hastings, can highly recommend A. DAVIES as HEAD to any Lady or Gentleman requiring the services of a capable Gardener, where three or four are kept; experienced in all branches.

THE HON. A. MULHOLLAND, having sold his estate, personally recommends his late HEAD GARDENER as a first-rate man in all departments, landscape and estate work.—MORRIS, 44, Fairclose Road, Beccles.

MR. T. BURN, Cuerdon Hall, Bamber Bridge, Preston, wishes to highly recommend his late G. Foreman as HEAD GARDENER to any Lady or Gentleman in want of a thorough reliable and competent man in all branches; capable of taking charge of large establishment; age 34; married (no family).—Particulars apply above, or to J. T. TILDESLEY, Church Eaton, Stafford.

MR. ARTHUR BLYTH can highly recommend his HEAD GARDENER, A. HAMMOND; thorough practical knowledge, Inside and Out; married (one boy, 12).—Apply, Hurst Grove, Twyford, Berks.

MR. THOMAS SMITH, Gardener to the Marquis of Ripon, Coombe Court, Kingston Hill, Surrey, can highly recommend B. JARRATT as Head where two others are kept, or good Single-handed; married; age 30; life experience, Inside and Outside; previous demobilised.

A GENTLEMAN going abroad and giving up estate wishes to recommend his Head Gardener to lady or gentleman requiring a thorough experienced man in all branches, Inside and Out; aged 39; two children (age 10 and 17 months).—HAWKINS, Gadsden House, Hayes, Kent.

GARDENER (HEAD).—Mrs. Henry Oppenheim highly recommends her GARDENER; thoroughly efficient in all branches; life experience; highest references; demobilised; married; age 45; understands cattle and poultry.—WM. COOMBE, 4, York Terrace, Oxford Road, Windsor.

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A THOROUGHLY experienced HEAD GARDENER, with first-class references, seeks engagement; all branches Orchids, fruit, decorative work, bedding, successional vegetables etc.—M., The Gables Cottage, Surbiton.

GARDENER (HEAD), demobilised, seeks situation where several are kept; married; age 40; life experience; highly recommended; head of eight for four years, previous to joining Army.—B. W. LOVE, 3, Burford Road, Chipping Norton, Oxon.

ADVERTISER seeks re-engagement as HEAD GARDENER or ESTATE MANAGER, private or otherwise; thorough practical life experience in all branches; age 35; married.—Particulars to M. G., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD); 25 years' thorough experience in first-class establishments in England and Continent; 6½ years Head; recently returned, owing to conditions rendered by war; excellent testimonials; married (two sons).—MARCHAM, Fair Oak, Eastleigh, Hants.

GARDENER (HEAD), age 43 years, well versed in the requirements of a well-kept establishment, skilled grower choice Fruits, Carnations, Roses, Orchids, etc.; 15 years Head; married (one daughter); 10 years; disengaged.—J. N. PESKETT, 62, Eastfield Road, Peterborough.

GARDENER (HEAD).—B. C. Forder, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establishment; life experience in all branches; ten years as Head; good manager, and economical; age 39; married (one child, 13 years); excellent references; Army discharged.—Full particulars, The Gardens, Whatcombe House, Blandford, Dorset.

GARDENER (HEAD); practical experience, Inside and Outside, gained in good establishments; thoroughly efficient and well recommended; previously head; married (2 children); demobilised.—T. LARKBEY, Battlefields, Wrotham, Kent.

GARDENER (HEAD) offers his services to a Lady or Gentleman requiring a thoroughly competent and all-round GARDENER; life experience in all branches, twelve years as Head; demobilised; category A1; age 40; married (1 child).—H. SMITH, 38, Wordsworth Street, Keswick, Cumberland.

GARDENER (HEAD) where two or more are kept; life experience both Inside and Out; 7½ years last situation; good references; demobilised; age 41; married (no family).—L. KETTEL, 5, Baron Row, Mitcham, Surrey.

GARDENER (HEAD).—Captain G. H. Loder wishes to recommend H. BEAUCHAMP; references. — H. BEAUCHAMP, High Beeches Cottages, Handcross, Sussex.

GARDENER (HEAD). — Captain Drury-Lowe, Locko Park, Derby, will highly recommend advertiser as above; thoroughly experienced in all branches; age 47; married (one child, age 10).—WALKER, The Gardens, Locko Park, Derby.

GARDENER (HEAD); first-class experience gained in very large establishments; eight years in last place, Head of eight; very strong and active; highly recommended to any lady or gentleman; leave when suited; age 44.—H. PREECE, Woolhampton Park, near Reading.

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GARDENER (HEAD) seeks re-engagement; until recently charge of Wexham Park Gardens, where good character can be obtained; life experience; efficient in the cultivation of Fruit, Flowers and Vegetables; Land and Stock; one son, age 14.—WILLIAM MATTHEWS, Brasted Chart, Sevenoaks, Kent.

CAPT. SAVILE recommends his HEAD WORKING GARDENER; life experience in all branches; first-class testimonials from good places; certificate from the R.H.S.—STOKES, Ven, Milborne Port, Somerset.

C. A. MOREING, Esq., highly recommends his HEAD-WORKING GARDENER; life experience in all branches; excellent references; age 38.—FASEY, Martin's Cottage, Heywoods, Diss, Norfolk.

LORD ASHCOMBE, Denbies, Dorking, Surrey, highly recommends G. ALLAN as Head Working Gardener; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

GARDENER (HEAD WORKING) thorough practical experience, Inside and Out; Highly recommended by present employer.—J. BROWN, The Gardens, Stansted Park, Emsworth, Sussex.

GARDENER (HEAD WORKING or good SINGLE-HANDED with help; life experience in all branches; age 42; married (one child); well recommended.—WHEELER, Glengariff, Queen's Road, Crowborough, Sussex.

GARDENER (HEAD WORKING); 28 years' experience amongst Fruits, Flowers, Plants, Vegetables; age 43; married; (one daughter, age 15); highest recommendations.—SCOFIELD, Wraxall Court Cottage, near Bristol.

GARDENER (HEAD WORKING) or FOREMAN; life experience; well recommended; age 37; married (one child).—J. BAYLEY, Wallsworth Lodge, Sandhurst, Gloucester.

GARDENER (HEAD WORKING), age 34, married, no children, seeks Engagement; life experience all branches; well recommended.—DAVIDSON, 40, Rothesay Road, Luton, Beds.

GARDENER (HEAD WORKING) seeks situation; life experience in the cultivation of Fruit, Flowers, and Vegetables, including Vines, Peaches, etc.; good references; age 43.—S. SPURGEON, Rose Cottage, Bocking Place, Braintree.

GARDENER (HEAD WORKING of three or four); age 40; married; 25 years' experience; excellent references and can be thoroughly recommended.—GEORGE WALLINGTON, Newtown Hall, Newtown, Montgomeryshire.

HEAD WORKING GARDENER, 27 years' practical experience in all branches of horticulture, last 7 years as Head; age 36; married (1 child).—C. DAVIS, Holy Wells Park Gardens, Ipswich.

GARDENER (HEAD WORKING), demobilised, seeks post where several are kept; twenty years practical experience in all branches; good manager; last post three years and eight months, head to the Hon. Carr and Lady Mary Glyn; excellent references.—A. MORPHETT, Wootton, near Ashbourne, Derbyshire.

GARDENER (HEAD WORKING); thoroughly experienced in the management of a large establishment; first-class references; eight years Head last place; left through reductions; age 41; married (one child).—FRENCH, North Row, Uckfield, Sussex.

GARDENER (HEAD WORKING) where three or more are kept; life experience in all branches; age 33.—G. BULL, Willingdon, Eastbourne.

GARDENER (HEAD WORKING) where two or more are kept; life experience; excellent references; age 29; married (no family); demobilised.—A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING); life experience all branches of Gardening; Inside and Out; last 18 years as Head; age 45; married, two in family, 16 and 12.—GREEN, The Lodge, Hailey Ipsden, Near Wallingford, Oxon.

GARDENER (HEAD WORKING) or good Single-Handed; life experience; Inside or Out; age 30; married (one child).—Please state wages, BAILEY, Heydon, Near Royston, Herts.

GARDENER (HEAD WORKING); thoroughly experienced in all branches; the last 13 years' as HEAD; good references; married (no family); age 42.—FLETCHER, 34, Wellington Square, Chelsea, S.W.3.

GARDENER (HEAD WORKING), demobilised, seeks situation; life experience, Inside and Out; 14 years as Head; excellent references; married; age 43.—SWAINE, Sarratt, Rickmansworth, Herts.

GARDENER (HEAD WORKING) where several are kept; life experience in all branches, both Inside and out; Fruit, Flowers and Vegetables; good references; married (two children).—HEXTALL, Hill Top, Atherstone.

GARDENER (SINGLE-HANDED) or good Pleasure Ground Gardener; good references; age 39; married (two children); 35s. week with cottage.—REED, Gravelye Lane, Lindfield, Haywards Heath.

GARDENER (SINGLE-HANDED or SECOND), where two or three are kept); good references; age 29; 10 years' experience; recently demobilised.—W. REDBOROUGH, 11, Brook Street, Twyford, Berks.

GARDENER (single), demobilised, 25, SINGLE-HANDED, used to all outside work; willing to make self generally useful; six years' experience; good references.—S. HAYES, Post Office, Bulmer, Near Sudbury, Suffolk.

GARDENER (SINGLE-HANDED or with help; 18 years' practical experience in all branches; excellent references; age 35; married; demobilised.—G. SIMMONS, 4, Stanwick Terrace, Kingsbridge Road, Newbury, Berks.

GARDENER seeks situation as SINGLE-HANDER; experienced; age 32; single.—Address WESTWOOD, Pilgrim's Hatch, near Brentwood, Essex.

GARDENER (demobilised) seeks situation as SINGLE-HANDED or otherwise; good all-round, life experience; single; age 30; last situation 7½ years; West of England preferred.—Wages and particulars to A. VERRILL, Peterchurch, Herefordshire.

GARDENER seeks situation, single-handed preferred; cottage required; good refs.—TURNER, 56, Gladstone Road, Wimbledon, S.W.

THOROUGHLY capable expert GARDENER; long experience in all branches, seeks situation Kent or Surrey; highest possible references.—Write, G. STONHAM, 10, Avenue Park Road, West Norwood.

GOOD KITCHEN GARDENER, Garden Labourer, seeks situation; age 43; single; good references.—F. TURNER, c.o. Mrs. Frost, 2, Cressy Road, Hampstead, N.W.3.

RELIABLE, trustworthy, good all-round GARDENER seeks reengagement; 18 years experience in all branches, with upkeep of Gentleman's place; age 33; married.—T. WICKS, Chaulden Cottages, Boxmoor

ORCHID GROWER; nine years' experience; Belgian; aged 33; married; good references; requires situation in private or trade; state wages.—DE BLAUWE, Grove House, Samaris, Jersey (Ch. Is.).

GARDENER (SECOND) seeks situation (Inside); age 29; good references; abstainer; non-smoker.—Apply, JANCEY, 6, Dawlish Cottages, Water Orton, Near Birmingham.

GARDENER (SECOND), Inside or Inside and Out; age 28; married (no family); good references. —F. TAYLOR, 2, Painswick View, Billbrook Road, Hucclecote, Gloucester.

GARDENER (27), single, seeks situation as SECOND, Inside; all-round experience; abstainer.—H. GOULD, Stonebridge Nurseries, Meriden, near Coventry.

GARDENER (SECOND or good SINGLE-HANDED); good experience Inside and Out; excellent references; age 35; married (no children); cottage preferred.—RUSHEN, Great Wigborough, Colchester, Essex.

GARDENER seeks situation as SECOND, chiefly Outside; good all-round experience; good references; Midlands preferred; age 25; single.—F. BURROWS, Clifton Hall Gardens, Nottingham.

GARDENER (SECOND or SINGLE-HANDED) requires situation; demobilised; excellent references; married (three children); age 29; write stating wages.—L. JOHNSON, 46, Stanley Road, Chingford, Essex.

SECOND GARDENER, Inside or Inside and Out.—Mr. Arnold, Gardener to the Hon. Mrs. Portman, Hestercombe, Taunton, can with confidence commend H. JOHNSON as a thorough practical man; married; age 25; please state wages.

UNDER-GARDENER or HANDY MAN requires situation in Pleasure or Kitchen Garden with cotage; age 50; married, but no family and has good references.—GARDENER, 33, Fanthorpe Street, Putney, S.W.15.

UNDER GARDENER (24) seeks situation in Surrey or near London; good reference; married when suited. — G. D., Sydenham Mill, Lew Down, R.S.O., Devon.

DEMOBILISED SOLDIER (26), married, no children, seeks situation as UNDER-GARDENER, or where several are kept; 5½ years' experience; good references.—HOPSON, Norton, Bury St. Edmunds

AN experienced INSIDE FOREMAN wants situation.—Apply, E. GOODEN, 54, Ermine Road, Chester.

FOREMAN (INSIDE) seeks situation; good references from well-known establishments; demobilised; age 28; single.—ALLEN, 1, Clarkson Road, Moordown, Bournemouth.

FOREMAN (INSIDE or good SECOND); good experience in all branches; age 32; demobilised; married (one child, age 4).—F. HAZELDINE, 204, Queen's Road, Battersea, S.W.

JOURNEYMAN (demobilised) seeks situation, Inside; five years' experience; good references.—W. FREW, Rose Cottage, Medmenham, Marlow, Bucks.

JOURNEYMAN, four years' experience Inside and Out, seeks situation in private establishment, with bothy, in Bucks or near preferred; just demobilised.—J. L. W., Box 9. 41, Wellington Street, Covent Garden, W.C.2.

YOUNG MAN, age 17, requires situation as IMPROVER, Inside; general knowledge Inside work; present place four years. Apply, giving full particulars—J. JONES, Knoyle House Gardens, Salisbury.

FARMING.—Youth with some experience in poultry farming recommended to assist farmer.—Write, L. M., 12, Kensington Palace Gardens, London, W.8.

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LADY GARDENER wishes post under good head or single handed; 10 years' experience; cottage, or would rent suitable house near or within cycling distance; highest references.—MARTIN, 10, Tweedy Road, Bromley, Kent.

LADY (26), willing to give services in Garden or on Farm, in return for board and slight remuneration.—H. E. G., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

LADY (33) desires sole charge private garden or school, man under; heated houses; 14 months present charge; cottage essential.—COX, 254a, Corporation Street, Birmingham.

TWO LADY GARDENERS, four years' experience, good practical knowledge, fruit, flowers under glass, general outside work; Kent or S.E. coast preferred.—C. P. Box 6., 41, Wellington Street, Covent Garden, W.C.2.

GARDENING.—A GIRL of 21, strong, disengaged; some experience in gardening and poultry farming.—For particulars apply to, L., 12, Kensington Palace Gardens, London, W.8.

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TRADE.

WORKING MANAGER or FOREMAN (just demobilised) requires situation in Market Nursery; 15 years' experience in Tomatos, Grapes, Peaches, Ferns, Carnations, etc.; first-class references; age 35; single.—For further particulars apply to WILSON, 29, St. Kilda's Road, Stoke Newington, N.16.

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MANAGER seeks re-engagement in Market Nursery, wholesale or retail; aged 48; over 30 years' good experience in all branches of the trade; expert grower Inside and Out; Bookkeeping and Marketing.—State wages to GROWER, Huntersdale, Virginia Water, Surrey.

PROPAGATOR and GROWER; thoroughly experienced in Alpines and Herbacious; 10 years' experience with leading firms; please state wages; age 33.—S. P., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

MANAGING FOREMAN (WORKING) for small branch Nursery, seeks re-engagement with good firm; life time experience in Roses and Fruit Trees; first-class references; age 32; married.—E. B., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (WORKING); thoroughly experienced in Vines, Cucumbers and Tomatos for market; over twelve years' reference as above in last situation.—Apply, G. C., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

IMPROVER requires situation in Nursery or Market Garden; good experience Inside and Out; first-class references; age 18½.—R. J., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

YOUNG MAN, age 18, willing, wishes to learn market gardening. Will accept moderate wages.—Address, 229, Springbank Road, Hither Green, London.

YOUNG MAN, married, demobilised, seeks Situation; Tomatos, Cucumbers, Chrysanthemums, Bedding, and General Pot Plants.—W. C., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

ADVERTISER, 27, married, no family, seeks situation, Inside or Inside and Out (trade or private); nine years' experience Cucumbers, Melons, Tomatos, Chrysanthemums, Carnations, Peaches, Vines, Bulb Forcing, Bedding Stuff, etc.; good refs. Please state wages, also if cottage available in district.—CORNFORD, 133, Lebanon Road, Croydon.

ADVERTISER open for engagement as TRAVELLER or MANAGER; life experience in the Seed and Nursery trade; good refs. and connection.—Apply, C. B., Box 26, 41, Wellington Street, Covent Garden, W.C.2.

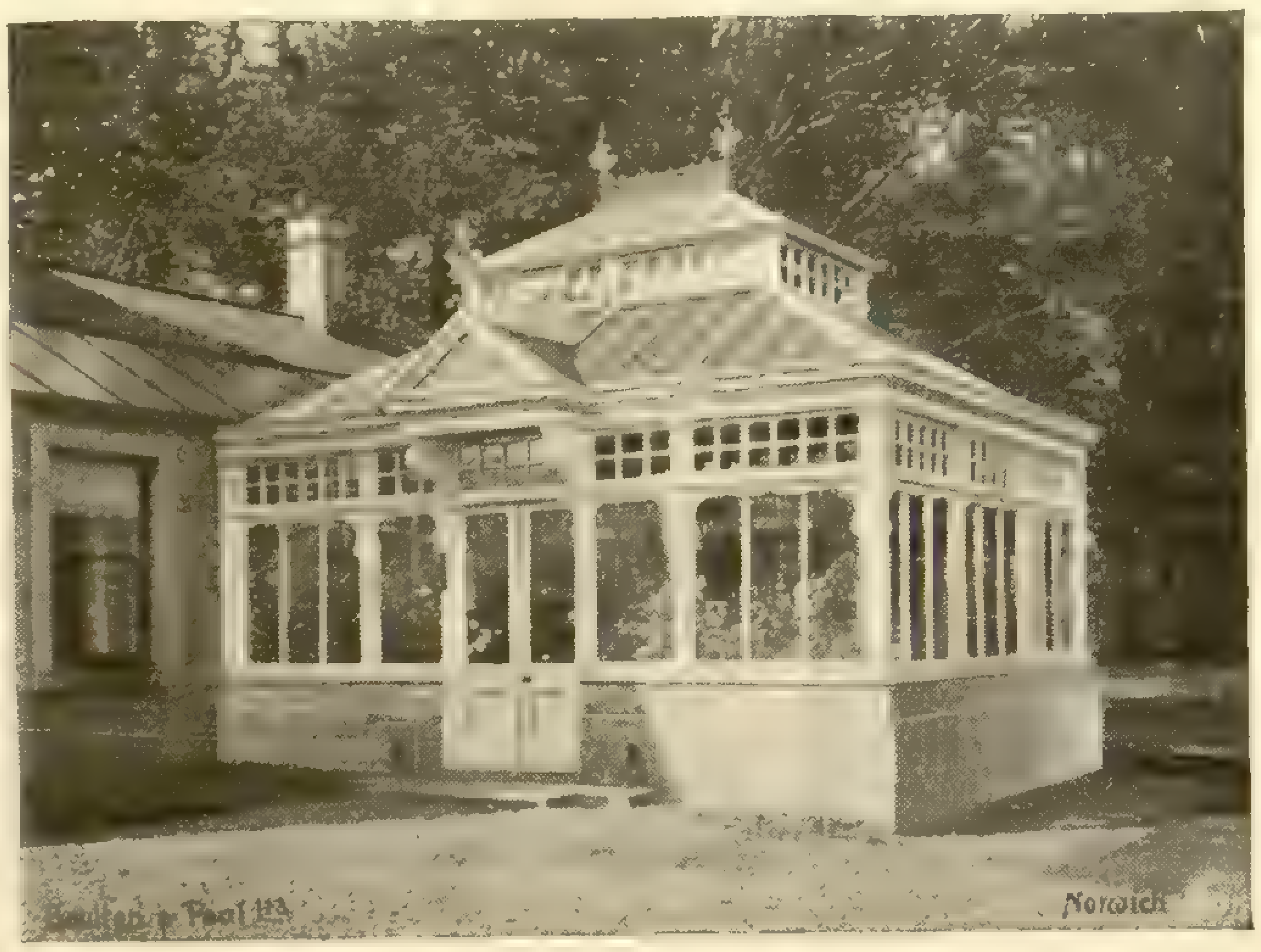
TRAVELLER or MANAGER. — A man of high-class experience in the Seed and Nursery business is open to engage with a first-class firm.—W. F., Box 15, 41, Wellington Street, Covent Garden, W.C.2.

SALESMAN or SEEDSMAN (demobilised); thorough knowledge of the Nursery trade, Bulbs, Seeds, Sundries, etc.; nearly 20 years' experience.—F. V., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

SEEDSMAN, 30 years' all-round experience, wholesale and retail, seeks re-engagement with first-class house; able to take charge, prepare seeds for sale, deal with large home and foreign orders; agricultural seeds preferred.—A. R., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, situation as FIRST HAND, shop or Warehouse; life experience Seed, Bulbs, Sundries, Cut Flowers, and General Nursery Stuff; good knowledge; excellent references with good firms; would travel.—ACE. Box 8, 41, Wellington Street, Covent Garden, London, W.C.2.

FLORIST, as MANAGERESS or First Hand; first-class experience in all Floral work; good references.—C. B., Box 1, 41, Wellington Street, Covent Garden, W.C.2.



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Schedules and particulars on application to Hon. Secretary, Windsor.

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The Gardeners' Chronicle.

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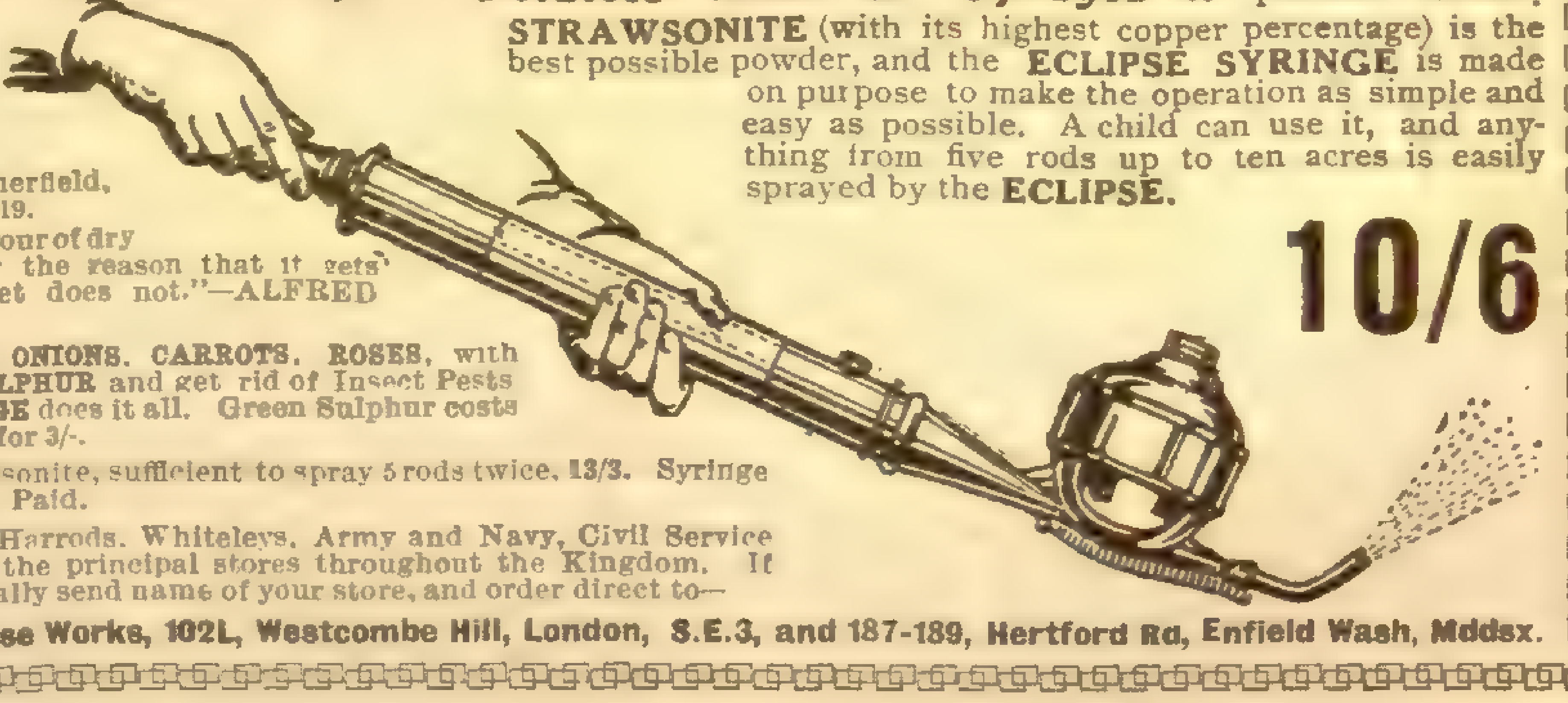

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THE
Gardeners' Chronicle
No. 1696.—SATURDAY, JUNE 28, 1919.

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.

No. 2.—THE VALLEY OF THE NGAW CHANG.

EVEN from the wooded passes that cut across the divide between the Nmai Hka and the Ngaw Chang one still gets no hint of any great alpine range coming near to hand. High and higher, indeed, rise the chains of hills that tortuously envelop the winding courses of the river far below; but the whole scene is one vast crumpled verdure of forest, except where a burnt hillside has sprung up again in coppice more vividly green than the rest. But, though the tropics even here subsist, in Gesnera and Begonia, signs begin to appear of homelier things. Anemone obtusiloba springs to light, charming and delicate in its young stage, though ultimately the universal plague of alpine Asia; and all the Wilsonian brambles wave riotously about in every direction. They are truly an amazing crew, vast and violent weeds that inspire one anew with sympathy for the cataloguers that had to try and discover some saleable beauty in each. Some, indeed, do have a single point of attractiveness—a stem of burnished mahogany brown, or milky whitewash; one has a really fine white flower, and another a really handsome vine-like leaf. But in no case is this single attraction enough to redeem the plant's terrific habit, or give it any shadow of claim for admission to the garden, or to anything except the wildest woodland, where, as a matter of fact, they would make only too successful covert, defeating any beater who was not armed from head to foot in coat of mail. So far one only, the hugest and most hideous of all, has shown me signs of fruit. This, in appearance suggesting a gigantic mounded-up Blackberry, produces in riotous abundance very heavily-laden terminal bunches of fruit, ripening sporadically in the clusters, and resembling rather small Raspberries of a golden-orange colour. But these are really delicious, and not unlike Raspberries in their crisp sweetness; a garden hybrid between this and Rubus Idaeus or R. fruticosus, might well produce something of market value, if the size of the fruit can be thus improved, and the overwhelming crop maintained. But who can tell me if this particular Wilsonian treasure has even condescended to fruit with us at all? In any case, let those interested be warned: even if I myself am tempted to send any of these plants, I shall consider the minutest quantity of each as quite sufficient to burden any gardener with.

Afar, in a bend and junction of rivers, the military post of Htawgaw rears its proud head to something over 4,000 feet. On this eminence, accordingly, two new Rhododendrons at once appear, sparsely, amid the sun-baked coppice beneath an aromatic canopy of a thin, tessellated-trunked Pine, whose fine green and hot scent translate one immediately to the Italian Riviera and P. maritima. Of the Rhododendrons one, R. quinquefolium, is here very rare, forming a bush of six feet or so, with small Azaleas of magenta lilac; the other is, I fancy, a lapponicum, stunted here, on this lonely outpost, but becoming a tall pillar of 12 or 14 feet in the half-open, half-shady places up the wooded banks of the Ngaw Chang, as far as the foot of Hpimaw Hill. Though its tiny scentless flowers are so pale as to be almost white, with minute carmine frecklings, and they have preposterously far-exserted white stamens, their multitude is so lavish as to give the plant definite value as a solid mass of pale colour. These two are the advance-guards of the Alps; for, from Htawgaw Fort, looking north-east, high alpine jags of snow and dark rock at last appear over the distance, looming above the far windings of the river, and the crumpled enormous chaos of the wooded ranges. But the road now descends to the depths of the Ngaw Chang vale again, on the other side of Htawgaw, and for three more days continues its course circuitously, round and about the innumerable sharp spurs that sink so steeply to the river that only very occasionally are there a few narrow stretches or bays of flatness sufficient to grow Rice. The forest is thinner now, though not so tall and tropical; there are great stretches of the road like an English park, with an Oak of vivid green dotted up and down the arduous slopes of grass and Bracken. But even here the tropics persist; on Htawgaw Hill there is still a Derris like a rose-pink Wistaria; and a horrible magenta Lasiandra thing that luxuriated in the hottest jungle long before the railway reached Myitkina; to say nothing of Orchids, Coelogynes and Dendrobiums on the trees, and great black boulders in the green twilight of the way; though, indeed, these had hitherto rather surprised me by their scarcity.

Meanwhile the Ngaw Chang flows very deep in its bouldered bed, under a heavy tangle of dense growth on either side. In the opener places the little Htawgaw Rhododendron makes blots of pallor on the sombre weight of green, and there is another beautiful one, a taller, thinner bush with medium-sized Azalead flowers of vividest pure cherry-rose, conspicuous from afar, where it juts from some shady precipice in the woodland. But in the close sheltered atmosphere of that gorge the warmth must be such that I can have scant hope of hardiness for the most beautiful of the Ngaw Chang's early Rhododendrons—a magnificent evergreen white-trumpet, which overhangs only the darkest, deepest, and most difficult cliffs in these deep and difficult chines. March- and April-flowering Rhododendrons from the warm gullies down in these ranges are not particularly likely to bring their blossoms to perfection in an English March or April, even though the plant itself may very well be hardy. In both respects I have my doubts of the Ngaw Chang beauty, with its lovely big white blossoms, flushed in the bud with rose, and at the base with yellow, and possessing a delicious fragrance. I did, indeed, at last secure a specimen growing in open light on a sunny boulder. But even this did its best to prove the plant's proclivities by being sickly and stunted and starved. The best beauty of that particular gorge was a very fine Iris of the tectorum type, that occurred copiously among the scrub at the mouth, and was a magnificent sight, with three-foot candelabras of golden-crested, lavender blossoms, with purple-velvet mottlings round the crest. I cannot remember ever having seen I. Milesii represented as having such fine flowers—fully the equal of I. tectorum, allowing for their much greater number; but, if not I. Milesii, this looks like another and a better member of the same group—and possibly, of the same unsatisfactoriness in our climate.

But now, though the vegetation in the valley shows little change, the high alps are heading into sight at the top of the distance, in a great barrier of austere brown-and-black pyramids whose dumpy lines reveal, alas, the absence of limestone, and whose forested flanks are riven and corrugated by innumerable corries that look mere wrinkles, but are, in fact, huge rifts disguised in unnegotiable forest, converging to deeper gullies, yet at the foot of the peaks, concealed in forest more unnegotiable still. And, in front, far above us, on a bared high spur projecting from the alpine amphitheatre behind, appears a tin-roofed settlement of long, low wooden shanties; that is Hpimaw Fort, the last outpost of Britain in this remote no man's land (that ceased to be Burma long ago, even before we reached Myitkina), existing only to guard the pass, up behind, from a steady influx from China, which might otherwise make good its footing and establish the ancient claim of China to this uncharted wilderness of barely populated alps which, however valueless in itself, would serve as too wide a gate into Burma. *Reginald Farrer.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM OERSTEDII.

In his fine group at the R.H.S. Chelsea Show on May 20-22, Sir Jeremiah Colman, Bart., included in a very interesting selection of rare species the pretty dwarf Odontoglossum Oerstedii, which has been rarer in gardens for some years past, and threatens to become lost to cultivation unless again imported. No use has been made of the species by the hybridist, but attempts should be made to cross it with others, also to raise plants true from seed, and thus to some extent secure independence of native collections.

The plant was discovered in 1848 by Warscewicz on the highest slopes of Irazu and Turrialba in Costa Rica, ranging from 7,000 to 9,000 feet elevation. It was described by Reichenbach in *Gard. Chron.*, March 10, 1877, p. 302.

Odontoglossum Oerstedii is one of the dwarfest, most compact and freest-flowering species. The pure white flowers with yellow base to the lip, are borne generally two or three on a spike, arising very effectively above the closely-tufted plant with its rounded pseudobulbs, each furnished with a stalked elliptic-lanceolate leaf of very dark green colour. The plant thrives in the Odontoglossum house in suspended Orchid pans.

A fine specimen, shown by Mr. Lee at the meeting of the Royal Horticultural Society on March 25, 1884, was awarded a First-class Certificate.

THE ALPINE GARDEN.

PRIMULA HARROVIANA.

THE charming little Primula illustrated in Fig. 156 gained an Award of Merit when shown by Mr. A. K. Bulley at the meeting of the Royal Horticultural Society on May 27 last. Seeds of it were collected on his behalf by Mr. Cooper in Bhotan in 1915, and on flowering the plant was determined to be a new species by Prof. Bayley Balfour, who named it in compliment to Mr. Harrow, of Edinburgh Botanic Garden.

The species bears a great resemblance to the Western Himalayan P. Reidii, but the leaves are not so thickly covered with white silky hairs, so characteristic of the latter species. Owing to this fact, it has proved an easier plant to manage, for it is not so liable to damp off as P. Reidii.

P. Harroviana is a low-growing plant with tufts of bright green leaves having crenate margins. The flower stems, about four inches high, are covered with a white meal and bear a closely-packed head of pure white flowers. The blooms are about half an inch in diameter with the edges of the corolla fimbriated.

The plant has proved quite hardy at Neston, and has been propagated both by means of seeds and division. *W. I.*

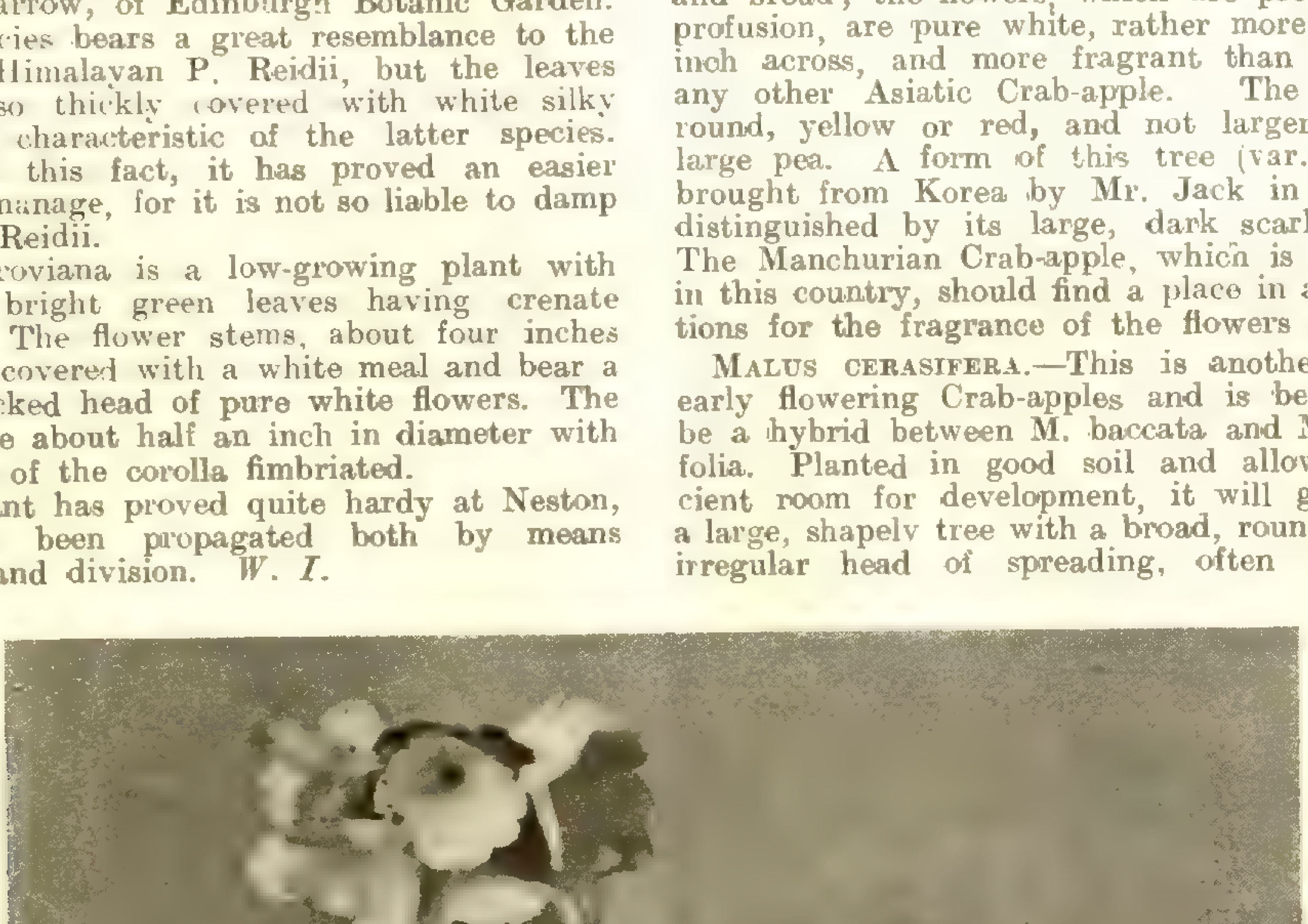

FIG. 156.—PRIMULA HARROVIANA; FLOWERS WHITE (R.H.S. AWARD OF MERIT, MAY 27, 1919).

TREES AND SHRUBS.

ASIATIC CRAB-APPLES.

WE gather from a Bulletin issued recently from the Arnold Arboretum, Harvard University, Jamaica Plain, Mass., U.S.A., that the flowering of the Asiatic Crab-apples makes one of the principal spectacular displays of the year in the Arboretum; and of these displays only that made by the Lilacs attracts a larger number of visitors. It will be seen that the Arboretum authorities retain the old generic name of Malus for these Crabs. Among these Crab-apples are numbers of small trees which should find a place in every northern garden, for few trees which are hardy in New England are more beautiful when covered in May with their white, pink or rose-coloured flowers, or in autumn when the branches are loaded with their brilliant red, scarlet or yellow fruits.

MALUS BACCATA MANDSHURICA is the earliest of these Crab-apples to open its flower-buds in the Arboretum. A native of Manchuria, Korea and northern Japan, it is the eastern form of the better known Malus baccata, the Siberian Crab-apple, which reached Europe more than a century ago and for a long time was one of only two Asiatic Crab-apples known in western gardens. The Manchurian form as it grows in the Arboretum is a tree twelve or fifteen feet tall and broad; the flowers, which are produced in profusion, are pure white, rather more than an inch across, and more fragrant than those of any other Asiatic Crab-apple. The fruit is round, yellow or red, and not larger than a large pea. A form of this tree (var. Jackii), brought from Korea by Mr. Jack in 1905, is distinguished by its large, dark scarlet fruit. The Manchurian Crab-apple, which is still rare in this country, should find a place in all collections for the fragrance of the flowers alone.

MALUS CERASIFERA.—This is another of the early flowering Crab-apples and is believed to be a hybrid between M. baccata and M. prunifolia. Planted in good soil and allowed sufficient room for development, it will grow into a large, shapely tree with a broad, round-topped, irregular head of spreading, often drooping, branches. The flowers are fragrant and larger than those of the other Asiatic Crab-apples, with pure white or occasionally greenish petals; and the fruit, which varies in size on different plants, is globose and dull red.

MALUS MICROMALUS, which is also an early flowering plant, is one of the least known of the Crab-apples. It was first sent to Europe from Japan by Von Siebold in 1856 under the name of "Kaido," a name which in Japan belongs to Malus Halliana. In Japan this tree is rare and known only in gardens, and by Japanese botanists is believed to have been introduced into their country from China and to be a hybrid possibly of M. baccata with M. spectabilis. The habit of this plant is more pyramidal than that of other Crab-apples, and this habit makes the plants conspicuous in the collection. The largest plants are covered this year with their small, pale pink, delicate flowers which will be followed by light yellow fruit, often rose colour on one cheek. A plant of Malus micromalus first came to the Arboretum from the Paris Museum in 1888, and the plants now growing here are descendants of that plant. It is still one of the rarest of the Asiatic Crab-apples in western gardens.

MALUS HALLIANA, with its form Parkmanii which has double flowers, is perhaps the most distinct of all Crab-apples in the colour of its rose-red flowers. It is a shapely small tree, with erect and spreading stem forming a narrow vase-like head, and dark green leaves. The globose reddish fruit is not larger than a small pea. The Parkman Crab was among the first Japanese trees to reach this country direct, having been sent by Dr. George R. Hall in 1862 to Boston, where it was first planted in Mr. Francis Parkman's garden on the shores of Jamiaca Pond. This Crab-apple is a favourite in Japanese gardens, where it is known as "Kaido," but has not been found in a wild state. Whatever its origin, the Parkman Crab is one of the most distinct and beautiful of the small trees which flower here during the early days of May.

MALUS THEIFERA, from central and western China, is closely related to Hall's Crab. It is one of Wilson's introductions through seeds sent to Veitch in 1900, and in 1907 to the Arboretum, where it is now twelve feet high. It has upright, spreading, rather zigzag branches, which are densely studded with short spurs which bear numerous clusters of flowers rose-red in the bud, becoming pale and almost white when fully expanded. In central China the peasants collect the leaves and from them prepare the palatable beverage which they call red tea. From this fact the specific name is derived.

MALUS FLORIBUNDA, by many persons considered the most beautiful of Crab-apples, was introduced into Holland by Von Siebold in 1853 from Nagasaki, Japan. The place where it grows wild still remains unknown, although probably it is one of the high mountains of Kyushu. Japanese botanists and nurserymen confuse it with the Parkman Crab, and Wilson has not seen it in Japanese gardens. It is a broad, round-topped tree-like shrub sometimes twenty-five feet tall with stout branches and slender arching and pendant branchlets. The clustered flowers are white when fully expanded, rose-red in the bud, and as they open in succession the two colours make a beautiful contrast. The fruit is about the size of a pea, yellowish or yellowish brown; from some plants it falls in the early autumn, on others it remains on the branches during the winter or until devoured by birds, who are particularly fond of it. Several plants with persistent fruit are growing close to the Administration Building in the Arboretum, and during the winter are filled with numerous species of birds, including pheasants, which are fond of these Crab-apples. A hybrid between M. floribunda and perhaps M. cerasifera appeared in the Arboretum among a lot of seedlings of M. floribunda in 1883 and has been named M. Arnoldiana. It has the habit and abundant flowers of M. floribunda, but the flowers and fruit are nearly twice as large. It is a handsomer plant than M. floribunda and one of the most beautiful of the Crab-apples in the Arboretum.

MALUS SIEBOLDII is another of the species introduced from the gardens of Japan into Europe by Von Siebold in 1853. It is a low, dense shrub of spreading habit with the leaves on vigorous branchlets three-lobbed, small flowers white tinged with rose in colour, and small yellow fruits. A good specimen may be seen on the left-hand side of the Forest Hills Road. Von Siebold's Crab is really a dwarf form of a species common on the Korean Island of Quelpaert, and on the mountains of central Japan and Hokkaido, to which the name var. arborescens has been given. This is a tree often thirty feet or more tall, with ascending, wide-spreading branches, twiggy branchlets and minute fruit yellow on some and red on other individuals. Although the flowers are small, they are produced in immense quantities, and this species has the advantage of flowering later than the other Asiatic Crab-apples. Another variety of Von Siebold's Crab (var. calocarpa), raised in the Arboretum from seed sent in 1890

from the Nikko mountains of Japan by Dr. W. Sturgis Bigelow of Boston, has bright red fruits each half an inch in diameter. When in fruit this is the handsomest of the Japanese Crab-apples.

MALUS SARGENTII, from salt marshes in the neighbourhood of Mororan in northern Japan where it was discovered by Professor Sargent in 1892, has qualities which give it a distinct individuality, perhaps its own. This species is a dwarf with rigid and spreading branches, the lower branches flat on the ground; it is well suited for covering slopes and banks. The flowers are in umbels, the petals saucer-shaped, round and of the purest white, and are followed by masses of wine-coloured fruit which is covered by a bright bloom and, unless eaten by birds, remains on the plant well into the spring.

MALUS SPECTABILIS, cultivated by the Chinese from time immemorial and introduced from Canton in 1780, was the first of the Asiatic Crab-apples cultivated in Europe. Like several other species, it is not yet known in a wild state, but is probably of hybrid origin. It is a tree from twenty-five to thirty feet high, with a wide vase-shaped crown made of numerous spreading and ascending branches and short branchlets. The flowers are pale pink, more or less semi-double and very fragrant, and the fruits are pale yellow, nearly globose, and about three-quarters of an inch in diameter.

MALUS SCHEIDECKERI is supposed to be a hybrid between M. spectabilis and some unknown species, possibly M. micromalus. It is a small pyramidal tree with small flowers produced in great abundance and is well worth a place in every collection of these trees.

MALUS PRUNIFOLIA var. RINKII, the Apple cultivated in Japan for its fruit before the advent of foreigners and of Chinese origin, has been mentioned in former Bulletins, notably that of May 15, 1916. The wild type of this Apple was discovered by Wilson in Central China in 1907. From seeds sent to the Arboretum plants were raised and one of them is now blooming for the first time; it is on Bussey Hill, in the collection of Chinese Apples, Pears and Cherries. This is now a small tree, about ten feet high, with flowers like those of the common Apple and fully an inch and a half across. The fruit of Rinkii is longer than broad, yellow with a reddish cheek or entirely red, and the persistent calyx is raised, and not depressed as in the common Apple. This is the wild parent of the races of Apples long cultivated in the Orient, and since it fruits freely in the hot moist valleys of central China equally as well as in the cold regions of northern Korea it may prove of value to pomologists in breeding new races of Apples.

Space does not permit even a brief mention of all the species and hybrids of all the Asiatic Crab-apples in the Arboretum collection. Among them, however, are trees suitable for the avenue, park or garden, shrubs for lawn borders and slopes of banks, all absolutely hardy in the coldest parts of New England, and all to be depended upon to produce in spring blossoms in profusion. The plants grow quickly in good soil, love to have the breezes blow freely through their branches, and many of them begin to flower and produce fruit when only a few years old. In collections like that of the Arboretum they hybridize freely, and the species can only be propagated by grafting or budding.

NEW OR NOTEWORTHY PLANTS.

RHODODENDRON OLEIFOLIUM, FRANCHET.

BOTANICALLY and as a decorative plant in the garden, Rhododendron oleifolium (see Fig. 157) is a very distinct Chinese species. Its nearest ally is R. racemosum, which is one of the most beautiful and valuable species in cultivation.

R. oleifolium was first introduced by the Abbé Delavay about 1885. More recently Mr. George Forrest collected seeds at the eastern end of the Tali Range in Yunnan at 8,000 to 10,000 feet elevation. His numbers 4132, 4133, 4169, 4170 and 6770, collected about the year 1906, represent this species, and suggest that it is a fairly common plant. R. oleifolium is also included among the numbers of 1910.

In habit, this species is an elegant, loosely-branched evergreen shrub, specimens in this country being at present up to $2\frac{1}{2}$ feet in height, but doubtless they will grow taller. Seedlings flower at an early stage when about 6 inches high. The leaves are narrowly lanceolate, averaging $1\frac{1}{2}$ to 2 inches long, distinctly glaucous and scaly beneath. The arrangement of the flowers is the most distinct character. They are both terminal and axillary, one or two, rarely three, blooms developing in the axils of the upper leaves. The bell-shaped corolla is white, more or less flushed with rose. Besides providing a useful plant for the pleasure grounds, R. oleifolium is a distinct addition to the rock garden. *A. O.*

[*Photograph by C. P. Raffill.*

FIG. 157.—RHODODENDRON OLEIFOLIUM; A NEW CHINESE SPECIES WITH ROSE-COLOURED FLOWERS.

THE BULB GARDEN.

COLCHICUM BORNMUELLERI.

APART from its name, the Meadow Saffron of this name is one of the most desirable of all the Colchicums, and July is perhaps the best time for planting it, if the bulb dealers can supply it, as some of them can. August is not too late even for blooming this autumn, and I have planted it in September or October, but in that case a season's flower is lost. One may have flowers, but they are not so good, as top-growth has generally commenced by that time and the root-growth is absent until later, if the plants have been kept out of the ground. If planted in July or August, root-growth takes place at the proper time and the flowers appear in their natural season. This is in September. The blooms of C. Bornmuelleri are large, nearly white, when they first come through the ground, passing off gradually to purple. A nice clump of this Meadow Saffron is charming in the border during the autumn months. Some have considered Bornmueller's Meadow Saffron a form of C. speciosum, but the present writer is not of that opinion. It is of different form and has other points of difference. *S. Arnott.*

The Week's Work.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Cucumbers.—The long spell of bright weather has helped the plants to make rapid growth. Those fruiting freely will require a considerable amount of nutriment, otherwise they will quickly become exhausted. Where space permits, top-dressings of rich compost should be applied at frequent intervals to encourage quick root action; if space is lacking, apply a good mulch of old mushroom-bed manure, or well-rotted cow-dung. The stopping and tying of the shoots will require constant attention; all weakly and exhausted growths should be promptly removed to prevent overcrowding. Certain varieties often show three or four fruits at a joint, and in such cases a certain amount of thinning is advisable to prevent undue strain on the plants.

The Muscat Vinery.—On vines which were started in the early part of the year, the Grapes will now be colouring and it is at this stage they are apt to scald from sun-heat or when exposed suddenly to bright sunshine. Later, when colouring is well advanced, more sunlight will be helpful in securing that rich golden tint so generally admired in Muscat Grapes. If specially required, colouring may be hastened by tying back any leaves which shade the bunch, and then placing over, and well clear of, the bunch, a sheet of white tissue paper, tying it securely in position. Muscat Grapes will perfect their colour under the shade of the foliage without any special aid if allowed to advance steadily and remain on the vine until they are ripe. A slight coat of shading applied with a syringe, or a fish-net doubled, and drawn over the roof-glass will prevent scalding of the foliage or berries. Air should be freely admitted when the weather is favourable, though, unlike black Grapes, Muscats do not benefit to the same extent from the ventilators being opened at night. With the exception of the latest Muscat Grapes it will be easy to see at this date which of the berries are stoneless, and as these disfigure the bunches by their small size, they should be removed. If hot weather continues, damp the paths and walls frequently and keep the borders moist. If the borders are well filled with roots, apply a dressing of a suitable artificial manure or give liquid manure when supplying moisture.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Pansies and Violas.—Young plants raised from seeds sown some weeks ago will require every care and attention to keep them growing sturdily and free from mildew. Place a liberal mulching amongst the plants, and afford ample supplies of water during dry weather. Seeds may still be sown in the open to provide a further stock of plants. Sow thinly in shallow drills on good soil that has been previously well watered. As soon as the seedlings are large enough, thin them out, and transplant the thinnings in well-prepared beds, allowing a distance of nine inches between the rows and six inches between the plants.

Lily of the Valley.—To ensure the production of large spikes do not neglect the requirements of Lily of the Valley. Thoroughly soak the plot with liquid manure at intervals, especially if the soil is light, and keep the beds free from weeds.

Hollyhocks.—These plants may be raised from seeds sown in the open, and from a sowing made now sturdy young plants should develop by the end of the season. Prepare drills two inches deep and twelve inches apart, on a south border. Sow rather thinly, and if the weather is dry water the drills before sowing the seed and also the bed

after sowing. Thin the seedlings early and encourage the plants to make robust growth. Both single and double varieties provide a good display as back row plants in borders, and are useful in any spot where tall plants are required.

Briars.—Remove superfluous shoots, water the roots thoroughly, and afford a mulch if the weather keeps dry so that the bark may part freely from the wood when the work of budding is being carried out.

Ferneries.—In most gardens there are sites on which hardy ferneries could be constructed. A good collection of suitable hardy kinds and varieties of Ferns forms a very interesting feature. Shady sites should be chosen, and every preparation made prior to planting. Old established plants will need attention and abundant supplies of water in dry weather.

Malope trifida grandiflora.—The rose and white forms of this Malope are very useful, both for planting in borders, or in beds for supplying cut flowers. They need plenty of water at the roots, and an occasional supply of liquid manure.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Thinning Gooseberries.—Gooseberry bushes often carry more fruit than they can properly mature, therefore the crops should be thinned as soon as the berries are large enough, and the thinnings made use of either for cooking at once or for bottling. The thinnings also make excellent wine. The berries should be crushed; eight gallons of Gooseberries and six gallons of water will make twelve gallons of wine. Allow the liquid to ferment for a fortnight, strain it off and add 16 lb. of sugar and 1 oz. of citric acid. Brandy may be added, but this is not necessary. After the sugar is dissolved the liquid should be put into a barrel, filling it to the bung-hole but not corking it down until fermentation ceases.

Red Spider on Fruit Trees.—As a consequence of the hot, dry weather experienced, red spider has become a troublesome pest. The remedy for it lies in heavy waterings, forcible syringings and a free use of fertilisers. I also find that syringing with weak and clear liquid manure keeps the pest in check, but it must not be strong enough to harm the foliage. Red spider cannot thrive on plants that are syringed or hosed regularly.

Hoeing in Fruit Plantations.—The hot weather has been very helpful in clearing plantations of weeds where hoeing has been practised. Hoeing is also valuable in keeping the ground from cracking and preventing the escape of moisture.

Raspberries.—Where extra fine fruits are required only the strongest and best Raspberry canes should be allowed to remain; cut back the others, and as soon as the fruits have set they should be thinned. To obtain berries of the largest size, the plants should be well fed and watered. Raspberries should also be well mulched and watered with weak liquid manure.

Outdoor Vines.—The shoots of vines grown out-of-doors should be tied as they develop. Remove superfluous growths and stop all shoots not required to fill vacant spaces at three or four joints behind the bunches.

Earwigs.—These pests are very destructive to fruits, especially Apricots and Peaches, and they often spoil them by eating the skin whilst it is green. The recent hot weather has been favourable to earwigs as they like dry conditions and will harbour in any dry place. They generally hide in the daytime and feed at night, but they may be easily trapped by means of hollow canes or hollow stalks of any kind cut into 6-inch or 10-inch lengths and placed flat amongst the tree branches. These traps should be examined every morning and the insects shaken out into hot water or insecticide. Another method is to lay small flower pots, with a little dry moss or hay inside, on their sides near the trees.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Vanda teres.—This is a lovely Orchid, and one that flowers freely at this time of the year when well managed. During the growing season, which follows as soon as the flowering period is over, the plants revel in abundance of sun-heat, light and moisture. They should be shaded only during the very brightest part of the day, and then but very slightly. The work of repotting, or surfacing, should receive attention soon after flowering is over. It is a good practice to grow the plants on long upright rafts of teak rods, plunging the base of the raft in clean crocks surfaced to the depth of two or three inches with chopped, live Sphagnum-moss. If the rod-like stems are placed in the moss the plants will soon attach themselves to the rafts, as they make aerial roots freely. Vanda teres should be grown close up to the roof glass, and be frequently syringed to encourage free, rapid growth. When the growing season is over, the temperature of the Cattleya house is best for the plants, and they should then be kept quite dry at the roots.

Bulbophyllum. — The Bulbophyllums are mostly kept as curiosities. The majority of the species are easily grown in teak baskets or small, shallow, well-drained pans. The plants should be placed on a cone of rooting material, consisting of good Osmunda fibre and fresh Sphagnum-moss, chopped and well mixed. They should be grown near the roof glass and be shaded from bright sunshine, but should have plenty of light. Liberal supplies of water will be necessary during the season of growth, and at no period should the roots be entirely deprived of moisture. Plenty of heat and moisture is requisite for them, but during winter, when the plants are at rest, slightly cooler conditions should prevail, though they should at no time be subjected to a very low temperature.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Winter Greens.—Large breadths of the various kinds of winter greens should be planted out before they become too hard in the stem. Choose several positions, planting the later and hardier kinds and varieties in the more exposed parts of the garden. If rain does not follow the planting give the plots a thorough watering immediately. The distance apart at which to plant must be governed by the kinds planted, the large-growing Borecoles should be planted two feet apart each way, Savoys 18 inches apart, and the various Broccolis 2 feet. Plant firmly.

Coleworts.—Make a sowing of Coleworts. The seedlings will make satisfactory progress provided they are firmly planted out so soon as ready. By that time good ground will be vacant and available for this indispensable vegetable.

Chicory.—Make a sowing in light and well pulverised soil in drills, 15 inches apart. Water freely if necessary and ply the Dutch hoe frequently between the rows. Thin the seedlings to 9 inches apart.

Spinach.—To maintain a constant supply of Spinach make sowings every ten days in well watered drills in shady parts of the garden.

French Beans.—As the weather has been so very hot and dry extra sowings of French Beans will be necessary, to maintain an unbroken supply of tender pods. Sow the seeds in well manured ground in drills 18 inches apart, and thin the plants to 1 foot apart. Keep the roots moist and damp the foliage daily, during the evening. Superlative, Canadian Wonder and the Dwarf Butter Bean are useful varieties.

Peas.—Make further sowings of Peas in trenches, as previously advised. Stake and mulch the plants as they need these operations, and encourage free growth by regular waterings and overhead sprayings during the evenings. The haulm from the early crops of Peas should be cleared off to prevent mildew appearing and to make room for the planting of Cabbages and early Savoys. All the preparation needed for these later crops is hoeing the surface soil and a dressing of burnt earth or wood ash.

Potatos.—All Potatos should have been earthed up by this date; but deficiency in the ridges should be made good, and rogues, or sickly-looking plants pulled up and burnt.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Zonal Pelargonium.—Early rooted plants will now be ready for shifting into 7-inch pots. Use clean, well-drained pots, and a compost of three parts turfy loam, one part leaf-mould, and a 6-inch potful of a plant fertiliser to each barrowful of soil. Water the roots before repotting, pot firmly, and then there will be no necessity to afford water for several days afterwards. Place the plants in a cool, airy house, or in a cold frame, on an ash base, where they may be fully exposed to sunshine. In preparing Zonal Pelargoniums for winter blooming, the plants require special treatment; after being potted, they should be plunged in ashes to the pot rim, out of doors, in a position fully exposed to the sun. This will cause the growth to be short jointed. Remove all flowers for the present.

Carnations.—Malmaison and other large flowering Carnations growing in 7-inch pots should be shifted into 10-inch pots, with the view, as two-year-old plants, of furnishing a large quantity of flowers. Select for this purpose plants furnished with a number of strong growths, and to prevent them being broken in the process of potting, tie them securely to stakes before the work is commenced. The soil for this potting should consist of a mixture of three parts rich loam, and one part each of leaf-mould, coarse sand, and wood ash, adding a 7-inch potful of Carnation manure to each barrowful of the mixture. Pot firmly, place the plants in a cool house, and shade them from bright sunshine. Give the roots a good soaking with water and keep the path and walls damp. When the plants have rooted well in the fresh soil, give abundance of air, and spray the growths occasionally with an insecticide.

Chrysanthemums.—The nature and preparation of the soil for the final potting of Chrysanthemums are important details. Heavy and retentive soil should be passed through a sieve, and the fibrous portions retained for potting; add to this material some charcoal, wood ash and sharp sand. A soil of medium texture is best mixed with leaf-mould, charcoal and a 7-inch potful of plant fertiliser to each barrowful of the mixture. Use clean pots, well drained, and place rough pieces of the soil over the drainage. Stake the plants securely. If the soil is light it is difficult to pot the plants too firmly. Select a piece of ground where the whole of the Chrysanthemums may be placed together, cover the site with a sprinkling of coal ashes, and erect posts and wires to which the plants can be safely secured. Watering should be done carefully. To destroy aphis dust the foliage with tobacco powder.

Coleus thyrsoideus.—This is a useful blue, winter-flowering plant. Cuttings inserted now will produce the strongest and best plants for next winter. Insert the shoots in pots filled with sandy soil and place them under hand lights or in a propagating frame. As soon as they have rooted afford more air, and when sufficiently rooted pot them singly into small pots, and place them on a shelf near the roof-glass, subsequently shifting them into 4-inch pots, and finally into 6-inch pots, using a compost of good loam, some peat, sand and a little artificial manure. Grow them in a warm house, but admit plenty of air on hot days, closing the house and affording plenty of atmospheric moisture in the afternoon. Keep them sufficiently watered at the roots, and when fully established in their flowering pots feed them with liquid manure.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, JULY 1:—

Royal Horticultural Society's Committee meeting; lecture at 3 p.m. by Dr. E. J. Russell on "Soil Sickness and Soil Sterilisation." (Lantern slides.) National Sweet Pea Society's Exhibition at the London Scottish Drill Hall, Westminster, to be followed in the evening by the Annual Dinner at the Holborn Restaurant, London, W.C.

Meeting to be held at the Caxton Hall, Westminster, on the "System of Cheap Transport," at 8.30 p.m.

WEDNESDAY, July 2:—

Exhibition at Chelsea Hospital Gardens, on behalf of St. Dunstan's Institution for Blinded Soldiers (two days).

National Rose Society's Metropolitan Exhibition, at the Royal Botanic Gardens, Regent's Park, N.W.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 61.7°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, June 25, 10 a.m.: Bar., 30.1; temp., 63°. Weather—Dull.

Versailles. At this moment the dénouement of the world's great war drama is being reached at Versailles. No place could have been better chosen, for apart from historical consideration, its gardens are a fit setting for Peace. For as Mr. Truffaut reminds his readers* the gardens at Versailles represent the triumph of the peaceful arts over the savagery of Nature. We have it on the testimony of Saint Simon that before the site was transformed into a garden it was one of the saddest and most desolate of places —with no view, no woods, no lakes and no soil except sand or marsh.

Under successive monarchs—Louis XIV., Louis XV., and Louis XVI., the estate of 30,000 acres was acquired and developed at a cost of upwards of two million pounds. So long ago as 1624, the first little chateau was built by Louis XIII. as a hunting box, and part of it still remains in the marble court of the present chateau.

It was in 1669 that Le Nôtre, the great French gardener, began his work on the park and gardens, and from 1679 to 1688 their construction proceeded apace under his direction and with the aid of 36,000 workmen. For the planting, trees were brought from all parts—Limes and Elms from Flanders, Pines from the Dauphiné, pyramidal Yews from the forests of Normandy, and no fewer than 25,000 trees of various kinds were transported by road to Versailles from Arras. Whilst this work was in progress the first "garden city" was laid out at Versailles, and its three great avenues planted with Elms. Nearly 100 years later—in 1775—many of the trees planted by Le Nôtre had become so overgrown and decayed that they had to be cut down and the ground freshly planted, which was done under the influence of the English style then becoming fashionable in France. The Bains d'Apollon, for example, date from this period. In its turn, this later planting of the latter part of the 18th century suffered the inevitable fate which attends old age, and again, in 1860-1875, Versailles was replanted with trees, so that the specimens now ornamenting the park are generally only 40 or 50 years old. The Trianon Gardens, which date from 1688, were planted with specimens from all parts of the world; from Constantinople and Persia, Narcissus, Hyacinths, and Irises were brought. Under Louis XV. and the Marquise de Pompadour the Trianon became a home of intensive agriculture and horticulture—model dairying, poultry keeping, and market gardening. At this time also—in or about 1755, Claude Richard built at Trianon hothouses, until then very rare in France. In 1758 the celebrated Botanic Garden was established for the study of the plants. In it, Bernard de Jussieu developed his classification of plants in natural families, a work which, perfected by his nephew, Antonie-Laurent de Jussieu, resulted in the immortal work, *Genera Plantarum*, published in 1789. Of Claude Richard, Linnaeus said that he was the ablest gardener in Europe.

A large part of the Botanic Garden was destroyed by Marie Antoinette in order to make room for the "English Garden" of the Petit Trianon. Richard, however, found places in Versailles for most of the valuable plants, and, moreover, all kinds of new plants were introduced — Sophoras, Cedars, Weymouth Pines, Larches, Golden Cypress from Louisiana, American Oaks, Tulip trees and Gingko from China were all planted at Trianon.

Under the Revolution, when the caprice of monarchs gave place to that of democracies, the parks of Versailles and Trianon were saved from destruction by Richard, who showed his resource and adaptability by deferring to the utilitarian spirit of the time and planting Potatos and fruit trees in the borders most exposed to public view—a pioneer work of cultural camouflage! Yet later, in 1917, the garden of kings became again a place of Cabbages, which, with Leeks and other vegetables were distributed for planting the French Army gardens. Once again, after the Revolution, neglect fell upon Versailles. Napoleon did not love it, but again the gardens won, and in 1850 they were restored and their reinauguration celebrated by a fête attended by Her Majesty Queen Victoria. It is to be hoped that with peace may come the determination to restore the gardens of Versailles once again to their former state of beauty. They have survived the vicissitudes of centuries, they are associated with the grandeur and tragedy and progress and reaction of a great nation; they are, as it were, a mirror in which not only the present, but the past also is reflected. May they become once again rivals of their own proudest epochs, and in their renewed beauty become a symbol of the triumph of peace over war.

* *Jardinage*, May, 1919.

New Parks' Superintendent at Burnley.—The Parks Committee of the Burnley Corporation have appointed Mr. E. C. Paiton as Parks Superintendent, in succession to the late Mr. Murray. Previously, Mr. Paiton was for eleven years in charge of Scott Park, where he rendered valuable service to the Burnley Corporation, in whose employ he has been for over twenty-five years. He has a wide and varied experience in the laying-out of parks, bowling greens, tennis courts and private gardens, and an unique knowledge of carpet bedding and display work. Scott Park, during the summer months, having always been an excellent testimonial to his abilities in these directions.

National Rose Society's Metropolitan Exhibition.—The summer show of the National Rose Society will be again held this year in the Royal Botanic Gardens, Regent's Park, the date fixed for the Exhibition being Wednesday, July 2.

French Horticulture and the War.—At the meeting of the Association of Old Scholars of the Versailles National Horticultural College, held at the beginning of June, the names were read out of those scholars or old scholars who had been killed in the war. The names numbered one hundred and eleven.

Eastern Counties Commercial Fruit Show Committee.—At a meeting of the Committee of the Eastern Counties Commercial Fruit Show, Mr. F. Glenny was elected chairman and Mr. G. W. Leak vice-chairman. It was decided to hold the Show at Cambridge, in the Corn Exchange, on November 5th and 6th. The schedule of prizes is a long one, and includes classes for most types of packing. There is also an interesting class for the different associations in the Eastern Counties. This class consists of 12 market packages composed of 6 varieties of Apples. It is proposed to hold a Conference in conjunction with the Show, but the details are not yet decided upon. Schedules may be had from the Secretary, Mr. Charles Wright, 2, Huntingdon Road, Cambridge.

Allotments at Lewisham.—The Lewisham allotment holders are seriously perturbed over the proposal of the Borough Council to take over an 11-acre field of allotments, which have been held for thirty years, for the purpose of a housing scheme. A protest meeting, held on Sunday, June 1st, was attended by about 500 plot-holders and was addressed by the President, Chairman, Secretary and Treasurer of the Lewisham Horticultural Society, and by Mr. Alfred Smith. Resolutions were passed urging the Council to build in the Southend part of the borough, where there is an extensive area of agricultural land, and thus leave this solitary field as a "lung" for an already populous district.

Kew Gardeners and the War.—We are informed that fifty journeymen gardeners enlisted in the services from Kew, and that of this number ten were killed during the war. Their names are C. H. Anderson, J. C. Beswick, C. H. Brown, W. Clark, J. Divers, G. Farries, J. K. Jackson, H. J. Longhurst, A. J. Meads and J. N. Winn. Of those who survived, eighteen have returned to their old posts at Kew, the others having either found employment elsewhere or have not been demobilised. We are also informed that the pre-war conditions for journeyman gardeners with respect to lectures, etc., are again in operation, and that the hours are now from 6 a.m. to 5 p.m. in summer, and from 8 a.m. to 4.30 p.m. in winter, with two out of every three Saturday afternoons free. The wages have been increased to 53s. per week, and payment for Sunday duty is at the rate of 1s. 8d. per hour. An important concession has been made with respect to the age limit (19 to 24) for fresh applicants, the period of War Service being deducted from age, so that a gardener who is 27 and who served four years in the Army would be eligible for employment at Kew.

Sale of Orchids in U.S.A.—A sale of Orchids belonging to the late Mr. Charles G. Roebling, in the United States of America, realised the equivalent of £5,700. Mr. Roebling was president of the company that built Brooklyn Bridge, and he made a hobby of growing Orchids. His collection was particularly rich in species and varieties from the Samoan Mountains, though he also sent collectors to various other places in search of novelties. Altogether, he cultivated more than 700 distinct species and varieties, which were said to have cost him several hundred thousand dollars.

Mr. C. F. McNab.—The many horticultural friends of Mr. Jas. McNab, for a considerable number of years representative of Messrs. Sanders, St. Alban's, and now of Messrs. Armstrong and Brown of Tunbridge Wells, will regret to learn that his wife died on June 18 at their residence, Upper Grosvenor Road, Tunbridge Wells. Mrs. McNab was the elder daughter of Mr. W. Orrin, of St. Alban's.

French Chrysanthemum Society.—It is nearly five years since the above Society ceased active operations. A meeting of the Executive recently held in Lyons decided to revive the Society which, if possible, will organise an annual congress as in days gone by. This will be held, it is hoped, in the month of November next in conjunction with the Paris Autumn

FIG. 158.—VIEW IN THE PARK OF THE LITTLE TRIANON, VERSAILLES (see page 319).

Exhibition. The Society's monthly publication, *Le Chrysanthème*, the last issue of which was dated July-August, 1914, will reappear as from the present month. Various changes in the executive, due to death, have unfortunately taken place, but M. Ph. Rivoire, 16, Rue d'Algerie, Lyons, still holds the office of Secretary.

Potato Spraying.—Growers of Potatos are advised by the Board of Agriculture to make provision at once for the spraying of their crops. The hot, dry weather, though it may have checked further growth, is bound to hasten the maturing of Potatos, hence it is probable that blight will make its appearance in the main-crop varieties earlier than in normal years, the more so if moist weather follows. Should the late summer be wet, the disease is likely to prove even more serious than usual. An approximation to the following dates for the first spraying of second early and main crop Potatos will probably be found satisfactory. June 15 to end of June: Cornwall, Devon, Dorset, Isle of Wight and Hampshire, Somerset, and S.W. Wales. July 1 to July 8: Glamorganshire, Gloucestershire, Monmouthshire, N.W. Wales, Sussex, and Wiltshire. July 8 to July 15: Berkshire, Herefordshire, Kent, Oxfordshire, Surrey, and Worcestershire. July 15 to July 31: remainder of the country. In the North-Eastern counties spraying should usually be deferred until the last week of July. The second spraying should be done about three weeks after the first. This will serve to cover the new foliage and to protect more completely that already sprayed. In the South-West of England it will often be found advisable to spray a third time; and this applies also to other districts in wet seasons when heavy rains are frequent.

Conducted Tours at Kew.—In September, 1914, the officially conducted tours of Kew Gardens, Plant Houses, and Museums, were discontinued; on Monday, the 23rd inst., they were resumed. The conductor is Mr. Ryan, who has for some time past worked in the Kew Herbarium, and was previously in the Indian Forestry Department. Two tours are made daily, Sundays excepted, commencing in the morning at 11.30 a.m., and in the afternoon at 3 p.m., except during June, July and August, when the afternoon tour commences at 5 p.m. The charges are 6d. in the mornings, and 3d. in the afternoons. Applications, in writing to the Director, to be included in a tour on a particular day, have priority, if the authorised number for a party is exceeded. Visitors meet in the garden of Cambridge Cottage shortly before the time at which the tour is advertised to commence.

Eelworm Disease in Daffodil Bulbs.—We learn on the authority of Mr. J. K. Ramsbottom that if Daffodil bulbs are immersed in water warmed to 110°F. for five hours (see page 270), the eelworms will be killed, but the bulbs may be killed also, under such prolonged treatment. Three hours appears to be the proper period of immersion for effectually disposing of the eelworms without damaging the bulbs.

Presentation to Mr. James Hudson, V.M.H.—On the occasion of his retirement from the charge of Gunnersbury House Gardens, Mr. James Hudson was, on the 21st inst., the recipient of two handsome presents, one from Mrs. Leopold de Rothschild, inscribed "As a remembrance of many years," the other from Mrs. Arthur D. Sassoon as "A souvenir, with her best wishes." Mr. Hudson carries with him into his retirement from active service the best wishes of horticulturists everywhere, and the esteem and pride of his fellow craftsmen, for the good work he has done, not only in ennobling the profession of gardening by his abilities and example, but for the interest he has shown in gardening charities and other good works with which he has been so long and honourably associated.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Variability in Plants (see pp. 251, 285, 299, 308).—Since I wrote my previous notes on this subject I find an old record of the occurrence of three cotyledons on dicotyledonous plants. When making the record I had found three cotyledons in Lime, Sycamore, common Ash, Streptocarpus Rexii floribunda, S. pauciflorus, Chirita acuminata, Mimulus luteus, M. cupreus, Orphium frutescens, Oenothera bistorta, O. tenella, O. quadrivulnera, O. Sellowii, O. rosea, Trichosanthes Anguina. Limonia acidissima, Melilotus leucantha, Geum coccineum and Aquilegia Stuartii. Occasionally the cotyledons of Limonia were alternate or verticillate in threes. In Trichosanthes the first two leaves were opposite, rarely alternate or three in a whorl. I have acted on the suggestion of E. Judson Sage (p. 308), to see what the least common multiple of the number of parts in leaves and flowers would elucidate, but find somewhat conflicting evidence. The normal form of the British Paris quadrifolia has 4 leaves, 4 plus 4 parts to the perianth, 8 stamens, and an ovary of 4 carpels. The least common multiple of these numbers is 8. I have a specimen with 7 leaves, and four having 5 leaves each. The first shows 7 leaves, 4 plus 4 parts to the perianth, 7 stamens and 4 carpels. The least common multiple in this case is 28. In the normal form of Veronica Teucrium dubia (syn. V. rupestris) there are 2 opposite leaves, 4 sepals, 4 lobed corolla, 2 stamens, and 2 carpels. Here the least common multiple is 4; but 5 sepals are often present, giving 20 as the least common multiple. I am of opinion that the parts of a flower can vary independently of one another, and the leaves independently of the flowers. The lower leaves of most, if not all Veronicas are opposite, but the upper leaves or the bracts are alternate. The leaves of V. paniculata, V. longifolia, and some others I have seen, are opposite or in whorls of three; while those of V. virginica are in whorls of three to nine. Presumably the flower of a Veronica represents the suppression of one sepal, one petal, three stamens, and three carpels, as we find all the five parts present in Verbascum, except in the case of the carpels. *J. F.*

The Garden Chafer (see p. 308).—The remarks by Mr. Divers on this destructive pest were very interesting. Here, on the Surrey hills, we have experienced a plague of the June bug, as we know the insect, for two seasons. Last year it attacked the Apples and Pears in swarms, as many as 200 being shaken from four-year-old Apple trees on to mats smeared over with tar. On the first appearance of the chafer last season I sprayed our Apple and Pear trees with arsenate of lead, repeating the application after about three days, but unfortunately in that little time the insects had done an immense amount of damage. I found after the second spraying they soon left the sprayed trees and attacked a plot of Raspberries close by, practically devouring every leaf. Another orchard of young standard trees was not sprayed owing to labour shortage, and the pests flocked to these. In a day or two I noticed swarms of starlings settling on these trees, and, to my surprise, they practically cleared the trees of the pest. About the last week in May of this year the pests again returned, but this time I had forestalled them, and had most of the trees previously sprayed twice, and these they left severely alone, but not so trees sprayed once only. I think Mr. Divers puts it rather mildly when he states that the attack is chiefly on the foliage; unfortunately, last year the insects turned their attention to the fruit when the latter were about the size of Gooseberries, and after ruining the crop devoured the foliage. During the continued drought this season the June bug has attacked Roses, but I have not yet found them damaging the Rose foliage. Phyllopertha horticola seems to infect certain places around this district, yet I know of others not six miles distant where the pest has not yet been seen. *H. Prince, Dorking.*

SOCIETIES.

EXHIBITION IN AID OF THE WAR HORTICULTURAL RELIEF FUND.

JUNE 24, 25 and 26. In the sacred cause of charity the horticultural trade has never been found wanting, consequently it was no surprise to find an extensive show at Chelsea on the above dates in aid of the Horticultural War Relief Fund which the Royal Horticultural Society is raising for the purpose of assisting French, Belgian, Serbian and Roumanian horticulturists whose gardens, nurseries and vineyards have been devastated by the German soldiery during the war. In addition to the attractions of the show, there were considerable contributions of flowers for sale on behalf of the fund, and the members of the British Carnation and National Sweet Pea Societies made splendid contributions of blooms, while various traders gave plants, and Messrs. G. Monro, Ltd., gave a large and valuable consignment of home-grown and foreign fruits.

Besides these attractions and gifts there were stalls for the sale of flowers, fruits, vegetables, Strawberries and cream, whereat society ladies and famous members of the theatrical profession, under the leadership of Lady Newnes, dispensed things at goodly prices.

The show as a whole was a fine one, but there were few novelties and a lack of that horticultural enthusiasm which marks the great Chelsea and Holland House exhibitions. It was unfortunate that the weather was distinctly cold, and still more unfortunate that during the gale on the 23rd inst., about 4.30 p.m., the large tent had its ends torn to ribbons by the wind, and then, the wind getting underneath, the huge canvas erection was ripped and brought to the ground. Fortunately, no one was seriously hurt, but it was a tragedy none the less, because beautiful plants and flowers were overturned by the lashing canvas, knocked about by the swinging side poles, and finally pressed down by the collapsed tent. Many days' work was spoiled in a few moments, and we sympathise greatly with those whose exhibits suffered, with Mr. Bissett, the show superintendent, all those who had worked hard to make the fête a success and who must have had a very bad quarter of an hour after the tent came down, because they feared the other tents, now open to the force of the wind, might collapse also. However, all's well that ends well, and we trust in our next issue we may have the pleasure of recording a splendid addition to the War Relief Fund.

Orchids.

In the large tent the side stages were effectively filled by the Orchids, the exhibits being quite equal to those at the previous Chelsea display, though fewer in number. Five exhibitors staged excellent groups varying from twenty to forty feet frontage, and all remarkably well arranged with graceful Palms forming the background.

Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), staged a very fine group with his famous forms of Dendrobium illustre at the back, the centre being of handsome Cattleyas and Laelio-Cattleyas arranged with Odontoglossums, and the sides mainly of Miltonias and richly-coloured Odontiodas. At the ends were selections of curious species, including the quaint Nanodes Medusae, the slender white Platyclinis cornuta, the elegant orange Physosiphon Loddigesii and the very remarkable dark green Lycaste Locusta. Specially fine plants were Odontoglossum Lambardeanum Gatton Prince, one of the largest and most richly-coloured Odontoglossums, two of the charming white and purple Cattleya Isabel Sander Gatton Park variety; Coelogyne pandurata and C. burfordiense.

Messrs. CHARLESWORTH & Co., Haywards Heath, had one of the largest and best groups, the centre being of Laelio-Cattleyas arranged with pure white " xanthotes " forms of Odontoglossums, with some noble specimens of Laelio-Cattleya Aphrodite in front. The sides were mainly of the famous Miltonia Lyoth, including very handsome M. Charlesworthii, still the best. The ends were of scarlet Odontiodas and handsome hybrid Odontoglossums, a good selection of which, flowering for the first time, were also arranged in the front line. Special novelties were the new Cattleya Hentschelii (Warscewiczii × Dupreana), with noble flowers superior to both parents, the broad sepals and petals being bright rose and the lip purplish crimson with a light yellow, bilobed disc as in C. Warscewiczii; and Odontonia Corona (Miltonia Warscewiczii × Odontoglossum Harryanum), with chocolate purple sepals, petals with pale green tips, and a white lip with a ruby-red basal half. Effective species were the scarlet Habenaria rhodocheila and the bue Vanda coerulea.

Messrs. ARMSTRONG & BROWN, Tunbridge Wells, staged a very fine and effectively-arranged group, the centre of which was filled with Cattleya Warscewiczii, with spikes bearing six flowers, each arranged with white Odontoglossum crispum, and rose and purple forms of Laelio - Cattleya Aphrodite. The sides were of showy Miltonias with white Cattleyas and hybrid Odontoglossums, and the ends of scarlet Odontiodas and showy hybrid Odontoglossums. Specially fine things noted were Odontoglossum Victory The Baroness, illustrated in *Gard. Chron.* May 4, 1918 (Fig. 81), p. 184, and still maintaining its reputation as the best of the section; Miltonia Princess Mary, chaste in tint and fine in form; the famous M. J. Gurney Fowler, and others flowering from the same batch of seedlings; two fine white Cattleya Mendelii, and the large scarlet Orchidhurst variety of Odontioda Madeline.

On the other side of the tent Messrs. STUART LOW & Co., Jarvisbrook, Sussex, had a fine group, the centre of which included Laelio-Cattleya Aphrodite, L.-C. Canhamiana and L.-C. Dominiana, and the elevated ends of scarlet Odontiodas and Renanthera Imschootiana arranged with the large pure white Moth Orchid, Phalaenopsis amabilis Rimestadiana, now very scarce. The central areas were well arranged with splendid forms of Cattleya Mendelii, both white and dark coloured, and various showy Dendrobiums and other good species. Messrs. MANSELL & HATCHER, Rawdon, Yorks, had a very effective group, the centre front being of many snow-white forms of Cypripedium niveum and some closely-allied hybrids of it, each bearing the minute purple spotting of the type. The forms of Laelio-Cattleya, and hybrid Cattleyas arranged with Vanda teres, and the orange-red hybrid Laelias contrasted pleasingly with the many richly-coloured Odontiodas and Odontoglossums displayed with them.

Several Orchidists sent supplies of cut flowers, which greatly assisted in the department arranged for their sale.

Roses.

Mr. ELISHA HICKS's exhibit of Roses was a particularly fine one, and consisted of tall pillars of Rose blooms, rising six feet or so above the low bowls and stands of fresh, bright blooms. Quite naturally Mr. Hicks showed his varieties, Joanna Bridge, Mrs. Elisha Hicks, Chas. E. Shea and Princess Mary, largely and well, but in addition to these he had beautiful stands or pillars of American Pillar, Cupid, Diabolo, Joseph Leger (a very double, cream-white Wichuraiana variety), Mrs. C. Sawday, Seagull, Mrs. O. G. Orpen, Jersey Beauty, Mme. E. Herriot, moschata alba and Danae. Messrs. G. and W. BURCH were exhibitors of Roses, and showed stands and boxes of exhibition blooms of Gorgeous, Miss Willmott, St. Helena, Mrs. Foley Hobbs and others.

Messrs. A. DICKSON AND SON brought over a charming lot of Irish grown Roses, and contributed a brilliant exhibit in which the chief effect was produced by large stands of K. of K., Sunstar, Irish Fireflame, Red Letter Day, Elizabeth Cullen, Chrissie MacKellar, Lady Hillingdon, and Lady Pirrie. Rev. J. H. PEMBERTON showed a very attractive group of Roses, in which his new Star of Persia was the most conspicuous variety; Pax and Moonlight were shown in fine condition among other good things.

Messrs. CHAPLIN BROTHERS staged a central sheaf of over a hundred lovely flowers of the new cream-white H.T. Rose Edith Cavell, in their group of Roses. Paul's Scarlet Climber, Ophelia, Lady Pirrie and Red Letter Day were other varieties admirably shown. Messrs. B. R.

CANT AND SONS presented a large bank of Roses, and made a feature of Flame of Fire, Golden Emblem, Iona Herdman, Covent Garden, Henrietta, and other bright hued varieties.

Flaming Zep is the name given by Mr. T. P. EDWARDS to a bright orange buff Rose, a sport from Mdme. E. Herriot that was noted just after the German Zeppelin was brought down at Cuffley by Captain Robinson. It is a handsome Rose, and apparently very free.

Carnations and Sweet Peas.

The British Carnation Society, evicted by the gale from their proper stand, nevertheless had a fine display of Carnations and Lilies, sent for sale by the leading members including a fine consignment from the President, Lord Howard de Walden, arranged by the Misses Page and Mr. Brunton. Messrs. STUART LOW AND CO. arranged Carnations in great variety in low bowls and suitable vases, and showed Matchless, Red Ensign, and Circe in good style, as well as the Malmaison variety, Hon. Charlotte Knollys.

Mr. C. ENGELMANN made a large contribution of Carnations, and conspicuous varieties in his large collection were Coquette, Scarlet Carola, the yellow Saffron (described and figured in *Gard. Chron.*, p. 271, Fig. 135), Carola, Snowstorm, and Circe. Considering the flowers were previously under the collapsing tent, they made a fine display.

The National Sweet Pea Society, also disturbed by the wreck, still put up a grand lot of flowers, sent by the leading trade and amateur growers. Fortunately, only one glass vase was broken when the tent collapsed, so Mr. Tigwell and Mr. Allen set to work and put up a first-rate display in another tent. In the exhibit of Sweet Peas from Mr. ROBT. BOLTON the leading varieties were Prince George, Ivorine, R. F. Felton, Gold Medal (a rich cream pink), Magie, the brilliant Verdun and the glowing and well-named Tangerine.

Greenhouse Stove Plants.

Messrs. JAS. CARTER AND CO. were not behindhand on this occasion; they filled one end of a large tent with a gorgeous exhibit composed of rounded masses of splendid Gloxinias and Sweet Peas, with smaller groupings between and in the foreground of the vivid Viscaria cardinalis, Petunia Queen of Roses and Primula obconica. The Sweet Peas were finely grown and beautifully staged—as one expects to find everything from Raynes Park—but the Gloxinias, in their variety of colouring, and excellence of form and freedom of flowering, formed the chief attraction.

Stove foliage plants were largely shown by Mr. L. R. RUSSELL, who filled a large rectangular space with Caladiums, Dracaenas, Crotons, Aralias, Calatheas, Palms, Ficus and other elegant and bright-hued plants. Some Anoectochilus and the bright berried Nertera depressa were also used in the foreground. Mr. L. R. RUSSELL also had a brilliant exhibit of finely-grown plants of Crassula coccinea, Hydrangeas, Fuchsias, Linums, Roses and Marguerites. Messrs. WEBB AND SONS' exhibit of Begonias and other plants and flowers was demolished in the disaster which overtook the large tent.

One of the most brilliant exhibits was a large one of the new seedling Pelargonium Victory, a very bright salmon variety raised by crossing King of Denmark with Paul Crampel. It is a sturdy grower and carries large, dense trusses of single flowers. The exhibitors were Messrs. W. S. WATNEY, LTD. Messrs. H. B. MAY AND SONS were among the worst sufferers, and were only able to re-arrange a small portion of their display of Ferns, Pelargoniums, Verbenas, Hydrangeas, and Salvias after the disaster.

Messrs. J. PEED AND SON's exhibit consisted entirely of Gloxinias set in a groundwork of Maidenhair ferns. This firm has a capital strain of these popular and decorative plants. Messrs. R. and G. CUTHBERTS' exhibit of their fine strain of Streptocarpus, together with the handsome Tritonia crocata aurea, was completely destroyed, and Messrs. WM. CUTBUSH AND SON's group of ivy-leaved Pelargoniums, dwarf polyantha Roses and Carnations was converted into a glorified rubbish heap by the swishing and swirling canvas when the big tent came down.

Messrs. BASTIN AND SON lost a large number of fine Begonia plants in the big tent, consequently their group, subsequently rearranged, was a comparatively small affair. Nevertheless it included well-grown examples all carrying superb flowers; Earl Derby, red; Pride of Bexley, salmon pink; Lady Grey, pink; King Edward VII., crimson scarlet; and Lady Cromer, pink, were very beautiful varieties.

Hardy Plants and Flowers.

Messrs. R. H. BATH, LTD., staged a large, high centred group of Delphiniums. Each of the numerous varieties was represented by about half a dozen spikes, and the whole group had a marginal belt of Canterbury Bells and Irises. Large numbers of the Delphiniums were new, unnamed seedlings, which showed that the firm is busily engaged in improving this useful garden genus. Messrs. PIPERS contributed Clematis, Buddleia variabilis magnifica, a collection of Sempervivums, the glowing Fuchsia triphylla, Carnations and Delphiniums.

Mr. MAURICE PRICHARD was a large exhibitor of hardy flowers, and among Paeonies and Delphiniums showed Primula Bulleyana, Clematis integrifolia, Dianthus hybridus carmineus, the vivid scarlet Verbena chamaedryfolia, and many other interesting plants. Messrs BAKERS grouped a delightful lot of Iceland Poppies, with Delphiniums, the attractive Centaurea dealbata, Phlomis Russelliana, Alchemilla major, and Hemerocallis Baronii, among other things.

Mr. J. C. ALLGROVE rescued his exhibit from the big tent, and staged it in another place. Some of his principal subjects were Coriaria terminalis, finely fruited, Magnolia Watsonii, a fine series of Heucheras, Rodgersia tabularis, Malva Olbia grandiflora, Thalictrum appendiculatum, Delphiniums, and Campanula persicifolia Humosa. Miss HANNEN and Miss COURTNEY, Mill House, Baldock, submitted a prettily arranged group of seedling single and double Delphiniums; the spikes were well developed and the colours good.

The large display of hardy flowers exhibited by Messrs. J. WATERER, SONS AND CRISP included capital groupings of Hypericum orientale, Genista dalmatica, Orchis maculata, Campanula garganica minor, Campanula turbinata pallida—very fine; Orchis foliosa, Delphiniums and Campanula persicifolia varieties.

Messrs. J. CHEAL AND SONS were represented by a series of Delphiniums, and a bright set of their Star Dahlias, and they had a fine lot of clipped trees in another part of the show. Messrs. H. CANNELL AND SONS massed Paeonies, Pyrethrums, Roses, Geums, and Erigerons in front of Delphiniums. An array of stately Delphinium spikes, all branched and finely grown, was set up by Messrs. KELWAY AND SON; Lloyd George, bright blue with white eye; Persimmon Improved, Jas. W. Kelway, and General Baden-Powell, were especially good varieties. Messrs. WHITELEGG AND CO. were exhibitors of Saxifragas, Campanulas and other small growing alpines.

Mr. SYDNEY MORRIS, Earlham Hall, Norwich, exhibited paintings of his superb new Montbretias, and the central figure was of the glorious variety His Majesty. Of this he offered one corm to the highest bidder at the end of the show. Messrs. TUCKER AND SONS filled a little rock garden with tiny shrubs, Saxifragas, Campanulas, Sedums, and Sempervivums. Mr. G. REUTHE made a special feature of brightly-flowered hardy Heaths, notably Erica cinerea atrosanguinea, E. c. pygmaea, and E. c. rosea; he also showed Athrotaxis Doniana and Nothofagus Menziesii, two of the rarer shrubs. Mr. Reuthe was one who suffered, and had to make the best of things after the wreck.

Mr. AMOS PERRY put up a very fine exhibit of hardy ferns; this was originally under the big tent, and its rearrangement in the early morning in the Orchid tent was a great effort. Crispum form of Scolopendrium vulgare filled the foreground and behind these were large numbers of handsome specimens of Lady and Male ferns in divided, tasselled and plumose varieties. In addition to his great display of ferns, Mr. Amos Perry showed a fine lot of Delphiniums, Ostrowskia magnifica and a charming set of new hybrid Liliums. Among the latter L. Roezlii × L. Amos Perry, orange, with blackish-brown spots; and L. Washingtoniana × L. maritimum, small, fine formed, brilliant orange with large spots, were two of the most attractive.

Mr. T. LEWIS, Hanwell, well known in the trade for many years, put up his first exhibit on his own account. He arranged a large exhibit of splendidly flowered specimens of Kalmia latifolia, grouped artistically with a few standards of Japanese Maples rising above the pink blooms—a charming group. Finely flowered plants of Kalmias were grouped with Japanese Maples in a large group by Messrs. J. WATERER, SONS AND CRISP, and the display was greatly admired.

Messrs. R. WALLACE AND CO. arranged a sunken garden with a central cruciform pool filled with Water Lilies. A hedge of Box surrounded the whole, and within this shelter were banks of blue and pink Hydrangeas, Astilbes and corner groups of golden Eremuri, associated with Delphiniums, Liliums, Malvas, Erigerons and other border flowers. The pool was edged with dull-red tiles and surrounded by turf. Two low sets of steps led down to the Water-Lily pool and a tiled path encircled the whole. Lead vases marked the head of the steps. This was one of the exhibits in the big tent, and was nearly finished when the collapse came, but with commendable promptitude Mr. Wallace and Mr. Dillistone set to work again and, though they could not do what they would, they did what they could, and with very good results.

Fruits and Vegetables.

The tent used previously for conference purposes was utilised on this occasion by Messrs. GEO. MONRO, LTD., who practically filled it with a magnificent exhibit of choice fruits and vegetables, which were not only splendid examples of market produce, shown in the original market packages, but was admirably staged, and, lastly, the firm presented the whole of it to be sold for the relief fund—a munificent gift. In the centre were green, half ripe and ripe Bananas, cases of Pineapples, and boxes of West Australian Apples. In front of these were baskets of black and white Grapes, sieves of Cherries, punnets of Strawberries, and boxes of Cape Doyenné du Comice Pears. On either side of these Tomatos and baskets of Cucumbers were associated with home-grown and Jersey Potatos, Guernsey and Worthing Beans, Vegetable Marrows, Carrots, Onions, Kentish Peas, Lettuces, and early Cabbages. Other fine subjects were Spanish Lemons, Valencia Oranges, home-grown Peaches and Nectarines, and Guernsey and Worthing Melons. It was altogether a grand display, and worthy of a great firm.

Messrs. LAXTON BROS. had an exasperatingly attractive group of splendid Strawberries, and showed their own varieties, Bedford Champion, Laxtonian (grand deep colour), Bountiful, International, and Laxton's Latest, but Laxtonian was the outstanding variety both for size and colour.

Exhibits in the Open.

Many of the outdoor exhibits were left over from the Chelsea meeting, so that the work was greatly simplified, though much had to be done to bring them up to the high standard which British nurserymen have set for themselves. Lawns were cut, garden paths weeded and surfaced with gravel, and the whole surroundings swept and garnished. All the rock gardens remained, and the firms responsible for them had a busy time removing plants which had passed out of flower and planting with others.

To the many visitors who had not attended a month ago these rock gardens presented a particularly fresh, yet established, appearance, and were the centre of much admiring interest, with not a little envy. Besides the rock gardens, the various groups of hardy trees and shrubs received their full meed of admiration. The wonderful collection of Japanese Maples from Messrs. W. FROMOW AND SONS, which included almost every possible variation of form and colouring, was even more gorgeous than before, while the standard and Emperor's Crown Bay trees arranged so tastefully by Mr. L. R. RUSSELL were every bit as luxuriant as last month, and his famous golden and silver Ivies added the neces-

sary colour. Mr. JAMES MACDONALD, the grass specialist, made a nice border of many species of grasses, so many that visitors were astonished at their numbers as well as their grace. In a tent Mr. MacDonald had a valuable stand of herbarium specimens.

Of the many rock gardens space does not permit full details—they were well described in our Chelsea Meeting number—but although the full glory of the spring alpine plants has passed, with the approach of the summer season (though not summer weather at the moment) they are equally fascinating, though in a more sober manner. Still there was plenty of colouring, and the building up of the boulders and terraces formed object-lessons in garden construction, as well as providing fitting homes for the various plants.

In their rock garden remaining from the spring exhibition on May 20-22, Messrs. W. WALLACE AND CO. added many Stonecrops, Primulas and Saxifragas, while Messrs. J. WOOD, who had made splendid use of their Yorkshire stone, planted charming plants of the beautiful Blue Butterfly Larkspur and many Campanulas, as well as a young Umbrella Pine (Sciadopitys verticillata) in just the proper position, at the margin of the pond, where it would receive the atmospheric moisture which is so essential to its well-being. Messrs. G. G. WHITELEGG AND CO. had cool, restful Funkias by their pool, and many Saxifragas, particularly Saxifraga calabrica, amongst the boulders. Campanulas, of many sorts, and Sedums were particularly attractive in the rock garden of Mr. C. ELLIOTT, while the Misses K. and E. HOPKINS brought many fresh plants. Besides a rock garden Messrs. R. TUCKER AND SONS had an outdoor stand of many fascinating little succulent plants, dwarf Maples and lead figures. Messrs. J. PIPER AND SONS put their garden in order, and made it very charming. The dainty Blue Butterfly Larkspur and Red Valerian found many admirers, who were also fascinated by the examples of topiary and standard Bay trees.

In his paved garden Mr. HERBERT JONES planted fresh Hartstongue Ferns and masses of Red Valerian, both of which were particularly effective. The large formal garden, as well as the rock garden of Messrs. PULHAM AND SON attracted a deal of admiration.

Garden Sundries.

The many material aids to successful gardening, such as manures, fungicides, insecticides and tools, were not so numerous as a month ago, but still there was an ample choice of these necessities.

Tomorite, Vegerite, and the old and tried Icthemic Guano were again shown by Messrs. PRENTICE BROS.

Messrs. WM. COOPER AND NEPHEWS staged Tomarite, their fungicide, which is also said to be an effective remedy for White Fly. Their Diffusor spraying syringe was also on view.

Knapsack and hand sprayers of excellent appearance were staged by the ABOL COMPANY, who also had their well-known insecticides and fungicides.

Garden furniture was particularly plentiful, and the exhibitors included Messrs. LIBERTY AND CO., Messrs. A. W. GAMAGE AND CO., the DRYAD CANE FURNITURE COMPANY, Messrs. HUGHES, BOLCKOW AND CO., Messrs. CASTLE AND CO., while gates and vases were shown by Mr. GEO. BLAY and Messrs. T. CROWTHER AND SONS. Rustic summer-houses and arches by the LEYTON TIMBER COMPANY were particularly good, while the ACME LADDER COMPANY demonstrated the handiness of their patent extension ladders. Garden pictures by Miss WINIFRED WALKER and Miss PILKINGTON attracted many admirers, while the Butterfly pictures by Mr. MONTAGU SUMMERS were both novel and effective. Real butterflies, exotic and indigenous, were placed on paintings of various plants and flowers.

AWARDS BY THE R.H.S. COUNCIL.

Wigan Cup for Roses to Mr. Elisha J. Hicks. *Gold Medals* to Messrs. Armstrong and Brown for Orchids, James Carter and Co. for Flowering Plants, Charlesworth and Co. for Orchids, Sir Jeremiah Colman, Bart (gr. J. Collier) for Orchids, Messrs. Mansell and Hatcher, Ltd., for Orchids, Amos Perry for Ferns, Stuart Low and Co. for Orchids, R. Wallace and Co. for Water Garden. *Silver-Gilt Flora Medals* to Messrs. J. C. Allgrove for Herbaceous and Flowering Plants, R. J. Bastin and Son for Begonias, B. R. Cant and Sons for Roses, John Peed and Son for Gloxinias. *Silver-Gilt Banksian Medals* to Messrs. J. Cheal and Sons for Clipped Trees, W. Fromow and Sons for Japanese Maples, T. Lewis for Kalmias, L. R. Russell for Stove Plants, Waterer, Sons and Crisp, Ltd., for Kalmias, etc., W. S. Watney, Ltd., for Geranium "Victory." *Silver Flora Medals* to Messrs. Bakers', Ltd., for Flowering Plants, R. and H. Bath, Ltd., for Delphiniums, Robert Bolton for Sweet Peas, Chaplin Bros. for Roses, Alex. Dickson and Sons for Roses, C. Englemann for Carnations, Rev. Joseph Pemberton for Roses, Messrs. Maurice Prichard for Flowering Plants, G. Reuthe for Ericas and Flowering Plants, Waterer, Sons and Crisp, Ltd., for Flowering Plants. *Silver Banksian Medals* to Messrs. G. and W. H. Burch for Roses, H. Cannell and Sons for Flowering Plants, T. P. Edwards for Roses, Kelway and Son for Delphiniums, James MacDonald for Grasses, R. L. Mond (gr. C. Hall) for Calceolarias, etc., J. Piper and Son for Flowering Plants, G. G. Whitelegg and Co. for Saxifragas, etc. *Bronze Flora Medal* to Miss Muriel Hannen for Delphiniums. *Silver-Gilt Knightian Medal* to Messrs. Laxton Bros. for Strawberries.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

ANNUAL FESTIVAL DINNER.

JUNE 19.—The seventy-sixth anniversary festival dinner of the Gardeners' Royal Benevolent Institution was held on the above date at the Grocers' Hall, Prince's Street, London, by kind permission of the Worshipful Company of Grocers. As this was the first dinner held on behalf of the Institution since the outbreak of war, a very special interest attached to it. The chair was taken by Sir Harry J. Veitch, who has for so many years been identified with this horticultural charity as its treasurer. He was supported on this occasion by Lord Lambourne, Earl Brassey, Sir Stewart and Lady Samuel, Col. Sir John, and Lady Smith Young, Mr. Egerton Hensley (Master of the Grocers' Company), Mr. Edward Sherwood, Mr. W. A. Bilney, Dr. Keeble Mr. Arthur Sutton, Mr. Leonard Sutton, Mr. Edward White, Mr. and Mrs. G. Monro, Jnr., Mr. and Mrs. Joseph Rochford, Mr. and Mrs. Alfred Watkins, Mr. and Mrs. H. Morgan Veitch, Mr. Owen, Thomas, Mr. James Hudson, Mr. G. Reynolds, Mr. P. R. Barr, Mr. and Mrs. G. H. Barr, Mr. and Mrs. J. W. Barr, Mr. George Paul, Mr. H. B. May, Mr. and Mrs. J. O'Brien, Mr. and Mrs. A. Bullock, Mr. H. G. Alexander, Mr. J. F. McLeod, Mr. J. McKerchar, Mr. A. W. Metcalfe, Mr. N. Barnes, Mr. D. Ingamells, Mr. John Heal, Mr. F. J. Chittenden, Mr. W. Nutting, Mr. W. Cox, Mr. A. Dawkins, Mr. B. Wynne, Mr. G. H. Cuthbert, and many other supporters of the Institution.

The hall in which the dinner was held is one of the finest of the many famous City halls and is well known for its wood carving, its fine paintings and magnificent plate. On this occasion the eight large tables were beautifully decorated by Mr. Arthur Bedford, of Gunnersbury House Gardens, with Orchids, Carnations, Irises, Roses, Gladioli and plants sent by Messrs. W. Paul and Son, Messrs. Paul and Son, Messrs. Sanders, Messrs. Charlesworth and Co., Messrs. Barr and Sons, Messrs. James Carter and Co., and Messrs. Lowe and Shawyer.

After dinner and the honouring of the usual loyal toasts, Sir Harry Veitch proposed "Continued Prosperity to the Gardeners' Royal Benevolent Institution." He expressed the feeling of thankfulness all felt that the war, now practically at an end, had done so little material damage to our own land, but had we suffered so severely as many of our Allies, such a gathering as the present one would have been impossible. The Committee regretted there had been no festival dinner for five years; consequently the funds of the Institution had suffered. At the first annual dinner held in 1840 a sum of £128 was subscribed and as a result one pensioner was elected. Since that time, the work of the Institution had progressed steadily and the help it had been able to afford disabled gardeners or their widows had steadily increased, until now there were 247 pensioners, and the amount distributed in pensions annually was about £5,000. Altogether, the Institution had disbursed £165,000 in pensions, and in recent years had been able to assist those awaiting election by grants from the Victorian Era and the Good Samaritan Funds. It was not possible to place the whole of the selected candidates on the funds at any election; therefore, the need for increased subscriptions and larger liberality was as great as ever. The Institution had always been under Royal Patronage, and H.R.H. the Prince of Wales was now President, in succession to King George and the late King Edward. It was with great pleasure he was able to state that, all being well, His Royal Highness the Duke of Connaught would preside at the festival dinner next year. Sir Harry referred to the deep gratitude of the pensioners, and pointed out that one man who had subscribed 15 guineas eventually received £475 from the Fund. He was succeeded by his widow, and together they received a sum of £603 from the Institution. The pensioners lived long, and last year one died at the age of 101. The Institution had an insured income of £1,000 a year; management expenses were kept as low as possible, and at present Mr. G. J. Ingram, their able Secretary, was carrying on without any assistance. Sir Harry concluded his speech with a strong appeal for liberal support to an Institution with which he had been associated for about thirty-five years and of whose good work he could not speak too highly.

Sir Stewart M. Samuel proposed "The Ladies and Visitors, and this toast was responded to by Earl Brassey. Sir Harry Veitch received a great ovation when he rose to respond to the toast of "Our Chairman," ably and humourously proposed by Lord Lambourne. Speaking under great emotion, Sir Harry thanked those present for the kind reception they had given him, acknowledged the indebtedness of the Institution to the Worshipful Company of Grocers for the loan of the hall and thanked all those who had contributed so handsomely towards the splendid result obtained that evening—£3,700.

A delightful musical programme was provided, and a historic and notable meeting concluded with thanks to Mr. Bedford, to those who had sent flowers and plants, and the toast of the health of the Secretary, Mr. George J. Ingram.

The following were the principal donations:—Sir Harry and Lady Veitch, £262 10s.; Mr. Reginald Cory, £500; Messrs. William and Edward Sherwood, £250; Messrs. Sutton and Sons (Reading), £200; Mr. George Monro, £100; Messrs. Rothschild, £105; Mr. Ingamells (Covent Garden), £105; Mr. James Sweet (V.M.H.), £52 10s.; Mr. George Gollin, £52 10s.; Messrs. W. Wood and Son, £52 10s.; Mr. J. O'Brien, £43; Mr. Thomas H. Cook, £45; Mr. William Robinson, £50; Messrs. Fisher, Son and Sibray, Ltd., £36 5s.; Mr. Arthur Turner, £30; The Lady Northcote, £25; Lt.-Col. Sir George Holford, £26 5s.; Worcester Auxiliary (per Mr. Percy White), £35; Mr. Edward White, £21; Mrs. Edward White, £5 5s.; Mr. G. Randell Higgins, J.P., £21; Mr. Joseph Rochford, £21; Mr. N. F. Barnes, £20; Mr. H. G. Alexander, £19 19s.; Mr. James Hudson (V.M.H.), £25; Mr. John Heal (V.M.H.), £18 18s.; Mr. H. H. Thomas (Editor of *The Gardener*), £17 10s.; Mr. Arthur Dye, £12 12s.; Mr. John McKerchar, £12 12s.; Mr. A. Watkins, £21; Mrs. A. Watkins, £10 10s. The following contributed £10 10s. each:—Mr. E. M. Rodocanachi, Lady Samuel, Mr. W. H. Lees, Mrs. W. H. Lees, Mrs. Whitpaine Nutting, Mrs. E. Manwaring, Col. Sir John Young, Mr. Geo. Sutton, Messrs. Barr and Sons, Mr. G. A. Bishop (from America), Mr. A. Dimmock, Mr. T. Finch, Sir Jeremiah Colman, Messrs. Prothero and Morris, Mr. Herbert Hicks, Mr. R. F. Felton, Mr. Geo. H. Cuthbert, Messrs. H. B. May, Mr. Geo. Messer, Mr. M. Larsen and Mr. J. Collingridge.

TRADE NOTES.

THE Board of Agriculture draws attention to the fact that owing to the shortage of road transport in London it is important that fruit growers should co-operate to make up full cartloads of produce to individual consignees in the various markets, and thus economise the available facilities. For the same reason fruit intended for preserving should be consigned direct to the jam factories, so as to avoid unnecessary cartage to and from the markets. Railways can only accept for conveyance such quantity of produce as can be delivered promptly to the markets, and in order to avoid restriction of traffic it is essential that the fullest use should be made of carting facilities.

MARKETS.

COVENT GARDEN, June 25

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's, per doz.	10 0–12 0	Fuchsias, 48's, per doz.	18 0–24 0
Asparagus plumosus	12 0–15 0	Heliotropes, 48's, per doz.	18 0–21 0
—Sprengeri ...	12 0–18 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
Aspidistra, green	48 0–72 0	— Pink, 48's, per doz.	30 0–48 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Marguerites white	18 0–24 0
Crassulas, red 48's per doz. ...	30 0–36 0	Mignonette, 48's doz.	18 0–21 0
—white and pink	24 0–30 0	Palms, Kentia ...	18 0–24 0
Erica candidissima 48's, per doz.	18 0–24 0	—— 60's ...	15 0–18 0
Rosea, 48's, per doz.	36 0–42 0	—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Arums— —(Richardias), per doz. bl'ms	6 0– 8 0	Pelargonium, doublescarlet, per doz. bun. ...	8 0–10 0
Carnations, perdoz. blooms, best American var.	2 6– 4 0	— white, per doz. bunches ...	15 0–18 0
Coreopsis, per doz. bun.	6 0– 8 0	Roses, per dozen blooms—	
Cornflower, blue per doz. bun....	1 6– 2 6	— Lady Hillingdon	1 0– 2 6
Daisies, white, large, per doz. bun.	3 0– 4 0	— Liberty ...	1 6– 2 0
Gaillardia, per doz. bun.	6 0– 8 0	— Melody ...	1 6– 2 6
Gardenias, per box specials ...	8 0– 9 0	— Mme. Abel Chatenay ...	1 6– 2 6
— ordinary ...	2 0– 3 0	—Mrs. J. Laing...	1 6– 2 6
Gladiolus, The Bride, per bun.	2 6– 3 6	— Ophelia ...	3 0– 4 0
—Brenchleyensis, per doz. spikes	4-0– 5 0	— Richmond, var.	1 6– 2 6
Gypsophila, per doz. bun. ...	6 0–12 0	— Sunburst ...	3 0– 4 0
Iceland Poppies, doz. bun. ...	2 0– 2 6	—White Crawford	1 6– 2 6
Iris, per doz. bun.—		Statice, white ...	12 0 –18 0
— Spanish, White	15 0–24 0	—— yellow ...	— — —
— — Blue ...	15 0–24 0	Sultan, white, per doz. bun. ...	8 0– 9 0
— — Mauve ...	15 0–24 0	— — yellow ...	— — —
Lapagerias, perdoz. blooms ...	3 0– 4 0	— — mauve ...	8 0 – 9 0
Lilium longiflorum, per bunch ...	8 0– 9 0	Stephanotis, 72 pips	4 0– —
Myosotis (Forget-Me-Not), per doz. bun. ...	3 0– 4 0	Sweet Peas, per doz. bun.—	
Orchids per doz.:		— white	5 0– 8 0
— Cattleyas ...	15 0–18 0	— coloured ...	5 0– 8 0
		Stock, Dbl. White	12 0–15 0
		—Dbl. Pink ...	10 0–12 0
		—Dbl. Mauve ...	12 0–15 0
		—Dbl. Purple ...	12 0–15 0
		Violas, per doz. bun.	3 0– 4 0

Remarks.—With Pyrethrums finished and white Pinks practically over, white Stock is again more in demand. Pyrethrums with small, white, button-like blooms do not appeal to the majority of buyers, and can only be termed a cheap "line." Gaillardias and Coreopsis are increasing in quantities; there is also an abundant supply of Delphiniums, Cornflowers, White Daisies, Gypsophila, Iceland Poppies and Sweet Peas. Carnations and Roses are plentiful at the price quoted last week. Flowers on sale now include white and mauve Sultan and white and mauve Statice, both of which are arriving in excellent condition. Lilium longiflorum is still offered in good condition, and prices for this flower are a trifle easier. Lily of the Valley is not obtainable, but Stephanotis and Lapageria are more plentiful.

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d
Apricots (Spanish) per box ...	10 0–18 0	Green Almonds, per lb. ...	2 0– 2 6
Aubergines; pr doz	6 0– 8 0	Melons, each ...	2 6– 6 0
English Peaches per doz. ...	9 0–36 0	—Canteloupe ...	25 0–40 0
Belgian Peaches, per doz ...	9 0–24 0	Nectarines, per doz. ...	9 0–24 0
Black Currants (French) ½ sieve	20 0–30 0	Nuts— — Brazils (new) per cwt. ...	85 0–90 0
Cherries (English) per strike ...	12 0–20 0	Pineapples. ...each	4 0–10 0
per ½ bus. ...	25 0–35 0	Plums (French) per ½ sieve ...	25 0–35 0
Gooseberries, per ½ bus ...	12 0–14 0	Strawberries per peck	10 0–14 0
Grapes:— —Blk Hamburgh, per lb. ...	3 0– 6 0	—Southampton, per skip ...	3 6– 4 0
—Muscats, per lb.	2 6– 8 0	Worthing Figs, per doz.	6 0–18 0
GrapeFruit, per case	55 0– —		

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Asparagus, English per bundle ...	2 6–14 0	Mustard and Cress, per doz. punnets	1 3– 1 6
Beans, French, per lb.	1 6– —	New Turnips, per bunch	0 10– 2 0
—Broad per bus.	8 0–10 0	Peas, per bus. ...	12 0–15 0
Beetroot, per bus.	6 0– 9 6	Parsley, per ½ bus.	12 0– —
Cabbage per doz.	3 6– 5 0	Potatos, new, per lb.	0 3½–0 4
Carrots, New, per doz. buns. ...	5 0–12 0	Radishes, per doz. bunches ...	3 0– —
Cauliflowers, perdoz.	10 0–12 0	Rhubarb, natural, per doz.	8 0– —
Cucumbers, perflat	15 0–22 0	Spinach per bus.	7 0– —
Garlic, per lb. ...	1 0– —	Spring Onions, per doz. bunches ...	5 0–12 0
Greens, per bag	7 0– —	Tomatos, English, per doz. lbs. ...	9 0–12 0
Herbs, per doz. bun.	4 0– 6 0	Vegetable Marrows, each	0 10–1 4
Leeks, per doz. bun.	4 0 —	Watercress, per doz.	0 9– —
Lettuce Cabbage and Cos, per doz.	1 6– 3 0		
Mint, per doz. bun.	9 0–18 0		
Mushrooms per lb.	2 0– 3 0		

Remarks.—The supplies of English Grapes, both black and Muscat varieties, are increasing daily. Strawberries are more plentiful, and Peaches, Nectarines and Melons are arriving in fair numbers. There is a shortage of Green Gooseberries, and hothouse Figs are scarce, but English Cherries are arriving in larger numbers. Black Currants, Apricots, Cherries, Peaches, Plums, Canteloupe Melons and Black Grapes are being sent by Continental growers. The Asparagus season is finishing, but the supplies of Tomatos are increasing daily; Peas and Broad Beans are plentiful. Cauliflowers are scarce, but there are fair quantities of Cabbages.

CROPS AND STOCK ON THE HOME FARM.

Haymaking.

Haymaking is in full operation. The crops are light, owing to the dry weather, but some few plots of Clover and Italian Rye Grass are good. Sainfoin, which is largely grown in Hampshire, is yielding a light return, therefore Hay is sure to be dear during the coming winter, as there is little old Hay in the country. If the cutting of Hay crops is long delayed, the quality of the Hay is depreciated by age. Italian Rye Grass becomes very hard and wiry. Field Grass, Sainfoin, Clovers, and the various temporary grasses do not require more than once turning after cutting; the more they are handled the more likelihood is there of destroying the leafage, which is all important in Clover and Sainfoin. Once turning, then putting the Hay into small "cocks" by hand, is sufficient before carting, assuming of course the weather is favourable. Swathe turners are admirable labour-savers, as a stout nag horse will turn twenty acres in a day much better than hand labour.

Hay made from these Clovers and Grasses provides the best food for army horses. Meadow hay is more appreciated for dairy cows and nag horses. The Grass should not be too old when cut, neither should it be allowed to become too dry before carting, as in this condition it loses colour and aroma. Sufficient heat should generate through the whole to secure that aroma which is so pleasing when the Hay is cut from the rick. Certain farmers favour the building of small ricks. I prefer one of not less than 20 tons; labour in thatching is saved, and there is less waste. A sharp-pitched roof is preferable to a flatter one, as in the former there is less "fusty" hay next to the thatch. Directly a new rick has settled down, the sides should be tucked and shaped, and the roof made up with the tuckings, which should be raked down quite smoothly to ward off rains until the whole has settled down sufficiently for thatching, which should not be neglected a single day after the rick is ready.

How strange it is there are so few Dutch barns in this country! These are very useful, and save labour. Into these barns the Hay can be carted a little at a time, thus saving the constant covering of the rick and final thatching. Time should be allowed for the gases of fermentation to pass away before the ricks are thatched; if thatched too early the quality of the Hay depreciates, and there is also a risk of damage from spontaneous combustion. *E. Molyneux.*

ANSWERS TO CORRESPONDENTS.

Address Wanted: Will Corporal S. W. Dance late of the H.Q., 40th Brigade, R.F.A., kindly send his address to the office of this paper, 41, Wellington Street, W.C.2?

British Gardeners' Association: *E. H.* Write to the Secretary, Mr. Cyril Harding, 22, Buckingham Gate, Strand, London, W.C.2.

Celery Unhealthy: *E. H.* In the absence of specimens it is impossible for us to know whether your Celery plants are affected with the leaf-mining grub or the disease caused by the fungus Septoria petroselini variety Apii. It is too late to attempt remedial measures for the mining grub; surface washes are useless, the only method being to pinch the insect between the finger and thumb. Next season dust the plants with some distasteful substance, such as Quassia extract, to prevent the mother fly laying her eggs in the tissue of the leaf. Celery blight has spread to most parts of the country and is generally first noticed about July. If the plants are sprayed with Bordeaux mixture as seedlings and again in July and August the fungus will be kept in check and a satisfactory crop obtained.

Curled Rose Leaves: *J. S.* The curling of the Rose leaves is due to the larvae of the Leaf-Rolling Sawfly. The removal of all rolled leaves by hand will be found the most effectual remedy, as it is difficult to get any spraying fluid in contact with the caterpillar, which remains under the curled surfaces of the leaves. After removing the affected leaves, spray the bushes with a nicotine wash.

Market Gardeners' Compensation Act: *Southern.* You can obtain a copy of this Act from H.M. Stationery Office, Imperial House, Kingsway, W.C.2; or 23, Forth Street, Edinburgh.

Name of Plants: *H. G.* 1, Kalmia latifolia; 2, Calycanthus floridus. *Miss B.* The yellow flower is Phlomis fruticosus; the white-flowered shrub Staphylea colchica. *S. W.* 1, Calycanthus floridus; 2, Arum Dracunculus.

New Fruit and Kitchen Garden: *A. G. S.* It will be advisable to obtain the advice of a practical gardener in your district as to the subjects best suited for your various plots, as advice given without knowledge of the soil and situation may be misleading. Do not plant Apple and Plum trees in the same rows as previously occupied by these fruits, because, after a few years, the standard Plum trees are likely to become uneven and spoil the appearance of the rows. The planting of large fruit trees, as in your old garden, is not recommended, as they would overshadow other crops. It is much better practice to plant the various kinds of bush fruit on plots by themselves, as they will then be more convenient for netting, and produce much heavier crops. Very fine fruits of Apples and Pears are obtained from espalier-trained trees, and this style of training has much to recommend it, especially in a small garden. If you desire to plant Apple trees round your garden plots they should be on the Paradise stock and 15 feet apart; no other fruits should surround the plots. Another plot, 45 yds. × 45 yds., should be sufficient for a vegetable garden, provided the bush trees are planted by themselves. Paths 15 to 20 yds. apart will suffice for a small garden. The trees suggested for a protecting hedge will be very suitable. The Fir plantation as a protection from wind should not be too close to the garden plots as these trees will produce shade which may, at some future time, be detrimental. Two houses, 20 ft. × 10 ft. should produce sufficient Tomatos, Cucumbers, and Melons for your requirements. A pit in front of the potting shed would be very suitable for the growth of Melons. Meanwhile, trench and manure the ground in order that planting may be done in November.

Communications Received.—H. C. E.—W. H. W.—F. T., S. H. G.—A. N.—J. R. W.—C. B.—M. B.—G. P.—T. L., W. R. P., J. W. W.—J. T. J.—T. C.—Miss P.—R. T. W.—T. H.—I. C.—G. E.—R. A. M.—H. P.—R. W.—G. H. C.—F. H. C.—T. A. F.

SITUATIONS VACANT.

Twenty words (or three lines including headline) 3s., and 6d. for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office, 6d.

PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.).

THE Standard of Wages and Hours adopted in January last is now withdrawn and a new Standard is under the consideration of the Executive Council. When this is published, an announcement will be made in these columns.—CYRIL HARDING, General Secretary, 22, Buckingham Street, Strand, W.C.2.

EAST SUFFOLK COUNTY EDUCATION COMMITTEE.

WANTED, a HORTICULTURAL INSTRUCTOR (Man or Woman), well qualified in Scientific Horticulture, particularly Fruit Growing. The person appointed will be required to conduct classes in connection with school gardens, and lectures to teachers and others. Commencing salary £150 per annum, rising by increments of £10 to £200, plus an allowance of £10 per annum for use of cycle. Rail fare allowed. Applications to be made on Form 10 (copy of which may be obtained from the undersigned), giving full particulars of training and qualifications, not later than 15th July.

W. E. WATKINS, Secretary
Education Office, County Hall, Ipswich,
18th June. 1919

SUPERINTENDENT wanted for private estate in Canada; must be qualified to take complete charge of gardens, grounds, farm, livestock, poultry, etc.; only first-class men with experience need apply.—S. N., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, a HEAD GARDENER for Ashwell Rutland; man and boy kept; 40s a week and house; must thoroughly understand Fruits, Vines, Flowers and Vegetables.—Apply by letter to COLONEL BLAIR, 112, Eaton Square, S.W.1, giving full particulars.

HEAD WORKING GARDENER wanted now for Derbyshire; experienced with indoor Carnations and Vegetables; two under kept; cottage.—Write, stating experience, references and wages, to Mrs. HENRY RAMSDEN, 10, Stanhope Street, Sussex Square, London, W.2.

WANTED, GARDENER (HEAD WORKING), two under, for busy country hotel; must have good knowledge early vegetables and salads and growing choice vegetables for big consumption; small amount lawn and ornamental flowers; greenhouses; few pigs.—King's Head Hotel, Harrow, Middlesex.

WANTED, Single-handed GARDENER. Thoroughly experienced Herbaceous Plants, Vegetables; about one acre under cultivation; practically no glass; on account of difficulty lodging accommodation, single man desirable. Wages 45s; no cottage.—Apply to R. M. WOOD, Flint Cottage, Box Hill, Dorking.

WANTED, GARDENER (SINGLE-HANDED); experienced; wages 35s. and cottage.—Apply, E. BARTRUM, Stockton, Codford, S.O., Wilts.

SINGLE-HANDED GARDENER wanted at once, help given; cottage, electric light and vegetables.—PATTINSON, Churt House, near Farnham, Surrey

GARDENER wanted on Training Colony; abstainer; well up in vegetables and able to teach gardening.—Apply SUPERINTENDENT, Turner's Court, near Wallingford, Berks

WANTED, a strong man to take place as SECOND GARDENER; must be good for In and Outside work; also strong LAD for Pleasure Grounds—Apply to ROBERT GRIFFIN, Court Garden, Marlow, Bucks.

WANTED, SECOND GARDENER; use of small lodge and 35s. weekly; also strong LAD, 18 to 20, wages £1.—Apply to ROBERT GRIFFIN, Court Garden, Marlow, Bucks.

WANTED, GENERAL FOREMAN, also JOURNEYMEN, Inside and Out; bothy, vegetables and attendance; duty alternate weeks; 1 o'clock Saturdays. Reply, stating wages, experience, etc.—WREN, The Gardens, Ashby St. Ledgers, Rugby.

WANTED, six smart, active JOURNEYMEN immediately, chiefly for Pleasure Grounds; lodgings now, bothy later; state experience, age, wages expected.—Copies of testimonials, etc., to GEO. MORBEY, The Gardens, Lilleshall House, Newport, Salop.

WANTED, a thoroughly experienced JOURNEYMAN for Fruit and Plant Houses; wages 38s. per week, bothy, etc.—Apply, stating age, particulars of experience, with copies of testimonials, to the HEAD GARDENER, Stoodleigh Court, Stoodleigh, Tiverton, Devon.

WANTED, JOURNEYMAN for Kitchen Garden and Pleasure Grounds.—State wages required with bothy, to F. FAIRCHILD, Manor Gardens, Healing, Grimsby.

WANTED, three good JOURNEYMEN for Pleasure Grounds, Kitchen Garden, and general outside work, accustomed to use scythe; wages 34s. per week, bothy, etc.—Apply, stating age, with copies of testimonials, to the HEAD GARDENER, Stoodleigh Court, Stoodleigh, Tiverton, N. Devon.

WANTED, two JOURNEYMEN for Inside; wages 35s. per week; good bothy; hours 7 to 5, 1 p.m. on Saturdays.—Apply, with references, to T. SPARROW, Locko Park Gardens, Derby.

WANTED, two JOURNEYMEN for Pleasure Grounds, Kitchen Garden and general Outside Work; 32s., with bothy.—HOLMES, Kenton Grange, Harrow-on-the-Hill.

WANTED, JOURNEYMAN (Inside), experienced; bothy and good wages.—H. WENMAN, The Gardens, Temple Newsam, Leeds.

WANTED, JOURNEYMAN for Kitchen Garden and Pleasure Grounds; duty every third week; wages 30s., bothy, milk, vegetables, 1 o'clock Saturdays.—R. RYE, Woodlands, Uxbridge.

WANTED, JOURNEYMEN, chiefly Outside; wages 30s. per week, rooms, etc.; Sunday duty and overtime paid.—Apply, stating age and experience, to G. TAYLOR, Bulstrode Gardens, Gerrard's Cross, Bucks.

WANTED, smart JOURNEYMAN for Inside; experienced in Carnations and Plants generally.—State age, experience, and wages required, bothy, particulars to, EDWIN BECKETT, Aldenham House Gardens, Elstree.

WANTED, JOURNEYMAN for Inside and Out; goods wages.—Apply, J. V. MACDONALD, The Gardens, Whetstone, Edgbaston, Birmingham.

WANTED, two MEN (experienced), one Kitchen Garden, one Pleasure grounds.—State wages required, with particu'ars, to T. HAZELDINE, Crosswood Gardens, Cardiganshire.

WANTED, two MEN, one take lead Herbaceous Borders, Roses, Flowering Shrubs, Topiary work; one Alpine, Wall and Water Garden; one wanted with knowledge of Bees. Wages 35s., good bothy, and attendance; overtime extra.—Apply, E. JONES, The Gardens, Shalesbrooke, Forest Row, Sussex.

WANTED, a thoroughly experienced MAN for the houses; well up in his work; wages 35s. per week, with bothy; 1 o'clock Saturdays.—State age and particulars to W. KENT, The Gardens, Bookham Grove, Bookham, Surrey.

WANTED, experienced, practical MAN (single) for Rock Garden work chiefly; rooms, etc., provided.—State wages required and full particulars to HEAD GARDENER, Woodcote Grove House Gardens, Coulsdon, Surrey.

WANTED, single MAN for Pleasure Grounds and Kitchen Garden; duty every third week; one o'clock Saturdays; bothy, milk, vegetables and attendance; wages 31s. 6d. State age and particulars.—G. E. WEEKES, Penoyre Gardens, Brecon.

WANTED, good MAN for Fruit, Plant and Orchid Houses; no bothy.—Wages and particulars of experience to GARDENER, Feltham Lodge, Feltham, Middlesex.

TWO MEN wanted for outside work; no bothy—State wages to R. HOUGHTON, Manresa House, Roehampton, S.W.15.

WANTED, MAN, experienced, for Herbaceous and Flower Garden, and Pleasure Grounds, immediately; good wages, with bothy, milk, vegetables, etc., provided; duty and overtime paid.—Please state age, experience, and particulars to, GEO. BROWN, Brownsea Castle Gardens, Poole, Dorset.

WANTED, MAN experienced in Greenhouse Plants; 27s. a week, including laundry; live in, bothy, coal, light and vegetables found.—Apply to HEAD GARDENER, Marshal's Wick, St. Albans.

MARRIED COUPLE, to live in, wife as Cook, man to work in garden, where others are kept; both must be able to give first-class references from previous situations.—C. LOUCH, Esq., Colbury House, Totton, Southampton.

WANTED, YOUNG MAN with experience in Vines, Peaches, and Plants; good bothy, milk, and vegetables; one o'clock Saturdays; duty every third Sunday.—State age, and wages, HEAD GARDENER, Clifton Hall Gardens, Nottingham.

YOUNG MAN required, to assist in Orchids; good knowledge essential; wage 35s., bothy and attendance.—Apply, stating age, experience, with copies of references, CHEADLE, Wallhouse Gardens, Torphichen, Linlithgowshire.

WANTED, YOUNG MAN for Kitchen Garden; able to take duty; wages 32s. 6d. per week, with bothy, etc.—Apply with particulars of experience, age, etc., to G. F. HALLETT, Netherby Gardens, Carlisle.

WANTED, YOUNG MAN for Motor Mowing Machine and border work; married or single. State age and wages required.—Apply F. J. STONE, The Gardens, Shabden Park, Chipstead, Surrey.

WANTED, YOUNG MAN, chiefly for Outside; strong and willing; state wages and references; bothy, milk and vegetables.—J. BENSTEAD, The Gardens, St. Nicholas, Richmond, Yorkshire.

WANTED, experienced YOUNG MAN for Inside work.—Apply Alfreton Park, Derbyshire.

LADY GARDENER wanted immediately, to work under expert in large Rock and Water Garden; must be strong and experienced in propagating; good references; salary 30s. inclusive.—ANDERSON, Glenn Hall, Leicester.

WANTED, two strong Garden LABOURERS or IMPROVERS, wages 30s. to 35s. per week.—Apply, stating age and full particulars, to F. SILLITER, Aberpergwm Gardens, Glynneath.

TRADE.

UNIVERSITY OF LONDON.

NOTICE IS HEREBY GIVEN that the Senate will proceed to elect an External Examiner for the Final Examination in Horticulture for the Degree of B.Sc.(Hort.).

N.B.—Attention is drawn to the provision of Statute 124, whereby the Senate is required, if practicable, to appoint at least one Examiner who is not a Teacher of the University.

Particulars of the remuneration and duties can be obtained on application.

Candidates must send in their names to the External Registrar, Geo. F. Goodchild, M.A., B.Sc., with any attestation of their qualifications they may think desirable, on or before Saturday, 5th July, 1919.

It is particularly desired by the Senate that no application of any kind be made to its individual members.

If testimonials are submitted, three copies at least of each should be sent. Original testimonials should not be forwarded in any case. No special form of application is necessary.

University of London,
South Kensington, S.W.7.
June, 1919.

HERTFORDSHIRE COUNTY COUNCIL.

HORTICULTURAL INSTRUCTOR.

THE Hertfordshire County Council invite applications for the post of Peripatetic Lecturer and Staff Instructor in Horticulture and Botany.

The Instructor appointed will be required to teach and supervise Gardening at Elementary Schools and to give Lectures on the above-named subjects.

The salary will be £115 per annum with additions for previous experience, rising to £260 per annum. The Instructor will be required to devote his whole time to his duties and to provide and maintain a bicycle, in respect of which he will receive a mileage allowance.

Applications must be made on forms which can be obtained from the Education Department, Hertford, and must be forwarded to the undersigned not later than the 5th July, 1919, accompanied by copies of not more than three recent testimonials.

CHARLES E. LONGMORE,
Clerk to the Hertfordshire County Council.
Education Department, Hertford, Herts,
June, 1919.

HARDY ORNAMENTAL NURSERY, near Toronto, Canada, doing extensive Landscape business, wants a man thoroughly experienced in Garden design and construction; must be educated, energetic and capable of taking charge.—State experience and references. N.S., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

FERN PROPAGATOR wanted for this Nursery; unmarried; good opportunity for first-class Man. State wage, experience, and where gained, also wage expected.—FINDLAY BROTHERS, Springhill Nursery, Baillieston, Glasgow.

WANTED, for Branch Nursery, GROWER young, experienced in Fruits, Herbaceous Plants, etc.; able to take control if necessary; wages required and references to HOPWOOD & SON, Nurserymen, Cheltenham.

BUDDER and GRAFTER.—Additional permanent man wanted in Nursery with fruit and rose department; 30 acres; state wage, experience, age, married or single, when disengaged, with copies testimonials.—W. W., Box 5, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, capable WORKING FOREMAN for Greenhouse department, Bedding Stuff, Dahlias, Chrysanthemums, Tomatos, Cucumbers and Bulb Forcing.—State experience and wages required, R. H. BATH, Ltd., Wisbech.

WANTED, Nursery WORKING FOREMAN, experienced man, for small Nursery; good Budder of Roses, Fruit trees, Shrubs, etc.—Reply, giving full particulars with copies of discharges and wages expected to ARTHUR S. RITCHIE & CO., Seedsmen, Belfast.

FOREMAN GROWER wanted for Dahlias, Solanums and Hydrangeas.—State experience and wages required.—CLIBRANS, Altrincham.

WANTED, two MEN for Carnation and Fern growing, and general Nursery work; write stating experience, age, and wages required; district, Bucks.—Apply, F. R. N., Box 23, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, smart MAN to take charge of a small range of houses; must be thoroughly experienced under glass, especially Tomatos and Chrysanthemums; single man preferred.—WRIGHT, Nurseries, Pangbourne, Berks.

YOUNG MEN wanted for the following Glasshouse Depts.: Stove and Greenhouse; Softwooded, Fern and Palm, Chrysanthemum, and others; 49½ hour week; 12 o'clock on Saturdays.—State experience and wages required, CLIBRANS, Altrincham.

YOUNG MEN wanted for Herbaceous and Alpine Dept.; 49½ hour week, 12 o'clock on Saturdays. — State experience and wages required, CLIBRANS, Altrincham.

YOUNG MAN (smart) wanted, some experience bedding plants, Cues; one who could repair preferred; state age, experience, wages, etc.—FURNESS BROS., Nurserymen, Catford Hill, S.E.

WANTED, YOUNG MAN with experience of Decorating and Hotel work.—References and wages required to BROOKE, BRAY & SONS, Nurserymen, Sheffield.

WANTED, SEED MANAGER; one with wholesale experience in garden and farm seeds; able to control staff; highest references; must be practical; state salary expected (correspondence private).—E. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, energetic HEAD SALESMAN, thoroughly experienced in all branches of Seed, Sundries and Nursery Stock; able to undertake management when required. Send copies of discharges and wages expected.—Address, ARTHUR S. RITCHIE AND CO., Seedsmen, Belfast.

WANTED, SEED ASSISTANT, male or female, for wholesale seed counter; state age, experience, and wages required.—E. W. KING & CO., Seed Merchants, Coggeshall, Essex.

WANTED, experienced, energetic ASSISTANT to take charge wholesale seed counter; good opportunity for smart man; state wages required; —E. W. KING & CO., Seed Growers, Coggeshall, Essex.

WANTED, in large Seedsman's Office, CORRESPONDENCE CLERK; good writer; experienced, good references, salary required, married or single.—K. E., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE. — Wanted, JUNIOR ASSISTANT; must have knowledge of Market Garden Seeds, and used to a brisk counter trade; state wages required.—Apply WOODWARD'S, 17, Moorfields, Liverpool.

WANTED, Young Lady SHOP ASSISTANT, Seed and Florist business.—State age and wages expected, WM. TROUGHTON, Seedsman, Preston.

LADY FLORIST required for high-class shop; good designer; wages and commission.—State age and experience, 34, Church Road, Wimbledon.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

THE RT. HON. LAURENCE HARDY wishes to recommend his temp. HEAD GARDENER to any Lady or Gentleman requiring a good, capable, hard-working man, with daughter as assistant if required; or would work large establishment for market with son and daughter.—T. MORGAN, The Gardens, Sandling Park, Hythe, Kent.

MR. E. G. PRETYMAN, M.P., desires to recommend his General GARDEN FOREMAN, G. BRIARS, to any Lady or Gentleman requiring the services of a competent Head Gardener.—Orwell Park, Ipswich.

MR. T. CRADDUCK, Middleton Park Gardens, Bicester, Oxon, wishes to recommend his late General Foreman as HEAD GARDENER to any Gentleman requiring the services of a first-class fruit and vegetable grower; life experience; age 35; married, no children; demobilised, 3½ years Army.—Apply, W. T. CHATTERLEY, The Green, Snitterfield, Stratford-on-Avon.

A GENTLEMAN going abroad and giving up estate wishes to recommend his Head Gardener to lady or gentleman requiring a thorough experienced man in all branches, Inside and Out; aged 39; two children (age 10 and 17 months).—HAWKINS, Gadsden House, Hayes, Kent.

MR. C. J. CONWAY, High Beech, Hollington, near Hastings, can highly recommend A. DAVIES as Head to any Lady or Gentleman requiring the services of a capable GARDENER, where 3 or 4 are kept; experienced in all branches.

MRS. GUTHRIE, East Haddon Hall, Northampton, most highly recommends her late HEAD GARDENER to any lady or gentleman requiring the services of a thoroughly competent, reliable man in all branches of Horticulture; Fruit and Carnations specialities; 29 years' practical experience gained in first-class establishments; demobilised.—TURNER, 18, Blomfield Street, Bury St. Edmunds.

MRS. NATHAN, Floresta, Ashtead, highly recommends her Gardener (Head) where three or more are kept; age 35; married; life experience in all branches; 2 years Kew; leaving on account of place being sold; first-class testimonials.—H. W. EPPS, 2, Chatsworth Terrace, Skinners Lane, Ashtead, Surrey.

GARDENER (HEAD). — B. C. Forder, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establishment; life experience in all branches; 10 years as head; good manager and economical; age 39; married (one child, 13 years); excellent references; Army discharged.—Full particulars, The Gardens, Whatcombe House, Blandford, Dorset.

GARDENER (HEAD). — The Honble. Mrs. Greville wishes to highly recommend her HEAD GARDENER; 18½ years' in present situation, leaving through place being sold; thoroughly experienced in all branches; age 41; married.—L. HEALEY, The Gardens, Danbury Park, Chelmsford.

GARDENER (HEAD), Scotch, just demobilised; 28 years' experience in all branches of gardening, Vines, Peaches, Melons, Cucumbers, Malmaison and Tree Carnations, Fruit and Kitchen Garden, Lawns; also understands Electric Power Plant; eleven years Head; first-class references; age 42; married (two children, ages 5 and 9).—J. D., 5 High Street, Sandy.

GARDENER (HEAD) offers his services to a Lady or Gentleman requiring a thoroughly competent and all-round GARDENER; life experience in all branches, twelve years as Head; demobilised; category A1; age 40; married (1 child).—H. SMITH, 38, Wordsworth Street, Keswick, Cumberland.

ADVERTISER seeks re-engagement as HEAD GARDENER or ESTATE MANAGER, private or otherwise; thorough practical life experience in all branches; age 35; married.—M. G., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD); practical experience, Inside and Outside, gained in good establishments; thoroughly efficient and well recommended; previously Head; married (2 children); demobilised.—T. LARKBEY, Battlefields, Wrotham, Kent.

GARDENER (HEAD) or FOREMAN, Inside or General; 16 years' good experience, Inside and Out; 4 years as above; excellent references; well recommended; age 33; no family; demobilised.—State wages, T. KEY, 12, Macer's Lane, Wormley, Broxbourne, Herts.

HEAD GARDENER or GARDENER-Bailiff.—E. D. MENZIES, late Temporary Head Gardener to the Rt. Hon. Lord Clinton, Bicton, Devon, is open to engagement as above. Thoroughly experienced in first-class Gardening gained in good gardens; also up-to-date Agriculture, Forestry, and General Estate Management; has held good positions, and holds first-class testimonials as to abilities and character.—C/o Sir Dugald Clerk, Lukyns, Ewhurst, Surrey.

GARDENER (HEAD), age 43 years, is open to engagement with lady or gentleman; well versed in the requirements of well-kept establishments; 15 years Head; married (one daughter, 10 years); disengaged.—J. A. PESKETT, 62, Eastfield Road, Peterborough.

GARDENER (HEAD) where two or more are kept; life experience both inside and out; knowledge of cows; good reference; married.—SMITH, 25, Park Lane, Waltham Cross.

GARDENER (HEAD OR SINGLE-HANDED); life experience in private gardens; first-class references; married, family grown up.—CHAS. SMITH, 2, Honorah Cottages, Chalfont St. Peter, Bucks.

GARDENER (HEAD of three or more); life experience Inside and Out; 7 years' last place; good references; married (two children); age 42.—E. WAGHORN, Ivy Cottage, Millfield Lane, Highgate, N.6.

GARDENER (HEAD or good SECOND); good experience; age 30; married (one girl); demobilised; Midlands preferred.—BRAMBLEY, 66, Foley Road, St. John's, Worcester.

GARDENER (HEAD or good SINGLE-HANDED); experienced in all branches; age 48; married (one lad, 18); wife help in house if required.—Address, GARDENER, 5, Norton Villas Prince's Road, Ashford, Middlesex.

GARDENER (HEAD) seeks situation with Lady or Gentleman; life experience in first-class establishments (Eng. and Wales); just demobilised from H. M. Forces; age 30; married; good references.—ROBERTS, 36, Denmark Street, Diss, Norfolk.

HEAD GARDENER or GARDENER-BAILIFF; life experience in all branches; Fruit, Flowers and Vegetables; Inside and Out; land and stock; good organiser of labour; highest references; age 48, married; disengaged.—J. BRIDGER, 47, Temple Road, South Croydon.

GARDENER (HEAD), life experience, age 45, two sons, SECOND and UNDER, age 23 and 21; knowledge of Land and Stock; excellent references.—H. J., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD), Scotch, requires a situation of trust where several are kept; life experience in the cultivation of Fruit, Flowers and Vegetables; Inside and Out; a good Organiser and Manager of men; thoroughly understands the upkeep of a good garden, including Land, Roads and Forestry; excellent references. Please state wages.—WILSON, Dunsmore, Rugby.

GARDENER (HEAD), where 2 or more are kept; life experience, both Inside and Out; 7 years last situation; good references; demobilised; age 41; married (no family).—L. KETTEL, 5, Baron Row, Mitcham, Surrey.

GARDENER (HEAD of 2 or 3, or good SECOND); 7 and 5 years' references; married; age 43; please state wages, with house.—W. KING, The Mount, Hendon Lane, Finchley, N.3.

GARDENER (HEAD), where 3 or more are kept; life experience in all branches in good establishments; excellent references; age 35; demobilised.—W. KING, Woodcote Grove House Gardens, Coulsdon, Surrey.

LORD ASHCOMBE, Denbies, Dorking, highly recommends G. ALLAN as HEAD WORKING GARDENER; life experience in all branches; excellent references, gained in first-class establishments; disengaged when required.

GENTLEMAN highly recommends first-class HEAD WORKING GARDENER; good grower choice produce; reliable, systematic, trustworthy man; can undertake to manage the whole supply of a gentleman's place in its various departments; has done same for gentleman for the last 10 years; left through death of employer; age 46.—Please state wages and particulars to KAY, Box 8, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) thorough practical experience, Inside and Out; Highly recommended by present employer.—J. BROWN, The Garden, Stansted Park, Emsworth, Sussex.

HEAD WORKING GARDENER, 23 years' practical experience in all branches of horticulture, last 7 years as Head; age 36; married (1 child).—C. DAVIS, Holy Wells Park Gardens, Ipswich.

GARDENER (HEAD WORKING), demobilised, seeks situation; life experience, Inside and Out; 14 years as Head; excellent references; married; age 43.—SWAINE, Sarratt, Rickmansworth, Herts.

GARDENER (HEAD WORKING); 26 years' practical experience in Fruit, Flowers and Vegetables, Inside and Out; recommended; state wages, etc.—H. BLIGH, Holt Hatch, near Alton, Hants.

GARDENER (HEAD WORKING), demobilised, seeks post where several are kept; twenty years' practical experience in all branches; good manager; last post 3 years and 8 months, Head to the Hon. Carr and Lady Mary Glyn; excellent references. — A. MORPHETT, Wootton, near Ashbourne, Derbyshire.

GARDENER (HEAD WORKING) seeks re-engagement; life experience, Inside and Out; good references; age 37; married (one child).—W. CARTER, 157, Tyers Street, Vauxhall, S.E.

HEAD WORKING GARDENER, thoroughly experienced Fruit, Flowers, and Vegetables. Inside and Out, and management of good garden; 12 years' Head of 9; age 43; excellent character; demobilised.—F. SMITH, Harpton Cottage, Yateley, Hants.

GARDENER (HEAD WORKING) where three or four are kept; life experience in all branches; age 44; married (two sons, age 18 and 9).—F. RAMSEY, 119, Wellington Street, Peterborough.

GARDENER (HEAD WORKING). — A thorough practical man, age 45, with a life experience, is open to re-engagement; 15 years' and 4 years' highest references; married (no family).—W. COOK, Piper's Corner Gardens, High Wycombe.

GARDENER (HEAD WORKING); age 34; married; 4 to 6 under; life experience all branches; well recommended in upkeep of gardens; Carnations a speciality; energetic; good manager; disengaged.—E. ODDY, 39, Calvert Rd., High Barnet, Herts.

GARDENER (HEAD WORKING), demobilised, A1, seeks post where several are kept; twenty years' practical experience in all branches; good manager; excellent references; last post two years, previous to enlistment; age 38; married (no children).—E. LANG, 24, Johnson Street, Notting Hill Gate, London, W.

GARDENER (HEAD WORKING), age 34, married, no children, seeks engagement; life experience all branches; well recommended.—DAVIDSON, 40, Rothesay Road, Luton, Beds.

GARDENER (HEAD WORKING), where two or more are kept; life experience in all branches; references; demobilised.—G. BULL, Hill Mount, Willingdon, Eastbourne.

GARDENER (HEAD WORKING), where two or more are kept; life experience; excellent references; age 29; married, no family; demobilised.—A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING), thoroughly experienced in large establishments; first class references; 8 years head last place, left through reductions; age 41; married, one child.—FRENCH, North Row, Uckfield, Sussex.

GARDENER (HEAD WORKING), demobilised, experienced in Flowers, Fruit and Vegetables; Inside and Out; experience gained in good establishments; 8 years as head; age 38; married.—A. R., 32, Park End, Bromley, Kent.

GARDENER (HEAD WORKING of three or four); age 40; married; 25 years' experience; excellent references and can be thoroughly recommended.—GEORGE WALLINGTON, Newtown Hall, Newtown, Montgomeryshire.

GARDENER (HEAD WORKING) where two or three are kept; life experience all branches; over eight years Head; age 42; married (one child); demobilised.—WHEELER, Glengarriff, Queen's Road, Crowborough, Sussex.

GARDENER (HEAD WORKING) requires situation; life experience; last situation nearly six years as Head; could take charge of small estate; age 41; married; disengaged (Class Z Reserve). Kindly state wages.—CLARK, 8, School Terrace, Hawkhurst, Kent.

GARDENER (HEAD WORKING); life experience all branches; Tree Carnations a speciality; five years previously Head of four; demobilised; age 38; married.—HARRISON, Ollerton Street, Eagley Bank, Bolton.

GARDENER (HEAD WORKING or SINGLE-HANDED, with help); long experience in various parts of the country; good references; single.—W. CARE, Brookside Cottage, Sutton Courtenay, Abingdon.

GARDENER (HEAD WORKING of two or more), life experience, Inside and Out; 8 years' last situation; demobilised; age 35 years; married (one child); near London preferred (no circulars).—CUNNINGHAM, 105, Kew Road, Richmond, Surrey.

GARDENER (HEAD WORKING); 28 years' experience amongst Fruits, Flowers, Plants, Vegetables; age 43; married (one daughter age 15); highest recommendations.—SCOFIELD, Wraxall Court Cottage, near Bristol.

GARDENER (HEAD WORKING); life experience; used large garden and marketing surplus; same, or smaller considered; giving up gardens, cause leaving; excellent refs.—RICHARDS, Charlecote Park, Warwick.

GARDENER (HEAD WORKING) where several are kept; experienced all branches; excellent references; age 30; married when suited; demobilised.—E. G. DAY, Queen Anne's Gardens, Caversham, Reading.

THE VICAR OF GERRARD'S CROSS recommends James Thompson (demobilised) as GARDENER (SINGLE-HANDED); married, no children.—J. THOMPSON, 8, Upper Saxon Street, Lincoln.

R. S. LINDLEY, Esq., highly recommends R. WHITE as SINGLE-HANDED GARDENER, or with help; life experience Inside and Out; married; age 29; excellent references; just dmobilised.—R. WHITE, Norbryght Lodge, South Godstone, Surrey.

N.C.O., just demobilised, requires situation as SINGLE-HANDED GARDENER; life experience of Gardening and Estate work previous to August, 1914; married; age 30; good references; cottage required; Midland Counties or North preferred.—For full particulars please apply, HAWKSWORTH, 54, Hotblack Road, Norwich.

GARDENER seeks situation, SINGLE-HANDED or Leading Hand in large Estate Gardens; thirty-five years' all-round experience; married (no family).—W. H., Box 18, 41, Wellington Street Covent Garden, W.C.2.

GARDENER (SINGLE-HANDED or with help); 10 years' good experience, Inside and Out; good references; home counties preferred; married when suited. Please state wages.—R. BROWN, Torre House, 151, Cottenham Terrace, Hornsey Rise, N.

GARDENER (SINGLE-HANDED or where help given); life experience inside and out; excellent references; age 28; married, no family; wife help in house if required; demobilised from Navy.—LACEY, The Cottage, Elmer, Leatherhead.

GARDENER (SINGLE-HANDED or with help); 12 years' experience Inside and Out; excellent references; demobilised; age 30; married, no children.—T. JACKSON, c.o. Mrs. R. Lipscombe, Wood Street, Near Guildford, Surrey.

GARDENER seeks situation, single-handed preferred; cottage required; good refs.—TURNER, 56, Gladstone Road, Wimbledon, S.W.

GARDENER seeks situation, single-handed preferred; cottage required; good refs.—TURNER, 56, Gladstone Road, Wimbledon, S.W.

GARDENER (demobilised); life experience in all branches, both Inside and Out; excellent reference; married; age 33 years.—A. WILLIS, 6, Port Street, Evesham, Worcs.

GARDENER, demobilised, seeks situation, Inside and/or Outside; 8 years' experience; used to pony mower; good scythe hand; age 27; single.—State wages and full particulars to J. H. PAPWORTH, Naseby Hall Cottage, Rugby.

GARDENER (good WORKING all-round), Inside and Out; good Kitchen Gardener, pony mower, poultry; age 45; two sons, 18 and 15. State wages.—BARNETT, The Cottage, Edgeborough, Guildford, Surrey.

GARDENER (WORKING), capable and reliable; age 31; married (two children); seventeen years' practical experience, Vines, Cucumbers, Melons, etc., Greenhouse Plants and general outside work; excellent references. Please state wages.—S. M., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

KITCHEN GARDENER seeks situation; life experience; first-class references; age 40; married (two children).—HOARE, 10, Elder Road, West Norwood, S.E.

GARDENER seeks situation as SECOND, chiefly Outside; good all-round experience; good references; Leicestershire or Rutlandshire preferred; age 25; single.—F. BURROWS, Clifton Hall Gardens, Nottingham.

GARDENER (SECOND preferred); good all-round man; life experience; just demobilised; age 31; married (one child); Kent preferred.—Apply T. WILSON, Kismet, 4, Longlands Park Crescent, Sidcup, Kent.

GARDENER (SECOND) seeks situation, Inside and Out; age 31; married; one child; good references; abstainer.—H. STARMES, Bartley Cottage, Bartley, Southampton.

SECOND GARDENER, Inside or Inside and Out.—Mr. Arnold, Gardener to the Hon. Mrs. Portman, Hestercombe, Taunton, can with confidence recommend H. JOHNSON as a thorough, practical man; married; age 25. Please state wages.

GARDENER (27), single, seeks situation as SECOND, Inside; all-round experience; abstainer.—H. GOULD, Stonebridge Nurseries, Meriden, near Coventry.

UNDER-GARDENER requires situation in Kitchen Garden or Pleasure Grounds; age 28; married (two children); good references.—J. BROOKER, The Cottage, Kingston, Maurward, Dorchester, Dorset.

UNDER-GARDENER (recently demobilised) seeks Situation; 7 years' experience; excellent references.—EDWARDS, 6, Oxford Street, Wroxham.

THE EARL OF JERSEY wishes to recommend T. H. WRIGHT, who before volunteering for service was in his employ and is recently demobilised, as FOREMAN, Kitchen Garden or Pleasure Grounds, or Single-handed place; experienced; strong and energetic; age 29; married.—Replies, stating terms with cottage, to T. H. WRIGHT, 7, Silverdale Road, Tunbridge Wells, Kent.

FOREMAN seeks re-engagement, Inside or General; age 31; single; life experience in all branches.—Please state wages and particulars GREGORY, Huntercombe, Near Maidenhead, Berks.

FOREMAN or SECOND GARDENER (Inside). Mr. Thompson, Compton Place Gardens, Eastbourne, can recommend L. KIMBER; age 27; 13 years' experience; married, but would take bothy till housing improves; South preferred. Apply, L. KIMBER, 12, Bath Road, Eastbourne.

FOREMAN (INSIDE).—Thos. Beeson, Head Gardener to Mrs. Mappin, Headley Park, Epsom, can with confidence recommend E. TICKNER, single, 12 years' experience, 2 years here.—Replies to E. H. TICKNER, Peper Harow, Godalming, Surrey.

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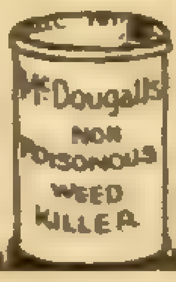

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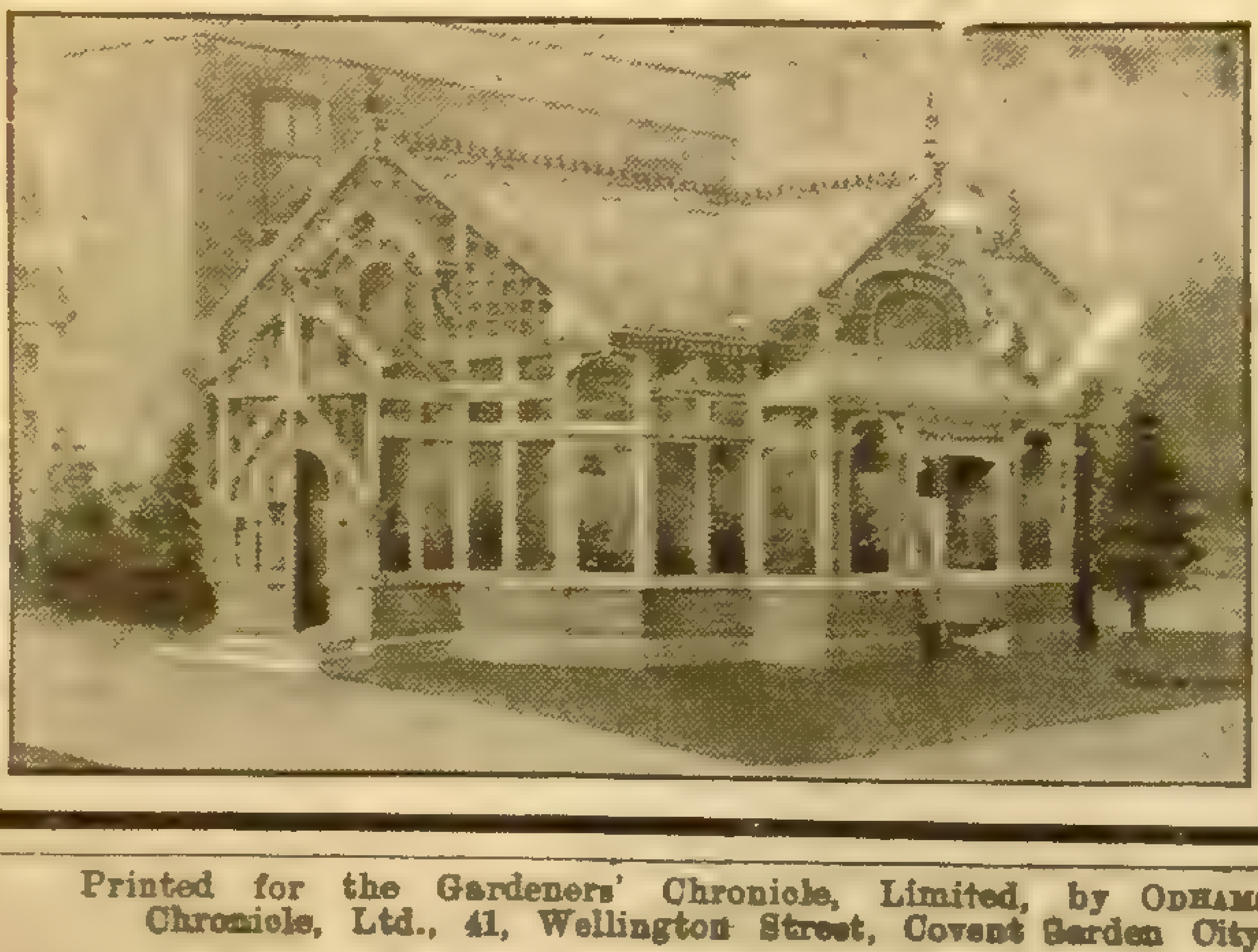

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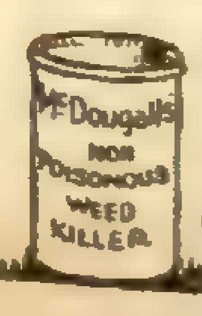

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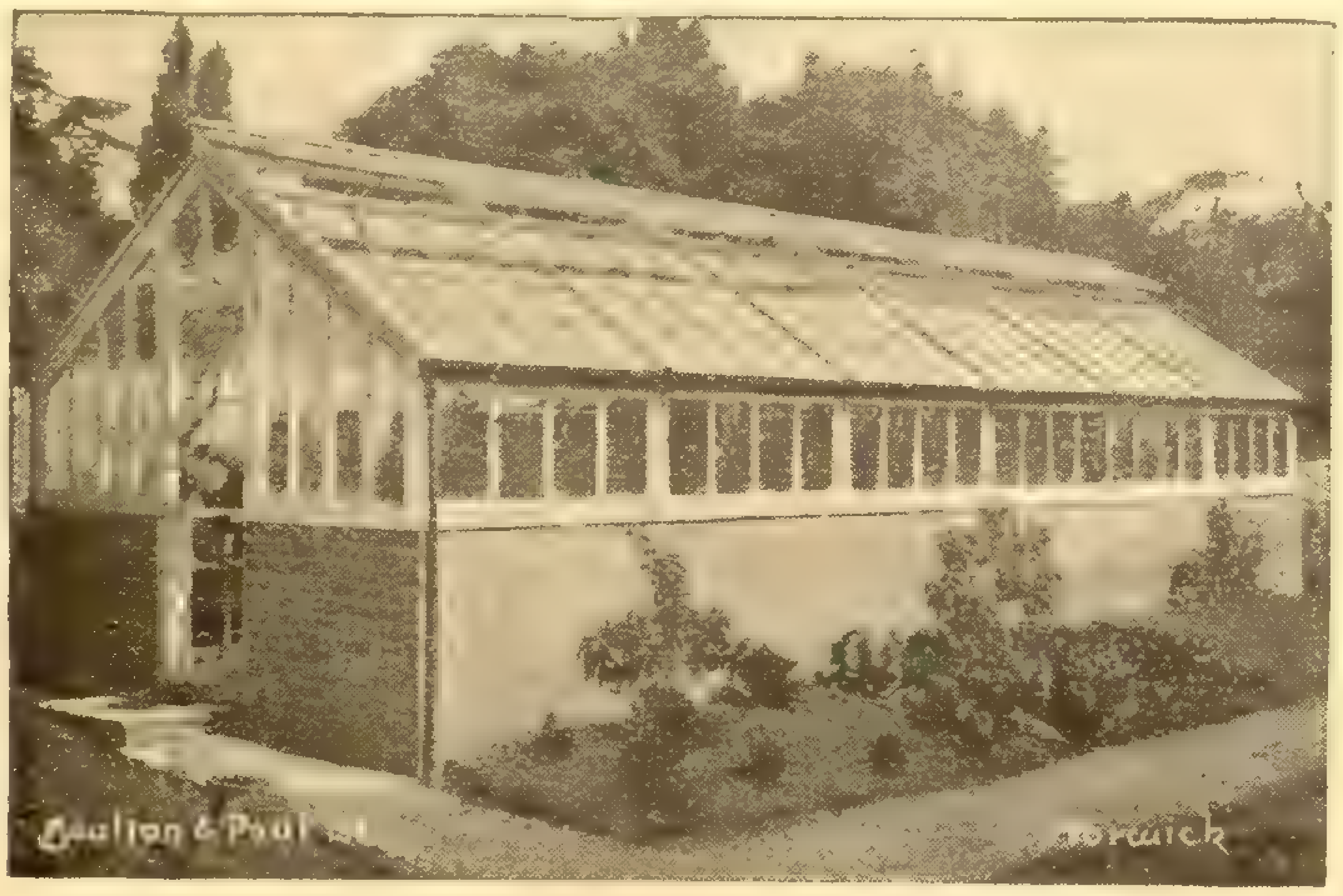

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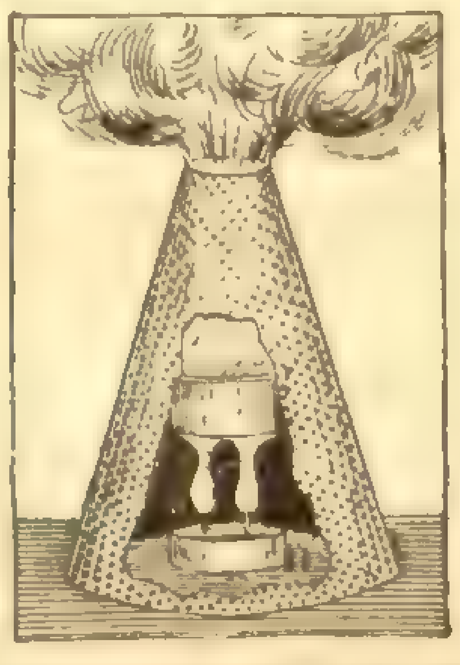

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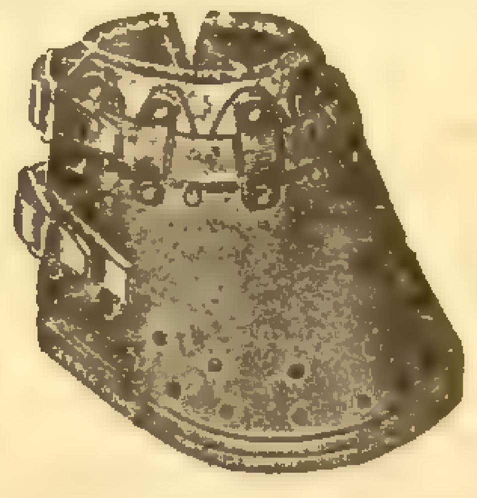

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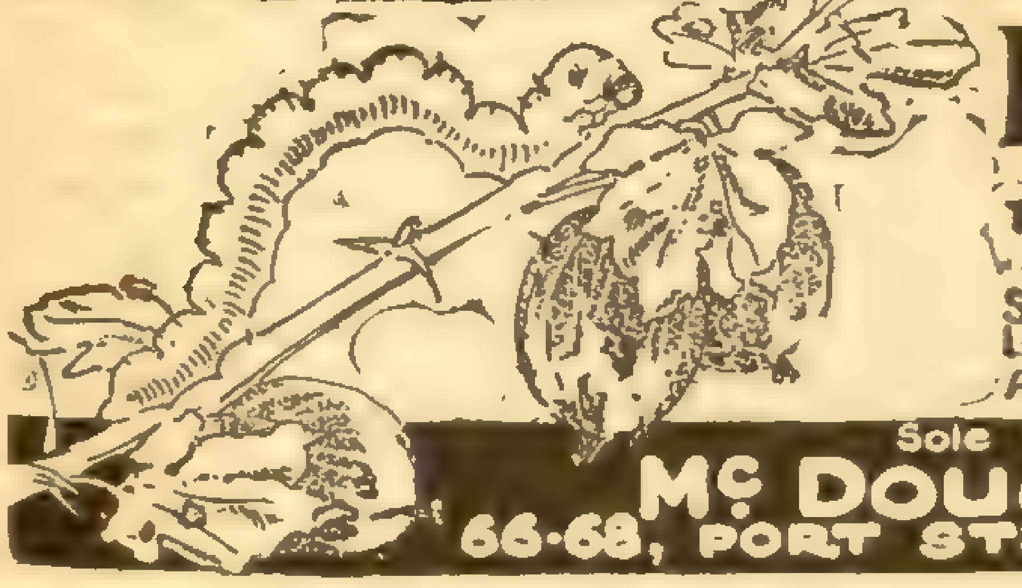

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See E. R. Bugge's Advertisement on page iv.

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THE
Gardeners' Chronicle
No. 1697.—*SATURDAY, JULY* 5, 1919.

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A VISIT TO AN INDIAN GARDEN.

WHILST recruiting my health after a period of active service overseas, it has been my privilege to meet an old friend and Kewite in the person of Mr. E. Little, who is in charge of one of the finest gardens on the west coast of India.

I had visions in days gone by, when visiting horticultural exhibitions throughout the country, of what a tropical garden must be like, and here, in this Indian garden, the lofty Palm trees and other tropical vegetation, with the delicious fragrance of the strongly scented flowers, left an imprint on the memory never to be effaced.

Government House, Ganeshkhind, the "rainy-season" residence of the Governor of Bombay, is a fine building about 120 miles from Bombay, close to Poona, on the Western Ghats. At the time of my visit, September, 1918, the lack of the monsoon rain was at once noticeable in the park, for the grass was getting brown, and there was great anxiety with regard to future rains.

Each side of the various avenues, Banyan and Nandruk trees (Ficus benghalensis and F. retusa) were planted, affording a cool shade from the rays of the burning sun. On either side, I noticed rocks protruding from the ground, and was informed that the soil is rock shale, a few inches over the solid rock, and that it is necessary to blast holes for tree-planting operations.

Notwithstanding this drawback Acacia arabica was doing well, also the Tamarind, the Neem, and the tallest trees, Millingtonia hortensis. The planted specimens noticed, included the sweet-scented Acacia (A. eburnea) and the sandal wood (Santalum album).

There are three distinct gardens at Ganeshkhind, the combined kitchen and fruit garden, the upper and the lower garden. On entering the kitchen garden, the first thing noticed was a long border of Bananas, planted in double rows six feet apart each way, and in various stages of fruiting. It was interesting to note that suckers six feet high were often planted, the leaves being cut back in the same way that Tree Ferns are cut for planting, and these suckers fruit in from six to eight months. A plantation of Bananas in this district lasts from three to four years, and sometimes longer. Next to the Bananas was an Orange grove, in which were young Orange trees the picture of health, four to five years of age, and 16 to 18 feet high, fruiting for the second time, the first crop having been picked the previous monsoon season. These trees were planted 12 feet apart, and were budded on the Lime. It was noticeable that the fruits, although green, were quite ripe. The Custard Apple was next noticed, in perfect health. The ground is laid out by division into squares for irrigating purposes, the water running along channels into the squares requiring water, but at the time of my visit the ground was not planted, owing to the lack of rain.

The principal vegetable crops grown for the cool season, October-February, are Cabbages, Cauliflowers, Carrots, Beets, Peas, Leeks, Celery, and Salads. Very few European vegetables are available in this district during March, April, and May. From the end of May and onwards Peas, Beans, Beets and Carrots, and, if rains are not too heavy, Cabbages and some members of the Vegetable Marrow family are grown. Recently, strange to say, it was very difficult to get a good crop of Peas from high-class English varieties, but acclimatised Peas grown in the neighbourhood bore remarkable crops equal in quantity (no acclimatised Peas equal the better English varieties in quality) to any seen in England, whilst side by side a row of Peas of a well-known variety, and from a first-class English firm, costing Rs.60, equal to £4 sterling, was a complete failure.

A patch of Potatos had just been dug, and a very good crop was noticed. These were planted in July, so that they were about twelve weeks planted. The prevalent disease, I was informed, was Ring-disease, which causes a black ring close to the skin. Tomatos looked well planted out, and the plants fruit in eight weeks from planting out time.

Many vegetables have to be grown on ridges during the rainy season to raise them above the water on the land, as it rains every day during the monsoon season, sometimes three weeks at a time, and the whole land becomes water-logged.

One very noticeable fruit tree was the Pomelloe, bearing an enormous, Orange-like fruit as large as a man's head, with a reddish flesh, thick pith inside the skin, and flesh of bitter-sweet flavour. I also noticed the so-called Grape-fruit trees (a supposed cross between the Orange and Pomelloe). The Papaya, growing on a single stem 20 feet high was next noticed, the plant fruiting in ten to twelve months from the time of sowing the seed. This fruit grows as large as a medium-sized Vegetable Marrow, and is of sweet flavour. Although it is green when ripe, it sometimes assumes a yellow tinge.

The sweet Lime, or Tight-skinned Orange, is largely grown, and the trees bore fruits in all stages of development. It was noticeable that these trees were fruiting right down the stems on the young growths. These are forced into fruit by root-pruning; the Oranges are allowed to get dry at the root and are then root-pruned. Walking between two rows of Limes I was greeted with a delicious fragrance; the plants are very ornamental. Mr. Little informed me that the lowest temperature (January and February) is about 50°, whilst the highest temperature (middle of April to May) is about 110° in the shade.

Of the uncommon vegetables grown, Brinjals, or Egg-fruits, are similar in size and shape to the fruits of Passiflora edulis, whilst Ladies' Fingers (Hibiscus esculentus) are used for cooking purposes, and are very common vegetables in this part of India.

The whole of the vegetable garden is used for experimental and demonstration purposes. Some English vegetables, such as Parsnips, give very poor returns, Broad-beans rarely fruit, whilst Scarlet-runners never set their pods.

The Mango grove comprises very fine trees. The two best varieties for flavour, Alphonso and Pairia, were planted extensively, the trees being 40 feet high and the same through. Grafted trees never attain the same size as seedlings, but the latter cannot be depended upon to produce well-flavoured fruits. A tree planted three years ago was about 12 feet high by 8 feet through, which gives one an idea of the rapid growth of vegetation in tropical countries.

Passing on from the vegetable and fruit garden, I came to what is called the lower garden, covering an area of about ten acres, consisting of collections of tropical specimens planted in big borders and shrubberies surrounded by a hedge of Dodonaea viscosa and Duranta Plumieri.

The first thing I noticed was a collection of Crotons growing in tubs, six to eight feet high and the same through, superb specimens of horticultural skill. Hibiscus furcatus (a climbing species) in full bloom was a very fine specimen; the lovely primrose-coloured flowers, with a chocolate eye, gave a fine colour effect. Next to this was a true, tropical climber, with very pretty fruit, grown for decorative purposes.

Along the walk, as an edging, in pots, was Anthurium crystallinum, and also in tubs in the back row was Anthurium Scherzerianum. Pothos aureus was climbing over a Gul Mor, and on another trunk was the Vanilla. A group of Dracaenas in variety, edged with Eucharis, which flower abundantly, was noted under Palm trees. Begonia President Carnot was growing in pots along another walk. The Panama Hat Palm, Clerodendron, Cycas revoluta, Panax Victoria and many species or varieties of Panax and Aralias were seen in profusion.

The Indian Elm, Holoptelia integrifolia, was noticed, also a fine specimen, 50 feet high, of the Fiddle-wood tree, Citharexylum subserratum. A group of Casuarina equisetifolia, 80 to 100 feet high, shades the tennis courts, of which there were three. Bignonia gracilis was climbing the stem of a tree of Ficus glomerata.

A border of Hymenocallis littoralis, 200 yards long and three to four yards through, was magnificent, whilst the perfume was delicious, the whole giving a truly tropical scene, with Palms waving overhead.

Pandanus furcatus, 16 feet high, showed the true nature of the Screw-pine. There was also a fine specimen of Cassia siamea. Bougainvillea glabra, climbing 70 to 80 feet high, was in full bloom.

Sanchezia nobilis, an ornamental foliage plant with golden veins on the leaves, was very pretty. A long border of Alpinia nutans in full flower, eight feet through and the same in height, was superb. This border had a background of Oleanders in variety. There I noticed Tricholaena Wightii, a very pretty ornamental grass deserving of more extended cultivation, and very effective for florists' purposes.

In open spaces in this garden such flowers as Coreopsis and Asters are grown on a large scale. The white Bauhinia was just coming into flower; other varieties are grown, but they were not in bloom at the time of my visit. A Lily pond contained a blue variety of Nymphaea Lotus, the blue petals, set off by a yellow centre, producing a fine colour effect. The flowers measured, on an average, 10 to 12 inches across, and they had a lovely Hyacinth-like perfume. The leaves of this particular variety, which Mr. Little informed me originated locally, were quite 18 inches across, and almost circular in outline.

There were plenty of Coconut palms (Cocos nucifera) coming into bearing. Close by I also saw the Travellers' Tree (Ravenala madagascariensis). Bamboos in variety were especially fine, specimens 60 feet high and 30 feet through being common. The Silk Cotton Tree (Bombax malabaricum) thrives here.

A huge clump of Russelia juncea was in full bloom, and with its coral-red, tubular flowers and an edging of Hymenocallis gave a very pleasing effect. The Japanese Rice Paper plant (Fatsia papyrifera) was growing here also. A species of Justicia is extensively used as an edging everywhere, and was very effective to a long border of Agaves. Acalypha Sanderiana was in full flower, a border of it, 50 yards long, the plants six feet high, making a fine show.

From this garden to the flower garden proper, a pergola about 200 yards long, furnished with Thunbergia laurifolia, Allamanda grandiflora, and other suitable climbers formed the connection. In the background on either side, grew Acalyphas, Poinsettias, Bauhinia variegata, and other plants.

In the nursery I saw Violets in pots, Begonias in variety, Poinsettias, Geraniums, Eucharis amazonica, and Michaelmas Daisies, all intended for planting out later, also dozens of Palms in variety in tubs for indoor decoration. The scent of the Cork trees was delicious. I next inspected the flower garden proper. This garden is divided by Government House in the centre, into what I will term the eastern and western gardens. The eastern garden consists of flower beds 40 yards long by 30 yards wide, laid out formally and filled with a variety of plants edged with Justicias and Pilea (the Artillery plant). This garden is about 200 yards long and 80 yards wide. It is bordered on the one side by Cork trees 100 feet high, and, as I have already mentioned, they filled the neighbourhood with their delicious fragrance.

The finest foliage effect was provided by an irregularly-shaped bed containing four Palms (Livistona chinensis), Acalypha tricolor underneath, edged with Eranthemum albo-lineatum, with a ground-work of Tradescantia. Others were planted with a reddish, golden-bordered leaved Coleus. There were also Cannas, 700 to 800 in a bed, of one variety. I noticed one very fine Canna, of yellow colour, with a red centre and growing five to six feet high. Salvia splendens was a magnificent mass of glowing colour. Ageratum mexicanum, edged with Tagetes, was planted in another bed.

At one end of the garden I passed under an arch of Allamanda grandiflora in full flower, and entered the Rose garden, to find it planted with Maréchal Niel Roses, which grow like wild Roses at home. Leaving the Rose garden I passed a magnificent specimen of Poinsettia pulcherrima, about 15 feet wide and 10 feet high. It was a blaze of colour. One head of flowers measured from the inward bend of my elbow to my finger tips. I do not suppose I shall ever see such a sight again, and was very sorry that I was unable to take a photograph of this remarkable specimen.

The residence is planted with climbers, many of which were in flower. The following were amongst those noticed: Antigonon leptopus, Bougainvillaea glabra, Bignonia magnifica, Aganosma caryophyllata, Porana paniculata, Thunbergia grandiflora, Bignonia gracilis, Allamanda violacea (the purple Allamanda), Jasminum grandiflorum, J. pubescens, Ipomoea Leari, Roupellia, and Hibiscus schizopetalus.

On the Western side of the house is a terrace lawn with a specimen of Grevillea robusta, 40 feet high, planted by the late Duke of Clarence. From the terrace a series of steps leads to a lower terrace, in the centre of which is a fountain with four fine specimens of Plumbago capensis, planted on the edge of the basin, and the reflection of the flowers in the water gives a very fine effect. On either side of the terrace are flower beds of formal shape, cut in grass, and filled with Salvia splendens, Zinnias, Coreopsis, Ageratums, Balsams, and other flowers.

Dividing the terraces are fine specimens of Hibiscus sinensis brilliantissima, which were particularly noticeable. Bougainvillaea speciosa and B. lateritia, the last a lovely variety, with brick-red flowers.

Descending to the lowest terrace there were seen hundreds of Cannas in full bloom, and planted in large masses with gravel paths between the beds. At the foot of the retaining wall between the two terraces is a raised border 20 feet wide, planted to suit the season on the principle of a herbaceous border, annuals, perennials and shrubby plants being used.

This particular border in the rainy season contained plants in flower of Canna, Salvia splendens, Gaillardia, Coreopsis, Michaelmas Daisies, Gerbera Jamesonii, Cleome, Pentas carnea, Achimenes, French and African Marigolds,

FIG. 1.—ALLIUM FISTULOSUM: THE JAPANESE LEEK: MUCH REDUCED.

Cosmos bipinnatus; the orange-coloured Cosmos, named Klondike, Impatiens Sultanii, Dianthus, Balsam, Coleus and many other plants. The border was raised 18 inches and edged with an Australian Daisy believed to be Vittadinia australis. A mixed border of shrubs, Cannas and Castor-oil plants forms the boundary from the garden proper to the park.

A fine specimen of Ficus religiosa was noticed on the North side of the terrace, in a long border, on the slope of which Crinum asiaticum was planted, about 120 fine specimens producing a fine effect.

I concluded my tour by a visit to the swimming pond, which is just outside the garden proper, and, on a tropical day, with a burning sun overhead, appeared very inviting.

Strange to say, Wallflowers and bulbs for spring planting had not been grown with success, whilst, as mentioned before, one or two crops cannot be grown successfully in the kitchen garden.

Suffice to say the whole garden reflected the greatest credit on the skill of Mr. Little, who has made this garden to blossom in the wilderness. *J. Thompson, Cropwood Gardens, Blackwell.*

JAPANESE LEEK.

ALLIUM FISTULOSUM.

THE Yokohama Nursery Company have for some years offered in their catalogue circulated in this country seeds of what is described as a "long blanching Leek," and an illustration (Fig. 1) shows it to be Leek-like with respect to the lower portion or stem. Gardeners who obtained seeds and grew plants of this so called Leek discovered that it differed from the true Leek in having fistulose leaves, and on submitting examples to Kew they were informed that the plant was probably Allium fistulosum, which is the botanical name of the Welsh Onion. Growing plants of the Japanese Leek were obtained for Kew, and on flowering they were determined to be nothing more than a giant form of the Welsh Onion. The difference in size, however, is equal to that between, say an ordinary Cedar pencil and a walking-stick, as some of the Japanese Leeks were nearly two inches in diameter and 2 feet high, about 8 inches of the stem being white and Leek-like. When cooked the stems were equal to the best Leek in tenderness and flavour. Whatever the name and pedigree, there need be no doubt as to the qualities of this Japanese vegetable, and since it is quite as easy to cultivate as the true Leek is we may safely add it to our list of good garden vegetables.

In *Useful Plants of Japan*, it is stated that A. fistulosum is cultivated and known as "Negi," and that it grows about 2 ft. in height, the stem being blanched by cultivation, and that it is eaten either raw or boiled in all seasons, being at its best and sweetest in winter. Mr. R. Muraoka, an experienced Japanese gardener now in this country, on being shown the examples of Japanese Leek at Kew, said they were undoubtedly the same as the plant cultivated in Japan and known there as "Negi." De Candolle, in *Origin of Cultivated Plants*, says that A. fistulosum has been found wild in Siberia, and that it must have come into Europe through Russia in the Middle Ages or a little later. It may be that the Japanese obtained their "Negi" originally from Siberia.

I have not been able to discover how the form of A. fistulosum grown in this country came to be called Welsh Onion. According to Vilmorin, the leaves only are used for flavouring, and there are two varieties, one with coppery red membranes, the other pinkish white. Both of these are in cultivation at Kew, and they are of about the same size and I should say the same value as Chives. The Japanese Leek, if of the same origin, must have been greatly enlarged by long cultivation and selection. Seeing that this plant can not be a Leek, as it has decidedly fistulose leaves, it would be better if the name were altered to Japanese Onion. *W. W.*

TREES AND SHRUBS.

CAESALPINIA JAPONICA.

FLOWERING shrubs generally have, this year, given a splendid display of blossoms, and rarely before has Caesalpinia japonica flowered with such freedom. The inflorescences (see Fig. 2) are produced on short side growths of the current year, and each little shoot bears a raceme of from 30 to 40 bright yellow flowers delicately poised on slender pedicels. The streaks of crimson which suffuse the upper petal of each flower add considerably to their beauty. Even if it never flowered, this shrub is well worth growing for its beautiful pinnate foliage, so light and "feathery" in appearance that it

never fails to attract the attention of visitors. The tree is spreading in habit, and in our somewhat favoured climate quickly develops into a large bush. A specimen growing in poor soil on a lawn here measures over 20 ft. across, and throughout the summer is one of our most attractive shrubs. Owing to the extreme prickliness of every part of the plant, I find it necessary to support the lower branches with long poles in order that the ground beneath may be attended to with some degree of comfort to the workers.

CORNUS BRACHYPODA.

Another tree which attracts universal admiration is a well-grown specimen of the variegated form of Cornus brachypoda. This tree has attained a height of 25 ft., and I consider it the most attractive variegated tree we have. Although the position of the branches, which radiate at more or less regular intervals —sometimes in whorls—horizontally from the central trunk, would suggest a stiffness in habit, this is by no means true. The branches droop gracefully at the tips and give the tree a delightful appearance. The flowers, which are borne profusely in May, are greenish white. They are almost unnoticeable by reason of the silvery foliage, and add nothing to—indeed, when going over they rather detract from—the beauty of the tree. Unlike many variegated shrubby plants such as Acer Negundo variegata, this tree never, so far as my experience goes, develops green branches. Like many of the Cornus species and varieties, the tree is attractive in the winter from the dark red colour of its branches. *J. D. H., Royal Victoria Park, Bath.*

THE DUNKELD HYBRID LARCH, AND OTHER HYBRID CONIFERS.

At the meeting of the Royal Irish Academy in Dublin on June 23, Professor A. Henry and Miss M. G. Flood read a paper on the history and botanical characters of the "Dunkeld hybrid Larch." This is the name given by foresters to seedlings that have been repeatedly raised from the seeds of ten old Japanese Larch trees, which are growing near the mansion at Dunkeld, Perthshire, in the vicinity of numerous European Larches. Extensive plantations of these seedlings, which are very vigorous, may be seen on the Dunkeld, Athol and Murthley estates. Careful examination shows that the seedlings are intermediate between the two species in the anatomical characters of the leaves, in the colour and shape of the bracts and scales of the cones,

Fig. 2.—caesalpinia japonica: flowers yellow, the upper petals streaked with crimson (see p. 2).

in the colour of the twigs, and other details. The pollen of the European Larch is wafted by the wind on to the female flowers of the Japanese Larch. Attention was drawn to the remarkable difference in the epidermal cells of the two parent species, those of the European Larch being smooth, while those of the Japanese Larch are roughened with papillae. The papillate structure acts like the so-called "prismatic" glass, used in the windows of basements to let in an abundance of light, and explains the fact, well known to foresters, that the Japanese Larch bears considerably more shade than the European species. The Dunkeld hybrid Larch is now distinguished by the name Larix eurolepis A. Henry.

Notes were also given on other hybrid conifers, including a peculiar Hemlock Spruce introduced lately from Vancouver Island by Mr. M. Hornibrook, of Knapton, Abbeyleix. This tree is identical with the green-leaved Hemlock Spruce raised at Edinburgh from seeds collected by Jeffrey in 1851 on Mount Baker, in British Columbia, and described under various names, notably Tsuga albertiana, var. Jeffreyi, Henry in *Trees of Great Britain*, ii., 231 (1907). This tree is very rare, the only other living example being in Kew Gardens, and is plainly a hybrid, now distinguished by the name Tsuga Jeffreyi.

FIG. 3.—WEEPING STANDARDS OF DOROTHY PERKINS ROSE OVER A GROUNDWORK OF DWARF ROSES AND VIOLAS.

LIME-SULPHUR WASH.

RECENT experiments carried out at the South Eastern Agricultural College, Wye, have shown that a small quantity of saponin in solution added to the lime-sulphur wash greatly improves the spreading power of the latter, and should therefore make lime-sulphur a better protective wash. When lime-sulphur is applied to Gooseberries and to certain varieties of Apples, the dried deposit on the foliage and fruit is found to be in the form of "blotches" or small patches, even when the spraying is done very carefully and when a nozzle giving a "misty" spray is used. If, however, the lime-sulphur wash contains 0.05 per cent. of saponin it will be found that the dry sediment is in the form of a practically continuous film over the sprayed surface; consequently there is much less disfigurement of sprayed fruit. A saponin solution is now being put on the market which will enable saponin to be used at the strength of 0.05 per cent. at the added cost of 2s. 6d. per 100 gallons of wash. The object of the present note is to draw the attention of fruit-growers to this possibility of making lime-sulphur "spread" well, since soap, the usual spreading agent, cannot be added to lime-sulphur for chemical reasons. The mixture appears worthy of trial on a practical scale, and we shall be glad to receive reports from any fruit-growers using it. *E. S. Salmon* and *L. K. Wormald, Research Department, South-Eastern Agricultural College, Wye, Kent.*

THE ROSARY.

WEEPING STANDARD ROSES.

THE beauty of weeping standard Rose trees appeals to all lovers of flowers, just as does an arch festooned with Roses, simply because each has a special grace which enhances the beauty of form and colour provided by the flowers. The advent of Rosa Wichuraiana is responsible for the large addition of standard Rose trees in gardens where Roses are an outstanding feature, as well as in gardens where Roses take their place among other summer flowers. A few years ago there was a tendency to dispense with standard Rose trees and grow only dwarfs and robust climbers, but the hybrids derived from R. Wichuraiana have been found as suitable for standards as for pillars and arches—indeed, their beauty is admirably displayed when a variety like Dorothy Perkins is budded on a tall stem, and the growths have ample room to droop gracefully all round. In Fig. 3 several weeping standard Roses are illustrated, and in the foreground a fine example of Dorothy Perkins over a groundwork of dwarf Roses and Violas. There is ample room in many gardens for similar floral pictures.

FLORISTS' FLOWERS.

THE BORDER CARNATION OF THE PAST, PRESENT AND FUTURE.

IN every sphere, and upon any subject, it is customary to find adherents to two distinct views, the one set immovably confident that modern progress has been wholly and entirely for improvement, and that things were never so good as they are to-day; the other as obstinately convinced that the standard of quality and perfection in any given direction has sadly deteriorated, and that things are not what they were. In regard to flowers, the Border Carnation is an instance of these views. The prevalent idea is that the modern taste for the artistic is infinitely superior to the yearning after preciseness and perfection of form which dominated the old-time florist, and present-day opinion of even the intense enthusiasm of the men who were absorbed by the interest of a stand of paper-collared and dressed Flakes or Picotees is expressed in tones of almost pitying contempt. Still, there are some, and in the aggregate a larger number than might well be supposed, who still cherish a deep-seated love for a flower after the florist's ideal, and who look back upon the days of close-fought battles with a deep conviction that to-day is but a shadow of the glorious past.

Whenever the point is debated as to whether the cult of the artistic is the only tolerable aim of the gardener, it is incumbent to keep in mind what we owe to the old florists, who not only bred flowers of rare quality, but bred also a race of gardeners imbued with an ardent love for their calling, and an aptness for painstaking care and skill in the cultivation of all manner of plants.

Say what we may against the artificiality of the show board, the paper collar, and the dressing tweezers, we cannot withhold from their devotees the credit of having provided us with flowers of quality and refinement, and having taught us the art of growing them to the highest standard of perfection. One has only to take up some old book and read the writings of such men as E. S. Dodwell, Ben Simonite, James Douglas, and the Rev. H. D'Ombrain to grasp an idea of the depth and intensity of their enthusiasm, and a deal of interest can be found in the perusal of old catalogues compiled by such specialists as Turner, Douglas, Brown and Campbell.

The fact is driven home that so far as Flakes and Bizarres are concerned we of to-day have produced nothing to supersede or even compare with the varieties in these old lists. Even in Picotees there has been but slow progress, but so far as Selfs and Fancies are concerned we have ground for satisfaction that the present generation of specialists has given us a grand race of glorious flowers, possessed not only of beautifully modelled form and bewitching colours, but of stronger, sturdier habit, with ability to hold their flowers well up, with calyces that know not the sin of bursting, and with a freedom that makes them real garden plants, albeit their form is consonant with the canons of the florist.

Thus we have made progress, and despite the present claims to attention of the modern perpetual-flowering Carnation, the demand for "borders" is greater than ever, and the Northern, Midland and Southern sections of the National Carnation Society will convince the cynics that the old flower still holds its own.

Looking forward to the future, there are not wanting signs that changes greater than we have yet witnessed are in store. In the never ending search for novelty, we have already set out to secure a new race of intermediates between the modern, perpetual-flowering Carnation and the orthodox border type. There are those who would claim that this is in order solely to improve the border flower. To the florist of the old school such a proposition is rank heresy, and it would be contended that if either were to be improved the perpetual would gain from the border. Judging from what has already been achieved, one inclines to the opinion that the tendency is to produce a plant of free growing habit, capable of producing flowers over a period of considerably greater length than the true border, with sufficient constitution to weather an average winter, but bearing flowers which tend to coarseness and lack the form of an exhibition flower. Time alone can tell whether we can produce the perpetual-blooming plant with flowers of refined form. We must have patience. Meanwhile, there is ample scope for usefulness in regard to effect in the garden, but may we never forsake the ideal bloom for that which can give us quantity and nothing more. The exhibition flower must live for ever. *Old Florist.*

HARDY FLOWER BORDER.

CAMPANULA EXCISA.

Campanula excisa is one of the rarest of the dwarf Campanulas in cultivation, a singular little plant, just as difficult to satisfy in the way of treatment as it is uncommon in appearance. It has been fairly well described as a slender and more upright C. pusilla or C. caespitosa, with little perforations as if the flowers had been bitten, but really more pleasing than such a description would convey. The perforations, though curious, are not unsightly and add to the plant's distinctiveness, and the small bell-shaped flowers are of a pleasing violet-blue shade. The plant resents lime in any form, whilst it also seems to object strongly to absolute drought, yet dislikes much standing moisture. It is said to have a most restricted native district in Switzerland among the shingles, and these conditions are not easy to reproduce in gardens. I have grown it on a dry ledge of rockwork, well mulched with whinstone chips and watered almost daily all the summer. I have never seen it so fine, however, as in the stone "boxes" built of dry walling at Wennington Hall, Lancashire, where it had practically moraine conditions and could be kept well watered when needful. A healthy colony of plants in one of these structures showed their health and happiness by their general good appearance. There it was spreading by means of offsets. It appears to delight in sending out underground shoots and then coming up a little way from the parents, which afterwards die out, leaving the young plants to continue the race. So rare a little plant is one for the connoisseur who is undeterred by ordinary difficulties of cultivation and determined to master any presenting themselves with such a Bellflower.

NAPAEA DIOICA.

This tall-growing Mallowwort, which is but little known in gardens, makes a good back border plant for flowering in July and August. It grows six to ten feet high, has rather large, deeply cut leaves and clusters of white flowers. Individually the blooms are small, but in the mass they look well, while the plant is very distinct from those usually employed for the back row of flower borders. It is quite hardy and grows in any good soil. I grow it in sun, but it will flourish in shade, though in such a situation it flowers a little later. The plant may be propagated by division. According to the *Standard Cyclopedia of Horticulture*, this plant is not to be confounded with Sida Napaea (or properly S. hermaphrodita), of similar range and habit, and said also to be cultivated in old gardens, but which has hermaphrodite flowers.

JABOROSA INTEGRIFOLIA.

Students of descriptions of hardy flowers are frequently tempted to secure some rarity, even if of doubtful hardiness, in the hope of being more successful with it than is justified by what they may learn about it. Such a plant is Jaborosa integrifolia, and it in no way belies the accounts of its desirability by want of charm. To see its large, pure white, tubular flowers and to inhale their fragrance is enough to desire one to secure and to retain this plant—an even more intense desire than is called into being by any description of this Jaborosa. It is a plant with long, creeping stems, broad leaves, tubular white, highly fragrant flowers, and grows to a height of from 6 to 12 inches.

A knowledge of its native habitat, Buenos Ayres, raises at once a suspicion as to its hardiness, although we have a considerable number of plants from that district. In the case of J. integrifolia, however, the doubt is justified, for it is somewhat tender and requires not only a warm soil, but a sheltered, warm situation. My experience is not singular, and from reports received from friends I was fairly fortunate in succeeding in keeping it for a couple of years and enjoying a few of its exquisite flowers. I grew it in the most sheltered and warmest position I could secure, in a pocket of a rock garden, where the plant was protected from North and East winds and secured any gleam of sunshine that might come from other directions. The soil was sandy and well drained. The plant grew and flowered for about a couple of years, when one of the severe winters we have at intervals deprived me of this interesting and beautiful member of the Solanaceae. It was figured in *Bot. Mag.*, t. 3489. *S. Arnott.*

Fig. 4.—Rose Mrs. Bryce Allan; a H.T. variety of carmine rose colour.

DRY ROT IN TIMBER.

Mr. I. Mitchell, of the Imperial College of Science, Kensington, states that 50 per cent. of the wastage of timbers in the coal mines in this country is due to fungus attacks.

Probably no other fungus which attacks timber spreads with such rapidity or is more injurious than the well-known dry rot (Merulius lacrymans). It is usually found in the wood work of old houses, when the rooms are damp and not thoroughly ventilated, and particularly where green, unseasoned timber has been used in their construction. It is a popular belief that houses built on the site of old stables are most liable to have their internal woodwork attacked by this fungus, but I have never been able to substantiate the statement. Certainly, in every case where my attention has been directed to the fungus the first attacks were on the ground floor, and where the rooms were damp and badly ventilated. The woodwork of houses that have been shut up for a time would seem to be liable to attack, the starting point being the skirting-boards, after which fixed cupboards, shelves, and shutters are attacked by this insidious fungus.

Some years ago the woodwork in several rooms of the Ranger's house at Greenwich Park was attacked, and so rapid was the spread of the fungus that in a very short space of time the kitchen, the butler's room, and pantries were a scene of total destruction, the timber, especially where coming in contact with the walls, crumbling away before the persistent attacks of this vegetable pest. Being of low, spreading growth and conspicuous tints, the fungus is readily recognised while the reddish-brown spores are produced in such amazing quantities that the floor of the room in which it is found often presents the appearance of having been thickly coated with ground coffee.

The rate at which this fungus spreads would hardly be credited, as observations in the Greenwich attack proved full well; and as it can subsist for a time on the wall of a house its spreading from one piece of wood to another is comparatively easy, while it can also travel along both iron and lead pipes. Many preventives and remedies have been tried, the most successful being what is known as antinnonin, while the spreading mycelium may be held in check by applying carbolic acid. Carbolineum has been found very effective in the London area. Pinewood is most usually attacked, and in a few weeks becomes so brittle that it may be broken in small pieces by the hands with perfect ease. The diseased wood turns to the colour of old, brown oak.

The question of the decay of timber is of far-reaching importance, though with wood that is kept permanently dry, permanently submerged in water, deeply buried in soil, especially peat bog, or in cold storage, there is little to fear as the conditions essential to decay are absent.

Decay in timber is primarily due to the growth of fungi in the wood, which not only live on it, but absorb all the solid portion, and in that manner cause decay and disintegration.

The conditions essential to fungus growth are moisture, warmth and a little air. The dry-rot fungus will not thrive where there is a good circulation of air, and for this reason buildings should be thoroughly ventilated. Seasoning greatly prolongs the life of timber, for it is generally recognised that a piece of dry wood will resist the action of decay for a longer period than will that which is green and immature.

In order to prevent attacks of fungi, and particularly of that which causes dry rot, the following recommendations may be useful:—

1, use only well seasoned and thoroughly dry timber; 2, avoid so far as possible covering the woodwork with plaster or other material, and never case up timber tightly, 3, thorough ventilation, especially in cellars and underground rooms, should be provided; 4, never store timber beside other that is already attacked by fungi and keep the wood-yard clean so that infection may be prevented so far as is possible. On the first appearance of dry rot paint the timber with carbolineum. *A. D. Webster.*

The Week's Work.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Budding Fruit Trees.—Fruit trees may now be budded, and the operation is invariably most successful when buds are inserted on shoots of the same year's growth. Maturity to a certain degree, however, is necessary, and budding should be performed as soon as well-developed buds can be found on the summer shoots. The work may be performed at any time during July and August, but it is best done in moist weather, as then the bark will part from the wood much more freely than in dry weather. Gross shoots should not be used, as they are soft, and bear large, immature buds. Buds taken from medium-sized shoots give the best results. The bud should be taken from a half-ripened shoot which will not extend any further. It should be plump and a wood bud. Wood buds are easily distinguished, as they are thin and pointed, whereas fruit buds are thick and round. Care should be taken to select buds from healthy trees, and they should be kept fresh by dropping them into a bucket of water as soon as they are cut out. Clean cuts and careful handling are essentials to success.

Shield Budding.—What is known as "shield budding" is the best method for fruit trees. With a sharp knife a slit should be made in the bark of the stock and another slit crosswise, the two together forming the letter T. The downward cut should be about one inch long. A bud should then be prepared by cutting off a slice of wood and bark, about one and a half-inch long, with a bud in the middle; with the flat half of the budding knife remove the wood by inserting the ivory under the bark at the top end of the slip containing the bud; with a little jerk the wood may be forced out, but the bark must not be bent, or it will be bruised. When the wood is separated the bud should be full of pith; hollow buds are not sufficiently matured. After the bud is ready, raise the bark on the stock, beginning at the angles of the T, and on both sides. Insert the shield of bark with the bud under the two angles of the bark on the stock, and slide it down to the bottom of the cut by means of the leaf stalk, which should be left for this purpose. It is necessary that the cross cut of the stock and the shield fit exactly, and when it is fitted the whole should be bound with raffia or other suitable material that will not cut the bark. Begin at the bottom, tie firmly, cross the binding above and below the leaf stalk, and leave the bud clear. All growths should be removed from the stock, so as to allow the bud every chance. The bud and stock should be syringed occasionally in hot weather.

Insect Pests.—Hot weather is favourable to the spread of all kinds of insects. A free use of the hose, garden engine and syringe is the greatest help in keeping insects in check and cleansing the foliage of the trees.

Fig. 5.—H.T. Rose Mrs. Charles Reed: colour pale cream, with pink tinting and golden yellow base

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Lobelia.—The perennial Lobelias may be raised from seeds sown at the present time, and if the seedlings receive ample attention, good plants will be obtained by the end of the season. Sow the seeds in pans filled with sandy soil pressed firmly, and do not cover the seed too deeply. Place a sheet of glass over the pans, stand them in a cold frame, and shade them for some time. When the seedlings are large enough, prick them out into boxes or cold frames, keeping them well supplied with moisture and shading them in bright weather. Lobelia Victoria, L. cardinalis and L. fulgens make a brilliant display when employed in masses or intermixed with other suitable subjects. They should be wintered under glass.

Brompton Stock.—There should be no delay in sowing seeds of Brompton Stocks. I prefer to make a sowing in boxes or pans and place them in cold frames until the plants are sufficiently high, and then transfer them to well-prepared beds on a warm border, where they can be given every attention. We grow scarlet, purple and white varieties, and as the last are very sweetly scented they are useful for many purposes.

Sweet William.—Propagate a good strain of Sweet Williams either from seed or from layers; if by seed, sow at once in shallow drills 6 inches apart in an open position.

Biennials.—Prick out Wallflowers, Forget-me-Nots, Campanulas, Polyanthuses and other plants raised from seed and intended to give a good display of bloom next spring. Shady borders are preferable for most of them, but Wallflowers should be transplanted in an open position so that the plants may become sturdy and be able to withstand severe wintry weather.

Tuberous Begonia.—Supply the roots of tuberous Begonias with plenty of moisture, and give them liquid manure at intervals. These plants respond to rich feeding when well established, and especially when planted in rather light, sandy soil.

Roses.—Attend to the requirements of Roses; feed them liberally, remove suckers as fast as they appear, and keep the surface soil loose. Keep a sharp watch for maggots and caterpillars and, should mildew appear, dust the foliage with sulphur or spray the plants with Jeyes' summer wash or some other suitable fungicide.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Mexican Laelias.—The production of flowering growths upon Laelia anceps, L. albida, L. autumnalis, and L. Gouldiana, is progressing and the roots should have obtained a good hold of the new compost afforded early in the year. If the young growths now developing are well inured to sunlight, they will soon delight in as much light, air, and sunheat as it is possible for them to receive. Artificial heat and a close, stuffy atmosphere are unsuitable for these Laelias but they thrive in light and sunheat, with ample atmospheric moisture, and an abundance of fresh air both night and day. In these conditions well-established plants

will grow freely. Half the complaints about the failure of these Orchids to flower are due to insufficient light and air. Syringing overhead whenever the weather is favourable will be found highly beneficial, as the foliage and rooting materials dry quickly under the conditions advised above. The supply of water at the roots should be increased as growtn advances, and later, when the pseudo-bulbs are thickening, a liberal supply will be needed.

Odontoglossum citrosmum.—The best time to repot plants of this species is as soon as the flowers are over. This Orchid grows best suspended from the roof, in well-drained pans, and as it is not a very large or free rooting kind, the receptacles need only be large enough to accommodate the plants comfortably with about 1½ inches of margin for the compost. The latter should be rough and open in texture, and consist of about two-thirds of Osmunda fibre and one-third of Sphagnum-moss with some crushed crocks and charcoal added. Potting should be done moderately firmly and afterwards the plants should be placed in a moist atmosphere in the intermediate house, giving only enough water to keep the materials just moist until new roots begin to push out from the young growths. When new growth is vigorous, a liberal supply of water is needed. Given a light position in a house where plenty of fresh air is admitted, the plants will make vigorous and healthy growth, and complete fine, large pseudo-bulbs by the autumn.

Calanthe.—Plants of this Orchid will be growing apace and rooting freely. Healthy, vigorous specimens will be much improved by a little top-dressing of good turfy loam and chopped Sphagnum-moss, spread over the surface to the depth of half an inch and pressed rather firmly. This is a much better practice than clogging the soil with liquid manure which may make it sour. Liquid manure may of course be given, but only of a reasonable strength and always in a perfectly clear state.

Pleione.—Pleiones now require the maximum supply of water at the roots, and if no dried cow manure was used in the potting material, weak doses of liquid manure made from cow dung may be given with advantage. A light position should be afforded the plants in the cool-intermediate house, and on bright days the foliage should be syringed to keep red-spider in check.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Brussels Sprouts.—The early batch of Brussels Sprouts will need frequent hoeing to promote rapid growth. Earth the plants up in good time to prevent them from being blown over during rough winds. Watch closely for caterpillar attacks, and if the pests appear lose no time in applying a dusting of newly-slaked lime.

Celery.—The early batch of Celery will need a first earthing. Proceed by pulling the small basal leaves away, with any suckers that may have formed, and any maggot-infested foliage. Then soak the soil about the roots and earth the plants up with 2 or 3 inches of soil only, for the first moulding. Dust the foliage occasionally with soot and slaked lime.

Late Celery.—Young Celery plants require so much moisture that the surface soil becomes hard and this condition must be counteracted by top-dressings of coarse decayed vegetable matter an inch in depth. This treatment results in very free growth.

Globe Artichokes.—The plants are growing remarkably well and only need copious waterings, and a mulch of any suitable available material. The heads must be cut when ready, otherwise they will become tough; they will keep well if stood in water in a cool place.

Onions.—The next few weeks will decide the size of the Onion bulbs; the plants are now forming bulbs well and should receive liberal supplies of clear water and liquid manure. In showery weather, apply light dressings of concentrated manure; Clay's, Le Fruitier, or Bentley's are all good. Keep a close watch for mildew, and if the foliage on one single plant turns pale, and is observed and burnt before the mildew powder forms on it, the bed may be saved from infection.

Asparagus.—Where Asparagus beds have not made vigorous growth apply the hoe and afford a top-dressing of well-decayed or artificial manure. The spring-sown Asparagus should receive its final thinning, to one foot apart. Afterwards give a good watering, make the young plants quite firm by pressing the soil about them and give a surface-dressing of flaky leaf-soil.

Shallots.—Those planted early are harvesting well, and forming excellent bulbs. As soon as ready take them up, and ripen them in a dry place.

Endive.—A large breadth of Endive should be sown this week. Choose two or more sites, as from this sowing the finest heads are produced.

Lettuce.—Make weekly sowings for the next five weeks.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Plumbago rosea.—Young plants raised from cuttings this spring should have the points of the leading growths stopped to cause them to form bushy specimens. Grow them on a stage near the roof-glass, well exposed to the light, in an intermediate temperature and moderately moist atmosphere. Old plants cut back and shifted into larger pots should be making good growth; pinch the shoots in accordance with the time they are required to flower.

Gloxinias.—At this season Gloxinias are best grown in an intermediate house on a stage near the roof-glass, allowing them plenty of air during the day. Seedlings raised early this year need not be potted into larger pots than those of 5-inches diameter. Until they fully develop their flowers syringe the foliage occasionally with an insecticide to keep down pests. Water the established plants frequently with liquid manure.

Solanum capsicastrum.—This is a most useful decorative greenhouse plant for autumn and winter use. Plants raised either from seed sown in early spring or from early struck cuttings and potted now into 5-inch pots, and kept under glass until re-established, may be plunged out of doors in ashes. Old plants may be potted into larger pots and treated in the same way. Being subject to red spider they should be well watered at the roots and syringed regularly.

Tree Carnations.—No time should be lost in transferring plants that are ready for their final potting into clean, well drained 8-inch pots. Use soil of a heavy texture and add some mortar rubble and a little Carnation manure. Shade the house in which they are growing, during the hottest part of the day, and exercise care in watering until the plants are established in the fresh soil. Close the house for an hour or two in the late afternoon, and at the same time syringe the foliage and damp the paths. Attend to the pinching out of the shoots as growths develop. Stake all plants that require supports, and fumigate the house frequently to prevent insect attacks. As the plants become established, admit more air, and afford them liquid manure occasionally.

Humea elegans.—This graceful plant is very suitable for conservatory decoration, and seeds of it should be sown now, in a pan, in finely sifted, light soil. Cover the seeds lightly with soil, place the pan in a cool house or frame, and cover it with glass and paper until the seeds have germinated. When the seedlings are large enough, pot them carefully in suitably sized pots and place them on a shelf in a cool, airy house; always guard against an excess of moisture at the roots. Humeas thrive best when they are grown in a cool, airy house and the foliage kept dry.

Vallota purpurea.—This useful greenhouse plant requires comparatively little attention. The bulbs have completed their growth, therefore the water supply should be reduced. It is not necessary to repot them every year, but they should receive a top dressing of equal parts of good loam and leaf-mould, adding a little artificial manure; ram the top dressing firmly, and soon withhold water entirely until the autumn.

Palms.—All specimens requiring a warm, moist atmosphere should be syringed daily, and occasionally with an insecticide. As Palms usually have a limited root space, they require regular supplies of liquid manure. Clear soot water, applied either to the roots, or with a syringe on the foliage, is conducive to a healthy development of the foliage.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Melons.—Where a supply of Melons has to be provided during the autumn months two or three successional houses should be planted between the present time and the end of July. Seeds should be sown once a fortnight up to the middle of July, and for these sowings choose slightly larger pots than those used for those of early sowings. When preparing the beds at this season provide a good depth of prepared leaves and manure to supply sufficient bottom-heat. The loam for the beds should be heavy in texture, and to this should be added a good proportion of broken mortar rubble or old plaster and wood ash. If the house has been previously filled with Melons it should be thoroughly cleansed before replanting takes place. Plants now flowering will require similar attention in regard to the setting of the fruit as earlier crops. Where fruits are swelling rapidly the beds should be kept uniformly moist, as heavy applications of water after the plants have been allowed to become dry are liable to cause splitting of the fruits and coarse netting of the skin. All lateral growths should be stopped before they make more than two or three leaves, and if the old foliage shows a tendency to flag under bright sunshine, afford shade during the hottest part of the day. If the plants show signs of canker place around the collar a small mound of freshly slaked lime or finely powdered charcoal and keep it dry.

Fig Trees in Pots.—If the early forced trees show no prospect of another profitable crop they should be duly hardened off, preparatory to placing them outdoors in a suitable position. Continue to afford assistance to trees developing their crop of fruits, and especially those which have matured a heavy crop previously, by liberally feeding them with liquid and artificial manure and soot water. Young Fig trees raised from cuttings this season should be repotted as soon as the roots fill the pots, as should older plants, if the object is to fruit them in pots. A good proportion of broken plaster or old mortar and wood ash should be incorporated with the soil in which Fig trees are grown.

Fig Trees in Borders.—Trees which were started early in the season will have yielded their first crop of fruits, and the present is a good time to examine them and remove all superfluous growths. Cut out entire branches if necessary, use the knife as sparingly as possible, and tie in the remaining growths thinly to encourage thorough ripening of the shoots for next season's supply of fruits. Thin the second crop if the fruits are numerous and afford the trees every encouragement to make healthy and sturdy growth. The houses in which trees are yielding ripe fruits should be freely ventilated and the supply of atmospheric moisture considerably reduced, otherwise the fruits may crack and split badly. Trees started under cool treatment are now growing rapidly and require constant attention; all growths should be stopped at the seventh or eighth leaf and weakly shoots should be removed. When tying, allow sufficient space for each shoot to fully develop its foliage. During hot weather syringe the trees vigorously when closing the house in the afternoon, and damp the paths and borders frequently to provide plenty of atmospheric moisture.

APPOINTMENTS FOR JULY.

SATURDAY, JULY 5—
National Viola and Pansy Society's Exhibition, Birmingham.

MONDAY, JULY 7—
Meeting to consider the Transport Bill and Housing Bill, at the Caxton Hall, Westminster, at 8.30 p.m.

WEDNESDAY, JULY 9—
Wolverhampton Floral Fete (2 days). Cardiff and County Horticultural Society's Show.

THURSDAY, JULY 10—
National Rose Society's Provincial Show at Norwich.

MONDAY, JULY 14—
United Horticultural Ben. and Prov. Society's Committee meet.

TUESDAY, JULY 15—
Royal Horticultural Society's Committee meet. National Rose Society's Exhibition of seedling Roses; National Carnation and Picotee Society's meeting; lecture by Mr. A. D. Webster, at 3 p.m., on "Afforestation."

FRIDAY, JULY 18—
Birmingham Horticultural Society's Floral Fete at Handsworth Park, Birmingham. (2 days).

SATURDAY, JULY 19—
Croydon Horticultural Society's Vegetable and Fruit Show, in the Public Halls, George Street, Croydon. Brighton Horticultural Society's Outing.

THURSDAY, JULY 24—
Manchester Victory Flower Show, Platt Fields, Rusholme, Manchester. (3 days).

FRIDAY, JULY 25—
Horticultural Club Outing.
Midland Carnation and Picotee Society's Exhibition, Birmingham. (2 days).

TUESDAY, JULY 29—
Royal Horticultural Society's Committee meet. Exhibition of British grown Bulbs. Lecture at 3 p.m., by Mr. George Monro.

THURSDAY, JULY 31—
Maidenhead Horticultural Society's Show.

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich 62.5°.

Actual Temperature :—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, July 2, 10 a.m.: Bar. 29.6; temp. 62°. Weather—Dull.

Silver Leaf Disease of Fruit Trees. A useful summary of our knowledge with respect to silver leaf is contained in the issue for May, 1919, of the *Journal of the Board of Agriculture.* As the writer of the article points out, the evidence that the disease is due to infection by the fungus Stereum purpureum is thoroughly well established. The fact that the silver leaf fungus attacks numerous trees in addition to Plum should be borne in mind, for the spores of Stereum purpureum produced in the dead wood of any one of its hosts may infect any other of them. Although all varieties of Plums grown in this country are said to be susceptible to attack by the fungus some, such as Rivers's Early Prolific and yellow Pershore, are highly resistant. Of those that "take" the disease very readily, Victoria is the most susceptible, with Czar a good (or bad) second.

It is stated—apparently with some justification, although further experiment is required—that Victorias grafted on a resistant stock acquire a measure of the resistant powers appertaining to the stock itself. In any case, fruit growers in the Evesham district have recently taken to using the yellow Pershore Plums as a stock for Victoria Plums. Inasmuch, however as Victorias suffer most from silver leaf after they have reached a good age—20-25 years—it is not yet possible to say whether the resistance said to be conferred by the Pershore stock on which this Plum is grafted is sufficient to render it resistant at the critical age. Although no remedy is known, trees which are in the early stage of silver leaf desease may, if properly treated, be rid of the disease. To effect this, the diseased wood must be cut out, and it is to be remembered that this must be done thoroughly. Since the fungus occurs not in the portion of the branch bearing the silvery leaves but further back, affected branches must be removed so far back that the cut surface shows no brown discolouration of the wood.

To prevent reinfection, dead leaves and trees which have begun to die back must be grubbed up and destroyed.

In cutting out branches it is to be remembered that callus formation occurs most readily at the junction of a branch with a main stem, and hence diseased branches should, if it be possible, be cut back to that point. Wounds so made should be covered at once with a dressing of Stockholm tar, for if this be not done the spores of the fungus may reinfect the tree through the wound surface. Similarly broken branches should be removed, and for the same reason, and when this is done the wood so removed should be destroyed or, at all events, not left in the plantation, for if any of the branches are diseased, the fungus may fructify on them and spread infection among the healthy trees. Other indirect means of preventing the spread of this disease are drainage, and liming : for a sour soil by interfering with the healthy growth of the trees lowers their resistance and thus renders them the more liable to attack. Pond's Seedling, Monarch, Purple Egg Plum and Damsons offer a fair resistance to silver leaf. Damascene, as well as Pershore Yellow Plum and Rivers's Early Prolific are highly resistant.

In Apples silver leaf is most apt to appear in trees which have been top-grafted and is most prevalent among those varieties which callus poorly, such as Lord Suffield, Lord Grosvenor, Mank's Codlin, Ecklinville, and Potts's Seedling. The reason for this is probably that the uncovered wound surface offers a longer period in which spores which have found lodgment may germinate and infect the tree.

Carnations and Sweet Peas at the War Horticultural Relief Show.—We learn that, as the result of sales of flowers at the Chelsea Floral Fête on June 24, 25 and 26 (see *Gard. Chron*, p. 321, June 28), the British Carnation Society is contributing £80, and the National Sweet Pea Society £45 to the War Horticultural Relief Fund.

Horticultural Club Summer Outing.—By kind permission of the President and Council of the Royal Horticultural Society, the members of the Horticultural Club will visit Wisley Gardens on the occasion of their annual outing, which is fixed for Friday, 25th inst. The party will journey by the 11.35 a.m. train from Waterloo, which reaches Byfleet at 12.22 p.m., and will proceed to the gardens by motor-cars in time for lunch. After an inspection of the gardens, tea will be provided, and the return journey will be made by the 6.36 p.m. from Byfleet, which reaches Waterloo Station at 7.25 p.m.

Fruit Crops in the Netherlands.—The Board of Agriculture and Fisheries are informed by His Majesty's Consul General at Rotterdam, in a report dated 23rd May, that the cold spring weather has in general delayed blossoming, but that the subsequent warm weather has been very beneficial, and prospects are very promising for most kinds of small fruit. Cherries are mostly good to very good. Red and White Currants are bad in the South of Utrecht, otherwise they are generally good to very good. Reports from Lymers concerning Black Currants are excellent, and, with one or two exceptions, good to very good elsewhere. Prospects for Gooseberries are very promising, though in Southern Utrecht they are reported to be bad. Raspberries, on the whole, show good prospects.

Land Settlement for Soldiers.—We are informed that the Board of Agriculture has purchased three more estates for the formation of farm settlements for ex-service men to be administered by the Board. One of these estates, consisting of 1,520 acres, situated at Berwick St. James, Wiltshire, is about 7 miles north west of Salisbury, and 6 miles from the Board's Farm Settlement at Amesbury. It includes the village of Berwick St. James, and possession will be obtained at Michaelmas next. Another estate is near Wantage, and comprises 1,000 acres. The third estate is in the Strawberry growing district of Hampshire, midway between Southampton and Portsmouth, and comprises about 1,355 acres. Several smaller areas have also been acquired, bringing the total acreage held by the Board for settlement to just over 16,000 acres and the number of settlements to 11.

The Arnold Arboretum.—Interesting details concerning the Arnold Arboretum, Jamaica Plain, Massachusetts, U.S.A., are given in the report of a committee appointed by the Board of Overseers of Harvard College, to visit the Arboretum and render a report. Founded in 1874, the Arboretum has established a world-wide reputation and attained an influence which is remarkable when it is remembered that it is the work of one generation and that it is still controlled by the man to whom it was first entrusted by the Corporation. The $100,000 given to the University by the trustees under the will of James Arnold, of New Bedford, to establish an Arboretum, has been increased by the generosity of friends to more than $700,000, and in addition to the income of this endowment between twelve and thirteen hundred thousand dollars, including the money contributed by the City of Boston, have been spent in the establishment and scientific activities of this department of the University. The collection of trees and shrubs arranged for convenient study in its out door museum is already the most important in America. The Arboretum is equipped with a library of forty thousand books and pamphlets and a herbarium of nearly two hundred thousand specimens. By its explorations, principally in North America and Eastern Asia, undertaken for the discovery and introduction of unknown plants, it has increased the knowledge of trees and introduced into the gardens and parks of the United States a large number of trees and shrubs before unknown in them. Several books prepared in the laboratories of the Arboretum have been finished during the past two years. The most important of these is, perhaps, the Bradley Bibliography, in which are found the titles of all the books and articles in periodicals devoted to the description, history and uses of woody plants published in all languages before the end of the nineteenth century. It is a book in five volumes of three thousand eight hundred and ninety-five quarto, two-column pages, and eighteen years have been occupied in its preparation. The committee reports that an immediate and pressing need of the Arboretum is the land, about sixteen acres in extent, between South Street, Jamaica Plain, and the Dedham Branch of the N.Y., N.H. and H. Railroad, the property of the President and Fellows of the University. This land is needed by the Arboretum for its large collection of Poplar and Willow trees for which it has now no proper or suitable location.

Wart Disease in Potatos.—In order that Potato growers in districts scheduled as areas infected with wart disease may make arrangements for their supply of seed Potatos required for planting in 1920, the Board of Agriculture calls attention to the fact that any approved immune variety of Potato may be planted next season. Not anticipating, however, that the supply of immune first earlies will be sufficient to meet the demand during 1920, the Board will issue to growers general licences authorising the planting in infected areas during 1920 of certain susceptible first earlies, provided the seed has been saved from the 1919 crop grown in the area. The Board is also prepared to grant special licences to bona-fide market growers who may find it necessary to import fresh seed, subject to the condition that the licences will not apply to land on which wart disease is known to be present.

Cider for Farm Workers.—The provision of cider, or other intoxicating liquor, as part

payment of wages is illegal, but it has been very common in certain districts for farmers to supply such beverages to their labourers as an "allowance" or "perquisite." Some employers in the cider districts, in view of their legal obligation to pay the minimum wage and overtime rates, are reluctant to continue the free supply of cider, and the question has arisen as to their position if they sell it to their men. In reply to an inquiry from the Agricultural Wages Board, the Board of Custom and Excise state that there is no objection to the sale of cider by a farmer to the workers on his farm, subject to payment by him of the duty on all cider thus sold, and on condition that (1) if the cider is sold in wholesale quantities, *i.e.*, in any quantity not less than 4½ gallons at any one time to one person, licence will not be required to be held by the farmer, but his premises must be registered for the purpose with the local officers of the Department in accordance with the requirements of the Statutory Regulations dated March 23, 1917, made under Section 6 of the Finance (New Duties) Act, 1916; and (2) if the cider is sold in retail quantities, *i.e.*, less than 4½ gallons, at any one time to one person, proper licences, Justices' as well as Excise, are taken out.

The Florists' Bulletin.—The first number of this publication, issued by the British Florists' Federation, contains articles and notes of interest, not only to trade florists, but to all interested in floriculture. As readers are aware, the Federation is an association of wholesale and retail florists in Great Britain, and was founded in 1917 for the purpose of protecting and encouraging every section of the Flower Trade, which is an important branch of commercial horticulture. The Bulletin points to some of the more important questions which the Federation has been successful in dealing with in the interests, not only of its own members, but of growers generally, and it gives ample evidence of the great advantage of co-operation, especially when dealing with matters through Government departments. Florists, nurserymen and market gardeners will be gratified by the approval of their achievements in helping to increase the food supplies of the country during the past five years, in a note from Dr. Keeble, Controller of Horticulture in the Food Production Department of the Board of Agriculture, where it is shown that 50 of the leading nurserymen and florists, with a total holding of 5,852 acres, devoted no less than 4,000 acres to the purposes of food production in 1918, and also that out of a total area of 319 acres of glass used for flower and plant cultivation in 1917, no fewer than 222 were devoted to food production in 1918. An article on Horticultural Sundries shows how important this branch of business is, and how closely the sundries trade has become allied to that of the growers, thus justifying the Federation's decision to include a Sundries Sub-committee and section in its activities. It is interesting to learn that a large proportion of the various goods included under the term of "horticultural sundries" came formerly from Germany and Austria, and that home-made articles are now available, rendering it unnecessary to go abroad to meet the wants of the trade in this respect. Mr. F. W. Ladds contributes an interesting article entitled "The Pot Plant in Commerce," whilst Mr. R. H. Page gives some useful hints in a note entitled "The Business End of a Florist's Shop." The war has shown the great importance of bulbs to all who are concerned in the production of flowers—especially early ones for market—and the successful efforts made by the Federation in persuading the Government to remove the embargo on certain bulbs from abroad, is amongst the most useful work it has undertaken. One of the unfathomable mysteries of the official mind was the severe restrictions imposed upon the exportation of bulbs and bulbous flowers from Guernsey, a part of the country where much money had been sunk in the industry, and this fact alone provided ample reason for the needs of such an association as that of the British Florists' Federation, which was ultimately able to persuade the authorities to relax such an unjustifiable preclusion. The Bulletin includes the Rules of the Federation, and the Report of the Committee for 1918. The membership shows a gratifying increase from 172 at the end of 1917 to nearly 300 at the beginning of 1919. The financial statement is satisfactory, for the balance sheet shows a small sum in hand; the establishment charges point to great economy in the management.

Shirley Poppies in the Pleasure Grounds.—The fine effect produced by a large bed of Shirley Poppies in association with sylvan surroundings may well be imagined from the illustration reproduced in Fig. 6. Few flowers show greater variability in colour and certainly none has more refined tones than these modern developments of a chance offspring of one of the commonest weeds of our corn fields. Although the colours and colour shades are so varied, they all harmonise so readily that there is no discord in a large bed containing all the colour variations. Shirley Poppies offer a cheap method of providing an effective summer display in a large park or garden, and in these days, when the question of cost has to be seriously considered, this fact is worth remembering.

FIG. 6.—SHIRLEY POPPIES MASSED IN WOODLAND. [*Photograph by E. J. Wallis.*

Publications Received. — ***National Afforestation.*** By A. D. Webster. London: T. Fisher Unwin. Price 6s. net. ***Strawberry Varieties in the United States.*** Farmers' Bulletin, 1043. United States Department of Agriculture. Washington: Government Printing Office, 1919. ***Life History and Habits of the Mealy Plum Aphis.*** United States Department of Agriculture. Bulletin No. 774. Price 5 cents. Superintendent of Documents, Government Printing Office, Washington, D.C. ***The Avocado in Guatemala.*** By Wilson Popenoe. Bulletin No. 743. United States Department of Agriculture, April 1919. Washington; Government Printing Office.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Variability in Plants. Taking the two instances worked out by *J. F.* in his exceedingly interesting letter, on p. 321, vol. LXV., and assuming that what I may call the original primitive plant constitution of the British Paris quadrifolia contains within itself the life principles of the 7 leaved specimen named, as well as the normal 4-leaved, and that, so far, it is possible to represent this in a numerical way, then each of these would have to be regarded as intravolved from this more primitive nature represented by a least common multiple of 8 and 28, viz., 56. The question is, of course, exceedingly complex. *J. F.*'s possession of 5-leaved specimens, for instance, means that if they are included, the least common multiple would be greater still. Perhaps the general idea of an intravolutionary explanation of the facts of nature is worth consideration on its bearing upon the colours of flowers. The tricotyledonous Fuchsia seedling I named in my first contribution is now opening its flower buds. The petals appear to be white streaked with reddish-purple, though it is too soon yet to speak with certainty. But what is the original generic colour of, for instance, the Fuchsia? There are white parts in some kinds. But white is the perfect blending of all the spectroscopic colours. From white all colours can be intravolved: but the colours of the Fuchsia appear to be confined to purple, appearing in one or other of the component elemental colours of purple-red or blue. To adapt the phrase within the original primitive white, purple appears to be the "least common" generic or specific colour of the Fuchsia. In spite of the fact that yellow rays are included in the make-up of white, has a yellow tinted Fuchsia yet been observed or produced? Speaking generally, the real question involved is whether variability in plants is variability within generic or specific limits, and the explanation of the rise and existence of variability at all. Darwin assumed illimitability of variability, and therefore wrote "A well-marked variety may therefore be called an incipient species" (*Origin of Species*, p. 65, etal, 1901 edition). A theory of intravolution, such as, working from higher reaches of organic development, I endeavoured to expound in my quite forgotten and now out-of-print work *The Clue to the Ages*, so far back as 1896, assumes the permanence of the composite creative principle that intravolves the generic or specific type, within the limits of the operation of which variability is possible. As to the explanation of variability Darwin frankly gives it up. He says, "Some have even imagined that natural selection induces variability, whereas it implies only the preservation of such variations as arise and are beneficial to the being under its conditions of life" (*Origin of Species*, p. 99). And again, "Unless such (i.e., profitable variations) occur natural selection can do nothing" (ibid p. 100). On the theory of intravolution the explanation of the rise and appearance of variability is due to the outcropping of a previously latent element in the composite creative principle which, in its main line of activity, intravolves the permanent generic or scientific type. I hope *J. F.* and others will begin or continue investigations and observations to test this view. *E. Judson Page, A.R.C.Sc., Exeter.*

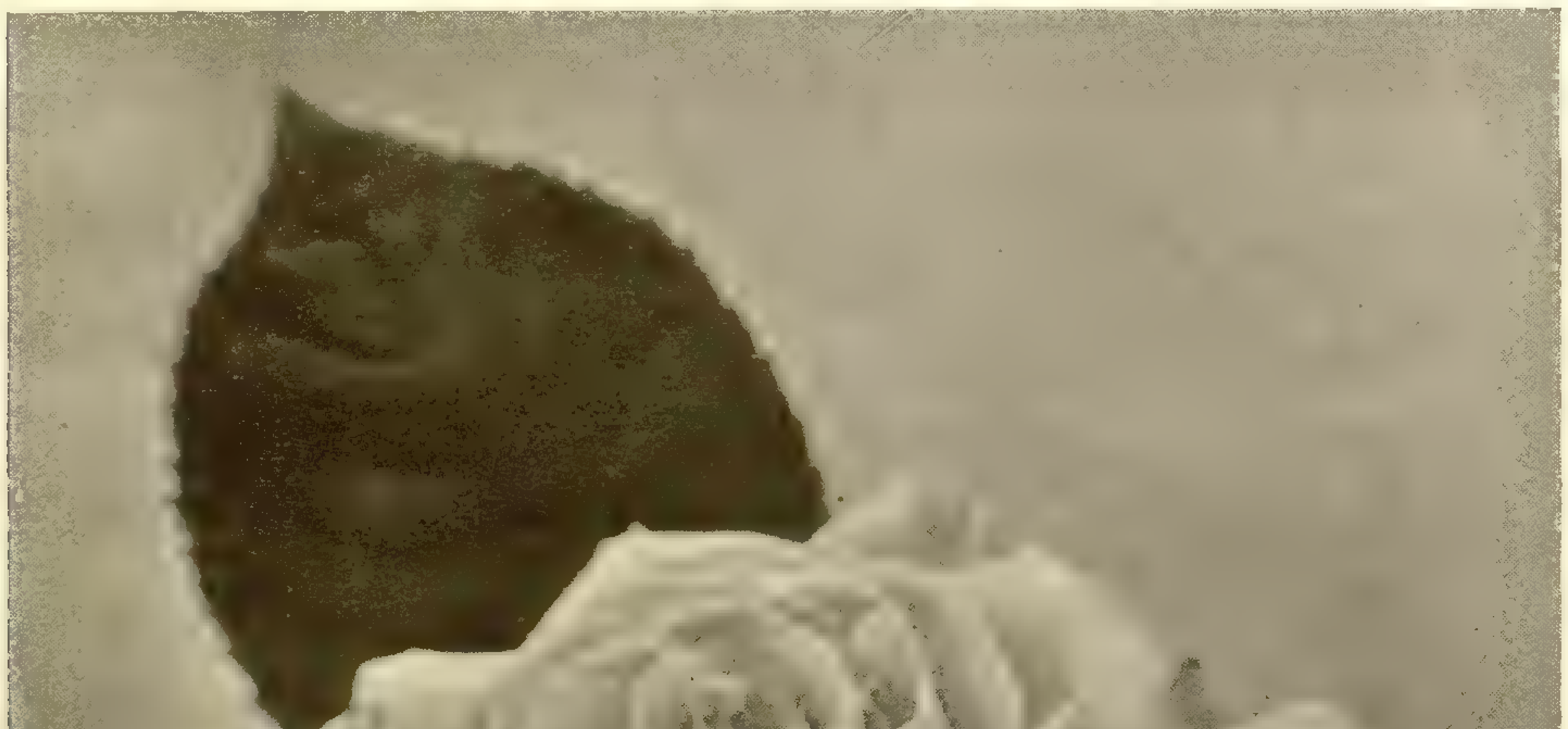

FIG. 7.—ROSE MRS. JOHN LAING: A FRAGRANT, ROSY-PINK H.P. VARIETY (see p. 13).

A Home Substitute for Dried Currants. The common Elderberry gathered ripe and preserved as a bottled fruit, may be substituted for the dried Currant sold by grocers. The flavour of many dishes is improved by the Elderberry; of such improvement mince pies form a good example. *C. Cope Cooper, Cooper's Hill, Carlow.*

Kerria japonica flore pleno (see p. 279, vol. LXV.). —The specimen of this plant mentioned by *J.P.* must be a very fine one. The height given in Nicholson's *Dictionary of Gardening* refers, no doubt, to the height of the shrub when grown in the open, but it grows much taller when trained to a wall, as in the case of Chimonanthus fragrans and many others. I have seen it on a west aspect wall in the warm valley of Mickleham, about 12 ft. high, and elsewhere on eastern and southern aspects, where it is highly conspicuous in early summer. I often recommend it to be grown on north aspects, for which few shrubs are suitable. I consider it a first-class wall shrub, even in the south, and would like to see the knife less freely used upon it. Besides the typical form there is also a variegated one, but the flowers of both are single, flimsy, and not half so ornamental as those of the double one. I think this is the reason why both are so uncommon. *J. F.*

VEGETABLES.

LATE PEAS.

IN order to obtain Peas throughout September and October, a sowing of a late variety should be made now in soil that has been deeply cultivated and well manured. I advocate growing the plants in trenches prepared as for Celery. A trench one foot wide and only moderately worked and sparingly supplied with manure will not produce late Peas of the same quality as one a yard wide and nearly as much in depth, for during continued dry weather there would be a danger of the soil drying completely in a narrow trench, and the state of the plants would be worse than if they had been grown in the ordinary way in the open quarters.

Those who wish to bring Peas through a period of drought without the plants losing their freshness and vigour must not neglect to mulch the roots in hot weather. It does not matter much of what material the mulching consists, and it may take the form of partially-decayed, flaky manure, partially-decayed leaves, or lawn mowings. I have used all these materials with excellent results. In each case the surface should be stirred occasionally with a hoe or fork to keep down weeds and ensure even distribution of the material. With all these precautions late Peas cannot survive a dry time without watering, and surface sprinklings are of no use. The soil should be well soaked, making sure that the water reaches the lowest roots. Early morning, afternoon, and evening are undoubtedly the best times for watering.

I am not in favour of burying thick layers of manure in the trenches for these late crops, for if the manure becomes dry during hot weather, the evil effects of drought become aggravated. At the same time, it must be admitted that good manure assists in retaining moisture, but it should be thoroughly mixed with the soil, not sandwiched in layers, and then there will be less danger of trouble from drought. The few really reliable late Peas include Autocrat (a well-known, mildew-resisting variety), the older Ne Plus Ultra, Latest of All, and The Gladstone. The last named is also one of the best maincrop varieties. Any of these sorts should give late supplies according to their treatment and how the season favours or disfavours the podding.

An abundance of light and air are essential to the well-being of late Peas, for when the plants are grown thickly in the rows and the latter are crowded, the crops are light and soon over. Good culture also improves the quality of the Peas. *James A. Paice.*

SOCIETIES.

ROYAL HORTICULTURAL.

JULY 1.—Although cold weather, with a drizzling rain, prevailed on Tuesday last, there was a large attendance at the London Scottish Drill Hall, Westminster, on the occasion of the R.H.S. fortnightly meeting. There was a large display of flowers, chiefly hardy subjects, Delphiniums being very well represented. Orchids were fewer than usual. The National Sweet Pea Society held its annual exhibition in conjunction with the R.H.S. meeting; the exhibits of these flowers were very beautiful, and filled the hall with fragrance.

Floral Committee.

Present: Messrs. H. B. May (in the chair), W. J. Bean, John Green, G. Reuthe, John Heal, C. R. Fielder, Wm. Howe, J. F McLeod, J. Jennings, Sydney Morris, R. C. Notcutt, E. A. Bowles, H. J. Jones, C. Dixon, J. W. Moorman, Arthur Turner, W. H. Page, Herbert Cowley, J. W. Barr, W. B. Cranfield, W. G. Baker and E. H. Jenkins.

GROUPS.

On a floor space the ALDER RIVER COMPANY arranged a very interesting collection of Liliums and various shrubs. There were well-flowered plants of Lilium giganteum and L. Willmottiae; the latter is a slender Tiger Lily from Hupeh, and bears brilliant flowers. Not so showy, but very interesting, was the cross between L. Martagon and L. pardalinum. The result is a plant of Martagon size, habit and general appearance, bearing pendulous, bright yellow flowers which are freely spotted with chocolate. The flower buds have a rosy sheen, which is retained after the flowers have opened. L. Parryi × L. pardalinum is said to reach 10 feet in height, but is of slender habit, bearing erect, reflexed deep yellow flowers which become nearly orange at the tips and are fairly evenly spotted with chocolate in the centres. Of the various shrubs Zenobia speciosa was particularly good. (Silver Banksian Medal.)

Delphiniums were shown in great splendour by Messrs. BLACKMORE AND LANGDON, who had a variety of very fine spikes. Those of pale lilac-mauve and pale heliotrope shades—especially such as had a satiny sheen—were very charming and included Lorenzo de Medici, Mrs. Shirley, Glory and Mrs. Colin McIver. (Silver Flora Medal.)

Pale blue shades were prominent in the collection of Delphiniums shown by Messrs. KELWAY AND SON, and of these we selected the following as being unusually good varieties: Noah Tuson, Viscount Melville, Moonlight, Star of Langport and Countess of Leitrim. (Silver Flora Medal.) The Misses HANNEN and COURTNEY also showed good spikes of Delphiniums (Bronze Banksian Medal).

An interesting collection of garden Pinks, suitable for massing or bordering and in pleasing variety, was set up by Messrs. B. LADHAMS, LTD., who also displayed various other border flowers, including the beautiful white Oenothera speciosa (Silver Banksian Medal) Messrs. CHEAL AND SONS showed sprays of various flowering shrubs and Star Dahlias.

Mr. G. REUTHE had various uncommon shrubs, rock and border plants, including a neat collection of dwarf Campanulas (Silver Flora Medal).

Many pots of Streptocarpus and Gloxinia of excellent strains and showing first-rate cultivation, were contributed by Messrs. R. and G. CUTHBERT (Silver Banksian Medal), while Messrs. H. B. MAY AND SONS had their customary collection of greenhouse Ferns interspersed with flowering plants and Begonia Rex (Silver Flora Medal). Cut Carnations in variety were displayed by Messrs. ALLWOOD BROS.

The JOHN INNES HORTICULTURAL COLLEGE, Merton Surrey, exhibited hybrid Chieranthus, derived by crossing Chieranthus (Erysimum) suffruticosus with C. linifolius, and the latter species with a Blood-Red Wallflower.

AWARDS OF MERIT.

Delphinium Lloyd George A very large-flowered variety of a rich, brilliant and deep blue colour, with a white, yellow-tinted centre. The flowers are borne on long, dark pedicels, and make up a rather loose but elegant and tall spike. Shown by Messrs. KELWAY AND SON.

Bakers' Sunbeam Poppies.—A very strong growing strain of Iceland Poppies, with flowers ranging from white to deepest scarlet The flowers are large, and borne on stiff stems, often 20 inches long. There are numerous charming shades of colour in the flowers, and each bloom has the crinkled appearance that lends an added grace to these poppies. Shown by Messrs. BAKERS, Wolverhampton.

Begonia General Allenby.—A shapely, double variety of excellent form and good size. The colour is deep, rich and glowing orange-scarlet.

Begonia Queen of the Belgians.—In this double variety, the wavy petals are of remarkable size and breadth, making up an immense flower. The colour is a lovely shade of salmon pink.

Begonia Snowdrift.—A broad-petalled, white flower, of wonderfully regular form and fine substance.

Begonia Mrs. J. S. Brunton.—This variety has large and finely-formed double blooms of a rich, warm, pink colour.

Begonia King Albert.—In this variety the slightly waved petals are rounded and of great breadth. The whole flower is bold and of good form, and the colour is scarlet vermilion. All these Begonias were shown by Messrs. BLACKMORE AND LANGDON, Twerton, Bath.

Erigeron hybridus Elsie.—A dwarf plant, and therefore suitable for the rock garden. It rarely exceeds a height of 9 inches. The colour is pale lavender or light, soft rose pink, and the eye is dark yellow in the young flowers, but purplish brown in the old flowers.

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. secretary), W. Bolton, Arthur Dye, S. W. Flory, Pantia Ralli, Fred Sander, R. A. Rolfe, and C. H. Curtis.

AWARDS

FIRST-CLASS CERTIFICATE.

Disa Blackii grandiflora (*Luna × grandiflora*) from Messrs. FLORY AND BLACK, Slough. The largest and best hybrid Disa. The seed parent was D. grandiflora, and the six-flowered inflorescence of the plant shown had blooms considerably larger than those of that species. The sepals are rich, rose-colour. The galea is blush white; centre spotted with crimson.

AWARD OF MERIT.

Thunia Gatton (*Bensoniae Winniana × Majoriana*) from Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr., Mr. Collier). A handsome seedling with drooping sprays of white flowers tinged with lilac. The lip is purple with raised lines of yellow papillae from the base. The sepals are four inches in length.

CULTURAL COMMENDATION.

To Mr. J. COLLIER (gr. to Sir Jeremiah Colman, Bart.) for a noble plant of Aerides odoratum album, with a spike of about forty pure-white flowers.

OTHER EXHIBITS.

Dr. MIGUEL LACROZE, Roehampton (Orchid grower, Miss Robertson), exhibited Laelio-Cattleya luminosa Bryndir variety with a very fine bronze-orange and purple flower; and Odontoglossum La Paz, a very interesting seedling of O. crispum Solum, the lip having the blackish markings characteristic of that variety.

Messrs. FLORY AND BLACK showed a selection of their hybrid Disas.

Messrs. SANDERS, St. Albans, were awarded a Silver Banksian Medal for a group of excellent hybrids, the best being two fine, deep-rose forms of Miltonia Sanderae and the massive dark-coloured Odontoglossum Triumph (triumphans × eximium).

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood) sent two charming specimens of the elegant Dendrochilum filiforme, each with about fifty slender, drooping sprays of small yellow flowers; and four plants of the dark coloured Cypripedium St. Alban (Harrisianum × Antigone).

Messrs. CHARLESWORTH AND CO., Haywards Heath, showed the beautiful white Odontoglossum crispum Lady Newnes, a charming plant of the Xanthotes class, with twenty-four flowers; they also showed the fine Laelio-Cattleya Momus, which had previously received a First-Class Certificate, and a good specimen of Cypripedium Rothschildianum.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (chairman), W. Bates, G. F. Tinley, G. Reynolds, J. C. Allgrove, F. Jordan, W. H. Divers, and Ed. Harris.

A yellow fruited Tomato named Orange Sunrise was exhibited by Messrs. CHAPMAN, LTD., Rye. The flavour is exceedingly good and the Committee recommended the variety to be tried at Wisley as to its cropping qualities. Another Tomato, named Tony, of dull-red colour and very regular shape, was exhibited by Mr. ST. JOHN PAYNE, Stoneleigh Nursery, East Grinstead.

Mr. H. MORTIMER, Rowledge, Surrey, exhibited splendid Cucumbers of the varieties Delicacy, Sensation and Improved Telegraph. The first two had already received First Class Certificates and the awards were confirmed by the Committee on this occasion.

Messrs. THOMAS ROCHFORD and Sons Ltd., Turnford Hall, Broxbourne, Hertfordshire, exhibited a large number of pot plants of Tomato Ailsa Craig Improved. A Cultural Commendation was awarded for the general excellence of the plants and the variety was recommended for trial at Wisley.

Scientific Committee.

JUNE 17.—*Present:* Messrs. E. A. Bowles, M.A. (in the chair), E. M. Holmes, W. Hales, J. Fraser and F. J. Chittenden (hon. sec.).

Arabis glabra.—MR. MARSDEN JONES sent a specimen of A. glabra from Tilston, Cheshire, a new locality for this plant.

Hybrid Narcissus.—He also sent photographs of the bulbs of N. Bulbocodium × N. "Emperor," of which other photographs were shown at the last meeting.

Foliar sepals in Rose.—MR. C. F. PRATT, of Acton, sent a Rose in which the sepals had grown out almost to the size of foliage leaves.

Primula pulverulenta.—MISS NORTON, of Dolcorsllwyn Hall, Cemmaes, sent a specimen of P. pulverulenta with the note that "Three years old plants have about fifteen flower spikes averaging three feet in height, the best half-dozen of which grew to about four feet in height."

Plants causing irritation.—MR. E. M. HOLMES mentioned a case of skin irritation caused by handling the Giant Cow Parsnip, Heracleum giganteum. MR. BOWLES also referred to cases of severe skin irritation brought about by handling Rhus vernicifera.

Variegation of Rose Leaf.—MR. HOLMES showed an interesting example of variegation in the Rose in which one half of a foliage leaf was yellow, the other half green.

ROYAL AGRICULTURAL.

JUNE 24-28.—The Royal Agricultural Society's Provincial Exhibition held at Cardiff on these dates included a horticultural section as usual.

In addition to the horticultural section proper, many of the chief seed firms included exhibits of a horticultural nature in their special tents and pavilions. Messrs. SUTTON AND SONS had quite a botanical and entomological museum, in which were displayed mounted specimens of garden and farm pests, both dried and growing examples of forage plants, injurious weeds, etc. Floral features on the stand included Sweet Peas, Clarkias and other annuals. There were also fine dishes of Tomatos, Peas, Beans, and other vegetables.

Messrs. DICKSON, BROWN AND TAIT decorated their pavilion with rambler Roses, Carnations and Ferns, and also showed examples of their particular strains of vegetables. Messrs. DICKSON and ROBINSON made a special feature of various types of pasture plants and grasses. They had also mounds of Delphiniums, Carnations, and Hydrangeas.

Vegetables were the central feature of Messrs. JAMES CARTER AND Co.'s stand. They also had finely-flowered Crassulas. Messrs. EDWARD WEBB AND SONS, LTD., showed a mass of Clarkias, a choice selection of Sweet Peas, various types of pasture grasses, and an assortment of excellent vegetables, among which Peas were a strong feature. Other occupants of similarly interesting stands were Messrs. TOOGOOD AND SONS, Messrs. BLATCHFORD, the AGRICULTURAL WHOLESALE SOCIETY, and the HARDY PLANT NURSERIES, Llanishen.

There has always been a great deal of horticultural interest at the Royal Agricultural Society's shows, more especially in the economic phases such as food crops, labour-saving implements and chemical aids to good husbandry.

Of late years, however, a separate horticultural section has been provided, and a flower show of no mean standard had for a few years prior to the war shown annual progress and development. It was therefore with high expectations, not unmixed with curiosity, that we waited to see how this feature fared at Cardiff on the first post-war occasion. It is gratifying to be able to record a successful show, although it must be admitted the display was somewhat smaller than formerly, owing, in some measure, to the counter attraction of the War Relief Show at Chelsea. Few competitive classes were provided, the greater proportion of the exhibits coming from the Trade. The class for a group of fine ornamented stove and greenhouse plants was supported by three entries, and although there were not the fine big plants we were wont to admire the groups were rich in colour and replete with Orchids and other subjects of high quality. Messrs. J. CYPHER AND SONS, Cheltenham, proved invincible, and carried off the highest honours with an undulating bed of ferns, small Crotons, and Caladiums, tastefully interspersed with Cattleyas, Odontoglossums, Ixoras, and finely-berried Nertera depressa. The whole was surmounted by an arch, beneath which was a mass of profusely - flowered Clerodendrons; 2nd, Mr. W. A. HOLMES, Chesterfield; 3rd, SIDNEY H. BYASS, Esq. (gardener, Mr. R. German), Llandough Castle, Cowbridge, Glamorganshire.

A wonderfully fine group of tuberous Begonias from Messrs. BLACKMORE AND LANGDON, Bath, occupied a commanding position in front of the entrance to the tent. Mounds of the coral pink variety Mrs. W. Cuthbertson occupied the foreground, with baskets of pendulous varieties overhead. Mrs. J. S. Brunton and Mrs. H. Lunt were other choice varieties in the group which was awarded the first prize. The same exhibitors had a grand display of Delphiniums, which secured first prize, and an extra award of a Gold Medal was given for the combined exhibits.

Messrs. ALEX. DICKSON AND SONS, LTD., Hawlmark, Belfast, made a notable display of Roses and Sweet Peas. Several of the Roses were new and unnamed seedlings, but big sheaves of Mrs. C. V. Haworth glowed with wonderful orange and flame colour. The Sweet Peas included Hawlmark Pink, Daisy, Cherub (a good Picotee-edged cream ground), and the large white Constance Hinton. Other fine Sweet Pea exhibits came from Messrs. E. W. KING AND Co., Coggeshall, who were first in competition, and from Messrs. BIDE AND SONS, Farnham, and Messrs JARMAN AND Co., Chard, who also showed fine Roses and a few examples of their well-known strain of Sweet Sultans. Quite distinct from the rest of the show and decidedly good was an arrangement of choice alpines among weathered stones, which came from Messrs. BROADHEAD AND SONS, Wooldale, Thongsbridge, Yorkshire. The subjects were of superior order, and calculated to interest the enthusiastic collector of rarities rather than the seeker after bold effects. Campanula Raddeana, Allium narcissiflorum, choice Saxifragas, and the little Gypsophila cerastoides are instances of the kinds of plants used. One of the finest forms of Scabiosa caucasica we have seen was shown by Messrs. W. J. GODFREY AND SON, Exmouth. It is named Pride of Exmouth, and has remarkable breadth of petal and rich lustrous colour.

A class in the schedule which brought three entries was for a collection of Hardy Perennial plants and blooms arranged on ground space 30 feet by 10 feet to represent a growing border. This should be a very attractive and instructive class, but the tendency is still to make too dense a display, and to provide a great mass of colour rather than natural effect. Of the three exhibits Messrs. W. ARTINDALE AND SON had the boldest display, and showed excellent Paeonies, among which Madame Chauny, M. Levique, a clear flesh-coloured variety, and the pure white Duchesse de Nemours were conspicuous. Lilium Szovitsianum, the white-flowered Delphinium Moerheimii, and the quaintly beautiful Golden Erigeron Asa Gray were other good things. This collection was awarded first prize. The judges gave the second prize to Mr. C. J. ELLIS's exhibit, which was arranged in the style one might expect a border to be planted; the third prize was awarded to Messrs. HARKNESS AND SONS. This appeared to us a case of divided judgment, for if the idea was to make a literal interpretation of the schedule the exhibit of Mr. Ellis was the only one that could be considered correct, whilst if the bold effect of Messrs. Artindale's gained for it pride of place, the same standard would have placed Messrs. Harkness second instead of third. Among Mr. Ellis's best subjects were Incarvillea Delavayi, Erigeron Mrs. B. Ladhams, Hypericum Ellisiana, with starry yellow blossoms, Sweet Williams, and a Viola named Mrs. V. T. Hill, with creamy, mauve-edged flowers. Messrs. Harkness made fine use of Oriental Poppies and Lupins, and among the latter was one named Royal Favour, of amber colour.

NATIONAL SWEET PEA.

JULY 1.—It was only after very careful consideration that the Committee of the National Sweet Pea Society decided to hold an exhibition this year. It was agreed that no cash prizes should be offered and only the Society's cups and challenge plate competed for. In spite of trying weather the decision was justified by the fine display, which filled about half of the London Scottish Drill Hall, Westminster, and attracted a large company of enthusiasts.

Competition was most keen, and the entries in the classes, together with the trade displays, provided a fine show that was distinctly reminiscent of old times in all but extent.

TRADE EXCLUDED.

In the Eckford Cup Class, Mr. W. H. HOLLOWAY, Percyville, Port Hill, Shrewsbury, won first prize with charming flowers of Valentine, Audrey Crier, Lady Evelyn, Mrs. Tom Jones, Mrs. H. C. Stapleton, Edsom Beauty, Suttons' Cream, Lady Miller, Prince George, Edward Cowdy, Jean Ireland, and R. F. Felton. Mr. Holloway has now a grand chance of winning this fine Cup outright. Mr. F. W. FRANK (gr. Mr. Humphrey), Loampits, Tonbridge, was placed second.

In the Sutton Cup Class for eighteen bunches, there were two entries, and the Cup was won by Sir RANDOLF BAKER (gr. Mr. A. E. Usher), Ranston House, Blandford, with beautiful blooms of Faith, Elegance, Mrs. A. Hitchcock, Hilda, R. F. Felton, Alex. Malcolm, Adelaide, and Royal Purple. Mrs. FARNHAM, The Heights, Witley, was a good second. The J. K. King Cup for a dozen bunches, distinct, was won by Mr. PHILLIP (gr. Mr. R. Goliah), Astley Grange, Shrewsbury, with good blooms of Constance Hinton, Warrior, Elegance, Alex. Malcolm, Royal Purple, and Felton's Cream; 2nd, Sir RANDOLF BAKER.

OPEN CLASSES.

The Burpee Cup Class for a table display of waved Sweet Peas on a space 8 ft. by 3 ft., has been a feature of the N.S.P.S. shows for many years. On this occasion there were three competitors, and the premier position was filled by Messrs. E. W. KING AND Co.; their exhibit was rather crowded, but the flowers were very fine, especially the baskets of Attraction Improved, their new variety, Gladys, Mrs. H. Hitchcock, Royal Salute, Mavis, Rosabelle and Lavender; 2nd, Mr. HOWARD S. BUTTON, Horsons, Northwood; 3rd, Messrs. BIDE AND SON.

SINGLE-HANDED GARDENERS' CLASSES.

The Bide Challenge Cup offered to single-handed gardeners for a dozen bunches, distinct, was won by Mr. J. W. WELLICOME, Queen's Way, Gerrard's Cross, and he had good vases of Rosabelle, Adelaide, Hercules, and Jean Ireland. In the same section Dr. S. LEGGATT, Salcombe, Harpenden, won the Perkins' Challenge Plate for nine bunches (including a grand bunch of Dobbies' Cream); Mr. H. A. PERKINS (gr. Mr E. Grout), Lane House, Bognor, second. The Breadmore Challenge Plate offered in the same section for the best six bunches, distinct, was won by Mr. G. J. PRYOR, Preston, Hitchin, with long-stemmed spikes of bloom.

SMALL GROWERS' CLASSES.

In the division for small growers, i.e., those growing not more than 350 plants of Sweet Peas, the E. H. Christy Challenge Cup for the best dozen bunches, distinct, twelve sprays each, was won by Mr. F. J. ROGERS, St. Hilda, Yarmouth, Isle of Wight, with a very fine set of Anglian Star, Princess Mary, Warrior, May Unwin, Mrs. A. Hitchcock, Royalty, Royal Salute, King Mauve, R. F. Felton, Progress, and Constance Hinton; Mr. J. H. WILKS, Highfield, Brockenhurst, second. Mr. E. WILLIS, Swinton, third.

Six bunches, distinct, and representing as many separate colour classes, were the requirements in the competition for the Walter Voss Challenge Cup. There were four competitors, and Mr. F. J. ROGERS, Isle of Wight, was awarded the first prize for beautiful blooms of Warrior, Constance Hinton, Alex. Malcolm, Royalty, Hercules, and Jean Ireland; Mr. Rogers is a very capable grower. Mr. E. WILLIS came second, and Mr. R. F. BARKER, Rookfield Avenue, Muswell Hill, was placed third.

AMATEURS CLASS.

Mr. TOM JONES, now a veteran and successful competitor, won the Hawlmark Cup in the special Amateurs' division. The class is for a dozen bunches, distinct, and Mr. Jones had, as usual, a superb lot of flowers. The varieties staged were Constance Hinton, Liberty, Royal Purple, Jean Ireland, Audrey Crier, Lady Evelyn, R. F. Felton, Mrs. A. Hitchcock, Edsom Beauty, Lady Miller, Charity, and Hawlmark Cream.

NON-COMPETITIVE.

Messrs. DOBBIE AND Co. filled a large space with well-grown Sweet Peas, presented in large variety. At the back they staged tall stands of Jean Ireland, Royal Purple, the brilliant Alex. Malcolm, Mrs. Tom Jones, Mrs. A. Hitchcock and Constance Hinton. In front of these were vases of varying height, filled with such beautiful sorts as The President, Melba, Mrs Cuthbertson, Duchess of Portland, Tea Rose, R. F. Felton, Dobbies' Orange and Dobbies' Cream (Gold Medal).

Mr. GEORGE HERBERT, Duck's Hill, Northwood, had a pretty exhibit, wherein Hercules, Peace, Moneymaker, Elsie Herbert, Constance Hinton and R. F. Felton were the leading varieties, but the flowers were scarcely set at their best (Silver Gilt Medal). Messrs. E. BIDE AND SONS' display, a trifle thin, contained good representations of Princess Mary (blue), Jean Ireland, Dobbies' Cream, Fiery Cross, Bide's Cream, and the dark maroon King Manoel (Silver Gilt Medal).

In Mr. ROBERT BOLTON's large and tastefully-arranged exhibit the varieties Valentine (pink), Charity, Tangerine, and Mrs. Tom Jones, were shown in bold masses, while the new Gold Medal, cream pink; Cheerful, deep cream pink; Verdun, deep rose-red; and Magic, blue and rose; were all well represented by large vases of excellent flowers (Gold Medal). Mr. J. STEVENSON showed several of his new seedlings; Bacchus, Italia and Red Ensign were distinct sorts.

Messrs. ALEX. DICKSON AND SONS contributed a particularly fine group of Sweet Peas, which, in arrangement, colour, variety and size of blooms was first-class. The use of spikes with buds just expanding among the fully-opened flowers lent additional grace to the display.

Hawlmark Pink occupied the central position, and there were four large stands of it. Daisybud, the new blush pink; Hawlmark Cream, Elegance, Royal Purple, Brocade, new, rose and pink; Mrs. Tom Jones, blue; and Constance Hinton, white, were other varieties displayed in stands, vases and bowls, the whole making a beautifully bright and fragrant exhibit (Gold Medal).

CITY OF LONDON ROSE.

June 27.—After their show of 1916 the members of the above Society decided to suspend their shows for "the duration," and to devote their energies to food production. Now that happier times prevailed, it was felt that the Cannon Street Hotel exhibition should be revived, and on the 27th ult. the Lady Mayoress opened a very successful show. Lady Marshall, regretting that the Lord Mayor was indisposed, expressed her surprise at the excellence of the many blooms and congratulated the Society on its renewed activities, which she hoped would not again be interrupted.

Open Classes.

The Nurserymen's Challenge Trophy was won by Messrs. D. Prior and Sons, with a fresh and even collection of good blooms. The best examples were of Mme. Jules Gravereaux, Elizabeth (an old but excellent pink Rose), A. Hartmann, Bessie Brown, Caroline Testout and Mrs. Dudley Cross. Messrs. Alex. Dickson and Sons, who were a good second, displayed several new crimson varieties. Of these, John Ness (a very fragrant, velvety crimson), Capt. Kilbee Stuart (bright crimson), and Gwladys Richards were particularly good.

Messrs. Alex. Dickson and Sons were placed first for 12 varieties, three blooms of each, for a splendid collection. The triplets of H. V. Machin, A. Hartmann, Gorgeous and Capt. Kilbee Stuart were excellent. Messrs. D. Prior and Sons were second, showing fine sets of P. Lambert, white Maman Cochet and Mme. Jules Gravereaux. Messrs. Prior were awarded first prize for 18 Teas and Noisettes, showing clean blooms of Maman Cochet, Mrs. Dudley Cross and Mme. Jules Gravereaux.

The class for 12 blooms of Roses, "introduced 1915 to 1918," was decidedly poor. Messrs. Alex. Dickson and Sons were alone and were awarded the first prize. The only varieties of merit were Margaret Dickson Hamill and Frances Grant, two orange-shaded varieties. But Messrs. Dickson's Roses were seen to much better advantage in the classes for 18 bunches of decorative Roses and five baskets of cut blooms, where they worthily won the first prizes. In each class Sunstar, Lady Pirrie and Mme. Ravary were represented by splendid blooms.

Amateurs' Classes.

For the third time in succession Mr. H. L. Wettern won the Open Amateur Trophy, and on the present occasion he had 24 splendid blooms, the very best being François Michelon, Mrs. Cynthia Forde, J. B. Clark and Geo. Dickson. Mr. Wettern also won first prize for (*a*) 9 blooms of one variety, showing excellent flowers of A. Hartmann; (*b*) 6 bunches of decorative Roses; (*c*) 12 blooms, distinct, winning for the second successive time the City of London Challenge Trophy; (*d*) the Challenge Cup for 12 bunches of decorative Roses; and (*e*) 9 vases of decorative varieties.

The Rev. F. R. Burnside, Great Stambridge Rectory, Rochford, added to his old-time successes by showing the best (*a*) 8 varieties, 3 blooms of each; (*b*) 12 blooms, in not fewer than 9 varieties, of Teas or Noisettes. In each class he had excellent blooms of White Maman Cochet. Mr. G. C. Sawday had the best 12 blooms distinct, and Mr. F. J. Underhill was the most successful competitor in the class for 4 blooms of one variety shown in a vase and 3 blooms shown similarly.

In the City Members' Classes, besides Mr. Wettern, who won the championship, Mr. John Hart, Mr. A. C. Brown and Mr. R. de Escoffet showed particularly good blooms, and in the class for growers of fewer than 500 plants Mr. J. W. Burgess had 9 excellent blooms.

In the Metropolitan Classes the Challenge Cup was won by Mr. R. de Escoffet, with splendid blooms of Mrs. John Laing, a variety illustrated in Fig. 7, George Dickson and Florence Forrester. The Inner Suburbs Cup was won by Mr. D. Robbins, East Dulwich.

The Ladies' Artistic Classes were particularly good. Mrs. A. Brown, Brookes Lodge, Reigate, and Mrs. Underhill, Plough Lane, Croydon, won the first prizes with very tasteful arrangements.

Medal Blooms.

N.R.S. Silver Medals were awarded for the following blooms, as being the best in the various sections:—Victor Hugo, shown by Messrs. Alex. Dickson and Sons; George Dickson, by Mr. G. C. Sawday; Snow Queen, by Mr. A. E. Coxhead; George Dickson, by Mr. S. F. Gregg; and J. B. Clark, by Mr. A. E. Coxhead

Trade exhibits were arranged by Mr. Walter Easlea, who, in Glowworm, showed a charming coppery-orange single-flowered Rose; Rev. J. H. Pemberton and Mr. T. P. Edwards.

ROYAL SCOTTISH ARBORICULTURAL.

Aberdeen Branch.

The excursions, so greatly enjoyed in pre-war days, of the members of this branch of the Society, were resumed on Thursday, June 19, when a visit was made to the woods of Gordon Castle, the premier Scottish seat of the Dukes of Richmond and Gordon. There was a record attendance, over 70 being present, representing Kincardineshire in the south to Nairnshire in the north. Mr. Irvine of Drum, Drum Castle, Aberdeenshire, president of the branch, headed the party, and others present included the Earl of Leven and Melville (Nairnshire), Sir John Fleming of Dalmuinzie (Aberdeenshire), Mr. Nicol of Ballogie, Colonel McConnochie of Knowsie, Mr. Muirhead (commissioner to the Duke of Richmond and Gordon, Fochabers, etc.). A certain *éclat* was given to the gathering by the presence of Mr. R. L. Robinson, London, a member of the Interim Forestry Authority, who happened to be sojourning in the north.

Leaving Aberdeen at 8.5 a.m. in special saloon carriages, and in charming weather, the party soon covered the sixty odd miles to Fochabers. Here the first visit was made to the extensive nurseries of Mr. William Christie, who, with his son, extended a hearty welcome to the party, and showed much that was interesting and instructive. Mr. Muirhead, commissioner to his grace the Duke of Richmond and Gordon, who had with him Mr. John Clark and Mr. Charles Webster, his Grace's head forester and head gardener, then led the way to the grounds of Gordon Castle, where the last-named gentlemen proved thorough guides, philosophers and friends to the party. A feature greatly admired was the magnificent specimens of Pines to be seen on every hand, and the party gathered round the remains of one well named the "King of the Forest," and which was laid low in the great gale of 8th November last. Some idea of this gigantic Scots Pine may be realised from its measurements. At the ground it measured 13 feet 10 inches in circumference; at 5 feet up, 11 feet 9 inches; at 24 feet up, 9 feet 5 inches; and at 46 feet up, near where the first branch appeared, 8 feet 10 inches. There were no fewer than 487 cubic feet of marketable timber in the stem. The tree was 161 years of age. Many other fine Scots Pine were also seen, several of which rose to a height of over 100 feet, and with cubic contents estimated as almost equal to that of the "King of the Forest." Many of these fine trees, Mr. Muirhead explained, were planted by the fourth Duke of Gordon, and were acknowledged by experts in forestry as among the finest in Scotland—an opinion heartily endorsed by the excursionists.

The company was then taken to a piece of bare moorland hillside where the Duke intended planting some 200 acres. Here the President explained that Mr. Clark, the Duke's forester, was anxious to have the opinions of the party as to the trees most suitable. After a keen discussion, in which many took part, it was agreed that Sitka Spruce, Douglas Fir and Scots Fir would be the most suitable. At this stage of the proceedings a meeting of the branch was constituted, the chair being a fine bank of heather, with the audience seated on similar "benches." The hall was that lovely country-side, well named "Bonnie Strathspey." Here the President took occasion to extend a hearty welcome to Mr. Robinson, of the Interim Forestry Authority, and expressed the party's pleasure in being accompanied by one so prominent in forestry matters. Mr. Robinson, after returning thanks for the hearty welcome and kind hospitality he had received, said, regarding the discussion they had just had over the planting of moorland, he did not know if they had any experience with the Corsican Pine in the north, but experience had shown that it grew twice as quickly as the Scots Pine, and, proportionately, they would get a bigger return, though not twice as much. Referring to the Interim Forestry Authority, set up last November in the anticipation that the day after the morrow would see it made a permanent authority, Parliament, he said, had been so busy that no time had been found to deal with forestry. Shortly, however, legislation would be introduced in the House of Commons, and they hoped it would go through. One feature of it, he thought, would be that one central authority would be set up for the whole of the United Kingdom. That did not necessarily mean that forestry matters, such as they had been discussing, should be specially controlled from London, but merely that a general policy on the future adequate supply of timber should be dealt with as a whole, and that a Northern Section would be dealt with by Scottish foresters, say, in Edinburgh, or some other convenient place. If they had such a central authority it could do a great deal in a few years. The main objective of forestry was to grow timber, and it was because that objective was lost sight of that the main objection to a central authority arose. In the first instance, there could be no doubt a central authority would bring forward matters better than a few authorities dealing with the matter. The sectional authorities would, however, follow in due course for special purposes.

Thereafter the company visited the sawmills and the ground of the once Bog o' Gight. Luncheon was served at the Castle, where reference was made to the kindness extended to the party by the Duke. In the afternoon the magnificent avenues, gardens, hothouses and orchard of Gordon Castle were inspected under the genial leadership of Mr. Charles Webster, the Duke's veteran head gardener. The fine paintings, armour and antique furniture in Gordon Castle were also greatly admired, and at the close of "a perfect day" the foresters, after grateful thanks to all who had contributed to the success of the excursion, returned, highly gratified, to their homes. Mr. George D. Massie, advocate, Aberdeen, hon. secretary of the branch, made the arrangements, which were carried out with admirable smoothness.

WINDSOR, ETON AND DISTRICT ROSE AND HORTICULTURAL.

June 28.—After a lapse of two years, the above Society resumed its annual show, which, by permission of the King, is held in the Slopes of Windsor Castle. His Majesty is a liberal patron of the Society, for he provides the show ground, a challenge cup (which draws exhibitors from all over the country), and gives a generous annual subscription. During the afternoon H.R.H. Princess Alice, Countess of Athlone, accompanied by her little daughter, Lady May Cambridge, visited the exhibition, showing evident interest in many of the collections and expressing great admiration.

It was a larger show than might have been expected, and the quality of the blooms, particularly those with which Dr. Lamplough won the Windsor Challenge Cup, was particularly good. In spite of the counter-attraction of the Eton *v.* Winchester cricket match, there was a very good attendance.

Open Rose Classes.

The King's Challenge Cup, offered for annual competition for the best 48 blooms, distinct, was won by Messrs. Alex. Dickson and Sons with a fresh and even collection. The very best

blooms were of Florence Forrester, Mrs. Campbell Hall, Mrs. C. Forde, Gladys Holland and François Michelon. Messrs. D. PRIOR AND SON, who were a close second, had particularly good blooms of Mrs. Dudley Cross, Mrs. Foley Hobbs, White Maman Cochet and Florence Pemberton. Third, Messrs. B. R. CANT AND SONS.

The only exhibit of 18 Teas or Noisettes was by Messrs. D. PRIOR AND SONS and was awarded the first prize. It included well-formed blooms of Mrs. Dudley Cross, Molly Sharman Crawford, and White Maman Cochet.

There were three exhibits of 12 distinct varieties, 3 blooms of each, and this was a particularly strong class. Messrs ALEX. DICKSON AND SONS were first, showing splendid triplets of Mrs. John Laing (this variety is illustrated in Fig. 7), Snow Queen, Arthur Machington (a very fragrant new crimson Rose), John Ness and Capt. Kilbee Stuart. In the second prize exhibit of Messrs. D. PRIOR AND SONS there were good sets of Bessie Brown, Maman Cochet and Mildred Grant. Third, Messrs. F. CANT AND CO.

Showing splendid blooms of Mrs. Elisha Hicks, Mr. E. J. HICKS was deservedly placed first for 12 blooms of any H.P. or H.T. variety. Messrs. D. PRIOR AND SONS were alone in the class for 12 blooms of any T. or N., but fully deserved the first prize for their fine dozen of Mme. Jules Gravereaux. Messrs. PRIOR won first prize with very even blooms of Bessie Brown and Ulrich Brunner in the class for 12 blooms each of any crimson and any white Rose. Messrs. F. CANT AND CO. were second with larger but weather-stained blooms of Edward Mawley and Florence Forrester.

Mr. G. LILLEY won the first prize easily in the class for 12 bunches of decorative Roses. He had excellent bunches of Mme. E. Herriot, Ophelia, Mme. A. Chatenay and Lady Pirrie. Second, Messrs. F. CANT AND CO.

Amateurs' Classes.

That well-known amateur Rosarian, Dr. C. LAMPLOUGH, was particularly successful. The 24 blooms with which he won the Windsor Challenge Cup were excellent, Modesty being selected for the medal offered for the best Rose in the show. Other splendid blooms were Mrs. Myles Kennedy, Mrs. Chas. Russell, Snow Queen and Dean Hole. Second, Mr. F. DENNISON, who was unfortunate in finding Dr. Lamplough in such fine form. He had very good blooms of J. B. Clark, Snow Queen and H. V. Machin. Dr. Lamplough also won first prizes for (*a*) 8 varieties (3 blooms of each), (*b*) 12 Teas or Noisettes, and (*c*) 12 blooms (distinct), with splendid collections.

In the class for growers of fewer than 1,000 plants, Mr. G. SAWDAY had the best 12 blooms and also the best 18 blooms in the premier local class.

Mr. C. ROMAINE was first with 6 blooms, distinct: the collection included a splendid bloom of Horace Vernet, which was selected as the best H.P. in the Local Classes, the premier T. being Maman Cochet, shown by Mr. T. A. GOVETT, who, with 6 good blooms of Snow Queen, was first of five competitors in Class 17. Mr. G. B. FORTESCUE had the best 12 Teas and Noisettes.

The 6 bunches of decorative Roses were not so good as we have seen at Windsor, but Mr. A. L. F. COOK was first with creditable examples, and he also won first prize for 9 blooms, distinct.

Mrs. ALEC. ROBINSON won first prizes for a very tasteful Dinner Table Decoration and for a basket of Roses.

The 6 bunches of hardy border flowers which won first prize for Mr. A. E. MOSENTHAL were excellent, as also were the 6 bunches of hardy flowering shrubs with which Mr. J. B. FORTESCUE excelled.

Sweet Peas.

These classes were not so well contested as in those for Roses, but Mr. J. WELLICOMBE, who won first prizes for 12 vases and 6 vases, had good blooms of Warrior, Constance Hinton and Mrs. A. Hitchcock. Mr. C. ROMAINE won the Mrs. Basil Fortescue Cup with 12 good bunches.

Fruit and Vegetables.

Two magnificent dishes of The Bedford and Laxton's Leader Strawberries were exhibited by J. B. FORTESCUE, Esq. (gr., Mr. W. Page), which would have been very difficult to beat.

Mrs. IRVING had an excellent collection of six kinds of vegetables, showing splendid Peas, Broad Beans and Cauliflowers.

Trade growers materially assisted in making a very successful show. Mr. ARTHUR TURNER brought large collections of hardy shrubs, Delphiniums, decorative Roses and excellent Malmaison Carnations. Messrs. FLORY AND BLACK had a 30-ft. run of first-class Orchids, which were sold to a local gentleman *en bloc* early in the day.

Mr. J. C. ALLGROVE brought magnificent Strawberries, a large collection of herbaceous plants and Roses. Mr. E. J. HICKS exhibited excellent Roses, Messrs. BIDE AND SONS showed splendid Sweet Peas, and Messrs. BRINKMAR BROS. arranged a miscellaneous collection of plants.

ST. DUNSTAN'S SHOW.

JULY 2 AND 3.—The exhibition held in the Chelsea Hospital grounds on these dates on behalf of the soldiers and sailors blinded in the war, was managed by the St. Dunstan's authorities. Although this was the third show at Chelsea within a very few weeks, it was a splendid one, as most people who could exhibit came out to assist the very laudable object for which this latest show was held. All kinds of horticultural subjects were displayed in excellent condition by both traders, amateurs and market men.

A vast array of prizes was provided by all sorts and conditions of people, so that practically every exhibitor obtained a cup or piece of plate or some other trophy whereby to keep this great show in memory.

Several exhibitors won numerous awards, and we believe Messrs. ALEX. DICKSON AND SONS, Messrs. R. FELTON AND SON, and SIR RANDOLF BAKER each obtained about eight cups or trophies.

The awards were made by a large number of judges who commenced duty at 9.15 a.m. The public was admitted at 10.30 a.m., but, as a consequence of rather wild and showery weather, there were comparatively few people present up to lunch time.

Pressure of show reports and limits of space prevent us from presenting a detailed report of a show which we sincerely hope was a great financial success.

Orchids.

The Orchids are practically in extent and quality as reported at the Chelsea Show last week and staged by the same exhibitors with the exception of one newcomer.

Sir JEREMIAH COLMAN, Bart., Gatton Park (gr. Mr. Collier), had a grand group embracing most of the leading Orchids of the season, his Gatton Dendrobiums occupying the centre. A specially rare exhibit was Aërides odoratum album.

Messrs. ARMSTRONG AND BROWN, Tunbridge Wells, staged an extensive group, in which their fine hybrid Odontoglossums and Odontiodas, with handsome Cattleyas and Laelio-Cattleyas, were the features. White Cattleyas and Cypripedium niveum were effective in the front of the group.

Messrs. CHARLESWORTH AND CO., Haywards Heath, had a well-arranged group with hybrid Disas in the centre, fine specimens of Cattleya Warscewiczii and their handsome hybrid Miltonias, with Vanda coerulea and various Thunias on each side.

Messrs. STUART LOW AND CO., Jarvisbrook, Sussex, arranged one of the largest and best groups, the scarlet Renanthera Imschootiana and bright Odontiodas showing up the rose and purple Laelio-Cattleyas very effectively.

Mr. HARRY DIXON, Spencer Park Nurseries, Wandsworth Common, completed the side with an excellent group of Odontoglossums, Odontiodas and Cattleyas, very fine specimens of the handsome Epidendrum prismatocarpum, Anguloa Ruckeri, Odontoglossum ramosissimum, Cochlioda Noezliana and Coelogyne pandurata being among the species shown.

Hardy Flowers.

Messrs. R. WALLACE AND CO., were awarded the first prize for a formal garden and won it with the design described in a previous Chelsea report, but on this occasion they had filled the borders in a delightful manner and the Honeysuckle behind the old stone seat was a touch of genius. The same firm contributed a display of Iris Kaempferi and Water Lilies. Messrs. BLACKMORE AND LONGDEN led for Delphiniums in a keen competition, and Messrs. W. ARTINDALE AND SONS were placed second; each staged round beds of capital varieties.

Messrs. W. ARTINDALE AND SONS occupied premier position for a border of herbaceous plants with a very effective exhibit, in which Eremuri played a prominent part. Mr. AMOS PERRY followed with a very fine exhibit.

Mr. MAURICE PRICHARD, Mr. G. W. MILLER, Mr. G. WHITELEGGE, Mr. G. W. REUTHE, Messrs. BAKERS, and Messrs. STARK were all exhibitors of hardy flowers in variety.

In the amateurs' classes for collections of hardy border flowers, LIONEL WARDE, Esq. (gr. Mr. A. Allum), Petersham House, Petersham, was very successful, winning several first prizes with good exhibits.

Plants.

Mr. AMOS PERRY presented a wonderful exhibit of hardy Ferns in great beauty and variety, a large collection of Delphiniums; a most interesting series of hybrid Liliums and a mass of Ostrowskya magnifica. What award he received did not transpire when we had to leave the show, but it could not fail to be an important one. MESSRS. JOHN WATERER, SONS AND CRISP and Mr. T. LEWIS both contributed large displays of Kalmias, and received important awards. The first-named firm contributed a bed of Rhododendrons with some capital standards of Retinospora filifera aurea. Stove plants were well displayed and in great variety by Mr. L. R. RUSSELL, and received an appropriate award. Messrs. J. CARTER AND CO. put up another large and superb exhibit at the end of the big tent, and here they arranged splendid Gloxinias, Begonias, Sweet Peas, Roses, Viscarias, Streptocarpuses and Pelargoniums in grand style, thus providing one of the principal features of the show, and we understand that it won the Blue Ribbon—i.e., the Prince of Wales's Cup—for the best exhibit in the show.

A wonderfully fine exhibit of Japanese Maples, showing a great variety of form and colour, was staged out of doors by Messrs. W. FROMOW AND SONS, and Messrs. JOHN WATERER, SONS AND CRISP had a very fine display of Maples in one of the large tents.

Messrs. BLACKMORE AND LANGDON filled a circular bed with their splendid Begonias, and they received their due reward.

Roses.

Roses were very finely shown, and in the class for a trade display of garden and exhibition varieties Messrs. ALEX. DICKSON AND SONS led with a beautiful group, in which Chrissie MacKellar, Harry Kirk and Mrs. F. Straker were outstanding varieties. Mr. ELISHA HICKS was placed second. The Messrs. DICKSON scored for twelve vases of Roses, and here they showed Golden Emblem, Rayon d'Or, Red Cross and Mrs. Wemyss Quin finely.

Mr. HICKS won the award for the best exhibit of a new Rose with Chas. E. Shea, Messrs. ALEX. DICKSON AND SONS coming second with F. Gaunt. The latter firm was first for garden Roses and for a basket of Roses, showing Lady Hillingdon in the latter case. For garden Roses, amateurs, the MARQUIS OF RIPON (gr., Mr. T. Smith), Coombe Court, Kingston, was premier prize winner.

In the large tent Mr. ELISHA HICKS put up a very large and imposing exhibit of Roses, but had so many pillars of bloom that the display was rather formal. He received first prize for this trade group.

Sweet Peas and Carnations.

Sweet Peas were a great feature, and numerous classes were provided. The show was fortunate in finding Sweet Peas at their best, and at a time when the National Sweet Pea Society had just held its annual show at Westminster. The flowers lend themselves admirably for exhibition purposes, and they are always objects of great interest to visitors.

Messrs. Alex. Dickson and Sons won two first prizes and the special *Daily Mail* prize with splendid exhibits. Messrs. E. W. King and Co. and Mr. J. Stevenson were also prize winners, and Messrs. E. Webb and Sons erected a temple of Sweet Peas in the Orchid Tent. In the amateurs classes Sir Randolf Baker (gr. Mr. Usher), Blandford, gained several premier awards, and his vase of Mrs. Tom Jones was the best in a special class for new varieties. This grand sort is a pleasing shade of blue, and is certain of a leading place amongst the choicest varieties both for garden decoration and exhibition purposes. Mr. H. S. Button, Northwood, was another successful competitor.

Mr. Jas. Douglas won the chief award for a dozen vases of border Carnations with a splendid exhibit, with Mr. Lakeman second. For perpetual Carnations Messrs. S. Low and Co. led for British varieties and also for the dozen vases of blooms. Mr. Engelmann was also a prize winner and so were Messrs. W. Cutbush and Sons, while Messrs. B. Ladhams made a fine display of garden Pinks.

Sir Randolf Baker secured a premier award for six vases of perpetual Carnations. He showed beautiful flowers of Scarlet Carola, Carola and White Perfection.

Floral Art.

Floral designs from several firms provided a distinct attraction. Messrs. Felton and Sons did well and won prizes for a basket of Carnations, for a group of floral designs, for button-hole bouquets, for a vase of Orchids, and for a bouquet (composed of White Orchids). Messrs. Pipers, Mr. E. Young, Messrs. Taviners, Messrs. Anthos and Co., and Mrs. A. F. Barton were also successful competitors in the classes for floral designs.

Fruits and Vegetables.

The Marquis of Salisbury (gr. Mr. Prime), Hatfield House, Hatfield, gained a trophy as first prize for a collection of hardy fruits, with an extraordinarily fine exhibit in which the new Strawberries Hatfield Victor and St. Dunstan's were of immense size, and everyone agreed they had never seen such wonderful fruits, but it must be admitted they were ugly in shape; Cherries, Currants and Gooseberries were included in the display. Messrs. E. Webb and Sons put up a grand exhibit of their specialities in vegetables, and the whole display was an example of good arrangement and high attraction. Messrs. Jas. Carter and Co. were placed first for a trade display of vegetables, and they staged grand Peas, Marrows, Cauliflowers, Carrots and Lettuces. The same firm secured first prize for a collection of culinary Peas. Messrs. Felton and Son had the best trade exhibit of fruits, and won a valuable prize with choice fruits, finely arranged.

The Chamber of Horticulture filled half of one tent with contributions from their members. These included fruits and vegetables in market packages from Messrs. Monro, Ltd.; Bananas from Messrs. Elders and Fyffes; Tomatos in pots from Messrs. Thos. Rochford and Son; vegetables from Messrs. J. Carter and Co.; hardy plants from Mr. Hemsley; pot plants from Mr. J. Collingridge and Mr. Philip Ladds.

Outdoor Exhibits.

The outdoor exhibits remained very much the same as at the two previous Chelsea shows; the chief exhibitors were Messrs. Pipers, Mrs. Herbert Jones, Messrs. R. Wallace and Co., Mr. J. Wood, Mr. L. R. Russell, Messrs. Pulham and Son, Messrs. R. Tucker and Sons, Mr. Clarence Elliott, the Misses Hopkins, and Mr. S. Whitelegge, who contributed either alpine gardens, formal gardens, or trees and shrubs. Rain was falling at the time our reporter left the show, and visitors were unable to inspect these fine exhibits out-of-doors, except at much discomfort.

NATIONAL ROSE.

July 2.—The annual show at Regent's Park, London, was well attended, in spite of the heavy showers which fell throughout the afternoon. The show was better than the Society's most sanguine supporter could have expected, and the general quality of the blooms was high. Probably never before have such fine baskets of cut Roses been shown as on this occasion, nor have there been so many beautiful blooms used in the dinner table and vase classes, which filled a large tent.

New Seedling Roses were equal in quality, though not in numbers, to those of any previous show, and to these 2 gold medals and 6 cards of commendation were awarded. In respect to the awards we congratulate the council on the wise restraint they exercised in bestowing gold medals; no doubt they feel with us that it is better to pass over, for the time, any new Rose which is not of undoubted excellence, as it can be shown again at some future time and its merits reconsidered. We are inclined to the opinion that it would be a salutary rule that no variety should be allowed to receive the high award of a gold medal when first shown. Large groups of Roses which were formerly such a great feature at Regent's Park were impossible this year, but we fully anticipate seeing them again at future shows.

The Edward Mawley Memorial Medal for the most meritorious exhibit in the nurserymen's section was awarded to Messrs. Prior and Sons for their splendid baskets of Roses, while Mr. R. L. Wettern received a similar award in the amateurs classes for his collection of 12 varieties of decorative Roses in class 49.

New Roses

Gold Medal Awards.

Mrs. C. V. Howarth. — A strong growing variety. Its blooms have broad petals, and they are long in the bud. The colour is difficult to describe, being an exquisite combination of yellow, orange and pink, but the general effect is pink-flushed, orange-salmon. The flowers are very well formed, and the neat foliage is shining and deep green. A very decorative Rose. Shown and raised by Messrs. Alex. Dickson and Sons.

Miriam.—A large new H.T. Rose, said to be suitable for garden and bedding purposes. The flowers are large and full, and half-opened buds are very shapely. In the young state the flowers are deep salmon pink, with a yellow glow, but older blooms develop a deep shell-pink colour. Slightly fragrant. Shown by Rev. J. H. Pemberton.

Certificate of Merit.

Independence Day.—A gorgeous new H.T. Rose of medium size and capital shape in the bud. It has very broad petals, but does not make a very full flower. The colour is deep orange yellow with pink flushing on the outer petals of the fully-opened blooms. The foliage is bright and shining. Shown by Messrs. Bees, Ltd.

Prince of Wales.—This is a dwarf Hybrid Tea Rose, said to be suitable either for exhibition or bedding purposes. The blooms are of medium size, broad-petalled and very sweetly scented. The colour is bright, clear, rosy scarlet, but the outer petals fade to rich rose, and often have a magenta tint. Shown by Mr. Walter Easlea.

Countess of Warwick.—A very pretty Hybrid Tea Rose with very shapely and good sized, bright cream-yellow flowers. The flower has a particular charm by reason of a little pink colouring at the tips of the buds, this colour also showing along the upper margins of the inner petals of some of the blooms.—Shown by Mr. Walter Easlea.

Tim Page.— A bold Pernetiana variety, of strong growth, with bright, clean, shining foliage and an abundance of formidable spines. The colour is bright, clear canary yellow. The blooms are of rounded shape and not very full. Raised by Mr. Courtney Page, and shown by Mr. Walter Easlea.

Hawlmark Scarlet.—A very brilliant velvety, crimson-scarlet, H.T. variety. The shapely flowers are scented, and very attractive in appearance. Shown by Messrs. Alex Dickson and Sons.

Amongst a number of other good varieties submitted for Award, staged in the tent devoted entirely to seedling varieties, we made special note of Evelyn Thornton, a dwarf, free-flowering Polyantha variety, of moderate and bushy growth and perpetual habit. The blooms are soft pink, with bright golden stamens and a golden glow at the bases of the petals. Shown and raised by Messrs. Bees, Ltd., Liverpool.

Amateurs' Classes.

In several respects these were the best classes in the show. The leading exhibitors had particularly good blooms well arranged, and in most classes the competition was very good indeed.

The Championship Trophy for 36 blooms, distinct, was won by Dr. Lamplough with splendid collections of such varieties as George Dickson, Florence Forrester, H. V. Machin, A. Hartmann, Gloire de Chédane-Guinoisseau, and Mrs. T. Roosevelt; 2nd, Mr. F. Dennison, Leamington, whose best sorts were George Dickson, H. V. Machin and Mrs. G. Shawyer; 3rd, Mr. H. L. Wettern.

The best 24 blooms were by Mr. John Hart, Little Heath: Lady A. Stanley, Mrs. Norwood, George Dickson and Gladys Harkness were very good indeed. 2nd, Mr. F. Dennison, in whose stand were four blooms of Lyon Rose, Lady Ashtown and Mrs. George Marriott. 3rd, Mr. C. C. Williamson. In the class for 12 blooms, open to growers of fewer than 1,000 plants, Mr. R. de V. Pryor, Hitchin, won first place, showing H. V. Machin, George Dickson and Candeur Lyonnaise particularly good. 2nd, Rev. F. R. Burnside, Great Stanbridge. In the similar class for growers of fewer than 500 plants the first prize and Ben Cant Memorial Trophy was awarded to Mr. S. W. Burgess, Tonbridge, and his very best blooms were of Coronation, Geo. Dickson, Leslie Holland and Snow Queen. 2nd, Mr. F. Chilton, Bexhill-on-Sea, who showed a deeply coloured flower of Cissie Easlea.

The best nine blooms were by the Rev. R. F. Cobbold, Bratton Fleming, while Dr. Lamplough won the Elisha J. Hicks Challenge Cup with 24 excellent blooms, of which the very best were Mildred Grant, H. V. Machin and Mrs. Geo. Norwood; 3rd, Mr. G. C. Sawday. Mr. W. Sunderland, Driffield, was the winner with 12 blooms, and he had beautiful examples with White Maman Cochet and Lyon Rose; 2nd, Mr. E. Jackson, Rochford.

The Hammond Prize was won by Mr. W. E. Moore, Reading, with nine praiseworthy blooms, including Avoca and Lady Alice Stanley, these sorts being especially good.

In the classes for smaller growers first prizes were won by Mr. L. Thomson, Mr. R. C. Turnbull, Mr. R. de Escofet, Mr. S. W. Burgess, and Mr. C. Wilkinson: the latter showed a very fine basket of exhibition Roses.

Dr. Lamplough took first place in the T. and N. Classes having, 12 very good blooms. The Rev. F. R. Burnside, Mr. J. Hart, and Mr. Moore were also successful in these classes. Mr. H. R. Darlington was first with three excellent baskets, and Mrs. C. Page was successful in the class for two baskets.

The Dixon Davis Cup was won by D. H. Davies, Esq., Beaconsfield, with a very novel arrangement. The *motif* was a foreshortened model garden, having a tall pergola enclosing a glass pool with central leaden figure, and the whole enclosed by Box hedges. A profusion of cut Roses made it very bright and attractive. 2nd, Dr. Lacroze, Roehampton, who had a conventional arrangement of excellent decorative Roses.

H. R. Darlington, Esq., Potters Bar, was the best exhibitor of a representative group of cut Roses on staging 5 ft. by 3 ft., and he received the first prize for a very fresh and good collection. 2nd Mrs. Chaffey Giddins, South Mimms. Four exhibitors competed for the Orpen Challenge Cup, which was won by Mr. G. C. Sawday, Wey-

bridge, with a very attractive display. 2nd, W. FARR, Esq., Swindon, Wilts., a formal arrangement of very good blooms.

With a magnificent collection H. L. WETTERN, Esq., Oxted, won the first prize for 12 decorative varieties. He had splendid vases of Paul's Scarlet Climber, Lady Pirrie, Lady Hillingdon, Pink Pearl, and American Pillar; 2nd, Mrs. BEVIL FORTESCUE, Maidenhead, who showed a meritorious collection.

Groups of Roses.

The old-time magnificent groups of Roses arranged on the ground did not find a place this year at Regent's Park, the difficulties that beset the trade were unsurmountable, and there were only two representative groups of cut Roses on a raised space not exceeding 30 feet by 4 feet. Messrs. B. R. CANT AND SONS easily won the first prize with a splendid collection of very fresh, clear blooms. The tall stands at the back included beautiful arrangements of Rosa Moschata alba, Climbing Irish Fireflame, Cupid and Emily Gray. Smaller but still large stands contained Red Letter Day, La Tosca, Covent Garden, Juliet, Rayon d'Or, Mme. Ed. Herriot, and richly coloured Christine. 2nd, REV. J. H. PEMBERTON, whose chief varieties were Prosperity, Pax, Vanity, Trier and Miriam.

The only group on the 10 feet by 4 feet raised space was by Messrs. JARMAN AND CO., who received the first prize for a slightly weather-stained but still praiseworthy collection of such varieties as E. V. Herminos, Cupid, Diabolo and Goldfinch in large stands and Mrs. T. Roosevelt, H. Munich, H. V. Machin and Marquise de Ganay on exhibition boards.

The A.C. Turner Cup, offered for 36 distinct varieties in from 3 to 12 stems of each and arranged on a space not exceeding 14 ft. by 3 ft. The first prize was awarded to Mr. JOHN MATTOCK, who had Ecarlate, Rosa Mundi, Lady Pirrie, Cheerful, Crimson Damask, and Lady Curzon; 2nd, Messrs. FRANK CANT AND CO., who had an especially good stand of fresh, even bunches, which included particularly good examples of Rayon d'Or, Mme. Pernet Ducher, Mme. Ed. Herriot, Cherry Page, Mrs. E. G. Hill and Edu. Meyer.

In the class for 12 varieties of Decorative Roses, the first prize was won by Messrs. F. SPOONER AND SONS, who had a tasteful arrangement of excellent Roses in such sorts as Rayon d'Or, Mrs. Alfred Tate, Messrs. Wemyss Quin, 2nd, Mr. GEORGE LILLEY, whose best flowers were Hadley and Lady Pirrie. The 12 vases of Polyantha Roses were very attractive, and many good varieties were represented. The first collection was by Mr. JOHN MATTOCK, who included Orleans Rose, Etoile de Mai, Leon Lamesch; 2nd, Messrs. F. SPOONER AND SONS.

Baskets of Roses.

The baskets of cut Roses were the best exhibit of decorative Roses in the show. Messrs. CHAPLIN BROS., LTD., won the first prize with seven magnificent baskets of Edith Cavell, Wemyss Quin, Red Letter Day, Mme. Ed. Herriot, Margaret Dickson Hamill, Mrs. Dunlop Best and Lady Pirrie. 2nd, Messrs. A. DICKSON AND SONS, who showed splendid baskets of K. of K., Christie Mackellar, Lady Hillingdon and Lady Pirrie.

Mr. JOHN MATTOCK was first with three baskets, and he had beautiful blooms of General McArthur, Climbing Melaine Soupert and Irish Elegance. 2nd, Mr. HY. DREW.

Table Decorations.

As we have already recorded, these were one of the chief features of the show, and we have never before seen such attractive arrangements. Many varieties were used, though Ophelia, Irish Elegance and Melody were the favourites. Mr. G. HICKS won the first prize in the open dinner-table class, where Mr. GEO. LILLEY was a good second. In the Ladies' Classes, Miss COURTNEY PAGE, mixing Old Gold with Irish Fireflame, was placed first, with Miss E. GRIFFITH, who employed Irish Elegance, second. Miss HALE, in the class restricted to single Roses, was first, with ISOBEL and Mrs. PAGE second.

Using Ophelia to great advantage, Mrs. C. PAGE won first prize in the next class, and Mrs. A. ROBINSON was second. Mrs. O. FISHER, Sudbury, Harrow, excelled in the class for a bowl of Roses, and Mrs. PAGE was successful in the second class, while Mrs. HALE was awarded first for a charming combination of Mme. Ed. Herriot and Mme. Melaine Soupert.

Exhibition Roses.

It was not to be expected that the blooms in these classes would be of pre-war standard, but they were highly creditable, and in most classes the competition was good. Teas and Noisettes showed some signs of the inclement weather, but generally the H.P.'s and H.T.'s were surprisingly clean and fresh and of good typical colour. The premier class, requiring 72 distinct varieties, which is very trying at the best of times, was well represented.

The Championship Trophy was won by Messrs. D. PRIOR AND SONS, with a relatively even and good collection. The very best blooms were Maman Cochet, George Dickson, Avoca, White Maman Cochet, J. L. Mock, Lohengrin, Lady Barham, Candeur Lyonnaise, and Melanie Soupert. 2nd, Messrs. ALEX. DICKSON AND SONS, who had very good blooms of Hawlmark Yellow, Margaret Dickson Hamill, Lady Greenall, George Dickson. 3rd, Messrs. B. R. CANT AND SONS.

The blooms were not quite so good in the smaller class for 48 blooms. The trophy was won by Mr. G. LONGLEY, in whose stands we selected the following as being the very best: Avoca, Mme. de Watteville, Duchess of Normandy, George Dickson, W. C. Grant, J. B. Clark, Mrs. W. J. Grant, Hugh Dickson. 2nd, Messrs. A. DICKSON AND SONS, who were strong in yellow, including Clara Curtis and Molly Bligh, with Capt. Kilbee Stuart, H. V. Machin, George Dickson and Lyon Rose. The 24 bloom class was particularly strong, and the first prize was awarded to Messrs. JARMAN AND CO. for a fine collection including H. V. Machin, A. Hartmann, Juliet, Mildred Grant and Snow Queen in tip-top condition. 2nd, Messrs. CHAPLIN BROS., whose best were Mrs. J. Laing, Lady Greenall and Edith Cavell. 3rd, Mr. HY. DREW. The D'Ombrain Cup, for 18 Teas and Noisette blooms, was won by Mr. GEO. PRINCE. The best of his collection were Mrs. Campbell Hall, W. H. Smith, Maman Cochet and Lady Plymouth. 2nd, Mr. HY. DREW, who had really fine blooms of white Maman Cochet, Mrs. Foley Hobbs and Mrs. E. Mawley. 3rd, Messrs. D. PRIOR AND SONS. The Kilbee Stuart Cup was well won by Mr. ELISHA HICKS with 12 splendid new Roses, of which the following were particularly worthy: Mme. C. Martel, Col. Oswald Fitzgerald, Gorgeous, Gladys Holland, Mme. L. Crette and Mrs. B. Walker. 2nd, Messrs. A. DICKSON AND SON, who included Edward Bohane, Mrs. Willmott and Col. Oswald Fitzgerald. 3rd, Messrs. B. R. CANT AND CO.

With magnificent blooms of White Maman Cochet, Messrs. D. PRIOR AND SONS showed the best basket of one variety. 2nd, Messrs. A. DICKSON AND SONS with brilliant blooms of Col. Oswald Fitzgerald.

DEBATING SOCIETIES.

Southampton and District Gardeners'.—At a meeting of the above Society, held on Thursday, the 19th ult., an interesting lecture on "Summer-Sown Vegetables" was delivered by Mr. W. F. Giles, of Messrs. Sutton and Sons. The lecturer stated that the welcome break in the recent long drought has been most opportune, for the supply of vegetables would otherwise have been greatly curtailed were it not possible to augment the supply by crops raised from seeds sown during the coming month. The members were so impressed by the lecture that they decided to institute this year a competition for the best three dishes of vegetables grown from seed sown after July 5th. Mr. Arthur W. Sutton's lecture dealing with the same subject before the members of the Royal Horticultural Society in October last, has been reprinted in pamphlet form by permission of the Council of the R.H.S., and copies of the pamphlet may be obtained from Messrs. Sutton and Sons, Reading.

MARKETS.

COVENT GARDEN, July 2.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Fuchsias, 48's, per doz.	18 0–24 0
Asparagus plumosus	12 0–15 0	Heliotropes, 48's, per doz.	18 0–21 0
—Sprengeri ...	12 0–18 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
Aspidistra, green	48 0–72 0	— Pink, 48's, per doz.	30 0–48 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Marguerites white	18 0–24 0
Crassulas, red 48's per doz. ...	24 0–30 0	Mignonette, 48's doz.	15 0–21 0
—white and pink	24 0–30 0	Palms, Kentia ...	18 0–24 0
Erica candidissima 48's, per doz.	18 0–24 0	—— 60's ...	15 0–18 0
Rosea, 48's, per doz.	36 0–42 0	—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

REMARKS.—The bedding season is now over, and more attention is now being paid to Ferns, Palms and other foliage plants. The most attractive flowering plants are Hydrangeas, mostly pink and white Marguerites, Crassulas, a few Rambler Roses, and also a few pots of Viscarias, which are very fine, both in sixty and forty-eight sized pots.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Achillea, per doz. bun.	10 0–12 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Alstroemeria, per doz. bun. ...	10 0–12 0	— white, per doz. bunches ...	15 0–[illegible]
Canterbury Bells, per doz. bun....	9 0–12 0	Roses, per dozen blooms—	
Carnations, per doz. blooms, best American var.	3 6– 4 6	— Lady Hillingdon	1 0–[illegible]
		— Liberty ...	1 6– 2 0
		— Melody ...	1 6– 2 6
Coreopsis, per doz. bun.	4 0– 5 0	— Mme. Abel Chatenay ...	1 6–[illegible]
Cornflower, blue per doz. bun....	2 0– 2 6	—Mrs. J. Laing ..	1 6–[illegible]
		— Ophelia ...	3 0– 4 0
Daisies, white, large, per doz. bun.	4 0– 6 0	— Richmond, var.	1 6– 2 6
		— Sunburst ...	3 0– 4 0
		—White Crawford	1 6– 2 6
Gaillardia, per doz. bun.	4 0– 5 0	Saponaria, per doz. bun.	5 0– 6 [illegible]
Gardenias, per box specials ...	8 0– 9 0	Scabious, per doz. bun.	8 0– 9 0
— ordinary ...	2 0– 3 0	Statice, mauve ...	10 0–12 0
Gladiolus, The Bride, per bun.	— —	— white... ...	10 0–12 0
—Brenchleyensis, per doz. spikes	4 0– 5 0	Sultan, white, per doz. bun. ...	9 0–10 0
		— — mauve ...	9 0–10 0
Gypsophila, per doz. bun. ...	9 0–12 0	Stephanotis, 72 pips	3 0– 4 0
Iceland Poppies, doz. bun. ...	2 0– 2 6	Sweet Peas, per doz. bun.—	
Lapagerias, per doz blooms ...	3 0– 4 0	— white	5 0– 8 0
		— coloured ...	5 0– 8 0
Lilium longiflorum, per bunch ..	15 0–18 0	Stock, Dbl. White	12 0–15 0
		—Dbl. Pink ...	10 0–12 0
Myosotis (Forget-Me-Not), per doz. bun. ...	— —	—Dbl. Mauve ...	12 0–15 0
		—Dbl. Purple ...	12 0–15 0
Orchids per doz.: — Cattleyas ...	15 0–18 0	Violas, per doz. bun.	3 0– 4 0

REMARKS.—The market continues to be well supplied with coloured flowers, but white material is again scarcer, Achillea The Pearl being the newest arrival. Double white Stock is a very limited supply at the present time, owing to the cold weather, and white Pinks are almost finished. White Asters are wanted, and the first arrivals will be greatly welcomed. Lily of the Valley is not on the market, nor are there many Arums, but Lilium longiflorum is again back to 15s. to 18s. per bunch. Cornflower, Gypsophila, Carna-

tions and Sweet Peas appeared to be a shorter supply this morning. Other hardy flowers in the market include Coreopsis, Delphiniums, Gaillardias, White Daisies, mauve Scabiosa caucasica, Sweet Sultans, Saponaria, Canterbury Bells, and Alstroemeria.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apricots (Spanish) per box ...	12 0–14 0	Green Almonds, per lb. ...	1 0– 1 6
Aubergines; pr doz	6 0– 8 0	Melons, each ...	3 0–10 0
Bananas (doubles)..	40 0–45 0	—Canteloupe ...	12 0–20 0
English Peaches per doz. ...	6 0–24 0	Nectarines, per doz. ...	6 0–24 0
Belgian Peaches, per doz ...	6 0–20 0	Nuts— — Brazils (new) per cwt. ...	110 0 —
Black Currants (French) ½ sieve	20 0–21 0	Plums (French) per ½ sieve ...	23 0–25 0
— English... ...	24 0 —	— Gages	27 0–30 0
Cherries (English) black. per ½ bus.	14 0–25 0	Raspberries, per chip	5 0– 6 0
— White	14 0–22 0	Strawberries per peck	10 0–14 0
Gooseberries, per ½ bus ...	10 0 12 0	— Kent, per chip...	5 0 —
Grapes:— —Blk Hamburgh, per lb. ...	2 0– 4 0	Worthing Figs, per doz.	10 0–15 -
—Muscats, per lb.	3 0–10 0		

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	2 0– 3 0	New Turnips, per bunch	0 10– 2 0
—Broad per bus.	8 0–10 0	Peas, per bus. ...	12 0–16 0
Beetroot, per bus.	6 0–12 0	Parsley, per ½ bus.	10 0– —
Cabbage per doz.	2 6– 3 0	Potatos, new, per lb.	0 3–0 3½
Carrots, New, per doz. buns. ...	5 0– 8 0	Radishes, per doz. bunches ...	2 0– 3 0
Cauliflowers, per doz.	10 0–12 0	Rhubarb, natural, per doz.	5 0 6 0
Cucumbers, per flat	20 0–24 0	Spinach per bus.	7 0– —
Garlic, per lb. ...	0 10– 1 0	Spring Onions, per doz. bunches ...	5 0–12 0
Greens, per bag	4 0– 5 0	Tomatos, English, per doz. lbs. ...	11 0–12 0
Herbs, per doz. bun.	4 0– 6 0	Vegetable Marrows, each	7 0–10 0
Lettuce Cabbage and Cos, per doz.	1 6– 3 0	Watercress, per doz.	0 9– —
Mint, per doz. bun.	9 0–18 0		
Mushrooms per lb.	2 6– 3 0		
Mustard and Cress, per doz. punnets	1 3– 1 6		

Remarks.—Strawberries are a shorter supply, "Southamptons" being practically finished. Raspberries are now available. English and Guernsey Grapes are increasing in supply. Melons are fewer, with a slight increase in price. A shipment of Pines is due shortly to arrive. English outdoor fruits are available in fair quantities. Cherries are temporarily in shorter supply, but the consignments of Black Currants and Red Currants are increasing daily. Green Gooseberries are nearly over, most samples now showing signs of colour in the berries. There are fewer Tomatos and Cucumbers at slightly firmer prices. Beans and Peas are also more expensive, due to limited quantities. Asparagus is almost finished, and the growers are cutting to execute special orders only.

GARDENING APPOINTMENTS.

Mr. A. C. Wicks, for the past 7½ years gardener to J. K. Foster, Esq., Coombe Park, Whitchurch, Oxfordshire, as gardener to Howard Gould, Esq., Mongewell Park, Wallingford.

Mr. E. Davies, for the past four years gardener at Hoole House, Chester, as gardener to Mrs. Wardell Yerburgh, Hoole Hall, near Chester.

Mr. W. Blavington, as gardener to Mrs. M. M. Butler, at Heywood, Cobham, Surrey.

SCHEDULES RECEIVED.

Sunbury, Wembley and Alperton Horticultural Society.—Twenty-sixth annual show to be held on Saturday, July 26th, 1919, in the grounds of Sudbury Park, Wembley (lent by G. T. Barham, Esq.).

Borough of West Ham and Districts Horticultural and Chrysanthemum Society. — Second annual Summer show to be held on July 19th, 1919, at the Town Hall, Stratford, and the twenty-eighth annual Autumn exhibition to be held on November 6th, 7th and 8th, 1919, at the Town Hall, Stratford; monthly exhibitions and lectures held in the Norwich Hall, Norwich Road, Forest Gate.

CATALOGUES RECEIVED.

R. C. Notcutt, Woodbridge—Earlham Montbretias (hybrid).

The Premier Seed Co., Ltd., 117, London Rd., Brighton.—Seeds for summer and autumn sowing.

CROPS AND STOCK ON THE HOME FARM.

Potatos.

Potatos present a patchy appearance in many places, but where the land was deeply cultivated and manured in the autumn the tubers were early planted, and the haulm is robust and very promising in spite of the long continued drought in the southern counties. Where the conditions were not so favourable there is not the same promising outlook, particularly with late planted tubers. Never has the difference between new and old seed been so noticeable as during the present season's growth. From old seed the foliage is developing weakly and irregularly, with leaves exceptionally pale in colour.

The earthing up of the rows should be done as fast as the haulm requires it. If the soil between the rows is previously deeply moved with the Planet horse hoe the earthing up with the double plough will be expedited. Where a Potato digger is to be used for lifting up the crop, it is a good plan to earth up the haulm twice, as the wheels of the digger are then lower in the soil, and the shares of the digger are quite underneath the tubers, thus throwing them out cleanly, otherwise many tubers will be cut with the shares and others left in the soil. Where early varieties such as Eclipse, Sharpe's Express, and Epicure made a good start they have done well this season, and although the tubers are small, owing to drought, the price has been good, as much as £45 per ton having been made.

Cabbage.

In the southern counties the dry weather deferred the planting of Cabbages. Further delay was caused by the slow growth of the plants, due to persistent attacks of Turnip fly and the dry weather. A continuance of dry weather is better for plants in stiff soil, if it is possible to water the soil when each plant is put in; the plants start away sturdily and there is not the same risk of slugs eating them. If the soil between the rows is stirred within a couple of weeks after planting growth will be assisted.

Mangolds.

Where there is a good plant the growth is satisfactory, especially where the soil is kept clear of weeds. Directly the plants are thinned or "set out" ½ cwt. of sulphate of ammonia should be evenly sown over each acre, and the application repeated within a month. Mangolds revel in sunshine when all other conditions are favourable. These roots will be very much in demand during the coming winter, as hay is such a thin crop. I hear of some fields being again sown only last week, but even so, the roots will be small, but valuable.

Mares and Foals.

The spell of dry weather was all in favour of foals, of which there is a goodly number this year. Owing to such weather as we have experienced the grass is, in upland pastures, almost approaching hay, which is good for the mares and naturally aids the growth of the foal through the quality of the milk. A few handfuls of Oats given to the mare morning and night is a distinct advantage, further enriching the milk. In our own case the foals grow freely as compared to those that do not have the added Oat food. Where foals are grown for sale and not for home use the aim should be to get them as large and sturdy as possible by weaning time—October — at which period the foal sales are usually held. A plentiful supply of water should always be provided for the mares, and where shade is obtainable under trees during hot weather it is a means of shielding the animals from the persistent attack of flies.

Artificial Manures for Future Corn Crops.

Where much summer fallowing of land is in hand (and I find this method of management is largely on the increase, as compared with the trouble of growing root crops to be fed off by sheep and cattle) preparation for a supply of fertilisers should be made at once to prevent disappointment when the sowing of them for the various crops should take place. For Wheat, to be sown on a summer fallow in October, no fertiliser is equal to farmyard manure spread on the land and ploughed in at once at the rate of 20 tons per acre, but where the acreage is extensive sufficient dung cannot be obtained from the farm. For Wheat, especially on stiff soil, basic slag is valuable if distributed evenly over the land at sowing time at the rate of 6 cwt. per acre; 1 cwt. of sulphate of ammonia should be added, and a similar quantity given during December if the weather is favourable—i.e., not frosty.

For Barley and Oats superphosphate of lime, 4 cwt. per acre, is advisable, and for the latter crop 1 cwt. per acre of sulphate of ammonia in April will improve growth considerably. For grass, too, basic slag and sulphate of ammonia are valuable, and should be obtained where animal manure is scarce. It is useless to expect full crops of either Corn, grass or roots without sufficient aid is given to induce freedom of growth. Some people cut Hay from certain fields year after year without applying manure of any kind, and they wonder why the crop is so light—probably less than half a ton per acre. *E. Molyneux.*

Condition of the Crops.

The monthly report of the Crop Reporters of the Board of Agriculture states that the dry weather was generally favourable for farming operations and enabled arrears of work to be greatly reduced. Rain, however, is now badly needed for the corn crops, fruit, and grass.

Wheat generally looks well, particularly the autumn sown, but spring sown and that on ploughed grass land is not so satisfactory, considerable damage having been done by wireworm. Oats have also suffered from the same cause, and re-sowing has in some districts been necessary. The late-sown Oats have also been adversely affected by the drought. Barley, though backward, generally looks well, especially the early sown, and all corn crops would be much benefited by rain. Beans and Peas are promising, though the former are short in the haulm. The area under Barley is rather greater than last year, but that under Oats slightly less.

Potatos are backward, and there is still some planting to be done, and much of the main crop is not yet showing above the ground. The early varieties look healthy and promising, but need rain. The area under Potatos is estimated to be about 15 per cent. less than last year.

The sowing of Mangolds was backward, but is now nearly completed. The earlier sown seed germinated well, but now requires rain, and fly is reported to be troublesome. Turnip sowing is now in progress, but is very backward, and in many districts rain is needed for the preparation of the seed bed.

The weather has been very favourable for Hops in Kent, and the plants are healthy and have made excellent growth. Aphis has made its appearance in many instances. The area under Hops has increased by about 5 per cent. since last year.

The prospects for all classes of fruit are good, though insect pests are proving troublesome, and rain would be welcome. Both orchard fruit and small fruit promise to exceed the average.

The area intended for Hay, whether from seeds or meadow, is slightly less than last year, about 2 per cent. It would have much benefited with rain, and the yield is expected to be for both kinds about 10 per cent below the average.

Harvest Beer

The Ministry of Food have agreed with the Board of Agriculture to release a certain amount of malt for the home brewing of harvest beer. The Agricultural Executive Committees for those counties in which home brewing is an established custom will be authorised to issue permits to farmers for an amount not exceeding two bushels of malt for each labourer employed.

Obituary.

C. Lemesle Adams.—We much regret to learn of the death, on Thursday, June 26, of Mr. C. Lemesle Adams, of Pendeford Hall, near Wolverhampton. Mr. Adams was a keen amateur horticulturist, but he paid special attention to the cultivation and raising of Daffodils, and was particularly successful with these flowers in his charming garden at Pendeford, where, in a wide "ditch," he cultivated them in a most delightful manner. For many years he was a member of the Royal Horticultural Society's Narcissus Committee, and he also took a very prominent part in the work of the Midland Daffodil Society, of which body he was treasurer. He was an excellent judge of Daffodils. He had a charming personality, consequently his loss will be mourned by a very wide circle of acquaintances to whom his death, following a long period of indifferent health, has come as a great sorrow. The funeral took place on Tuesday, July 1, amid many expressions of love and esteem. The floral tributes included a large wreath sent by his fellow members of the Royal Horticultural Society's Narcissus Committee.

TRADE NOTES.

American Restrictions on Import of Horticultural Produce.

We learn from "The National Nurseryman" (America) that the directors of the American Paeony Society had their annual meeting in New York in March, 1919, and adopted a protest against Quarantine No. 37, which very pertinently points out the unjust and autocratic features of the quarantine, also that it is unscientific and ill-considered.

The directors of the American Paeony Society also presented the following recommendations to the Secretary of Agriculture, to the Horticultural Board, and to the Members of the Senate and House of Representatives:

"That the quarantine regulation No. 37 should be at once suspended.

"That a new quarantine measure should be framed with the co-operation of the nursery and greenhouse interests, which should contain only such provisions of exclusion as are demonstrably and convincingly necessary and such as would be really effective.

"That where important classes of foreign plants are to be excluded, several years' notice of such exclusion should be given in order that the cultivation of stock in this country may have reached a fairly adequate development before the foreign sources of supply are cut off."

LAW NOTE.

At the London Bankruptcy Court on Friday, before Mr. Registrar Francke, an application was made for the discharge of Robert Green, of 146, Portsdown Road, W., lately residing and carrying on business in partnership at Southfield Paddock, Ealing, and the Nurseries, Hounslow, also carrying on business at the Bedford Conservatories, Covent Garden, W.C., now residing at 66, Victoria Road, Kilburn.

The Official Receiver reported that the Receiving Order was made on March 14, 1914, on the debtor's own petition. The liabilities to rank for dividend were estimated at £5,092 13s. No assets were disclosed, and none had been realised. The debtor was formerly employed in the business of nurseryman by his father, and after the latter's death he was for a short time employed by his mother. In May, 1891, his mother handed over the business to himself and his two brothers, and they continued it in partnership under the original name of Robert Green, at 28 and 29, Crawford Street, W., and at Hounslow. In September, 1890, he took over the business of a nurseryman and dealer in birds, animals, etc., which had been left to him by his grandfather, and which was carried on at Covent Garden Market, under the style of The Bedford Conservatories. In 1896, he and his brothers also commenced business as job masters at Thornton Place, W., and Southfield Paddock, South Ealing. In 1898, the business was converted into a company, under the name of Green and Co., Ltd., of which he became joint managing director. The company, however, was wound up in January, 1901. In 1898 the first-mentioned business was taken over by another private company, the bankrupt and his brothers receiving as vendors £3,000 in fully-paid shares. Those shares were handed over to a creditor as security for his debt, and the company also arranged to discharge practically all the debts. The company paid off about £7,000 of those liabilities. He was a director of the company until the date of the Receiving Order. The Conservatories business in Covent Garden was carried on by him in partnership with other persons until December, 1903, when his partners bought him out and took an absolute assignment of the business from that date. They also paid all the liabilities in connection with that business. The bankrupt attributed his failure to his liabilities for the old debts in connection with the nurserymen's business which were in course of settlement by the company, to pressure by creditors, to the failure of Green and Co., Ltd., and to liabilities he had incurred in regard to a business carried on by his wife, also to his expenditure having exceeded his income.

Eventually the registrar suspended the discharge for the nominal period of three months.

Answers to Correspondents

Asparagus Bed: *F. P. H.* A small dressing of sulphate of ammonia would be beneficial, but do not use more than 1-2 oz. to the square yard. Superphosphate may be applied to the bed in the autumn, and a more liberal quantity may be used, as this fertiliser is very slow acting. If you cannot obtain manure in the autumn, top-dress the bed with rich soil mixed with leaf-mould and wood ash.

Gardener's Notice: *F. W. F.* It is customary for a head gardener to give and receive a month's notice, but there has been no decision of the High Court of Justice, and the decision of a County Court judge is not binding on other judges. (See article entitled "A Gardener's Notice," in the issue for March 22, p. 143.) With regard to the cottage, you would probably not be regarded as a tenant in the ordinary sense, as it is part of your remuneration for services.

Gardeners' Royal Benevolent Institution: *W. L.* Write to the Secretary, Mr. George Ingram, 92, Victoria Street, Westminster, S.W.1.

Melon Leaves with "Blight": *G. B. D.* The dried leaf was insufficient for a correct determination of the complaint, but we suspect the trouble is due to Spot disease, caused by the fungus Cercospora melonis. Spray the plants with liver of sulphur at the strength of 2 ozs. in one gallon of water. Do not allow any of the specific to wet the painted wood work, as it will cause the white paint to turn black. On future occasions, when sending specimens for examination, pack them in a tin box with damp moss.

Mossy Lawn: *W. W.* The "moss" you send is Sagina procumbens, a common weed in dry, sandy places. Its presence on lawns indicates an impoverished soil and one that is dried out in spring and summer. Remove as much of the weed as possible by means of an iron rake and afterwards dress the turf with some nitrogenous fertiliser such as sulphate of ammonia or nitrate of soda, either of which will cause the grass to grow more freely and, in time, crowd out the weeds. In the autumn enrich the grass with a top-dressing of old potting compost or some of the top soil from the kitchen garden, and at the same time apply a liberal dressing of well rotted farmyard or stable dung. In the early spring these materials should be raked both ways to disintegrate them and collect the rubbish for burning.

Names of Plants: *T. E. C.* 1, Elaeagnus glabra var. variegata; 2, Escallonia punctata; 3, E. macrophylla; 4, Viburnum plicatum; 5, Rhododendron Wilsonii; 6, Incarvillea Delavayi.—*W. R. P.*: 1, Cercidiphyllum japonicum; 2, Cedrela sinensis; 3, Pyracantha coccinea var.—*G. E.*: Philadelphus Lemoinei.—*R. K.*: 1, Gaultheria Shallon; 2, Senecio laxifolius.—*W. R. P.*: Campanula Raddeana.—*T. H.*: 1, Geranium ibericum; 2, Erodium petraeum; 3, Geranium sanguineum; 4, G. Endressii.—*A. N.*: 1, Verbascum nigrum var. densiflorum; 2, Thalictrum glaucum; 3, Phytolacca acinosa; 4, Staphylea colchica; 5, Orchis foliosa; 6, Genista tinctoria; 7, Elaeagnus hortensis; 8, Zanthoxylum alatum.—*G. E.*: Lepidium Smithii.—*Miss P.*: Calycanthus floridus.—*L. T. J.*: Polygonum Baldschuanicum Centranthus ruber: Red Valerian

Peach Leaves Falling: *A. C. M.* The scorching and falling of the Peach leaves may have been brought about by allowing the borders to become dry. If the roots are growing in a much drier medium than is desirable, water the border thoroughly, and if the border is partly outside, see that this also is given a good soaking. The atmosphere of the house should be kept damp by syringing and air should be freely admitted during warm weather. Place a thin shading of limewash over the glass, and when the trees are growing satisfactorily, remove it. Peach leaves are easily damaged by spraying mixtures containing copper; the scorching could not have been caused by the spraying mixture or the fumigating compound named unless they have been improperly employed. Neither do we think that the "fumes" from the paint are responsible for the damage to the foliage.

Peaches With White Spots: *R. T. W.* The white spots on your Peach fruits are patches of Peach mildew. Dust the leaves with flowers of sulphur whilst they are damp. In cases of very bad attacks the water-pipes should be made very hot and then painted with sulphur. This is best done just before it is dusk, in order that the house may be closed for an hour or two whilst the sulphur fumes are being given off. See that the roots of the trees are not growing in a dry medium, for drought is one of the principal predisposing causes of mildew.

Rust on Grapes: *W. J. K.* The markings on the Grapes are probably due to injury whilst the berries were young, either by allowing cold draughts to enter the house or by overheating of the water pipes. Similar markings may also be caused by the berries coming in contact with the hands of the workmen during thinning operations. The ventilators should be opened on the opposite side from which the wind is blowing; if the house is a lean-to, cover the ventilators with gauze to moderate the inrush of air.

Stoppage of Payment: *J. R. W.* Unless we know all the circumstances we cannot say whether your employer was justified in deducting payment for the time you absented yourself from employment. It is the practice for gardeners to receive payment during times of illness and other exceptional circumstances, over which they have no control.

Thompson's Gardeners' Assistant: *G. M. F.* The book to which you refer is a useful and practical work dealing with the whole range of gardening.

Communications Received.—T. H. (1s. R.G.O.F. box)—T. A. F. (4s. R.G.O.F. box)—G. E. (1s. 6d. R.G.O.F. box)—J. B. H.—W. R.—O. F. F.—J. W. S.—D. W. T.—G. H. C.—A. C. G.—G. B.—R. A. C.—C. S.—A. J.

SITUATIONS VACANT.

Twenty words (or three lines including headline) 3s., and 6d. for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office, 6d.

PRIVATE.

BRITISH GARDENERS' ASSOCIATION. (Reg. No. 1666 T.).

THE Standard of Wages and Hours adopted in January last is now withdrawn and a new Standard is under the consideration of the Executive Council. When this is published, an announcement will be made in these columns.—CYRIL HARDING, General Secretary, 22, Buckingham Street, Strand, W.C.2.

SURREY JOINT POOR LAW COMMITTEE. THE OAKS HOME, WOODMANSTERNE, FOR SANE FEMALE EPILEPTICS.

APPOINTMENT OF RESIDENT WOMAN GARDENER.

THE JOINT COMMITTEE are desirous of receiving applications from suitable persons for this appointment. The person appointed must be experienced in Outdoor gardening, and capable of taking charge of a working party. Some knowledge of the keeping of Poultry and Pigs desirable. Salary, £52 per annum, with uniform (including boots), and the usual residential allowances. Forms of application and list of duties can be obtained on application to me. Applications duly filled up in candidates own writing, to be sent to me by or before the 11th July.—H. LIST, Clerk to the Joint Committee. Union Offices, Mayday Road, Thornton Heath. 25th June, 1919.

WANTED, as soon as possible, a scientifically trained and thoroughly experienced HEAD GARDENER, with expert knowledge of all branches of Flower, Fruit, and Vegetable gardening; capable of giving instruction in these subjects, with a good knowledge of book-keeping and business management; some knowledge of bee keeping and dairy and poultry work would be a recommendation.—Apply, giving full particulars of training, scientific instruction undergone, and experience and salary required, to Mr. PETER KEITH, Ulbster Estates Office, Thurso.

WANTED, for 20th July, HEAD GARDENER, where three Under-Gardeners are kept; must be a good manager, with an up-to-date knowledge of growing and disposing of produce for sale, and thoroughly up in all Inside and Outside work; wages 45s. a week; cottage and share in profit sharing scheme. Apply, stating experience, to LORD CHARLES BENTINCK, Ranby Hall, Lincoln.

WANTED, GARDENER (SINGLE-HANDED); married (no young children); near Tunbridge Wells; care of house part of year; state wages.—Apply, M. C. HARDING & IVORY, Newsagents, Victoria Grove, Kensington, W.

WANTED, Single-handed GARDENER. Thoroughly experienced Herbaceous Plants, Vegetables; about one acre under cultivation; practically no glass; on account of difficulty lodging accommodation, single man desirable. Wages 45s.; no cottage. —Apply to R. M. WOOD, Flint Cottage, Box Hill, Dorking.

GARDENER wanted to take charge, with boy, of Flower and Kitchen Garden; one with experience in Poultry and Oil Engine preferred.—State experience and full particulars, A. A. BARRON, Headlands, Berkhampstead.

GARDENER WANTED, well experienced Carnations, Roses, Fruit Trees, and Vegetables; Lad kept, and extra help when necessary; wages 55s.; state age, and experience.—CHARLES PHIPPS, Cliftonville, Northampton.

GARDENER (SECOND), Inside and Out; wages 34s., with good cottage.—GOODBOURN, Harwood Lodge Gardens, Wootton, near Newbury, Berks.

WANTED, SECOND GARDENER (single), with good general knowledge Inside and Out; also house and table decorating; bothy and vegetables.—Apply, giving age, particulars of experience, etc., and wages required, to T. WEAVER, Oakley Hall Gardens, Basingstoke.

WANTED, SECOND GARDENER, principally for Inside, and to work up a stock of Plants; 7 a.m. to 5 p.m., 12 o'clock Sats.; wages 35s.; good bothy, etc., and vegetables.—HEAD GARDENER, Barnacre Lodge Gardens, Garstang, Lancs.

WANTED, SECOND GARDENER; must be capable and experienced, Inside and Out; married; good wages with house.—Full particulars and references to CHIPMAN, Bracken Hill Gardens, Leigh Woods, Bristol.

WANTED, SECOND GARDENER, chiefly Inside.—State experience and wages required, with good cottage free, to R. HABGOOD, The Manor House, Chippenham, Ely, Cambs.

WANTED, UNDER - GARDENER, experienced in growing Orchids; wages 35s.; free house and coal; if single, good bothy, with attendance.—Apply CHEADLE, Gardener, Wallhouse, Torphichen, Linlithgowshire.

WANTED, INSIDE FOREMAN GROWER; Midlands; Cues., Toms., Bulbs Ferns, Bedforcing; house provided; liberal terms to good man.—W. A., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN WANTED for Glasshouses; thoroughly experienced in Vines and Peaches; must be a good plant grower; wages 35s. per week; 5s. duty, bothy, and vegetables.—HEAD GARDENER, Colwood Gardens, Warringlid, Hayward's Heath, Sussex.

WANTED, good FOREMAN for Houses, £2, and bothy. Also JOURNEYMAN for Outside, man for horse, 33s., and bothy.—Apply to, GEO. KENT, Brocket Gardens, Hatfield, Herts.

GARDENERS.—Two JOURNEYMEN wanted principally Outside work; 32s. weekly, with furnished quarters.—Apply, HEAD GARDENER, Benmore, Kilmun, Argyllshire.

WANTED, JOURNEYMAN for Kitchen Garden and Pleasure Grounds; hours 7 to 5; 12 o'clock Saturdays.—State age, experience and wages required, with bothy, to C. H. WHEELER, Swinton Gardens, Masham, Ripon.

JOURNEYMAN for Inside, also two for Outside; comfortable place to good men; wages 35s., 33s., 30s., with bothy, etc.; Saturday half-day and overtime paid.—COWBURN, Cuerden, Thelwall, Warrington.

WANTED, JOURNEYMAN (Inside), experienced; bothy and good wages.—H. WENMAN, The Gardens, Temple Newsam, Leeds.

WANTED, first JOURNEYMAN for Fruit and Plants Houses; wages 38s. per week, bothy and attendance; 1 o'clock Saturday.—Apply, with reference, to H. PICKSTOCK, The Gardens, Maer Hall, Newcastle, Staffs.

WANTED, IMPROVER for the Houses.—State age and wages required, with bothy and vegetables, to BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, two MEN, one for Kitchen Garden and Hardy Fruit, one for Inside and Out; must be able to take duty; wages 35s., bothy, etc.—State age and experience, to GARDENER, Aberpergwm Gardens, Glyn-neath.

WANTED, a thoroughly experienced MAN for the Houses; well up in his work; wages 35s. per week, with bothy; 1 o'clock Saturdays.—State age and particulars, to W. KENT, The Gardens, Bookham Grove, Bookham, Surrey.

WANTED, a MARRIED MAN with some experience of Fruit Trees and Kitchen Gardening; wages 35s., with good cottage and garden.—State age, family and experience, to BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, good MAN, chiefly for Kitchen Garden and Pleasure Grounds; married; good cottage found.—State wages required and experience to COLE, The Gardens, Shenley Park, Bletchley, Bucks.

WANTED, experienced SINGLE MAN for Pleasure Grounds, vegetables; good accommodation; wages 30s.; 6.30 a.m. to 5 p.m., 1 o'clock Saturdays.—Apply, HEAD GARDENER, Devonshire House, Twickenham Road, Teddington, Middlesex.

WANTED, for Herts, YOUNG MAN (single) as Gardener and useful man; age under 30; garden about ½-acre; greenhouse; good knowledge gardening essential.—Write stating age, experience, and references, to Miss SPENCER WIGRAM, St. Just, Northaw, Potter's Bar.

A FEW VACANCIES FOR PUPILS for training, under thoroughly trained Market Gardener, in Fruit and Vegetables; mild climate, olose to sea; beautiful scenery.—Apply for fees and lodging to Mrs. DRAGE, Parcian, Criccieth.

WANTED, LADY GARDENER (HEAD); three others kept; thoroughly reliable; experienced in all branches; cottage; state wages, age and experience.—Apply, Mrs. A., Grove Lodge, Muswell Hill, London, N.10.

WANTED, a WOMAN GARDENER at the Retreat (Hospital for Mental Diseases); to work with and supervise patients in the garden.—Apply, MEDICAL SUPERINTENDENT, The Retreat, York.

WANTED, LADY to share work lady's cottage garden; bees; salary; prospects; good opening; unquestionable references required.—CHADWICK, Narborough, Norfolk.

TRADE.

WANTED, for London shops, GENERAL MANAGER; expert knowledge of general Nursery trade; must be expert window-dresser. State salary and references to JOHN WATERER, SONS & CRISP, Hare Hatch, Twyford, Berks.

WANTED, good, reliable MAN to manage a small trade Nursery; thorough allround knowledge of trade work; permanency to suitable man; highest references essential.—Apply, stating age and wages required, to T. B. L., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, for Branch Nursery, GROWER young, experienced in Fruits, Herbaceous Plants, etc.; able to take control if necessary. wages required and references to HOPWOOD & SON, Nurserymen, Cheltenham.

BUDDER and GRAFTER.—Additional permanent man wanted in Nursery with fruit and rose department 30 acres; state wage, experience, age, married or single, when disengaged, with copies testimonials.—W. W., Box 5, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, Nursery WORKING FOREMAN, experienced man, for small Nursery; good Budder of Roses, Fruit trees, Shrubs, etc.—Reply, giving full particulars with copies of discharges and wages expected to ARTHUR S. RITCHIE & CO., Seedsmen, Belfast.

WORKING FOREMAN wanted for Landscape dept.; accustomed to supervision of labour, and able to work from plans.—State experience and wages required, CLIBRANS, Altrincham.

WANTED, MARKET GARDEN FOREMAN, capable of taking charge of 100 acres.—D. and J. WALKER, Ham, Surrey.

WANTED, two MEN for Carnation and Fern growing, and general Nursery work; write stating experience, age, and wages required; district, Bucks.—Apply, F. R. N., Box 23, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, 2 or 3 MEN for general Market Nursery (Inside).—Apply, stating experience and wages required, to ST. GEORGE'S NURSERY CO., Harlington, Middlesex.

SMART MAN required for Glass, Bulb forcing, Bedding Plants, Chrysanths., etc.—Please state wages, with copies of refs., to THOMAS ROBINSON, Porchester Nurseries, Nottingham.

WANTED, YOUNG MAN with experience of Decorating and Hotel work.—References and wages required to BROOKE, BRAY & SONS, Nurserymen, Sheffield.

WANTED, YOUNG MAN for Tomatos, Cucumbers and Chrysanths.—State age, and wages, G. BENNETT & SON, Hanwell, W.7.

WANTED, SEED MANAGER; one with wholesale experience in garden and farm seeds; able to control staff; highest references; must be practical; state salary expected (correspondence private).—E. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, energetic HEAD SALESMAN, thoroughly experienced in all branches of Seed, Sundries and Nursery Stock; able to undertake management when required. Send copies of discharges and wages expected.—Address, ARTHUR S. RITCHIE AND CO., Seedsmen, Belfast.

SEED TRADE. — Wanted, JUNIOR ASSISTANT; must have knowledge of Market Garden Seeds, and used to a brisk counter trade; state wages required. Apply WOODWARDS, 17, Moorfields, Liverpool.

WANTED, SEED ASSISTANT, male or female, for wholesale seed counter; state age, experience, and wages required.—E. W. KING & CO., Seed Merchants, Coggeshall, Essex.

WANTED, experienced, energetic ASSISTANT to take charge wholesale seed counter; good opportunity for smart man; state wages required; —E. W. KING & CO., Seed Growers, Coggeshall, Essex.

WANTED, in large Seedsman's Office, CORRESPONDENCE CLERK; good writer; experienced, good references, salary required, married or single.—K. E., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

LADY FLORIST wanted in N.W. suburb; must be experienced and have some knowledge of book-keeping.—Apply, with full particulars, to "SUBURB," Box 6, 41, Wellington Street, Covent Garden, W.C.2.

FLORIST. — YOUNG LADY wanted; good Maker up and Saleswoman, with knowledge of Seeds preferred.—Apply, stating age, salary required and references, to F. A. GODFREY, Nurseryman, Stourbridge,

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

MRS. TAIT can thoroughly recommend a HEAD GARDENER for a good establishment; thorough knowledge of Fruit, Flower, and Vegetable Culture, under Glass and Outside, House and Table Decoration; good general knowledge of Grassland, Woods, etc.; capable and trustworthy; abstainer (two years and nine months Army).—W. A. MOORE, Park Lodge, Lytton, Long Melford.

MR. W. A. ADDINSELL, Harrow Weald Lodge, can highly recommend his late HEAD GARDENER to any lady or gentleman requiring the services of a thoroughly competent man in all branches of Gardening; 25 years' practical experience in first-class establishments; recently demobilised.—F. H. MANNERS, Kinver, Box Tree Lane, Harrow Weald.

MAJOR E. H. THURLOW (estate sold) highly recommends his late HEAD GARDENER; a capable manager of large gardens; life experienced Fruits, Plants, Vegetables, Rock Gardens, etc.; age 46.—E. SNELGROVE, Buckham Hill, Uckfield, Sussex.

MR. E. G. PRETYMAN, M.P., desires to recommend his General GARDEN FOREMAN, G. BRIARS, to any Lady or Gentleman requiring the services of a competent Head Gardener.—Orwell Park, Ipswich.

G. A. KESSLER, Esq., having sold his estate, New York Lodge, Bourne End, most highly recommends his late Head Gardener, A. WILLIAMS, as first-class Gardener, who has given him complete satisfaction from every point of view; capable, trustworthy and good manager.—Apply to A. WILLIAMS, 7, Riverdale Cottages, Bourne End, Bucks.

MR. T. CRADDUCK, Middleton Park Gardens, Bicester, Oxon, wishes to recommend his late General Foreman as HEAD GARDENER to any Gentleman requiring the services of a first-class fruit and vegetable grower; life experience; age 35; married, no children; demobilised, 3½ years Army.—Apply, W. T. CHATTERLEY, The Green, Snitterfield, Stratford-on-Avon.

A GENTLEMAN, having sold his estate, wishes to highly recommend his Head Gardener to Lady or Gentleman; well up in Fruit, Flowers and Vegetables, Inside and Out; excellent references from past and present employers; age 39 (two children).—HAWKINS, Gadsden, Hayes, Kent.

HEAD GARDENER.—The Hon. A. MULHOLLAND, having sold estate, personally recommends his late Gardener as a first-class man in all branches; Landscape and estate; daughter capable managing glass department.—MORRIS, 44, Fairclose Road, Beccles.

GARDENER (HEAD).—A. G. SOAMES, Esq., will be pleased to recommend W. EDWORTHY (recently demobilised), for over eight years Head Gardener at Sheffield Park, Uckfield, Sussex, to anyone requiring first-class Man for good establishment; thoroughly efficient in all branches; age 43; married (two children, 8 and 4).—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

GARDENER (HEAD).—The Honble. Mrs. Greville wishes to highly recommend her HEAD GARDENER; 18½ years in present situation; only leaving through place being sold; thoroughly experienced in all branches; married; age 41.—L. HEALEY, The Gardens, Danbury Park, Chelmsford.

GARDENER (HEAD).—B. C. FORDER, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establishment; life experience in all branches; good manager and economical; ten years as Head; age 39; married (one child, 13 years); excellent references; Army discharged; full particulars.—The Gardens, Whatcombe House, Blandford, Dorset.

GARDENER (demobilised) requires post as HEAD in first-class establishment; life experience; good references; 4 years 8 months in Army, awarded M.M., Croix de Guerre, mentioned in Despatches.—C. S. HESELTINE, High Street, Chipping, Sodbury.

GARDENER (HEAD), Scotch, just demobilised; 28 years' experience in all branches of gardening, Vines, Peaches, Melons, Cucumbers, Malmaison and Tree Carnations, Fruit and Kitchen Garden, Lawns; also understands Electric Power Plant; eleven years Head; first-class references; age 42; married (two children, ages 5 and 9).—J. D., 5 High Street, Sandy.

HEAD GARDENER or GARDENER-Bailiff.—E. D. MENZIES, late Temporary Head Gardener to the Rt. Hon. Lord Clinton, Bicton, Devon, is open to engagement as above. Thoroughly experienced in first-class Gardening gained in good gardens; also up-to-date Agriculture, Forestry, and General Estate Management; has held good positions, and holds first-class testimonials as to abilities and character.—C/o Sir Dugald Clerk, Lukyns, Ewhurst, Surrey.

GARDENER (HEAD) or FOREMAN, Inside or General; 16 years' good experience, Inside and Out; 4 years as above; excellent references; well recommended; age 33; no family; demobilised.—State wages, T. KEY, 12, Macer's Lane, Wormley, Broxbourne, Herts.

GARDENER (HEAD or SINGLE-HANDED); life experience in private gardens; first-class references; married, family grown up.—CHAS. SMITH, 2, Honorah Cottages, Chalfont St. Peter, Bucks.

GARDENER (HEAD or good SECOND); good experience; age 30; married (one girl); demobilised; Midlands preferred.—BRAMBLEY, 66, Foley Road, St. John's, Worcester.

GARDENER (HEAD), life experience, age 45, two sons, SECOND and UNDER, age 23 and 21; knowledge of Land and Stock; excellent references.—H. J., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

ADVERTISER seeks re-engagement as HEAD GARDENER; 28 years' practical experience in Gardening, Inside and Out; age 43; married (one daughter.—SCOFIELD, Wraxall Court Cottage, near Bristol.

GARDENER (HEAD), where several are kept; married; age 40; life experience; highly recommended; demobilised; last place changed hands whilst in France.—LOVE, 3, Burford Road, Chipping-Norton.

GARDENER (HEAD), where two or more are kept; life experience, both Inside and Out; 7½ years last situation; good references; demobilised; age 41; married (no family).—L. KETTLE, 5, Baron Row, Mitcham, Surrey.

GARDENER (HEAD or good SECOND); good experience; age 30; married (one girl); demobilised; Midlands preferred.—BRAMBLEY, 60, Foley Road, St. John's, Worcester.

GARDENER (HEAD), age 43 years, is open to engagement with lady or gentleman; well versed in the requirements of well-kept establishments; 15 years Head; married (one daughter, 10 years); disengaged.—J. A. PESKETT, 62, Eastfield Road, Peterborough.

GARDENER (HEAD) seeks situation; life experience, Inside and Out; Grapes, Peaches, Melons, etc.; good reference; married; age 43.—SMITH, 25, Park Lane, Waltham Cross.

GARDENER (HEAD), now disengaged, would be glad to hear from either Lady or Gentleman requiring the services of a competent, reliable, good, all-round Man in all branches, also land and stock; highest references; family grown up.—CROUCHER, Northcourt, Faversham, Kent.

GARDENER (HEAD); thoroughly practical, energetic man seeks position as such; life experience in the culture of choice Flowers, Fruit and Vegetables; five years Head of several previous to war; married; age 35; demobilised.—M. G., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

CAPT. SAVILE recommends his HEAD WORKING GARDENER; life experience in all branches; first-class testimonials from good places; certificate from the R.H.S.—STOKES, Ven, Milborne Port, Somerset.

MR. A. MITCHELL, Head Gardener to the Right Hon. LORD SHERBORNE, Sherborne Park, Northwich, wishes to recommend his late Foreman, W. THOMPSON, as HEAD WORKING GARDENER to any Lady or Gentleman requiring a good, capable man; well up in all branches; good manager of men; demobilised; age 30; married when suited.—W. THOMPSON, Delamere Gardens, Northwich, Cheshire.

LORD ASHCOMBE, Denbies, Dorking, Surrey, highly recommends G. ALLAN, as Head Working Gardener; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

GENTLEMAN highly recommends first-class HEAD WORKING GARDENER; reliable, trustworthy man; can undertake to manage the whole supply of a gentleman's place in its various departments; has done same for gentleman for the last ten years; left through death of employer; age 46; please state wages and particulars to KAY, Box 8, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING), demobilised, seeks situation; life experience, Inside and Out; 14 years as Head; excellent references; married; age 43.—SWAINE, Sarratt, Rickmansworth, Herts.

GARDENER (HEAD WORKING) where three or four are kept; life experience in all branches; age 44; married (two sons, age 18 and 9).—F. RAMSEY, 119, Wellington Street, Peterborough.

GARDENER (HEAD WORKING).—A thorough, practical man, age 45, with a life experience, is open to re-engagement; 15 years' and 4 years' highest references; married (no family).—W. COOK, Piper's Corner Gardens, High Wycombe.

GARDENER (HEAD WORKING or good SINGLE-HANDED); life experience Inside and Out; near London preferred; married; good references.—PAVITT, Laleham Road, Shepperton, Middlesex.

GARDENER (HEAD WORKING or SINGLE HANDED with help; life experience, Inside and Out; five years' reference; seven previous; married; age 43; cottage required.—KIY, The Mount, Hendon Lane, Finchley, N.3.

GARDENER (HEAD WORKING); life experience, Inside and out; recommended by Lady Vaux, Harrowden Hall, Wellingborough; age [illegible], married (one child).—Apply, Wm. WARREN, Sherburn, Watlington, Oxon.

GARDENER (HEAD WORKING where two or more are kept, or good SINGLE-HANDED); life experience, Inside and Out; four years last situation; married (two children); age 30.—T. MAWSON, Fakenheath, Brandon, Suffolk.

GARDENER (HEAD WORKING) where one or two others are kept; over eight years previous Head; age 42; married (one child).—WHEELER, Glengarriff, Queen's Road, Crowborough, Sussex. (Demobilised.)

GARDENER (HEAD WORKING), Scotch, where two or three are kept; life experience in all branches; over 11 years as HEAD; excellent references; married (no family); age 39.—Address, L., 9, Rigault Road, Fulham, London.

GARDENER (HEAD WORKING), where two or more are kept; life experience; excellent references; age 29; married (no family); demobilised.—A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING); life experience gained in good establishments; Inside and Out; 13 years head; married; age 44; highly recommended.—HAYNES, Walcot Hall Gardens, Stamford, Northants.

GARDENER (HEAD WORKING), age 34, married, no children, seeks engagement; life experience all branches; well recommended.—DAVIDSON, 40, Rothesay Road, Luton, Beds.

GARDENER (HEAD WORKING).—Major Count Gurowski wishes to recommend H. Preece, where several are kept; eight years in last place, Head of eight, and excellent characters from Holm Lacy, Alton Towers, and six years at Benham Park; leave when suited; very strong and active; age 44.—Apply PREECE, Woolhampton Park, near Reading.

GARDENER (HEAD WORKING), where several are kept; thoroughly experienced in all branches, Inside and Out; over 20 years Head in good establishments; highly recommended; excellent testimonials. Scotchman; married (no family).—R. WHYTE, Trewithen Gardens, Grampound Road, Cornwall.

GARDENER (HEAD WORKING); age 34; married; 4 to 6 under; life experience all branches, well recommended in upkeep of gardens. Carnations a speciality; energetic, good manager; disengaged.—E. ODDY, 39, Calvert Road, High Barnet, Herts.

GARDENER (HEAD WORKING), thorough practical experience, Inside and Out; excellent references from first-class establishments; demobilised.—E. G. DAY, Queen Anne's Gardens, Caversham, Reading.

GARDENER (HEAD WORKING or good SINGLE-HANDED); life experience, Inside and Out; age 30; married (one child). Please state wages.—Bailey, Heydon, near Royston, Herts.

GARDENER (HEAD WORKING), where four or more are kept; life experience in all branches, Inside and Outside, in first-class establishments; age 45; married (no family).—A. EVERITT, 3, Claremont Villas, Hare Lane, Claygate, Surrey.

GARDENER (HEAD WORKING or SINGLE-HANDED, with help); long experience in various parts of the country; good references; single.—W. CARE, Brookside Cottage, Sutton Courtenay, Abingdon.

GARDENER (HEAD WORKING), demobilised, seeks situation with any Lady or Gentleman, life experience in first-class establishments (Inside and Out); good testimonials; age 30; married.—ROBERTS, 36, Denmark Street, Diss, Norfolk.

GARDENER (HEAD WORKING); life experience in all branches; good references; 18 years in present situation.—E. ISAACS, The Gardens, Elm Green, Ewen, Nr. Cirencester.

GARDENER (HEAD-WORKING) seeks post where several are kept; twenty years thorough practical experience in all branches; good manager; last post 3 years and 8 months; Head to the Hon. Carr and Lady Mary Glyn; excellent references.—A. MORPHETT, Wootton, Nr. Ashbourne, Derbyshire.

GARDENER (SINGLE-HANDED) or good all-round, Kitchen Garden and Pleasure Grounds (pony mower) and Scythe Hand; good refs.; married; no family; demobilised.—WARR, c/o LEWIS, Flaunden, near Chesham, Bucks.

GARDENER (SINGLE-HANDED or where help given); 40 years' experience, Inside and Out; good references; married: family away; please state particulars, W. BAILLIE, Blaston, Uppingham, Leicestershire.

GARDENER (SINGLE-HANDED or good Pleasure Ground Gardener); good references; age 33; married (two children); 35s. week, with cottage.—REED, Gravelye Lane, Lindfield, Hayward's Heath.

GARDENER (SINGLE-HANDED or where help given); life experience, Inside and out; excellent references; age 28; married (no family); wife help in house if required; demobilised from Navy.—LACEY, The Cottage, Elmer, Leatherhead.

GARDENER (SINGLE-HANDED or with help); practical experience in all branches; age 40; (two children); demobilised.—J. WARNER, 18, Chelsham Road, Clapham, S.W.4.

GARDENER; life experience in all branches; active and energetic; age 44; good references; wife would assist if required (good cook).—HALL, Grangehurst, S. Norwood, S.E.25.

GARDENER (WORKING) where two or three are kept; life experience, both Inside and Out; age 33; married (no children); excellent references.—GARDENER, Welham Hall, Retford, Notts.

GARDENER, life practical grower of Fruit, Flowers and Vegetables, Inside and Out; in large quantities if required; good reference; married (no family); disengaged.—J., c/o Mrs. BRAZER, 5, Faversham Road, Beckenham, Kent

GARDENER (good WORKING all-round), Inside and Out; good Kitchen Gardener, pony mower, poultry; age 45; two sons, 18 and 15. State wages.—BARNETT, The Cottage, Edgeborough, Guildford, Surrey.

GARDENER, Handy-man, wants situation, SINGLE-HANDED; age 45; single; good references.—A. S., 104, Bloomfield Street, Saint John's, Ipswich.

GARDENER (demobilised after 4½ years) seeks situation; single; age 36; good references.—C. G., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (or Outside lead); experienced Lawns, Kitchen Garden, Flower Borders, Pruning, and Inside work; married (no family); age 57; active; well recommended; at liberty July 19.—J. BROWN, Blaston, Uppingham, Leicestershire.

GARDENER (SECOND or SINGLE-HANDED) requires situation; demobilised; excellent references; married (no children); age 30; please state wages.—L. TREAGUS, Lockner Cottages, Chilworth, near Guildford, Surrey.

GARDENER seeks situation as SECOND, Inside if possible; good experience and references if required; South of England preferred; age 23; single.—A. E. ROBERTS, 32, Avon Street, Highfield Estate, nr. Gateshead-on-Tyne.

GARDENER (UNDER) seeks situation in Kitchen Garden; 9 years experience; age 28; married; no family.—J. WILSON, Barn Cottage, Pippingford Park, Nutley, Sussex.

UNDER-GARDENER (married, one child, age 10); seeks post, Pleasure Grounds or Kitchen Garden; good experience; excellent references.—H., 45, Park Lane, West Grinstead, Sussex.

MR. E. MOLYNEUX, Swanmore Park, Bishop's Waltham, Hants, can recommend a married man as OUTSIDE FOREMAN; age 30; very industrious, reliable, and in every way desirable in a first-class garden.

THE EARL OF JERSEY wishes to recommend T. H. WRIGHT, who before volunteering for service was in his employ and is recently demobilised, as FOREMAN, Kitchen Garden or Pleasure Grounds, or Single-handed place; experienced; strong and energetic; age 29; married.—Replies, stating terms with cottage, to T. H. WRIGHT, 7, Silverdale Road, Tunbridge Wells, Kent.

AS FOREMAN (INSIDE), first-class experience gained in good establishments; excellent refs.; age 26; widower; demobilised.—Please state wages, A. GOLDSMITH, High Street, Ufford, Suffolk.

FOREMAN (GENERAL or DEPARTMENTAL) in good establishment; Foreman last two places, including present one; single; excellent references.—L. W. YOUNG, Warter Priory Gardens, York.

FOREMAN (INSIDE or good SECOND) seeks situation; good references; demobilised; single; age 30.—P. BRADFORD, Clyst St. George, Topsham, Devon.

FOREMAN with good all-round practical experience, seeks situation in good establishment. Please state wages with bothy, J. WALKER, Kirtlington, Oxford.

FOREMAN (OUTSIDE OR GENERAL) seeks situation in good establishment; age 30; single; Midland Counties or London district preferred.—J. T., Box 26, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN or SECOND GARDENER (Inside). Mr. THOMPSON, Compton Place Gardens, Eastbourne, can recommend L. KIMBER; age 27; 13 years experience; married; but would take bothy, till housing improves; South preferred.—12, Bath Road, Eastbourne.

FOREMAN (INSIDE) desires post in large garden; single; age 31; excellent decorator; Carnations, Orchids and all indoor fruit; North or Midlands preferrred. Please state wages and particulars.—TAXUS, Box 8, 41, Wellington Street, Covent Garden, W.C.2.

JOURNEYMAN seeks situation, Inside; 8 years' experience; age 26; good references. Please state wages and particulars; Midland counties preferred.—A. GREEN, France Oaks, Blandford, Dorset.

JOURNEYMAN (INSIDE); five years' experience, chiefly Inside; age 24; single; demobilised; Please state wages.—S. PACKMAN, Crockham Hernhill, Faversham, Kent.

SITUATION required; thoroughly experienced in Herbaceous and Alpines, growth and propagation; able to take charge of small collection of Alpines; age 33. Please state wages.—H. S., 193, Lincoln Road, Bush Hill Park, Enfield, Middlesex.

YOUNG MAN, aged 18, requires situation as IMPROVER, Inside or Outside; knowledge of both; 3 years' experience; present place 14 months. Please state wages.—J. B., Box 26, 41, Wellington Street, Covent Garden, W.C.2.

YOUNG MAN (24, single, demobilised) seeks situation; good all-round experience, with good references; best knowledge in Herbaceous, Roses, Rock Gardens, and Sweet Pea Culture; give pref. to Eastern Counties or London district; bothy pref. (cricketer).—W. J. DREW, Summer End, East Walton, Lynn, Norfolk.

LADY GARDENER, gentlewoman, wishes post under Head Gardener as DECORATOR in large private house; over 3 years' experience, chiefly under glass; is thoroughly domesticated, and would help with light duties where required; passionately fond of flowers; tall, active, and enthusiastic; age 30; highly recommended. State salary, particulars.—Apply, BOWERS, Oldcastles, Chirnside, Berwickshire.

TRADE.

WORKING MANAGER or FOREMAN; life experience, London, provincial Nursery work, all branches, including Cucumbers, Tomatos, Chrysanthemums, Bedding Stuff, Fern Raising, Mushrooms, etc.; age 40; married.—C. E., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

NURSERY MANAGER or FOREMAN; life experience in the management of large quantities of glass, producing for up-to-date Nurseries, Markets, and shops.—LAWRENCE, 83, Warwick Avenue, Paddington.

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SITUATION wanted as MANAGER or FOREMAN, where chiefly Cucumbers, Tomatos and Salads are grown; lifelong experience; good refs.—Particulars to G., 2, Marle Green, Horeham Road, Sussex.

WORKING MANAGER or FOREMAN (just demobilised) requires situation in Market Nursery; 15 years' experience in Tomatos, Grapes, Peaches, Ferns, Carnations, etc.; first-class references; age 35; single. For further particulars apply to WILSON, 29, St. Kilda's Road, Stoke Newington, N.16.

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WORKING MANAGER or FOREMAN.—Advertiser seeks change; life experience Inside and Out; also Landscape, Seeds and Floral work; excellent testimonials; age 43. State salary.—A. B. C., Box 15, 41, Wellington Street, Covent Garden, W.C.2;

MANAGER or FOREMAN PROPAGATOR a capable man used to the production in large quantities of Clematis, Roses, Rhododendrons and American plants, all classes of Coniferae, Chinese, new and rare plants; used to showing at all leading exhibitions; demobilised; single; 11 years' experience with first-class firms. Please state salary.—ROSA, Box 24, 41, Wellington Street, Covent Garden, W.C.2.

GROWER, demobilised, single, age 30, seeks situation; 12 years' experience Tomatos, Cucumbers, Chrysanthemums, Bedding and general Pot Stuff. State wage.—G. B., 26, Palmer Street, Doncaster.

GROWER seeks situation; ten years' general experience; excellent references; Carnations, Chrysanths, Bedding Plants, Cucumbers, Tomatos and Bulbs; 28; married; demobilised.—PRUDDEN, Commercial Road, Bitterne, Southampton.

FOREMAN GROWER, life experience in growing Tomatos, Cucumbers, Chrysanthemums, Roses, all kind bedding and Pot Plants, for market. —T. SKEGGS, No. 1, Stafford's Villas, Hadley, Barnet.

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AS FOREMAN or MANAGER of Market Nursery.—Advertiser, age 40, capable and reliable, and with wide practical experience, seeks employment; Tomatoes and Cucumbers for preference; to a suitable employer only best interests given.—For particulars, etc., apply, H. G., c/o 8, Coronation Villas, Cromwell Avenue, Cheshunt, Herts.

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WANTED, situation as FOREMAN in Fruit Department in Nursery, or to manage estate Fruit Orchards; many years' experience and good personal character.—C. KNIGHT, 3, Brockley Cottages, Tushmore, Crawley, Sussex.

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YOUNG MAN requires situation in Market Nursery; 10 years' experience in Cucumbers, Tomatos and Chrysanthemums; age 25. State wages to TARBOX, 6, Houghton Road, Dunstable, Beds.

YOUNG MAN (married, demobilised) seeks situation; Tomatos, Chrysanthemums, Bedding and general Pot Plants.—W. L., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

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Schedules may be obtained of the Secretary, A. W. WHITE, Ivydene, Castle Hill, Maidenhead.

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CORONATION HALL, ULVERSTON,

On Thursday, July 17th, 1919,

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Entries Close July 10th, 1919.

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1 to 3 p.m., 2/6; 3 to 5 p.m., 1/3; 5 to 8 p.m., 8d.
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24 bunches of Hardy Flowers—*Silver Cup.*
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Collection of nine distinct kinds of Vegetables.
Schedules from Secretary.

Royal Horticultural and Arboricultural Society of Ireland.

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Gardeners who have surplus fruit for which they desire to find a market should consult the list of SALESMEN in all the largest towns of the United Kingdom, which is to be found on page 275 *et seq.*

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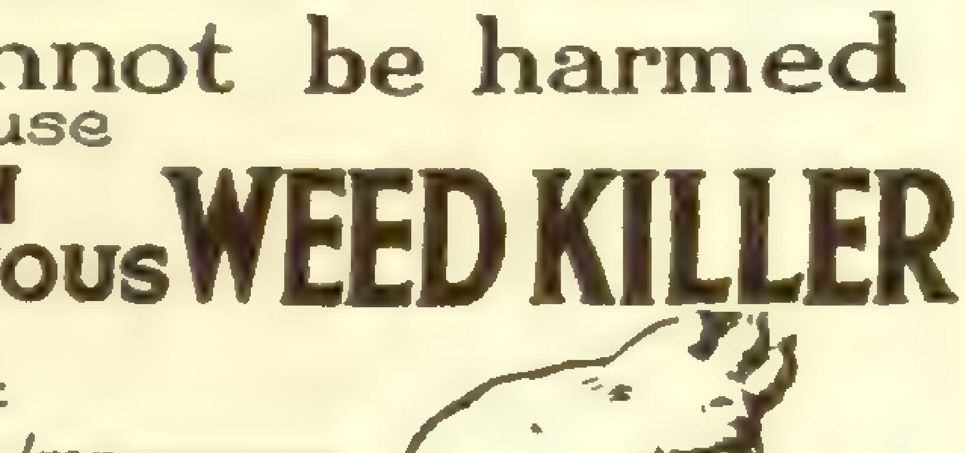

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THE

Gardeners' Chronicle

No. 1698.—*SATURDAY, JULY* 12, 1919.

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THE MARKET FRUIT GARDEN.

THE recent spell of drought lasted thirty-eight days in my district, except for a fall of one hundredth of an inch of rain on June 4. Even when it was at length broken on the 20th, it was by only .43 in. of gentle rain, which was hardly enough to pass down among the haulm of Potatos, and quite inadequate for fruit trees or even bushes. The total for the month was only just over half an inch, which fell on four days, so that it was the driest June experienced during nineteen years at this place. The combined rainfall of May and June was only .76 in. The effect of such a dry period has, of course, been disastrous to bush fruits and Strawberries. Of the former, Black Currants are the only crop grown here commercially. The gathering of these began on the last day of the month, and it is evident that the yield is very short, though the fruits are larger than might have been expected. Dropping has been very serious, particularly in the older plantations. Orchard trees have stood the drought very much better, owing, no doubt, to the plentiful supply of moisture, low down in the soil, from the heavy winter rains. A good many Plums have turned yellow, it is true, and will certainly drop, and there has been much cracking amongst Apples, but otherwise most of the trees look remarkably healthy. Most of the insect pests have either been killed by spraying or have completed the destructive period of their existence, and there is unusually little fungus disease about. Naturally the dry weather has been against the development of such diseases as scab and brown rot.

THE APPLE CROP.

If rain falls soon I expect to have a good crop of Apples, though certainly not a great one. It is seldom that so many varieties bear a fair crop in one season, and that is what will tell rather than the amount of fruit per tree. There are scarcely any failures amongst the varieties, though few of them are heavily laden. This is probably fortunate in such a season, for some trees of Lane's Prince Albert and Lord Grosvenor, which were the only sorts to set a big crop, now look very bad, having been unable to stand the strain of carrying so much fruit in such a dry period. Most other varieties have, as a rule, set only one fruit to a truss, and it is clean and of good size. Some of the best-selling Apples are amongst the most promising, notably Beauty of Bath, Gladstone, Cox's Orange Pippin and Allington Pippin. That most regular cropper, Worcester Pearmain, will yield lightly this year.

LUCERNE IN ORCHARDS

Several times in these notes mention has been made of an eight-acre Apple orchard sown with Lucerne, the object being to try the effect of what is called in America the "sod and mulch" system. This is now being mown for the third year, and the greenstuff spread and left to rot under the trees. In previous years no benefit has been observed, but this season it is unmistakable. The trees have withstood the drought much better than those on cultivated land. There are blocks of Beauty of Bath in adjoining plantations, one under Lucerne and the other cultivated, and there is a roadway through the dividing hedge just at that point. No one could fail to notice that the trees on Lucerne are much happier than the others. There is more young growth, though the trees are older, and the leaves are a better colour. At first-thought, one would imagine that trees on cultivated land would have the advantage in a dry summer It must be remembered, however, that the Lucerne orchard has now had the benefit of five heavy mulches of greenstuff, for it is mown twice annually, and has just had the first cut for the present (third) year. Moreover, Lucerne is a plant which gathers nitrogen from the air. Therefore the soil must have been greatly enriched in both nitrogen and humus, and the effect of this is evidently beginning to show.

CUTTING DOWN EXPENSES.

This subject of cover crops in orchards is of importance now that wages are so high. It is almost essential to reduce the amount of digging and hoeing done in fruit plantations. I am satisfied that the reduction of expense is considerable. Mowing this year worked out at about 14s. per acre. A one-horse mower cut down between the rows, leaving narrow strips of Lucerne actually in the tree rows to be cut with scythe and hooks. This must be done twice in the year, which makes the annual cost 28s. per acre. If this plantation were broken up, it could be ploughed in autumn and horse cultivated between the rows in spring and summer, but the tree rows would have to be hoed by hand and occasionally dug. Even if it could be cultivated in two directions, there would still be a space round each tree to hoe. Cultivation and hoeing would have to be done at least four times a year. Obviously this would cost a great deal more than 28s. per acre, without the ploughing and digging, which would be needed every two or three years, if not each winter. I should say that the annual cost under cultivation would be three or four times as great. There is, of course, the initial cost of sowing with Lucerne, but this should be much more than discounted by the saving in manure effected by the mulching system.

CHOICE OF COVER CROPS.

Lucerne will not thrive in all soils. On my land it does not do really well, weeds encroaching on it very soon. The plantation in question has now quite as much grass and white Clover as Lucerne. Indeed, in spring, the Lucerne looked like being a complete failure, but it grew into a fairly good crop in the end. Next autumn it will receive a dressing of basic slag, which should help it and the Clover as well; but I am afraid the Lucerne will not last many more years, particularly where the trees are dense enough to shade it much. Possibly the Clifton Park mixture of seeds for permanent pasture, which contains several Leguminous plants as well as grasses, would suit the purpose, or some other mixture of grasses and Clovers. Cocksfoot, which is known as Orchard Grass in America, seems to thrive under trees. The matter might well be taken up by experiment stations, for many growers are letting their orchards grass themselves down, owing to the shortage and expense of labour; and this plan is certainly inferior to the sowing of some crop or mixture adapted for the purpose. A word of warning is advisable, perhaps, against the grassing down of young plantations. This has been proved to be very injurious, having a markedly stunting effect on growth. The trees should be at least twelve years from planting before land cultivation ceases.

BIRDS MULTIPLYING AGAIN.

All gardeners have noticed the scarcity of birds during the past two years, and many attribute the caterpillar plagues to this. Now the birds seem to have had a good nesting season, and to be increasing again, for there are many youngsters about. Before the winter of 1916, all Strawberries and bush fruits in my private garden had to be netted, and Cherries were practically grown for the blackbirds and starlings. For two years afterwards netting was not necessary. Now these birds are becoming troublesome again. Jays also are numerous, and have played havoc with Peas as well as fruit. I have shot seven of them to-day. It will be interesting to see whether the caterpillars decrease as the birds multiply. The question is whether the caterpillars are not preferable to birds when the latter become very numerous. The insects are fairly easily dealt with by spraying and grease-banding, but it is very annoying to grow fruit and then have half of it spoilt by birds. Often the grower suffers loss by having to gather a crop unripe to save it from these thieves. *Market Grower.*

THE ROSARY.

ROSES FROM AUSTRALIA.

THROUGH the kindness of Mr. Alister Clark, of Glenara, near Melbourne, I received four Roses of his raising. I planted them against a south wall, and am now able to write of their behaviour in this country.

RUBY RING, which, on the whole, I like the best, is a showy Wichuraiana of moderately strong growth and good habit. The foliage is glossy and good, and does not hide the flowers. The blooms are about $2\frac{1}{4}$ inches across when expanded, and have a white eye surrounded by a ring of ruddy pink, not inaptly described in

the name of the Rose as ruby. They are single and something between Leuchstern and American Pillar in character. The plant seems to be quite hardy, grows about 7 or 8 feet high, and is free from mildew. Mr. Clark recommends it for a hedge.

MILKMAID is a very vigorous climber, with clusters of yellowish-white, slightly fragrant flowers, and seems to be connected with the Musk or Noisette Roses. The flowers are double, and in general tint bear some resemblance to Alister Stella Gray. It promises to be a useful variety for pergolas and arches.

ROSY MORN is a very distinct variety. It is a vigorous climber, with plenty of the H.T. character. It has large, loose, pink flowers, which look very well on the plant and last fresh for some time, but they are lacking in form and of little use for decoration in the house.

JESSIE CLARK, the last of the quartette, promised to be the most interesting, for it is a seedling from R. gigantea, and produced fine growth with lovely bronzy foliage. But alas! that is all I can say for it, for, like so many of the gigantea seedlings, this country appears to be too cold for it, and it has failed to flower with me. The flowers are said to be pink.

I have been much interested in these Roses from the other side of the world, and glad to give them a welcome. They seem to have readily adapted themselves to the change from the southern to the northern hemisphere, and even the first year I had them showed no disposition to resent transference to a part of the world where summer and winter had changed places. From what Mr. Clark informs me, I gather that he is not the only raiser of new Roses in the Antipodes, though few of these new Roses, I think, have yet reached this country. Australia has already sent us some good seedling Daffodils, and it is pleasant to think that the raising of new Roses is also being seriously undertaken. *White Rose.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM MIGUELITO.

A PRELIMINARY commendation was given to Dr. Miguel Lacroze, Bryndir, Roehampton (Orchid grower, Miss Roberston), for this handsome Odontoglossum, at the meeting of the Orchid Committee of the Royal Horticultural Society on April 23, 1918, the flower showing specially good qualities on the small seedling flowering for the first time. At the meeting on the 17th ult., Dr. Lacroze again submitted the plant with an unrestricted spike of three noble flowers, one of which is illustrated in Fig. 8. An Award of Merit was accorded the plant on that occasion. Odontoglossum Miguelito resulted from crossing O. Dora (Lambeauianum × Pescatorei) and O. Doris (crispum × Ossulstonii). In the combination O. crispum and O. Pescatorei predominate, and O. Harryanum, as it generally does through secondary crosses, has doubtless tended to give greater size; the flowers, however, retain the desired form of the best O. crispums. The colour of the markings is deep violet purple, the ground being white, tinged with rose, the reverse of the flower also showing this colouring as on the face.

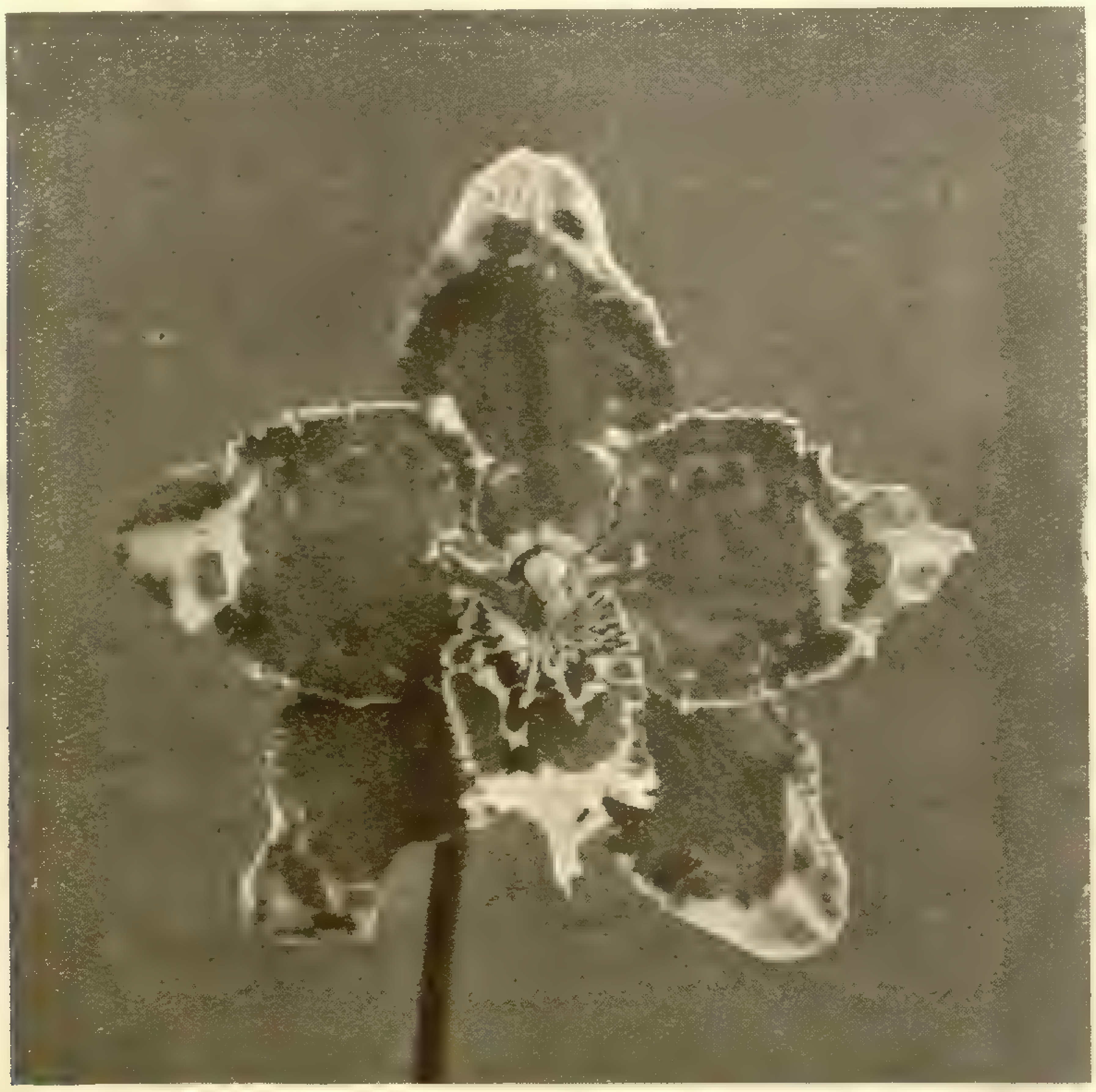


FIG. 8.—ODONTOGLOSSUM MIGUELITO.

NEW HYBRIDS.

(*Continued from May 24, p. 249.*)

Hybrid.	Parentage.	Exhibitor.
Adaglossum nanum	Ada aurantiaca × Odm. Phoebe	Messrs. McBean.
Brasso-Cattleya Fearnley Sander ...	C. Luddemanniana × B.C. Mrs. J. Leemann	Sanders.
Brasso-Cattleya grandis	B.-C. Thorntonii × C. Mendelii grandis ...	Flory and Black.
Brasso-Laelio-Cattleya lutescens ...	B.-L. Rosslyn × L.-C. Cora	H. T. Pitt, Esq.
Cattleya Hentschelii	Warscewiczii × Dupreana	Charlesworth and Co.
Cattleya The Bride	Warscewiczii alba × Dusseldorfei Undine ...	Flory and Black.
Cattleya Trevella	Mendelii alba × Suzanne Hye de Crom	Charlesworth and Co.
Charlesworthara Alpha	Miltonioda Ajax × Oncidioda Cooksoniae ...	Charlesworth and Co.
Cypripedium Woodcotense	Alabaster × Leeanum	Messrs. McBean.
Dendrobium Prince Arthur	Regium × Euryalus rubens	Sir J. Colman.
Laelio-Cattleya Aero	L.-C. G. G. Whitelegge × C. Percivaliana ...	F. J. Hanbury, Esq.
Laelio-Cattleya Caroline	L.-C. cinnabrosa × Schröderae	Messrs. McBean.
Laelio-Cattleya H. T. Pitt	L.-C. Bella × C. Enid	Flory and Black.
*Laelio-Cattleya Lady Evelyn	L.-C. Goldfinch × C. Empress Frederick ...	Sir J. Colman.
Laelio-Cattleya Ralph Sander	C. Mossiae Reineckiana × L.-C. Phryne	Sanders.
Laelio-Cattleya Walford	C. Schröderae × L.-C. Fascinator	C. J. Lucas, Esq.
Miltonioda Lilian	Ma. Harwoodii × M. Warscewiczii	Charlesworth and Co.
Odontioda Brunette	Odm. Vuylstekei × Oda. Zephyr	S. Gratrix, Esq.
Odontioda Magali Sander	Oda. Charlesworthii × Odm. Magali Sander ...	Sanders.
Odontioda The Panther	Oda. Chantecleer × Odm. unrecorded	Sir J. Colman.
Odontioda Zampa	Cooksoniae × Coronation	H. T. Pitt, Esq.
Odontonia Fantaisie	M. Warscewiczii × Odm. crispo-Harryanum ...	Sanders.
Odontonia Freda Sander	M. Warscewiczii × O. illustrissimum	Sanders.
Odontoglossum Gwendoline	Maid of Gatton × Odm. unrecorded	Sir J. Colman.
Odontoglossum King Emperor	Colossus × crispum Leonard Perfect	Armstrong and Brown.
Odontoglossum Modus	Doris × Rolfeae	John Walker, Esq.
Odontoglossum Nirvana	Thompsonianum × Lawrenceanum	Sanders.
Odontoglossum Rossinator	Rossii majus × Fascinator	Sanders.
Odontoglossum Siren	nebulosum × Fascinator	Sanders.
Oncidioda Sanderae	Oda. Sanderae × Oncidium macranthum ...	Sanders.
Sobralia Lyoth	macrantha × Charlesworthii	Charlesworth and Co.
Thunia Gatton	Bensoniae Winniana × Majoriana	Sir J. Colman.
Vuylstekeara Thera var. Tewin	M. Warscewiczii × Oda. Cooksoniae	Otto Beit, Esq.

* Shown as L.-C. Queen Marie. March 25.

FORESTRY.

THE COMMON ASH AND THE AMERICAN WHITE ASH.

THE common Ash, Fraxinus excelsior, is one of the most valuable timber trees to plant in the British Isles in places where the soil is suitable, for it usually realises a higher price than Oak and has the advantage of reaching a suitable age for felling earlier than that tree. Moreover, it has many uses for which substitutes are difficult to find, and there is no reason to imagine that its usefulness will depreciate; in fact, timber of first-rate quality is likely to be in demand for the manufacturing of aircraft until such time as metal takes the place of wood. Even then there are many purposes for which the strength and toughness of Ash wood are necessary which are likely to absorb all the timber that is placed on the market. The only tree that has been suggested as a rival for the common Ash is the American White Ash (Fraxinus americana), but although that is a fast-growing tree producing good quality timber, it is only likely to become a companion to the European species and there is no reason to suppose that it will prove superior either in rate of growth or in quality of wood.

There are many methods of cultivating the common Ash, and the same applies to the American White Ash. It may be grown as pure plantations, mixed plantations, coppice, as hedgerow trees, or as ornamental trees. In some districts Ash trees are very common in hedgerows and along the sides of roads, but the Ash is not an ideal hedgerow tree, for the roots travel to a considerable distance and impoverish the ground far beyond the radius of its branches. For the same reason it is not a desirable garden tree, for it is impossible to succeed with any other plants of importance planted near by unless the roots of the Ash are constantly kept within bounds.

Where the common Ash can be planted in plantations without interfering with less vigorous plants, it grows rapidly and produces timber at a greater rate than most other valuable hardwoods. Moreover, plantation-grown trees have an advantage over those grown in hedgerows or as ornamental specimens, for they grow up with few side branches and any branches that are formed are killed from want of light before they are large enough to leave behind them knots that will seriously injure the quality of the timber.

As a rule the timber of hedgerow trees is decidedly inferior to that of trees grown in plantations, largely by reason of its knotty character, but also on account of the trees being left standing until the wood darkens in colour and begins to deteriorate. The best Ash wood

is light in colour, straight grained, quickly grown, and comparatively young. When old trees are felled the wood in the centre will often be found to be dark in colour, and such timber realises a lower price per cubic foot than that of clean, young trees. Coppice Ash is often used for stakes and for splitting for hoops and various other purposes, whilst young saplings find a market as walking sticks.

Ash trees give the best results when grown in good, deep, loamy soil, but they also grow well in ground of inferior quality provided it is naturally moist. They also succeed in poor soil of a sandy character, but the results are less favourable than when the ground is of better quality and moist. They succeed throughout the country and withstand exposure to sea air. On the cliffs near Swansea are trees exposed to the full force of the winds from the sea, which, though not well developed, are quite healthy. The common Ash is a good town tree, and in the smoky atmosphere of Glasgow where other trees, such as the Horse Chestnut, are a failure, the Ash flourishes.

As is the case with most other trees, the Ash grows more vigorously if planted in ground that has been worked than when it is notched into unworked land, and whenever possible it is wise to plough land that is to be planted. As a rule the smaller the trees at planting time, the better they succeed, and in some cases it may even be advisable to sow seeds in the places the trees are to occupy. The disadvantage in seed growing or in planting very small trees, say 12 to 15 inches high, lies in the fact that if not carefully tended for a year or two they are apt to be smothered by rank weeds. For hedgerow planting it is necessary to plant trees that rise well above the hedge or to take care that they are given ample room until strong enough to fight their own battles.

In proper Ash plantations, trees may be planted 4 feet apart or seeds sown in patches at the same distance. They may be allowed to remain at that distance for some years and, later, the removal of suppressed trees will probably be sufficient in the first place to give the necessary relief. Excessive thinning should be avoided, for in the first place, straight, slender trunks free from large branches are required. When the trees have attained the necessary height, sufficient thinning to allow of the development of the head will result in a more rapid girth development.

There are several diseases that attack the Ash. One of the worst is canker caused by a bacterial disease. This is easily detected, for it forms ugly, cankerous wounds which not only disfigure the trees, but injure the timber. Both young and old trees are affected, and there appears to be no other means of checking the spread of the disease than by burning affected wood. Trees grown in dry positions are sometimes seriously injured by scale insects which entirely cover the bark and live on the sap. Affected trees have a sickly appearance, lose numerous branches, and eventually die. Young trees may be sprayed with a paraffin wash when the larvae are active, which is usually early in May. The active stage is of very short duration. Ash buds are sometimes injured by the larvae of a moth. The Goat Moth and Wood Leopard Moth find the wood a congenial feeding place for their larvae, and the larvae of several beetles, especially Hylesinus fraxini and H. crenatus feed in the cambium between bark and wood, and do a large amount of damage.

The age for felling trees depends upon circumstances, but on good ground excellent timber may be obtained from trees 40 years old: trees younger than that have been cut during recent years. Such trees should be tall, straight, and clean stemmed, with comparatively little taper in the first 20 feet. The maximum height of the Ash varies in different parts of the country, but there are perhaps no finer specimens than are to be found on Lord Darnley's estate, at Cobham Hall, in Kent; a tree blown down and measured as it lay on the ground was 155 feet in length, whilst a section of timber cut from a point 20 feet above the ground measured 3 feet 4 inches in diameter. *W. D.*

CULTURAL MEMORANDA.

STRAWBERRIES.

To extend the season of this delicious fruit to its utmost is well within the possibilities of most gardens, provided care is taken in the selection of varieties, and reasonable cultural requirements are provided by the grower. Where early forcing is regularly practised, a bed of plants is usually reserved expressly for furnishing a supply of strong early runners, but in cases where this provision has not been possible, excellent plants for pot culture may be obtained by selecting, at the earliest opportunity, strong runners from fruiting plants, and pegging them down in small pots filled with good soil. For general convenience the pots should be plunged at least half their depth in the bed. Every attention should be paid to these runners, as unless they make strong plants successful forcing is impossible. When the runners are well established, and after they have been severed from the parent plant a short time, they should be potted direct into their fruiting pots, those having a diameter of six inches being usually employed. The pots should contain a moderate quantity of crocks for drainage. Strawberries are not fastidious in regard to soil, but they grow best in strong loam, four parts, to one of well-decayed manure, further enriched with bone-meal, or a lasting fertiliser, and with a liberal quantity of lime refuse added. No useful purpose is served by making the soil too fine, but firm potting is essential, and the plants should not to be buried too deeply. When potted, stand them on an ash base in the open, and see that they are kept well watered, and syringed freely in hot weather. Should red-spider appear on the leaves, apply a suitable insecticide with considerable force. Mildew is another evil, and with this trouble prevention is better than cure. Therefore the plants should be sprayed occasionally with liver of sulphur at a strength of one ounce in three gallons of water in dull weather. When heavy rains begin to fall in autumn, place the pots on their sides under the shelter of a low wall till they are required for forcing. Strawberries are not, as a rule, prone to blindness, but a sharp look-out should be kept for any that show this defect when top-dressing them just previous to their removal to the forcing house. Throughout the whole period of forcing watering is an important detail of cultivation. During the early stages of forcing, when there is a gradual rise in the temperature from 45 degrees to 60 degrees, it is not difficult to keep the roots moist, but as the year advances and the sun gains power, the plants, being staged near the roof glass, should be examined frequently for watering, as they are quick to suffer from the least neglect. Moreover, it should be remembered that there is little or no benefit gained from feeding a dry soil. On no account should the plants be allowed to flag, for they rarely regain their former vigour when the roots are allowed to become excessively dry. Royal Sovereign is still one of the most reliable varieties for forcing, and King George is also useful.

To obtain early fruit in the open the same steps should be taken to secure plants as for forcing, and the earlier these can be got into their permanent quarters the better. A favourite site for Strawberries is one that was well prepared for early Peas the previous autumn. Other plots, perhaps not so well treated, should be dug deeply and well manured some time in advance of planting, in order to allow time for the soil to settle. In cases where the soil is of a particularly heavy nature the young plants will obtain a better start if the rows are made in the form of a narrow trench, and filled with old potting soil. Robust growing sorts, such as Royal Sovereign, that are intended to remain for two or more years should be planted in rows $2\frac{1}{2}$ feet apart and 2 feet in the row. Others of a more compact habit, such as Laxton's Latest, will have plenty of room if the rows are 2 feet apart.

Make the soil firm about the roots when planting. If it is necessary to plant in dry weather, see that the runners are watered regularly until their roots are established in the soil, after which an occasional watering with liquid manure will be highly beneficial. All runners should be removed at an early stage of their development. Plants thus treated produce fruits of high quality a little in advance of older plants.

In order to prolong the season of this fruit to its utmost a careful selection of varieties is necessary. For the earliest supply, Royal Sovereign and Vicomtesse Hericart de Thury are both reliable sorts; for following these choose Bedford Champion and Laxton's Leader, and, for main crop, Fillbasket and President. All these Strawberries should be planted in an open situation, but a north border is best suited for such late varieties as Givon's Late Prolific and Laxton's Latest. *F. T.*

FIG. 9.—CYDONIA JAPONICA VAR. WILSONII: COLOUR OF FLOWERS SALMON-PINK.

CYDONIA JAPONICA VAR. WILSONII.

This member of the Quince family, which is known in the United States as "Chaenomeles lagenaria var. Wilsonii," was found by Mr. E. H. Wilson in the province of Western Szechuan during his plant collecting expeditions in China during the years 1908 and 1910, and on both occasions he discovered it as a cultivated tree.

It flowers during May, forming a useful addition to the early blossoming trees, and is a striking subject when in bloom: the flowers are of medium size and coloured salmon-pink. But the chief attraction of the tree lies in the large fruits, which are from 4 to 6 inches long and about two-thirds of these measurements broad.

FIG. 10.—CYDONIA JAPONICA VAR. WILSONII: A YOUNG TREE IN FRUIT AT ALDENHAM HOUSE GARDENS.

It is remarkable how large a quantity of fruit a comparatively small tree will carry. At Aldenham one specimen measures about 15 feet high and, when nine years old, it bore about 100 of the large fruits and formed a striking object during the autumn. The flowers are illustrated in Fig. 9, and the tree in fruit in Fig. 10.

The fruit is very aromatic, keeps well and is of service for the manufacture of jelly and other preserves in the same way as the ordinary Quince, though they do not colour to the same perfection at Aldenham as they would in a warmer climate, where they turn golden and red.

This variety is easily propagated from seed. It received an Award of Merit from the R.H.S. on August 31, 1915. *E. Beckett.*

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Coelogyne.—The species C. asperata, C. Dayana and C. Massangeana are remarkable Orchids that flower at this season of the year. Though their colours are not particularly bright, the flowers to these Coelogynes produce a fine effect when the plants are well flowered, as the graceful racemes present an appearance quite distinct from other members of the genus. All the species named have much the same habit, but C. Massangeana is not quite such a strong grower as the others, and will succeed in less heat than is necessary for them, the intermediate house suiting it best. Plants of the strong and free-growing kinds require good-sized receptacles provided with ample drainage, and they are best cultivated in shallow pans or baskets suspended from the roof-rafters under moderate shade. When well established they require copious supplies of water during the growing season and for this reason, when providing new rooting material, especially for large specimens, a supply of large, rough pieces of charcoal should be worked into the compost. This will ensure a sweet root run. The plants should be potted in two parts rough peat, Osmunda, or Al fibre, with a portion of light turfy loam, and Sphagnum moss. The best time to afford new rooting material is in early spring, when the plants first show signs of activity, but they will not require very frequent disturbance provided good rooting material is employed at the repotting. These plants usually rest during the winter, and a greatly diminished water supply is then required, but they should not be allowed to get dry enough to shrivel.

Cycnoches, Catasetum, and Mormodes. These peculiar Orchids are not generally grown, although they are decidedly interesting and worthy of the attention of cultivators. At the present time, when these plants are in full growth, they require plenty of heat, and they are best grown suspended close up to the roof-glass, and afforded a light position. Whilst they are making their growth and root action is free, they should be supplied with abundance of water both to the roots and in the atmosphere, and in bright weather the foliage should be syringed freely to counteract the spread of red spider and other insects. After the flowering period, which takes place as the pseudo-bulbs become mature, the plants should be afforded more air and sunlight to ripen the bulbs, and a plentiful supply of water at the roots should be provided until the bulbs are ripe and the leaves have fallen. After this has taken place the plants are very impatient of moisture, and water must therefore be almost entirely withheld, and during the resting season the plants should be placed in a position where they will receive all the sunshine and light available.

Stanhopea.—This is another genus that does not find much favour with the majority of Orchid growers because the flowers are short-lived, and also because of the unsuitability of the flowers for cutting. The best species are, however, attractive Orchids, and worth growing where room can be provided for them. They are easily cultivated and free flowering. The flower spikes being pendulous, often pushing their way downwards through the compost, the plants are best grown in open, teak wood baskets, so that the spikes can readily find an opening to push their way through. The baskets should be well drained, using pieces of charcoal for the purpose in preference to crocks. Stanhopeas thrive best suspended from the roof, and the heat of the Cattleya house will be found ample for them. Although a clear light is beneficial, the plants should be shaded from strong sunlight, as very bright sunshine injures the foliage. During the growing season these plants delight in abundance of water both at their roots and overhead, but when growth is finished the plants should be rested in a cooler house, and at this time very little water will be requisite, only enough being given to keep the pseudo-bulbs from shrivelling.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Cucumbers.—Where Cucumbers are growing on the southern side of the plant house they should be lightly shaded during the hottest part of the day, especially if the plants are in bearing. Keep the atmosphere well charged with moisture, the bed well moistened, and the walls and foliage sprayed morning and evening. Regulate the growths as this lengthens the cropping period. Top dress the beds lightly with turfy loam and decayed manure in equal parts whenever roots appear on the surface. Young successional plants will need stopping; allow no fruits to develop on them until they are well-established.

Tomatos.—The spring-sown batch will now be in full bearing, and will need care and attention to keep them in health and fruitfulness. Do not allow them at any time to become dry at the roots or the fruits will crack after watering, while if overfed they become too vigorous to set their fruits properly; therefore regular top-dressings with loam and a little burnt garden refuse is the most satisfactory means of securing an evenly-balanced growth A good liquid manure may be

made of one part each of horse and cow manure and a quarter part of soot; place the whole in a bag and put it in a tub of water; dilute the liquid with clean water when applying it. The fruits should be gathered as soon as coloured.

Vegetable Marrows.—Continued dry weather affects Marrow plants, therefore regular applications of clear water and liquid manure should be given. Thin the growths if overcrowded and pinch out the points of the longer, rambling shoots.

French Beans.—A sowing of French Beans may still be made on a warm, sheltered border to provide autumn supplies. These later batches should be sown in beds that may be covered by frames to protect the plants from autumn frosts.

Turnips.—These will require close attention at this season. Choose a shady site and thoroughly soak the drills before sowing the seed. A light covering of short lawn grass mowings placed over the entire bed will ward off the Turnip Flea. Red Globe types are excellent varieties to grow at this season.

Peas.—If late varieties are sown now, place the seeds somewhat thinly in the drills as the plants are likely to grow grossly in the autumn and become susceptible to mildew.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Statice profusa.—This most valuable decorative greenhouse plant lasts a long time in bloom, and the flower spikes may be used for winter decoration by cutting them when the flowers are opening and hanging them up to dry. Established plants will be benefited by a top-dressing of loam mixed with concentrated fertiliser and frequently watered with liquid manure. The shoots should be staked, otherwise they are liable to split from the stems. Statice profusa does not lend itself to the ordinary methods of propagation from cuttings. The best means of increasing it is to plunge the pots to the rim in a pit or frame in light, sandy soil, and layer the shoots in the surrounding soil. If layering is done at the beginning of the season of growth, finely rooted plants may be obtained for potting up in the autumn.

Climbers.—Allamandas, either planted out or in pots, should be carefully watered and given frequent applications of liquid manure. When the shoots have reached the desired length pinch out the points, as this will throw energy into the flower shoots. Syringe the foliage frequently. The tying up of young Lapageria growths should be attended to, and the plants should receive daily syringings and an occasional fumigation. Keep the roots sufficiently moist and then feed occasionally with liquid manure. Other climbers, such as Passiflora, Swainsonia, Tacsonia, Cobaea, Heliotrope, and Fuchsia should be carefully trained to rafters and pillars; cut back untidy shoots, and daily syringe the plants to keep the foliage clean. Any climbers that have finished flowering should be pruned, removing old wood and weak shoots, and affording ample space for the young growths that will flower next season.

Azalea indica.—When Azalea plants have finished their growth and formed flower buds, plunge the pots out of doors in coal ashes, preferably in a position shaded from full sunshine. Syringe them twice daily and occasionally with an insecticide to prevent attacks of thrip.

Camellia.—Camellias planted in borders should receive sufficient water to keep them thoroughly moist at the roots; it is also necessary to afford some stimulant, either by sprinkling a plant fertiliser over the surface of the border or by giving liquid manure. Ventilate the Camellia house as freely as possible and syringe the plants once daily to keep the foliage clean. Camellias grown in pots, when sufficiently hardened, may be plunged in ashes out of doors in a position sheltered from wind. Other hard-wooded plants, such as Erica, Deutzia, and Genista, may be plunged in ashes to the pot rim out of doors and syringed and watered as necessary.

Poinsettia.—Early-rooted cuttings should be potted into 5-inch pots: thoroughly soak the ball of roots before repotting, and use a compost of three parts fibrous loam and one of peat and sand. Place the plants in an intermediate temperature, and gradually inure them to more light and air, but supply water carefully until the roots are re-established.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Thinning Fruits.—All kinds of stone fruits should now be finally thinned. The number of fruits to be left on a tree depends upon its size and strength. A healthy tree may be allowed to carry more fruits than one in poor health, and the crop on young trees should be well thinned, otherwise growth will be retarded. Where the crop is properly thinned trees will carry a greater weight of finer fruit than in the case of half thinned crops. All kinds of fruits are better for thinning, and nothing helps more to keep fruit trees in good health than regular crops. Thinning should be done before the fruits swell finally before ripening.

Ants.—These pests are generally more troublesome in dry seasons than in wet ones, and every means should be adopted to get rid of them, as they are very fond of fruit. They favour wall fruit trees and are difficult to eradicate. Petroleum blown into their holes will drive ants away. Pots and sponges smeared with treacle or any kind of sweet syrup and laid at the foot of a fruit wall are quickly filled with ants and easily trapped thereby. Ants do not like ammonia, and where plenty of liquid manure is used it has a tendency to keep them away.

Gathering Cherries.—Fruits required for dessert should be cut with a portion of the stalk attached. Fruits required for packing or keeping should be gathered with the stalks intact and removed carefully from the branch. If picked in this way they keep much longer, and if thoroughly ripe will keep for some time if hung in the fruit room. The fruits should be gathered dry, and care should be taken not to rub off the bloom. Cherries may be kept for some time if the stalks are placed in water.

Watering.—Practically all fruit trees need watering regularly, as the recent rains have not been sufficient to moisten the soil down to the roots, especially in the case of wall trees. Nothing causes fruits to drop so much as drought at the roots.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Layering Carnations.—July and August are the best months in which to carry out the work of layering Carnations. Prepare some good soil containing plenty of grit, and sufficient pegs for the work. Clear a space beneath the plants and slightly loosen the surface soil. Then place the new soil where the layers are to be secured. Only layer a few of the strongest growths, and remove the rest. Trim some of the leaves from the base upwards on the growth to be layered to where the tongue is cut; peg down firmly, cover the wounds with the fresh soil, and give a good watering. The surplus shoots may be made into cuttings and will root readily in sandy soil under hand-lights placed in a shady position.

Pinks.—These should now be propagated from cuttings or pipings. Cuttings form roots quickly when dibbled into sandy soil under hand-lights, or in cold frames. Shading is most essential in bright weather, with plenty of moisture to keep the leaves fresh. As soon as rooted, the plants should be set out in prepared beds until required for planting out.

Seedling Pinks.—Seeds of all kinds of Dianthuses may be sown in pans filled with suitable soil, and with reasonable attention a good stock may soon be obtained.

Bedding Plants.—Keep all plants of trailing habit carefully pegged down and remove any dead leaves and flowers. Tall plants, such as Fuchsias, Heliotropes, and other subjects employed as dot plants should be neatly supported, or they may be damaged by winds.

Window Boxes.—These will be gay by this time, and every care should be taken to maintain a good display. Do not neglect to supply the plants with sufficient moisture and liquid manure, especially when the roots have fully occupied the soil.

Hardy Heaths.—Erica carnea and other Heaths employed as edgings to beds of Rhododendrons and Azaleas, and to rockeries, are most useful, and new stock should be raised annually. Open a small trench, two inches deep, round each plant, and layer the young side growths, excepting the tips, in suitable soil; press this firmly, and in due course an abundance of young plants will be obtainable. Heaths might be used more extensively for covering bare places which are unsuitable for growing other subjects.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Early Vinery.—As soon as the Grapes have been removed, the vines should be thoroughly cleansed by repeated forcible syringings. Every effort should be made to keep the old foliage healthy until the autumn, and thus help to strengthen the buds for next season. Growth will now be rapid, and to prevent crowding it must be kept within the space available. It is a good practice to slightly shorten the laterals in order that the basal buds may develop fairly. The ventilators should be kept wide open, both day and night, excepting during rough weather. The borders should be kept in a moist state and liquid or artificial manure afforded at intervals.

Successional Vineries.—In order to preserve the bloom and colour of the Grapes which are now ripe, the ventilators should never be quite closed, otherwise moisture will condense on the fruit and spoil the bloom. Damping should be done less frequently, but moisture must be afforded according to weather conditions, otherwise red spider will quickly increase. Where the Grapes are in the earlier stages of colouring, the vines should be afforded a fair amount of atmospheric moisture. Admit a small amount of air by night, and an increased quantity by day, until the Grapes are fully ripe. The night temperature should range from 60° to 65° for all varieties ripening at this period, with the exception of Muscats, which should be grown in a temperature of 65° to 70°.

Late Vineries.—The bunches should now receive their final thinning, and it is essential when Grapes are expected to hang until late in the season that the berries have ample room to develop, thus giving them every opportunity of becoming properly finished. The interior of the bunch should be well thinned, as this will to a certain extent prevent the accumulation of moisture during damp weather, and consequently the decay of berries is reduced to a minimum. The foliage and berries of certain varieties are at the stage when scalding is likely to occur. The berries of Lady Downe's are very liable to scald at the period just preceding their change of colour, but by admitting a little air through the top ventilators, keeping a circulation of heat in the water pipes throughout the night, and increasing the amount of air in the morning as soon as the warmth from sun-heat is noticed, scalding can usually be prevented. The amount of atmospheric moisture should be governed by the weather conditions; during dull, damp weather the supply should be considerably reduced. Ventilation will also demand constant attention during this critical period. If the vines are making a large quantity of lateral growths they must be stopped early, but this should always be done gradually.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, JULY 14—
United Horticultural Ben. and Prov. Society's Committee meet.
Bath Gardeners' Society meet.

TUESDAY, JULY 15—
Royal Horticultural Society's Committee meet. National Rose Society's Exhibition of seedling Roses; National Carnation and Picotee Society's meeting; lecture by Mr. A. D. Webster, at 3 p.m., on "Afforestation."

FRIDAY, JULY 18—
Birmingham Horticultural Society's Floral Fete at Handsworth Park, Birmingham. (2 days).

SATURDAY, JULY 19—
Peace Celebration Day.
Croydon Horticultural Society's Vegetable and Fruit Show, in the Public Halls, George Street, Croydon.
Brighton Horticultural Society's Outing.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich 63.1.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, July 9, 10 a.m.: Bar. 30.2; temp. 65°. Weather—Sunny.

The Botany of Crop Plants.* It is one of the most difficult tasks that a teacher can overtake to endeavour at one and the same time to inculcate a knowledge of scientific principles and to impart technical information. To succeed in the former, the teacher must select his facts and array them in an arranged order. He must go slowly and often go back in order to reinforce the implied argument; whereas so far as technical instruction is concerned, lucidity, accuracy and a sense of essentials are the chief requirements.

In producing a work which is at once text book and book of reference, the author has tried an experiment which although it cannot be regarded as wholly successful, is certainly interesting. His method is to give a rapid review of morphological and physiological botany and then to devote himself to a description of the chief economic plants of the farm, garden, and orchard. The general descriptions of agricultural and horticultural plants are well done and will prove useful to the student, although he will have to go elsewhere for much of the information necessary if he is to gain a sound knowledge of the applied botany of the plants with which he deals. For instance, in discussing the "running out" of Potatos, no reference is made to British experience, which demonstrates plainly enough the fact that degeneration is a matter of strains and not of varieties; nor does the author refer to the proved excellence of Scotch and Irish seed.

The chapters on fruit crops contain much that is of interest, although from our point of view not enough is said on the subjects of stocks, pruning or root pruning. The paragraph on the Loganberry requires revision, for it makes the contradictory statements that this fruit is a hybrid and that evidence exists that it is not a hybrid.

In the desire to include as much information as possible the facts given are at times apt to be scrappy. Thus it is difficult to see the value of stating that Dr. Diel's classification of Apples divides varieties into seven classes and to give without any description the names of the classes.

Although the statements made are generally accurate, we are not aware of the authority for the assertion that if the "common Apple" is grafted on the "wild crab" the fruit is more sour than usual. What is the common Apple and what the wild Crab? Very excellent are the keys to genera such as Prunus which accompany the descriptions of the various fruits, and the letterpress and illustrations are also admirable. It is, however, news to us that Nectarines appear on Peach trees and Peaches on Nectarines; we were of opinion that though the former happens the latter does not, and to that opinion we propose to adhere until the evidence to the contrary is forthcoming.

* *The Botany of Crop Plants.* A Text and Reference Book, by Prof. W. W. Robbins Pp 681. Philadelphia: P. Blakiston's Son and Co. 1917. $2 net.

Sulphur as a Fertiliser.* Many experiments have been made with respect to the value of sulphur as a fertiliser or as a means of sterilising the soil and thus indirectly benefiting crops. The results of these experiments have, however, not been uniform, for although in not a few cases beneficent effects have been observed, in others, the application of sulphur has failed to increase the yield. Recently the subject has been investigated by a number of different observers from new points of view, and it has been shown that when sulphur is added to the soil it undergoes oxidation as the result of biological action; that is to say, the sulphur plays a part in the metabolism of certain specific soil bacteria, and as a result is converted into sulphate. Of course it has long been known—since the work of Winogradsky—that sulphur bacteria of various kinds exist in soil and elsewhere which make use of this element in a way analogous to that in which the nitrogen bacteria make use of nitrogen.

But there would appear to be a practical value in these recent observations, for they show that in the course of the biological processes which lead to the oxidation of sulphur to sulphate the insoluble phosphates present in the soil become converted into a form in which they are available to plants. Tests made by mixing soil, sulphur and mineral phosphates show that the phosphate passes into a soluble form and hence that a compost made in this manner will serve as a useful substitute for superphosphate.

The proportion which gave the best results was 10 parts soil, 12 of sulphur, and 40 of mineral phosphate.

The addition of a trace of sulphate of iron and of sulphate of aluminium causes the oxidation of sulphur to go on yet more rapidly, and in practice to obtain this acceleration the amount of these materials which needs to be added is so little as 6oz. per ton of soil. Another point of interest is that the solubilisation of phosphates which accompanies the oxidation of sulphur by soil bacteria goes on more rapidly when the compost contains but little organic matter such as peat, fresh horse manure, or old composted manure.

It would be of interest to learn whether these observations might not be applied to gardening purposes—as, for instance, in the preparation of potting soils, and perhaps some of our readers may be able to carry out tests along these lines. It would also be interesting to know whether some of the benefits which are said to result from the partial sterilisation of soil by means of sulphur compounds, calcium sulphide, for instance, may not be due to the augmentation of the available phosphates in the soil.

* Internat. Review of the Science and Practice of Agric. Monthly Bulletin X. I. Jan., 1919.

New Garden Book.—*Days in My Garden* is the title of a book by Mr. Ernest Ballard, which will shortly be issued by the Cambridge University Press. The book will be illustrated by more than 130 photographs by the author, one of them in colour.

Retirement of Mr. R. Irwin Lynch.—Owing to ill health, Mr. R. I. Lynch has reluctantly been compelled to resign his office as Curator of the University Botanic Gardens. Mr. Lynch has held this position since October, 1879, but has now been advised by his doctor to avoid another winter at Cambridge. He will retire to Devonshire after Michaelmas of this year, but hopes still to contribute to *The Gardeners' Chronicle*, to which he has been a valuable contributor for many years. The Cambridge Garden, under the care of Mr. Lynch, has assumed a position in the front rank of botanical institutions and has played a most important part in University teaching. In 1906 the honorary degree of M.A. was conferred upon Mr. Lynch as an appreciation of his scientific work and able management of the Botanic Garden. Mr. Lynch will take with him into his retirement the good wishes of a very large circle of friends.

R.H.S. Teachers' Examination.—The first examination of the Royal Horticultural Society for candidates for Honours in the "Teachers' Examination in School and Cottage Gardening" has just been held, and the following have gained the certificate:—Section (*a*): General Horticulture—Miss E. A. Squire, Training College, Norwich; H. Sharman, 29, Sandringham Road, Northampton; W. Morley Chatterley, School House, Harvington, Evesham; James A. Harris, 9, Glasgow Street, St. James, Northants; H. H. Sterne, Hundon, Clare, Suffolk; R. J. Rowe, Gretton, Church Stretton, Salop; W. H. Baker, 75, Mitchell Street, Clowne, Chesterfield. Section (*b*): Fruit Growing in the Open.—W. E. Cole, Dyrham, Staple Hill, Bristol.

Educational Garden at Reading.—Dr. J. B. Hurry asks us to announce that his garden at Westfield, Reading, will be open to gardeners and other persons interested in economic plants on the 12th and 13th inst. between the hours of 3 and 6 p.m., when he will give demonstrations of the more interesting economic plants and their industrial products. Tea will be provided for visitors from a distance.

British Association.—The eighty-seventh annual meeting of the British Association will be held in Bournemouth from Tuesday, September 9, to Saturday, September 13, under the presidency of the Hon. Sir Charles Parsons, who will deliver an address to the association (dealing with engineering and the war) at the inaugural general meeting in the Winter Gardens on September 9, at 8.30 p.m. The sectional work will begin on Tuesday morning, and the days available for sectional meetings will therefore be

Tuesday, Wednesday, Thursday, and Friday, September 9, 10, 11, and 12, and, if required, Saturday morning, September 13. The presidents of sections include: Physiology, Prof. D. Noel Paton; Botany, Sir Daniel Morris; and Agriculture, Prof. W. Somerville.

The National Gladiolus Society.—The result of the circular sent out by direction of the Committee of the National Gladiolus Society shows 17 votes for winding up the Society and 2 votes against. These figures do not include any member of the Committee. Several members expressed their regret that the only course open was the winding up of the Society, and agreed that the balance of the Society's funds should be handed to the St. Dunstan's Home for Blinded Soldiers. A general meeting of the Society will, therefore, be held at Messrs. Barr and Sons, 11, King Street, Covent Garden, London, W.C., on Tuesday, the 29th inst., at 12 noon:—(1) To receive the result of the circular directed to be issued at the last committee meeting. (2) To consider, and, if necessary, to pass the following resolutions:—(a) That the Society be and is hereby dissolved; (b) that the Chairman and Hon. Treasurer be authorised to receive all books and assets of the Society with the object of their realisation and disposal; and (c) that after payment of the expenses of and incident to this meeting, the balance remaining in their hands be paid over to the Treasurer of the St. Dunstan's Home for Blinded Soldiers. (3) To transact any other business which may be necessary.

Paris Spring Show.—In a short, chatty letter from a young French gardener, we learn that the Paris Show held last month (see *Gard. Chron.*, June 21, 1919, p. 310) was somewhat hampered by the tramway, tube and omnibus strike. Messrs. Dobbie's Sweet Peas were greatly admired, he tells us, for this flower is not so well known in France as in this country. Of Roses there were some English varieties which were highly appreciated, particularly Golden Emblem, Duchess of Sutherland, Mrs. C. Russell, and Mrs. Wemyss Quin. Hydrangeas from M. Cayeux, M. Decault, and M. Mouillère were in good form. Orchids occupied a minor position, but Rhododendrons were very attractive, and considering there have been five years of war when such things could not have the usual attention, they were much admired.

Early Potatos.—The drought during May, which was more or less general throughout England, did not have such an adverse effect on the yields of early Potatos in Cornwall as was at one time expected. The chief varieties grown were May Queen and Sharp's Express, with a few Duke of York in the Penzance district. The crops, though not providing large yields, have generally given satisfaction to the growers. Ninety-fold and Epicure raised in Cheshire, Lancashire, and Scotland have yielded only fair crops, but they were marketed in excellent condition. This season, first early varieties immune from wart disease were more extensively planted than in previous years, and highly satisfactory crops of Snowdrop, Witch Hill, and Edzell Blue have been raised. The last variety carried rather a large haulm for a first early. Another immune first early variety which, according to the Board of Agriculture, has yielded satisfactory crops, is Dargill Early; it is a new seedling with foliage of the Ashleaf type, and tubers that are yellow in flesh and of good quality.

New Roses at the N.R.S. Show.—We learn that the new Rose named Independence Day, described on p. 15, received a Certificate of Merit from the National Rose Society last year (see *Gardeners' Chronicle*, July 13, 1918, p. 18), and not on the 2nd inst.; but the variety Evelyn Thornton (see p. 15), also shown by Messrs. BEES, obtained this award on the latter date. We suggest that it would make for correctness and assist the Press generally if the cards notifying the awards to new Roses were placed in front of the successful varieties at a much earlier hour than 4 p.m. A pencilled note on the entry card is not consistent with the dignity of the Society, and hardly fair to the exhibitors or the visitors. The two varieties which were awarded Gold Medals are illustrated in Figs. 13 and 14.

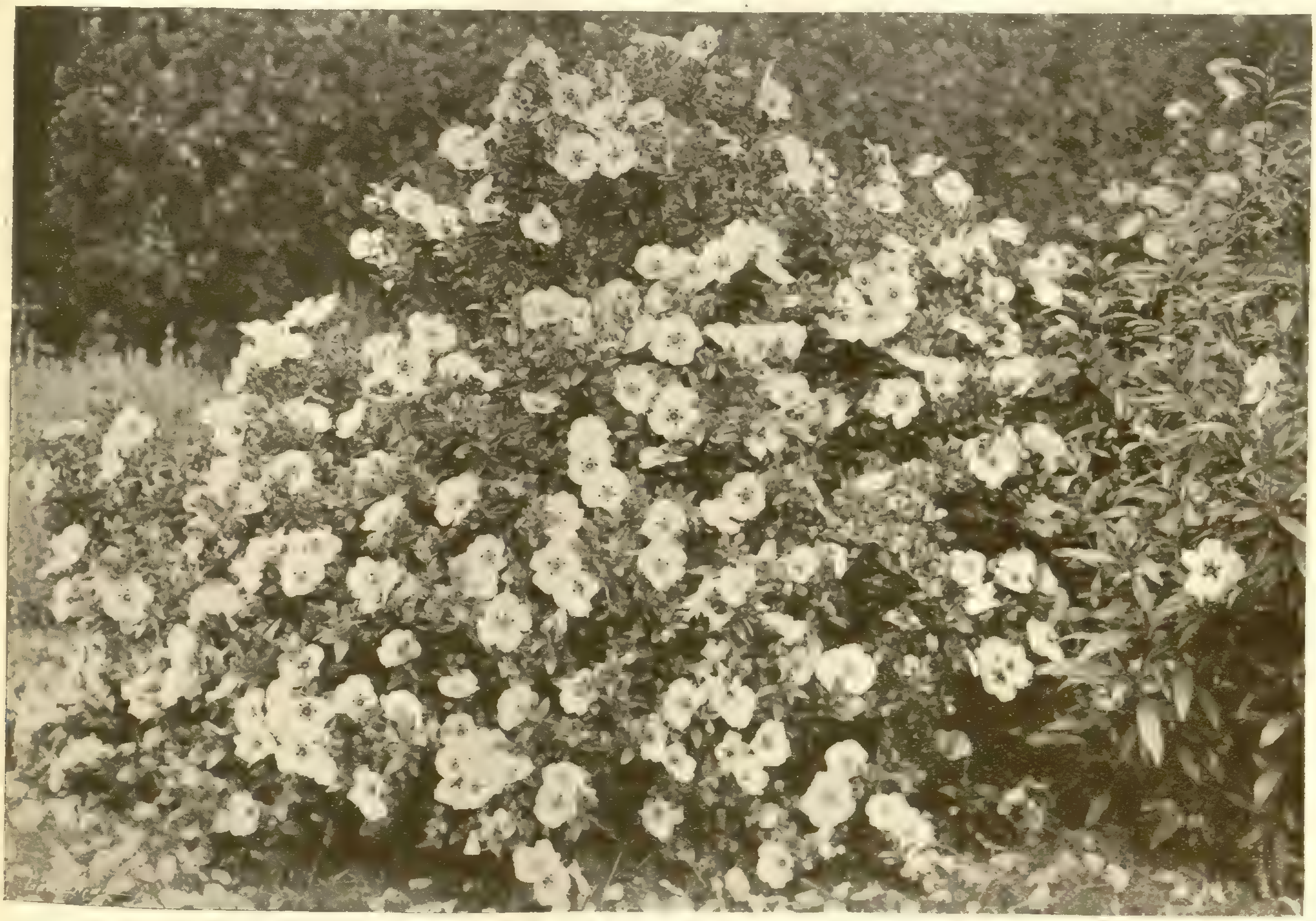


FIG. 11.—A FINE PLANT OF CISTUS LORETII.
(See p. 27.)
[Photograph by R. J. Wallis.

The Genetical Society.—A well-attended and representative meeting was held on June 25 at the rooms of the Linnean Society, for the purpose of founding a society to promote the study of Genetics. The object of the new organisation was declared to be the promotion of intercourse between persons interested in the various branches of genetics, whether scientific or economic. The meetings are to be held in the various places where experimental work is in progress, and the hope was expressed that visits to practical breeders of plants and animals may be also arranged. It was announced that the Rt. Hon. A. J. Balfour, whose interest in this branch of science is well known, had consented to become the first president of the society. The following were also appointed: Vice-presidents, Mr. W. Bateson, Miss E. K. Saunders, Mr. A. W. Sutton; secretaries, Prof. Punnet, Miss C. Pellew; committee, Mr. W. E. Agar, Prof. Biffen, Prof. Bourne, Mr. E. A. Bunyard, Mr. L. Doncaster, Sir A. D. Hall, Mr. A. W. Hill, Dr. Keeble, Prof. A. H. Trow. In view of the difficulty of accommodating large numbers at some of the institutions to be visited, the membership was limited to 100. The first scientific meeting is to be held in Cambridge on the 12th inst.

Budding Wild Olives.—Wild Olives abound in certain parts of Baluchistan at heights of about 5,000 feet above sea level, and in the hope of turning this to profitable use the Forest Administration of the country has, according to a note in the *Journal of the Society of Arts* (June 6, 1919), carried out experiments in budding on the wild trees the European Olive. It has been found that resting buds put in September on trees previously cut down and

coppiced take well. It is hoped if the experiment is successful to establish an oil industry in Baluchistan.

Agricultural Workers' Cottages.—According to the *Wages Board Gazette*, under Clause 5 (b) of the "Benefits and Advantages" Order, it is open to a worker occupying a cottage provided by his employer in part payment of minimum rates of wages in lieu of payment in cash to complain to the District Wages Committee for his area if he considers that the cottage is defective in accommodation, sanitation or water supply, or is in want of repair, and ask them to fix the sum which may be deducted from his wages on account of the provision of the cottage at less than the maximum sum allowable under the Order. The maximum sum which may be deducted from the minimum wage in respect of a cottage free from the above-mentioned defects is 3s. for all counties in England and Wales, except Northamptonshire, Herefordshire, Mid-Bucks, and parts of Somerset, where the sum is 2s. 6d., and North Bucks, where it is 2s. The number of complaints as to defective cottages so far reported by District Wages Committees has not been large, and from many districts no complaint has been reported. Private gardens or estates are not held by the Board to come within the scope of its Orders, except where the produce thereof is grown wholly or partly for sale. But in the latter cases the Board hold the view that the minimum rates of their fixing apply, and must be paid.

Potato and Fruit Growing in Ireland.—From 1916 to 1918 the total acreage under Potatos in Ireland increased by 115,539 acres, or 19.7 per cent., the areas under cultivation being—1916, 586,308; 1917, 709,263; 1918, 701,847. It will be seen that from 1917 to 1918 the acreage decreased by 7,416 acres, or 1.0 per cent. There was a decrease of 9,563 acres in Munster, 5,474 acres in Leinster, but the area in Connaught increased by 4,856 acres, and in Ulster by 2,765 acres. Antrim showed an increase of 2,356 acres, Galway 1,840 acres, Londonderry 1,742 acres, Roscommon 1,655 acres, and Mayo 1,500 acres, while, on the other hand, the area decreased in Cork by 4,965 acres, in Kerry by 2,809 acres, in Westmeath by 1,265 acres, and in Kilkenny by 1,262 acres. The area under fruit increased from 15,567 acres in 1916 to 17,024 acres in 1917, and to 18,503 acres in 1918. The total increase from 1916 to 1918 was 2,936 acres, or 18.9 per cent. The area in Ulster increased by 1,900 acres, in Leinster by 625 acres, in Munster by 289 acres, and in Connaught by 122 acres. Armagh showed an increase of 601 acres. Down, Antrim, Tyrone and Fermanagh, each showed an increase of over 200 acres. The total area increased by 1,479 acres, or 8.7 per cent. from 1917 to 1918. The area in Ulster increased by 752 acres, in Leinster by 348 acres, in Munster by 287 acres, and in Connaught by 92 acres. Antrim, Down, Tyrone, Tipperary, and Londonderry, each showed an increase of over 100 acres.

Eelworm.—Of the innumerable pests which attack cultivated plants Eelworm is one of the most serious, particularly because owing to their millions the evil which they do is often ascribed to "cultural defects." Like most soil pests Eelworms are by no means easy of extermination. When distributed generally through a soil they can only be got rid of completely—so far as is known at present—by a thorough sterilisation of the soil, which is a difficult operation, and one which, so far as soils in the open are concerned, is well-nigh impracticable. Where, however, as occurs in certain cases, Eelworm is carried in the seed, remedial measures are both practicable and successful. Thus, in a recent paper on the subject of Eelworm in Wheat,* Mr. Byars shows that the "cockled" grains which are infected by Eelworm may be separated from sound grains by the salt brine method devised by Dr. A. G. Johnson, of Wisconsin, for removing ergot from Rye. To apply this method a 20 per cent. solution of salt is made by dissolving 40 pounds of common salt in 25 gallons of water. When a sample of Wheat is poured slowly into this solution the sound grains sink, whereas the grains infected with the nematodes float and hence may be skimmed off. When this has been done the salt solution is drained away and may be used again. The sound Wheat is rinsed with water and then spread on the floor on canvas till it is dry, when it is ready for planting. To rid soil of this pest it is necessary to refrain from growing Wheat on it for two or three years, for the Wheat Eelworm does not seriously attack other crops, and hence is starved out if its host plant is not present.

* *The Eelworm Disease of Wheat and its Control.* By L. P. Byars. Farmers' Bull. 1,041, U.S. Dept. of Agric. March, 1919.

Land Settlement for Ex-Service Men and Other Small Holders.—Fifty-two County Councils report to the Board of Agriculture a total of about 20,000 recent applications for small holdings by ex-Service men and others. Between 7,000 and 8,000 of these applicants have been interviewed by the committees of the counties; and 79 per cent. of them have been approved as suitable persons to have small holdings under the local authorities. Enquiries made some time ago among the armies in France suggested that most of the Service applicants for small holdings would require only a cottage and an acre or so of land. The actual applications to date do not confirm this earlier impression. Of 5,824 men interviewed by the County Committees, 5,436 have applied for a total of 106,377½ acres; whilst 388 only asked for cottage holdings, the total area affected by their applications only just exceeding 1,600 acres. During the last week in June the Board of Agriculture approved the purchase of nearly 4,000 additional acres by local authorities for small holding purposes. The counties concerned were Buckinghamshire, Bedfordshire, Cambridge, Cheshire, Cornwall, Derby, Devon, Gloucester, Kent, Lindsey (Lincs.), Somerset, Southampton (Hants.), Stafford, Suffolk, Sussex, Warwick, Wiltshire, Anglesey, Denbigh, Flint, and Glamorgan. It will be gathered from this list of a single week's schemes approved that the interest taken by local authorities in the provision of land for ex-Service men is genuine and widespread. Since the beginning of the year County Councils acting under the Small Holdings and Allotment Act have bought for this purpose, with the approval of the Board of Agriculture, close on 37,000 acres—34,043 acres in England and 2,938 acres in Wales. Possession so far has only been obtained of about one-seventh of this area, but by the end of the year the authorities will be holding for ex-Service men nearly half of the land bought. It should be added that the Board of Agriculture and the local authorities meanwhile are co-operating to train the future small holders or to find them suitable employment, and that the councils are arranging with the Board for the purchase of over 100,000 more acres, including upwards of 9,000 acres to be acquired if necessary by the exercise of compulsory powers. It is evident that where land has been unobtainable by amicable negotiation local authorities have not hesitated to ask for powers of compulsory purchase.

War Items.—M. Louis Lemoine, an officer in the 160th Regiment of the line, and son of M. Lemoine, the well-known nurseryman, of Nancy, has been mentioned four times in Orders. M. Louis Lemoine has been three times wounded and has been awarded the Cross of Chevalier of the Legion of Honour. M. Henri Lemoine, another son, who served in the artillery, has also been mentioned in Army Orders.

——News has only just reached us of the death in 1917 of Prince Gargarine, which took place at Odessa. This gentleman was a great patron of horticulture and was well known for his interest in pomology. He often took part in International Shows, and was one of the Foreign Members of Honour of the International Horticultural Exhibition held at Chelsea in 1912.

Publications Received.—***The Single-period Cold-pack Canning of Fruits and Vegetables.*** No. 6. Series VII. Brooklyn. New York. ***Thirtieth Annual Report of the Horticultural Societies for the Year 1918.*** Ontario Department of Agriculture. Toronto: A. T. Wilgress.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

R.H.S. War Relief Fête.—I am desired by the President and Council of the Royal Horticultural Society to communicate, through the courtesy of your columns, to all the members of the horticultural trade who supported the Society's War Relief Fund Fête, the Council's sincerest thanks for the whole-hearted response made to their call for help and co-operation, and for thus rallying round the Society to increase its fund for the restoration of devastated orchards and gardens in the countries of our Allies. It is anticipated that a very considerable sum of money will be added as a result of this effort. The amount secured will be made known as soon as possible. *W. Wilks, Secretary, Royal Horticultural Society.*

Jaborosa integrifolia (see p. 5).—I was interested in Mr. Arnott's note on this plant. It deserves all the praise he gives it, even when judged by only a few flowers. For some eight or nine years I had a good patch of the plant growing in a border in sharply-sloping, well-drained ground, in a sunny situation. Each year one could confidently look forward to a dozen or more of its beautiful white, sweet scented flowers. The plant received little attention beyond keeping other stronger growing subjects from encroaching upon it. This spring, however, after a few years' absence from home, I found it had disappeared, having probably succumbed during the severe winter of 1916-17. Judging by my experience I should say that in the warmer parts of the country the cultivation of this plant should not offer many difficulties. Our soil is limy, and possibly the addition of lime in some form to a soil lacking in this constituent might be helpful. *J. D. Halliburton, Royal Victoria Park, Bath.*

Chamois-coloured Mole. In a field adjoining the gardens here a mole was captured recently, with fur of a buff or chamois colour. It was kept a few days in captivity and was fed liberally with earthworms and various other things, including wood lice, which are, apparently, especially relished by the little animal. This coloured mole is a voracious eater and fierce worker, burrowing about in its caged dump for two or three hours at a time, then resting or sleeping for a similar length of time. It would be interesting to know if any of your readeres have ever seen a mole of a similar colour, or whether moles change colour naturally at certain seasons of the year as do certain other little quadrupeds. *R. Davidson, Kingswood Manor Lodge, Reigate.*

Variability in Plants.—If we assume that the genus we now define as Fuchsia originated from some previous ancestor that was not a Fuchsia, it must have inherited units in its composition which one would expect might revert at times to what would not be a Fuchsia, nor any other existing genus. That is what I would assume if intravolution admits of such a range of variation in the primitive plant constitution as Mr. E. Judson Page (p. 10) would seem to imply. A vast number of genera hinge on very small differences, and they (the genera) would break down if the parts of a flower were to vary even to a small extent. Mere size of a flower would not alter the generic characters; but the pulpy fruit is the chief thing that separates Fuchsia from Oenothera, and one may assume that some previous ancestor of the Fuchsia had no pulpy fruit. In Clarkia the tube of the calyx is not produced above the ovary, whereas in Eucharidium it is, the other characters being the same in both. In his book he mentions Mr. Page assumed the permanence of the composite creative principle in genus or species, therefore the calyx of Eucharidium may be regarded as generic and immutable. In a previous note I mentioned a Begonia with a superior ovary and open carpels. The ovary in the double-flowered Prunus Cerasus has reverted to an open green leaf. These reversions go behind the genus and the Order. I have seen no yellow Fuchsia, but F. procumbens has no petals, while the tube of the calyx is yellowish and the free portions pale blue. Several species have scarlet flowers. If white

is a primitive to all the spectroscopic colours, it is remarkable that no pure white Fuchsia has yet been produced. Venus Victrix and Countess of Aberdeen are the nearest to white I have seen, but they have a considerable amount of colour. *J. F.*

The Garden Chafer (see Vol. LXV. p. 321).—So far this year I have heard no complaints about this insect, except from the districts of Surrey mentioned by the correspondents in two previous issues. It has been recorded by Curtis as having been a plague in various parts of England in 1814, 1832, 1833, 1839, 1840, and 1844. Since 1892 it has been frequent, but judging by the records it will disappear after some years in Surrey, or become reduced to very moderate numbers. I have records that it eats the fruit as well as the leaves of Apples and Cherries. It also attacks Plums, Pears, Nuts, Roses, Strawberries, Nectarines, Cabbages, Rose roots, and Pine roots. Various names have been given to it in different parts of the country, such as Bracken Clock, Button Fly (Wales), and May Bug. As the beetles appear during May and June, the latter name would be more appropriate than June Bug, which would be more applicable to that other member of the group, the Summer Chafer, which is on the wing from the middle of June to the middle of July. This chafer has been abundant in the London district from 1839, or earlier, till 1919, but is not half so numerous in my district as last year, and is comparatively harmless. *Q.*

TREES AND SHRUBS.

CISTUS.

THOSE who wish to furnish a sunny bank with bold masses of flowering shrubs will find nothing better for the purpose than the sun-loving Cistuses. Generally the natural soil of such a place is quite suitable for the requirements of the plants. Rich soil of any kind should not be added, for this would favour the development of soft growth which would neither withstand winter weather nor produce the abundant blossom which is the plant's chief charm—it is the sturdy, short-jointed, almost starveling, that gives the best display. But if the natural soil is unusually poor the addition of leaf-mould is to be recommended, as this will assist the plants to become established. While a maximum amount of sunshine and a relatively dry root-run are desirable, if not actually essential, atmospheric moisture is no detriment to the well-being of these South European shrubs, and some of the best plants of the older sorts that I have seen were growing on the rather steep sides of a stream which fed a large lake. Although 30 years have come and gone since I first saw generous masses of C. ladaniferus growing in such a place, I still retain vivid recollections of the charm of the countless numbers of widely expanded flowers, in which the white was relieved by five regular, chocolate-coloured blotches. But beautiful as this old species is, it must take second place to C. Loretii (see Fig. 11), which grows more regularly and gives freely of its dazzling, pure white flowers, each of which has the characteristic blotch at the base of the petals, but, in this case, of almost blood red colour, though I fancy an artist would describe the tone as crimson lake. A bold group recently planted in Kew Gardens on the Richmond side of the mound where the giant flagpole is soon to be erected, was very beautiful during the broiling days in June, but, all being well, this group will be even more wonderfully beautiful in three or four years time.

Although, at the moment, the show of bloom is but scanty, yet most species, revived by the grateful rains, have abundant flower buds which only await the beneficent sun we all feel confident will soon again shine, and then this group of C. Loretii and the many charming sorts in the general collection near by will be well worth a special journey to see.

I often wonder that rock gardening enthusiasts have not made more use of the dwarfer, spreading kinds, which, if planted midway on the ledges, would make charming features. For this purpose C. albidus, which has greyish leaves and rosy lilac flowers, is to be recommended; also C. crispus, of satiny rose colour; the white C. florentinus and C. monspeliensis. Taller Cistuses of merit are C. laurifolius, probably the hardiest of all and a shrub that makes a very uncommon informal hedge; C. salvifolius, which bears plenty of red flowers; C. villosus, rose coloured; C. cyprius, white, with brilliant red blotches; and the wonderful purple-red C. purpureus. There are many beautiful varieties, including Silver Pink, which received the R.H.S. Award of Merit on June 17 last.

The chief fault these plants have is their unsuitability for transplanting; therefore it is necessary to keep young plants in pots until they are placed in their permanent positions, but this is a comparatively small matter. *C. Aubrey.*

PHILADELPHUS.

GARDENS old and new owe much to this genus. In New England gardens of more than a century ago it was one of the chief ornaments and with the Lilac and a few old-fashioned Roses, the Syringa or Mock Orange (Philadelphus coronarius), was loved and carefully tended; and in modern gardens there are few plants which produce more delightful flowers than some of the newer varieties of Philadelphus. According to the *Bulletin* of the Arnold Arboretum there are now established in the Arboretum some thirty species of Philadelphus and a large number of varieties and hybrids. All these plants, popularly called Syringas, are easy to manage, demand no special care, and suffer less from the attacks of insects than most trees and shrubs. They flower freely year after year, their flowers are often very fragrant, and in rich, well-drained soil the plants live for a long time. Some of the species can grow under the shade of overhanging trees, and flower in such situations more freely than almost any other shrub. The beauty of these plants is found in their white flowers; the fruit, which is a dry capsule, has as little beauty as that of a Lilac; there is nothing distinct or particularly interesting in the habit of the plants of any of the species, and the leaves fall in autumn without brilliant colouring. As flowering plants not many shrubs, however, surpass them in beauty,

FIG. 12.—PHILADELPHUS CORONARIUS "BOULE D' ARGENT."

and their value is increased by the length of the flowering season which extends in the Arboretum during fully six weeks.

The first Philadelphus to flower in the Arboretum opened its flowers in early June: it is from Korea (P. Schenkii var. Jackii), and is a tall, narrow shrub with erect stems and flowers of medium size, but of no exceptional value as an ornamental plant. Almost as early to flower is P. hirsutus from the southern Appalachian Mountain region. This is one of the smallest flowered species and in the Arboretum is a large, loose-growing shrubs of unattractive habit, and of comparatively little value as a garden plant. It is to be regretted that the Syringa of old gardens (P. coronarius) has been pushed

aside by newer introductions, and has become comparatively rare in at least this part of the country, for the flowers of no other Syringa have a more delicate and delightful perfume. This plant, which is a native of western Europe, reached England before the end of the sixteenth century, and was probably one of the first shrubs which the English emigrants brought with them to this country.

Among the American species which should find a place in all gardens are P. inodorus, P. pubescens and P. microphyllus. The first is a native of the Appalachian Mountain region, and grows to the height of six feet; it has arching branches and large, solitary, pure white, cup-shaped, scentless flowers. By some persons it is considered the most beautiful of all Syringas. P. pubescens, often called P. grandiflorus or P. latifolius, is also a plant of the southern Appalachian region. It often grows to the height of twenty feet; the branches are stout and erect, the leaves are broad, and the slightly fragrant flowers are arranged in erect, from five-to ten-flowered racemes. This plant is more common in gardens than the last, and when it is in bloom it makes a great show. P. microphyllus, which rarely grows more than three feet tall, has slender stems, and leaves and flowers smaller than those of any Philadelphus in cultivation. What the flowers lack in size, however, is made up in fragrance which is stronger than that of any other Syringa and perfumes the air for a long distance.

The most distinct and the handsomest of the Asiatic species in the Arboretum is Philadelphus purpurascens, discovered by Wilson in western China. It is a large shrub with long arching stems from which rise numerous branchlets from four to six inches long and spreading at right angles; on these branchlets the flowers are borne on drooping stalks; they are an inch and a half long, with a bright purple calyx and pure white petals which do not spread as they do on most of the species, but form a bell-shaped corolla and are exceedingly fragrant. This is one of the handsomest of the shrubs brought from western China to the Arboretum. Philadelphus pekinensis from northern China and Mongolia is a stout bush rather broader than high which every year produces great quantities of small flowers tinged with yellow. Another interesting garden plant, P. Falconeri, which is certainly Asiatic and probably Japanese, has narrow lanceolate leaves and fragrant flowers in from one-to six-flowered racemes, and is distinct in the shape of its leaves and in its long narrow petals. The origin and history of this plant is not known.

FIG. 13.—ROSE: MRS. C. V. HOWARTH; COLOUR, ORANGE-SALMON, FLUSHED WITH PINK.
National Rose Society's Gold Medal, July 2, 1919 (see p. 25).

Some of the species hybridise freely and several of the handsomest of these plants are hybrids. One of the first of these hybrids to attract attention was raised in France before 1870 by Monsieur A. Billard; it is known as Philadelphus insignis and sometimes is called Souvenir de Billard. It is one of the handsomest of the large-growing Syringas, and the last or nearly the last to bloom in the Arboretum, for the flowers will not be open for another month. A hybrid probably between P. grandiflorus of the Appalachian Mountain region with a species from our north-west coast appeared in the Arboretum a few years ago, and has been named P. splendens; it is a large and vigorous shrub with unusually large flowers, and one of the handsomest Syringas in the collection. Philadelphus maximus, a supposed hybrid between P. latifolius from the south-eastern United States, and P. tomentosus from the Himalayas, grows to a larger size than any of the other Syringas. It is not rare in old Massachusetts gardens in which plants from twenty to thirty feet high can occasionally be seen.

The crossing about thirty years ago, in France, by Lemoine, of P. coronarius with P. microphyllus has produced an entirely new race of Syringas which has proved to be one of the best additions to garden shrubs that has ever been made. The first plant obtained by this cross is called Philadelphus Lemoinei; it is a perfectly hardy shrub four or five feet high and broad, with slender stems which bend from the weight of countless flowers; these are intermediate in size between those of the two parents and retain the fragrance of P. microphyllus. There are at least a dozen distinct forms of this hybrid made by Lemoine, varying considerably in the size of the plants and of the flowers, and in the time of flowering. One of the handsomest, perhaps, is called Candélabre; this is a very dwarf plant with flowers larger than those of either of its parents and an inch and a half wide, with petals notched on the margins, and without the perfume of its parents. Other distinct forms equally hardy and beautiful are Avalanche, Boule d'Argent (see Fig. 12), Bouquet Blanc, Erectus, Fantasie, Gerbe de Neige and Mont Blanc.

NOTES FROM IRELAND.

Miss FITZGERALD, Principal of the Ladies' School of Gardening, St. Gatien's, Rathfarnham, has arranged to give practical demonstrations in gardening, under the auspices of the Terenure and Districts Horticultural Society, in her picturesque grounds on the fringe of the Milesian Metropolis at the foot of the Dublin mountain range. The School of Gardening was established by Miss FitzGerald shortly after war broke out, when she and her family, who had been settled in Antwerp for eighteen years, had three hours' notice from the Germans to quit.

Arrangements have been made and the schedule issued for a three days' show of the Royal Horticultural Society of Ireland, in conjunction with the Royal Dublin Society's Horse Show, the last week in August, at the latter's commodious premises, Ballsbridge, Dublin. These premises, up to the spring, were in possession of the military as the Remount Department. Dublin's Horse Show invariably attracts many thousands of visitors, and every effort is being made for the horticultural section to be worthy of the popular function.

In spite of chilling north winds and low temperature prevailing over the premier county since mid-June, crops generally look well, and Potatos particularly so. Most of the mid-season and late Potatos are in luxuriant bloom, and Dublin is now being fairly well supplied with early tubers, retailed at 2d. per lb. Good quality Strawberries ranged about 1s. 6d. per lb., with very limited supplies, for Dublin practically depends on Strawberries from Hampshire and Kent after the few consignments of early berries from Cork are over.

The beds and borders in the Phoenix Park are again cropped with vegetables, but the public has little to cavil at, for the picturesque undulating expanse with its ample shrubberies, fine stretches of greensward, and generally interesting plantings, are very pleasing features of the park.

Plotholders' work around Dublin is at present particularly pleasing, notably along the valley of the Liffey from the city on to Chapelizod. The spring-sown Onion crop is most promising, but autumn-sown Onions of all varieties have shown an abnormal tendency for flowering prematurely. Of some hundreds of plots under notice, not one, nor even a single plant, appears free of this tendency to premature flowering. A plot-holder beat the professional growers in the class for Onions at the recent Dublin Show. *K., Dublin.*

FLORISTS' FLOWERS.

FUCHSIAS FOR GREENHOUSE ROOFS.

Very frequently one finds roofs of greenhouses furnished with strong-growing climbers, which deprive the plants underneath of the necessary amount of sunlight. This is especially the case when such plants as Cobaea scandens, Passifloras and Tacsonicas are employed in a comparatively small structure. Many of the Fuchsias, if trained openly, do not shut out much light, and during the winter they are bare of foliage. The drooping character of the blossoms enables them to be seen to very great advantage when viewed from below. The fact that the plants will continue to flower throughout the entire summer is another great point in their favour. Many years ago there was a large plant of the variety Alexandra in No. 4 greenhouse at Kew. It furnished a considerable space of roof, and formed a canopy of leaves and blossoms. This variety has, or perhaps I should say had, a white corolla, for I am not sure of it being in cultivation nowadays.

In treating Fuchsias in this manner they may, when the allotted space is covered, be pruned back to the old wood each winter. Messrs. James Veitch and Sons showed, at the International Horticultural Exhibition of 1912, the value of Fuchsias when grown as cordons for furnishing the rafters of a greenhouse, but the plants are, at least in my opinion, even more effective when a part of the roof is covered. In selecting varieties for this purpose it should be borne in mind that the somewhat loose-habited varieties are preferable to those of stiff, compact growth. A few good sorts are Charming (red tube and sepals and purple corolla), Elegance (of much the same colour), Flocon de Neige (white corolla), General Roberts (rosy tube and sepals, carmine purple corolla), Mrs. Marshall (white flower, with rosy scarlet corolla), Mrs. Rundle (tube and sepals pale flesh-colour, salmon-red corolla), Olympia (salmon-pink flowers, with carmine-scarlet corolla), and The Shah (bright red flowers, corolla violet blue). Besides their use as roof plants, Fuchsias may be regarded as general utility subjects, as the purposes for which they may be employed in the garden, both indoors and out, are many. *W. T.*

MR. REGINALD FARRER'S SECOND EXPLORATION IN CHINA.

No. 3.—Round Hpimaw.

The valley head of which I write is about 6,000 feet up. The fort sits on the hill above at some 7,800 feet. For such a latitude such a height should not necessarily convey any sure promise of hardiness in England. Yet even setting aside the notorious paradoxical uncertainty of plants, the peculiar climatic conditions of these parts give the strongest hopes for any parts of Great Britain that are not parched nor torrid. Hpimaw Hill gets a very cold winter, with snow lying for a week at a time; even in the valley below, though Rice is widely grown in the widening of the vale, the seed that is sown in April is said not to reach maturity till October. Meanwhile, in May comes the year's one burst of amiability; and in June the rains break, and rain, and rain, and rain, in an almost uninterrupted succession of fog and gloom and deluges, until October comes round, and the fine clear weather of autumn and winter. And such a climate, so tempered in warmth, so excessively luxuriant in cloud and wet, ought to give most of its plants a much more kindred feeling for the wet and clouds of many parts of Great Britain than could fairly be hoped from very much more northerly species even, such as hail from the torrid, sun-beaten river cañone of Kansu, the Saharan heats of the Blackwater, and the droughtiness of Tien Tang Ssû.

There are Chinese and Lissu villages or settlements at the base of the hill, and the local affluents of the Ngaw Chang (left, bending northward, and a few miles below) flow down beneath the slopes and wooded chines of the hill through dense banks of coppice, more homely looking than any yet seen, with Willow and Alder and Poplar, and many another old friend, including wild Plums and Cherries, and Peaches which, if not wild, have come to look so, among the rest of the copse. Neillia is here, too, and Leycesteria, and a Vaccinium of the proportions of a small tree, densely hung with blossom. And the local Bamboo is no longer Bambusa polymorpha, of the tropical jungles, nor even B. palmata of the passes. This, indeed, persists here in the highwoods, while a smaller cousin covers the high tops in a brown mantle, which looks encouragingly like bare moorland till field glasses have detected its real covering. But the prevailing Bamboo of the copses and gullies is a graceful feathery thing, not, indeed, with the incomparable grace of A. nitida, but still plumy and desirable. The Htawgaw Rhododendron, too, comes here to its own, and there is a beautiful purpurascent Deutzia so dense in blossom that one day from across the torrent it made me suspect it of being bending sprays of crimson tubes and long boughs of oval-pointed evergreen leaves in pairs. And there is also Mistleto, swinging aloft in great golden-green balls from the summit branches of the spindly tall Magnolias.

Down by the stream-bed Lilium giganteum is unfolding, and a little creamy Tiarella lights up the darkness under the rocks, while a vividly lilac-purple Cress flares among the boulders. Out in the open there are flatter spaces, burnt for cultivation. Here, in a marsh, a sibicoid Iris is coming up, while in another, that fills a dell, the whole expanse is brilliantly green with the spear-blades of a flag Iris. And on the black slopes fascinating little rosy Coelogyne is emerging, straight from the bare soil, on a scape of three inches, in such a way as to make one realise how and why it is that these have been so justly called the Indian Crocus. The chief of the Rhododendrons here is not yet in flower, but two very distinct large-leaved ones hang from the darker

Fig. 14.—Rose Miriam; a new H.T. variety : colour deep salmon-pink with a yellow glow.
National Rose Society's Gold Medal, July 2, 1919 (see p. 25).

some unusually floriferous Lilac. On the big black boulders are enormous colonies of Polypody, Solomon's Seal, Dendrobiums of different sorts, and a most curious Vaccinioid shrubling, which forms heavy masses alike on trees and on rocks, and, not content with emitting tubular crimson flowers has the tips of its young shoots so flaringly crimson, too, that even its blossoms seem dull by comparison, lurking among the ovate evergreen foliage of dark lucent green. Of this tree is also another but rarer species, which weeps from tree-boughs higher up, among the rain-engendered lichen, in long nummularioid sprays of smaller, rounder, finer leaves, with the same tubular red flowers. There are other brilliant parasites, too: one which affects Rhododendron and Cotoneaster and others, forming wide bushy Witches' Brooms, all lit up along the sprays with vivid orange-red blossoms dimly suggesting Honeysuckle; and yet another, with axillary cliffs above the beck, and give promise of bloom later on. In one of these we may suspect Ward's R. agapetum, unless this be either of two other tree-Rhododendrons, now fat in bud, one of which has the bracts on the glandular young leaf-shoots of so brilliant a red as themselves to suggest blossoms, while in the other the shoots and bracts and buds are all pale green. But two first-class beauties are now actually in bloom. One is a very near relation of R. bullatum,* with characteristic crinkled thick foliage, clothed on the reverse in a fawn-coloured felt. The flowers, two or three in the loose head, are very large (with large crimson sepals, broader than they are long), pure white but for an external blush of rose, and a basal stain of yellow—and of the most inebriately sweet fragrance. This lovely plant occurs either as a parasitic or terrestrial

* Rhododendron sp. F 842.

growth, often appearing as a blossoming trailer far up on the trunk of some giant tree. It seems, also, to flower in alternate years, to judge by the rarity of recent seed vessels (which open in six valves) on blooming bushes, and of bloom on seeding ones. The other* is even, to my mind, almost more beautiful, and has the romance of having hitherto only once been sighted as a single specimen, that nearly escaped the collecting tin, owing to my orderly's assertion (he did not want to cross the stream again, and climb a coppiced bluff) that it was the same as the last. On the contrary, it is very different—an erect, rather thin, tall bush, with thin, smooth, pointed leaves, most curiously fitted microscopically with brown on their glaucous reverse. The flowers are very large, pure white, with a golden stain in the throat, and as entrancingly sweet as those of the last, but in a different way, rather with the keen fragrance of Orange-blossom than with the heavy exotic deliciousness of the other scented, white Rhododendrons. Though I do not readily believe in the existence of unique specimens, I must confess that I have subsequently searched all other likely-looking spots hereabouts without as yet coming on any second sample of this precious species, very distinct as it appears to be. But this country is so vast, its heights and depths and distances so incalculable, its coppices such impenetrable forests when you get to them, that he would be a very rash man who would claim to have made an exhaustive search after any given species. Suffice it then for the present to say only that, up to date, our one solitary hope of seed from this remarkable beauty depends on one solitary specimen, already rather too lavishly deflowered by the enthusiasm of the Gurkha. Nor can these Azaleoid Rhododendrons be by any means always relied on for copious seed, unlike most other groups in the race. *Reginald Farrer.*

SOCIETIES.

NATIONAL SWEET PEA.

At the close of the National Sweet Pea Society's Floral Meeting (see p. 12) on July 1, about fifty members dined together at the Holborn Restaurant, under the chairmanship of the President, Mr. E. W. King. Many of the prominent raisers and successful exhibitors were present, and Mr. and Mrs. Bedford, from Cape Town, were guests. There were very few speeches, but a capital programme of music was arranged by the Entertainment Committee, Messrs. Bridgford, Christy and Curtis. The usual loyal toasts were followed by "The National Sweet Pea Society," proposed by Mr. C. H. Curtis, formerly Hon. Sec., who reviewed the work of the Society since its institution in 1902, and gave very many interesting historical facts in connection with the Bicentenary Celebration of the Introduction of the Sweet Pea, from which the Society sprang. This was responded to by Mr. J. S. Brunton, Chairman of the Committee. The President presented the trophies and cups to the prize winners, and was, in turn, presented with the Burpee Cup by Mr. Thomas Stevenson, a former winner of this handsome piece of plate. Other toasts given and honoured were "The President," "The Secretary," "The Ladies" (to which Mrs. Curtis responded), and "The Chairman of Committee." In connection with this last toast, Mr. Brunton was presented with the Society's Gold Medal as a recognition of services rendered as Editor of the *Sweet Pea Year Book.* A very enjoyable evening concluded with "Auld Lang Syne."

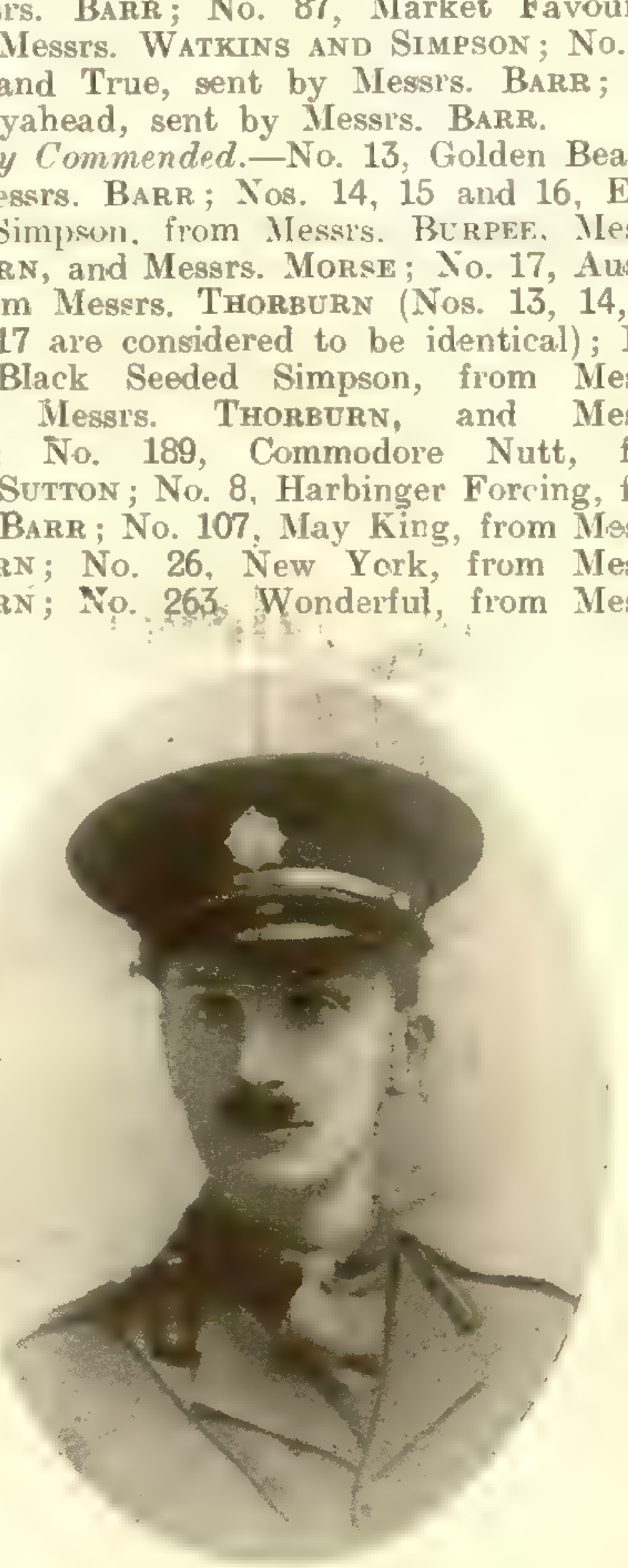
R.H.S. TRIALS AT WISLEY.

Very large trials of Lettuces have been conducted by the Royal Horticultural Society at its Gardens at Wisley, during the present season. These have been inspected by the Fruit and Vegetable Committee on several occasions, and the following Awards have been made :—

LETTUCES.

Award of Merit.—No. 156, All the Year Round, from Messrs. SUTTON, Reading; Nos. 70, 267, Continuity, from Messrs. MORSE and Messrs. NUTTING; No. 76, Sutton's Satisfaction, from Messrs. SUTTON (Nos. 70, 267 and 76 are considered to be identical); No. 12, Georges, sent by Messrs. BARR; No. 87, Market Favourite, sent by Messrs. WATKINS AND SIMPSON; No. 21, Tender and True, sent by Messrs. BARR; No. 121, Wayahead, sent by Messrs. BARR.

Highly Commended.—No. 13, Golden Beauty, from Messrs. BARR; Nos. 14, 15 and 16, Early Curled Simpson, from Messrs. BURPEE, Messrs. THORBURN, and Messrs. MORSE; No. 17, Australian, from Messrs. THORBURN (Nos. 13, 14, 15, 16 and 17 are considered to be identical); Nos. 18-20, Black Seeded Simpson, from Messrs. MORSE, Messrs. THORBURN, and Messrs. BURPEE; No. 189, Commodore Nutt, from Messrs. SUTTON; No. 8, Harbinger Forcing, from Messrs. BARR; No. 107, May King, from Messrs. THORBURN; No. 26, New York, from Messrs. THORBURN; No. 263, Wonderful, from Messrs. NUTTING (Nos. 26 and 263 are considered to be identical).



THE LATE LIEUT. E. R. RIDES.

PAEONIES.

The following Awards have been made to Herbaceous Paeonies by the Council of the Royal Horticultural Society, after trial at Wisley :—

First Class Certificate.—No. 136, Lady Carrington, from Messrs. BATH.

Award of Merit.—No. 84, Devonia, from Messrs. R. VEITCH; No. 96, Solfaterre, from Messrs. BATH.

Highly Commended.—No. 108, Maria Kelway, from Messrs. KELWAY.

Obituary.

James M. Buist.—The American horticultural papers announce the death of Mr. James M. Buist, for nearly forty years florist at Milford, Pennsylvania. Mr. Buist, who died on April 18, in his 95th year, was born in Scotland. At the age of 25 he went to America, and his first and only employment was with Andrew Reid, a florist. Upon Mr. Reid's death, Mr. Buist bought the business. He retired several years ago. He leaves three sons and one daughter.

Lieut. E. R. Rides.—After serving with the colours since the outbreak of war it was the sad fate of Lieut. E. R. Rides to succumb to injuries received during a motor accident shortly after demobilisation. He was the only son of Mr. H. Rides, of Central Avenue, Covent Garden, and for several years he contributed the market notes on fruits and vegetables to our columns. He was only 34 years of age. The very deepest sympathy is being expressed in Covent Garden for the widow and parents of Lieut. Rides, who have been so suddenly bereaved. The funeral took place at St. Marylebone Cemetery on the 25th ult.

LAW NOTE.

At the London Bankruptcy Court, an application was made for the discharge of William Henry Maurice Randall, of 150, Leadenhall Street, E.C., and residing at 43, Murchison Road, Leyton. The Official Receiver reported that the Receiving Order was made on October 2, 1912, on a creditor's petition. The liabilities were returned at £2,217 15s. 11d., and the assets, which were estimated to produce £530, had not realised anything.

The debtor attributed his failure to having incurred liabilities amounting to £2,467, in the promotion of The Fruit and Vegetable Growers' Association, Ltd., a company promoted to supply fruit and vegetables direct from the grower to the consumer without the intervention of the middleman. The Official Receiver submitted that the debtor had committed the following offences against the Bankruptcy Act. That his assets were not of a value equal to 10s. in the £, and that he had brought about his bankruptcy by rash and hazardous speculation.

Mr. Kingham, barrister, who appeared for the bankrupt, asked the Court to grant an immediate discharge upon the debtor consenting to judgment being entered against him for £50, and the learned registrar granted the debtor an immediate discharge upon those terms.

TRADE NOTES.

The market exhibit arranged by the Chamber of Horticulture at Chelsea on July 2 and 3 in aid of the St. Dunstan's Fund for Blinded Soldiers and Sailors was very successful despite the inclement weather, and the St. Dunstan's Fund received from the exhibit £21 14s. 2d. in money, and gifts of 112 lbs. of Cherries, 40 lbs. of Apples, 15 lbs. of Grapes, 12 lbs. of Red Currants, 10 lbs. of Gooseberries, and 40 Ferns and other plants.

On Monday last the directors and employees of the firm of Messrs. Watkins and Simpson, wholesale seedsmen, Drury Lane, spent an enjoyable day on the River Thames on the occasion of their "Victory" outing. As with other firms of a similar nature, it has not been possible for this one, owing to the exigencies of the times, to hold an annual outing during the past four years, and this holiday was intended to mark, in some small degree, the firm's appreciation of the splendid efforts of the staff to cope with the abnormal increase of work during a time of great difficulty. The party, which numbered about ninety, entrained at Paddington for Windsor, where a steam launch was in waiting to make the remainder of the journey by water to Reading.

Before reaching Marlow, lunch was provided in the saloon of the launch, and opportunity was afforded for a brief inspection of this interesting riverside town. After lunch the journey was resumed and Reading was reached about half-past seven, the party, meantime, being entertained to tea on the launch. In returning thanks to the firm for its kind hospitality, Mr. Orton, the manager of the vegetable seeds department, referred to the good feeling that existed between the members of the staff and the three directors, and hoped that those relations would continue. Mr. Watkins, in reply, traced the history of the firm since its establishment forty-three years ago in a small way, in the Savoy, to the newer home in Drury Lane. He pointed out that very many of those present had been with the business from twenty-five to thirty years, and that one

* Rh. sp. F 848.

member, whom he regretted was not present, had thirty-eight years' service. He referred to the need for co-operation between employers and employees during the time of reconstruction with which the country was faced, and he was proud of the fact that he was supported by a loyal body, which was a valuable asset for any employer, and especially at the present time. The homeward journey was made by train, and Paddington was reached at 9.30 p.m., after a most enjoyable day.

Messrs. Allwood Brothers, Hayward's Heath, inform us they were awarded a Large Gold Medal at the Royal Agricultural Society's Show at Cardiff for their exhibit of perpetual-flowering Carnations and varieties of their hybrid Dianthus Allwoodii. The Gold Medal awarded to Messrs. Alex. Dickson and Sons, for their display at the recent meeting of the National Sweet Pea Society, was a large one—the Society's highest award.

Nurserymen interested in the export trade are reminded that the general importation of plants into the United States of America has been prohibited by the American Government. Bulbs, seeds, fruit and Rose stocks, a limited quantity of new varieties of nursery stocks and necessary propagating nursery stocks are, however, allowed to enter under certain conditions. Special permission to send these should be obtained from Washington; and the goods must be accompanied by a certificate issued by the Board of Agriculture and Fisheries that the nurseries in which the plants were grown are free from injurious diseases. Nurserymen proposing to export plants should inform the Secretary, Board of Agriculture and Fisheries, 72, Victoria Street, S.W.1, in order that arrangements may be made for the inspection of the nurseries during the summer months.

The firm of Messrs. Learmont, Hunter and King, Ltd., Dumfries and Maxwelltown, has introduced a profit-sharing scheme by which the employees will receive a substantial interest in the success of the business. The scheme was announced at a social meeting of the employees, held recently in Dumfries. Mr. Hunter, one of the directors, explained the scheme, and trusted the employees would do their best to make a flourishing business still more successful. He regretted the absence of Mr. John Learmont, another director. Mr. King, a director of the firm, also spoke and commended the scheme to the employees. Mr. Kenning and Mr. Douglas, two of the departmental heads, expressed their appreciation of the scheme, which is of a highly favourable nature to the employees, and has now come into operation.

CROPS AND STOCK ON THE HOME FARM.

MILK.

THE long continued dry weather is having a serious effect upon the quality of milk, owing to the shortage of desirable grass, especially the aftermath following a hay crop. Without a heavy rain—which has not fallen in many southern counties since the middle of April—grass of a desirable nature cannot grow freely. It is useless to allow grass land to continue in a state of poverty, for although such a method of farming may save the purse for a time, there is subsequent loss, and it is foolish to expect grass fields to continue to yield full crops without any assistance whatever beyond natural rainfall. Much milk has failed to meet the butter fat test —3 per cent.—even in the case of Guernsey cows, thus proving how easily even this class of cattle can be affected by adverse weather conditions.

To improve the quality of the milk recourse must be had to artificial foods. A handful of some suitable cake will assist the animals and tend to improve the quality of the milk. Vetches freshly-cut each day will also assist, and so will Rape if obtainable, while surplus garden Cabbages, where only a few cows are kept, would be useful and so would crushed Oats, Sugar Beet, and Mangold fed to the cows until a plentiful supply of grass is available. On dry hill farms grass shortage is much more pronounced than in low-lying areas. Last season's meadow hay given at milking time would be of great assistance in adding not only quality but quantity also to the milk. Some farmers argue that liberal feeding with such foods as recommended above does not add quality to the milk, but I am of the opposite opinion.

TRIFOLIUM.

Trifolium incarnatum and T. i. alba, as a green food for horses, sheep, cows and pigs are valuable during May, June, and July. Horses especially like this food, as it helps to keep them in good condition; it also saves hay and corn. The common method of culture is to sow 16 lbs. to 20 lbs. of seed per acre on any clean stubble, after harvest, first harrowing or cultivating to obtain sufficient fine soil to bury the seed evenly, and afterwards rolling it down firmly. Where the land carrying a corn crop is in good heart this method of culture is good and entails but little labour and expense. Where, however, the land is lacking manure the Trifolium does not grow to a desirable length or density, and the plant does not tiller out well, which means less weight per acre. Under these conditions farmyard manure at the rate of ten tons per acre spread evenly over and ploughed in at the end of July, or an equivalent in superphosphate of lime, say, 6 cwt. per acre, sown evenly over the surface after ploughing, will improve matters. The harrowing and rolling required to obtain a firm seed bed will incorporate the manure with the soil, and not so deeply as to be washed out of the immediate reach of the roots by rains. A firm seed bed is necessary to success, and so is a well-pulverised surface to ensure even germination. Too much harrowing and rolling cannot be done when the soil is in good condition. A suitable time to sow the seed is during the first two weeks in August.

ONIONS.

Onions are now included in many farm crops, as they are profitable when well managed and the season is suitable. On the whole, in spite of dry weather, the plants, where sowing was done early in March, are looking well. No doubt the method of raising the plants under glass and planting them out, produces the heavier yield, but scarcity of labour almost prohibits this method. The Tripoli varieties, sown early in August and allowed to remain thickly in the rows, find a ready sale in the spring. The continual stirring of the soil during dry weather does much to aid the growth of the plants and favour early ripening of the bulbs, which naturally enhances their keeping qualities.

RYE.

During the last few years Rye has been in demand, fetching the same price as Wheat. The straw, too, is especially valuable for the thatching of buildings. Rye will succeed on poor light soils much better than Wheat or Oats. A summer fallow to cleanse and purify the soil, with 3 cwt. superphosphate of lime applied at sowing time, will produce a full crop of this cereal. The main point is to sow early, in September, to allow the plant to be firmly established before frost comes, as this sometimes loosens the roots and reduces tillering, which means a smaller yield. Green Rye is valuable for sheep in April or May, should Turnips or Swedes be scarce, therefore a good breadth of Rye is always useful. *E. Molyneux, Bishops Waltham.*

A meeting of the Agricultural Wages Board was held at 80, Pall Mall, London, S.W.1, on Friday, the 4th inst., Sir Ailwyn Fellowes presiding.

The Chairman announced that Mr. F. Popplewell has been recalled by the Ministry of Labour, by whom his services had been lent, and that Lord Ernle had appointed Mr. E. W. Moss-Blundell as Secretary to the Agricultural Wages Board.

After considering the objections lodged to their proposals of the 4th June to fix special rates of wages for the corn harvest in certain areas, and the reports on the proposals made by the District Wages Committees concerned, the Wages Board decided to issue orders fixing special harvest rates for the following areas: Cambs., Cheshire, Derby, Dorset, Devonshire, Gloucester, Hereford, Lincolnshire, Nottinghamshire, Oxon, Somerset, Suffolk, Surrey, Wiltshire, Yorkshire, Anglesey and Carnarvon, Denbigh and Flint. Although the proposal for Cambs. applied also to Huntingdonshire and Bedfordshire, which form part of the area of the same District Wages Committee, the Board, in view of the objections received from those counties, decided not to fix any special corn harvest rates for Huntingdonshire and Bedfordshire, and consequently in those counties, as in all the other areas in England and Wales not specified above, the question of any extra payment for the corn harvest will be a matter for mutual agreement between employer and worker.

The Board also considered the objections received to their proposal of the 3rd June to increase the ordinary minimum and overtime rates of wages for female workers of 18 years of age and over, together with the reports from the District Wages Committees on the proposal, and decided to make an Order (to come into force on the 14th July) to increase the rates in accordance with the proposal, the effect of which is that the minimum rates for female workers of 18 years of age and over in all areas in England and Wales, except Yorkshire and Cumberland and Westmorland, will in future be 6d. per hour, with overtime rates of 7½d. per hour for week-days and 9d. for Sundays; in Yorkshire and Cumberland and Westmorland the minimum rate will be 7d. per hour, with overtime at 9d. an hour on week-days and 10½d. on Sundays.

On a report presented by Sir Henry Rew from the Committee on "Allowances" with regard to recommendations from District Wages Committees on the subject of certain revisions in the values allowed for board and lodging in part payment of minimum rates of wages, the Board decided that immediate effect be given to the decision at their previous meeting to increase the value for full board and lodging for female workers of 17 years of age and over in all areas in which it is at present less than 13s. a week, to that amount, with proportionate increases in the other items of board and lodging for such workers and in all such items for female workers below 17 years of age. The Board also adopted the Allowance Committee's recommendations that the determinations of the Northumberland and Durham Staffordshire, Surrey, Glamorgan and Monmouth and Pembroke, Carmarthen and Cardigan District Wages Committees, for certain increases in the values of board and lodging for male workers should be approved.

The board decided to give notice of proposal to vary the special minimum rates fixed for stockmen of all classes which were based on a week of "customary hours" so as to provide in the case of Anglesey and Carnarvon, Berkshire, Derbyshire, Dorset, Hampshire, Lincolnshire, Northumberland and Durham (except in the case of whole-time shepherds) and Yorkshire that these classes of workers should be paid at the ordinary and overtime rates; in the case of Cambridgeshire, Huntingdonshire and Bedfordshire, Cumberland and Westmorland, and the Furness District of Lancashire, Denbigh and Flint, Gloucestershire, Merioneth and Montgomery, and Warwickshire, that they should be paid at a higher weekly minimum rate calculated on the ordinary and overtime rates so as to provide that the workers are paid the equivalent of the ordinary and overtime rates for a fixed number of hours which is higher than the number of hours on which the weekly minimum rates for ordinary labourers is based; and in the case of Norfolk and Suffolk at the ordinary rates with an additional inclusive weekly sum to cover time spent by workers of these special classes in connection with the feeding, cleaning, etc., of stock. Before an Order giving effect to the proposal can be made a month must elapse from the date on which the Notice of Proposal is published.

MARKETS.

COVENT GARDEN, July 9.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Heliotropes, 48's, per doz.	18 0–21 0
Asparagus plumosus	12 0–15 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
—Sprengeri ...	12 0–18 0	— Pink, 48's, per doz.	30 0–48 0
Aspidistra, green	48 0–72 0	Marguerites white	18 0–24 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Mignonette, 48's per doz. ...	18 0–21 0
Crassulas, red 48's per doz. ...	24 0–30 0	Palms, Kentia ...	18 0–24 0
—white and pink	24 0–30 0	—— 60's ...	15 0–18 0
Fuchsias, 48's, per doz.	12 0–18 0	—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety, 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Achillea, per doz. bun.	10 0–12 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Alstroemeria, per doz. bun. ...	10 0–12 0	— white, per doz. bunches ...	15 0–18 0
Canterbury Bells, per doz. bun....	9 0–12 0	Roses, per dozen blooms—	
Carnations, perdoz. blooms, best American var.	3 0– 4 0	— Lady Hillingdon	1 0– 2 6
		— Liberty ...	1 6– 2 0
Coreopsis, per doz. bun.	4 0– 5 0	— Melody ...	1 6– 2 6
Cornflower, blue per doz. bun....	2 6– 3 0	— Mme. Abel Chatenay ...	1 6– 2 6
		—Mrs. J. Laing...	1 6– 2 6
Daisies, white, large, per doz. bun.	4 0– 6 0	— Ophelia ...	3 0– 4 0
		— Richmond, var.	1 6– 2 6
		— Sunburst ...	3 0– 4 0
Gaillardia, per doz. bun.	4 0– 5 0	—White Crawford	1 6– 2 6
Gardenias, per box specials ...	8 0– 9 0	Saponaria, per doz. bun.	5 0– 6 0
— ordinary ...	2 0– 3 0	Scabious, per doz. bun.	8 0– 9 0
Gladiolus, The Bride, per bun.	— —	Statice, mauve ...	12 0–15 0
		— white... ...	12 0–15 0
—Brenchleyensis, per doz. spikes	4–0– 5 0	Sultan, white, per doz. bun. ...	9 0–10 0
Gypsophila, per doz. bun. ...	9 0–12 0	— — mauve ...	9 0 –10 0
Iceland Poppies, doz. bun. ...	2 0– 2 6	Stephanotis, 72 pips	3 0– 3 6
Lapagerias, perdoz. blooms ...	3 0– 4 0	Sweet Peas, per doz. bun.—	
		— white	5 0– 8 0
Lilium longiflorum, per bunch ...	15 0 —	— coloured ...	5 0– 8 0
		Stock, Dbl. White	12 0–15 0
Myosotis (Forget-Me-Not), per doz. bun. ...	— —	—Dbl. Pink ...	10 0–12 0
		—Dbl. Mauve ...	12 0–15 0
		—Dbl. Purple ...	12 0–15 0
Orchids per doz.:		Violas, per doz. bun.	3 0– 4 0
— Cattleyas ...	15 0–18 0		

REMARKS.—White flowers are still a very limited supply, and prices for such kinds as Achillea, White Stock, Pelargoniums and Sweet Peas are even firmer than last week. Hardy flowers show little change from last week. The consignments of Carnations are sufficient for the demand. White and mauve Statica sinuata is arriving in large quantities, but the prices for these remain firm. Lilium longiflorum continues to arrive in excellent condition. There is no fresh subject to record this week, and the requirements throughout the market appear to be very moderate.

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d.
Apricots (Spanish) per box ...	12 0–14 0	Melons, each ...	3 0–10 0
Aubergines; pr doz	6 0– 8 0	—Canteloupe ...	11 0–17 0
Bananas... ...	40 0–60 0	Nectarines, per doz. ...	6 0–24 0
English Peaches per doz. ...	6 0–24 0	Nuts—	
Black Currants (French) ½ sieve	20 0–23 0	— Brazils (new) per cwt.	110 0–115 0
— English... ...	24 0–26 0	Pines, each ...	6 0–10 0
Cherries (English) black. per ½ bus.	14 0–25 0	Plums (French) per ½ sieve ...	23 0–25 0
— White	14 0–25 0	— Gages	27 0–30 0
Gooseberries, per ½ bus ...	10 0–12 0	Raspberries, per chip	4 0– 5 0
Grapes:—			
—Blk Hamburgh, per lb. ...	2 0– 5 0	Strawberries per peck... ...	10 0–14 0
—Muscats, per lb.	3 0– 7 0	— Kent, per chip...	4 0– 5 0
Green Almonds, per lb. ...	1 0– 1 6	Worthing Figs, per doz.	10 0–15 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	2 0– 3 0	New Turnips, per bunch	0 10– 2 0
—Broad per bus.	6 0– 8 0	Onions (Egyptian) per bag ...	26 3 —
Beetroot, per bus.	6 0–12 0	Peas, per bus, ...	12 0–15 0
Cabbage per doz.	2 6– 3 0	Parsley, per ½ bus.	5 0– 7 0
Carrots, New, per doz. buns. ...	5 0– 6 0	Potatos, new, per lb.	0 2½–0 3
Cauliflowers, perdoz.	10 0–12 0	Radishes, per doz. bunches ...	2 0– 3 0
Cucumbers, perflat	20 0–26 0	Rhubarb, natural, per doz.	5 0– 6 0
Garlic, per lb. ...	0 6– 0 8	Spinach per bus.	7 0– —
Greens, per bag	4 0– 5 0	Spring Onions, per doz. bunches ...	5 0–12 0
Herbs, per doz. bun.	4 0– 6 0	Tomatos, English, per doz. lbs. ...	12 0–14 0
Lettuce Cabbage and Cos, per doz.	1 6– 3 0	Vegetable Marrows, each	0 6– 0 9
Mint, per doz. bun.	9 0–18 0	Watercress, per doz.	0 9– —
Mushrooms per lb.	2 0– 3 0		
Mustard and Cress, per doz. punnets	1 3– 1 6		

REMARKS.—Cold rain and lack of sunshine have shortened supplies of home-grown produce, and English outdoors fruits available are in firm demand, doubtless owing to the large quantity of sugar lately released for jam-making. Supplies of English and French Black Currants are in fair quantity. Raspberries and Red Currants are in good demand, but in shorter supply. Strawberries are still available, but in small quantities. Spanish Greengages are in limited supply. Cherries arrive in fair quantity, and prices are well maintained. English and Guernsey Grapes are available, but Peaches, Nectarines and Figs are not plentiful. English Melons are scarce, but a few Dutch Canteloupes are now coming to hand. A new shipment of Pines is just to hand in good condition. Tomatos and Cucumbers are more plentiful and in good demand. Peas and French Beans are in good request, but the supplies are very short. New Potatos arrive in increasing quantities, and prices are lower.

GARDENING APPOINTMENTS.

Mr. B. Gaiger, for the past 13 years Gardener to Major A. W. HUNTINGTON at Oakley Park, Staffs., and Shipton Court, Oxford, as Gardener to the same gentleman at Wellsbourne House, Warwick.

Mr. J. Carpenter, for the past eight years Gardener to R. J. BLACK, Esq., The Knipp, Chiddingfold, Surrey, as Gardener to the same gentleman at Midgham Park, Reading, Berks.

Mr. J. E. Jones, for the past four years Gardener to J. BLISS, Esq., Boarbank Hall, Grange-over-Sands, as Gardener to T. A. ARGLES Esq., Eversley, Milnthorpe, Westmorland.

Mr. A. Thompson, for three years in the R.G.A., and previously Foreman at Kilkenny Castle, Ireland, as Gardener to J. DIXON, Esq., Spring Grove House, Oughtibridge, near Sheffield, Yorkshire. (Thanks for 2s. for R.G.O.F. box.—EDS.)

Mr. G. Butler, recently demobilised after 2 years in His Majesty's Forces in France, and previously for 5 years Gardener and Steward to George A. Kessler, Esq., New York Lodge, Bourne End, as Gardener to Louis Bleriot, Esq., Riversdale, Bourne End, Buckinghamshire.

Answers to Correspondents

AMERICAN GOOSEBERRY MILDEW: *J. S. H.* The disease is American Gooseberry mildew, and its appearance should be notified to the nearest representative of the Board of Agriculture, as it is a notifiable disease, and there are penalties attached to the withholding of information. Under certain circumstances the disease spreads with considerable rapidity, and every effort should be made to stamp it out by tipping the branches and by spraying infected bushes with weak Burgundy mixture. Full particulars of the methods to be followed for the suppression of American Gooseberry mildew will be found in *Gard. Chron.*, April 12, 1919, p. 181.

BOOK: *G. T. T.* *Modern Fruit Growing*, by W. P. Seabrook; price 5s., post free, from our publishing department

BOOKS ON DISEASES AND PESTS: *J. W. S.* Either of the following books are useful: *Diseases of Cultivated Plants and Trees*, by George Massee, published by Messrs. Duckworth and Co., 3, Henrietta Street, London, W.C.2, or *The Book of Garden Pests*, by R. Hooper Pearson, published by Messrs. John Lane, The Bodley Head, Vigo Street, London, W.1.

FAILURE WITH CUCUMBERS: *P. R. M.* There is no disease apparent in the specimen received. The trouble is most probably due to an excessive application of water to the roots after the plants have been allowed to become dry during a period of dull, cool weather.

NAMES OF PLANTS: *A. W. P.* 1. Impatiens balsamifera; 2. Spiraea canescens; 3. Veronica spicata var.; 4. Piptanthus nepalensis. *A. Neal.* 1. Ptela trifoliata; 2. Sambucus nigra var. laciniata; 3. Deutzia crenata var. fl. pl. extus purpurea; 4. Leycesteria formosa; 5. withered. 6. Hibiscus syriacus var. *R. A. Clark.* The Thorn is Crataegus tanacetifolia; the "Sycamore" Acer coriaceum; the flowering plant Olearia macrodonta. *Lily.* A form of Lilium elegans. *G. B.* Magnolia Watsonii. *W. H.* Tradescantia virginica (Spider wort). *M. I. D. I.* We cannot undertake to name florists' varieties of Roses owing to the difficulty of making proper comparisons in a large collection. Your best course will be to send numbered specimens to the Rose grower from whom you purchased your plants, as he will be in a better position to determine the varieties. *D. R.* Rosa multiflora. *W. J. W.* Amelanchier canadensis.

PELORIA IN FOXGLOVE: *A. C. H.* In the case of flowers which have a somewhat irregular form it often happens that one or more blooms become regular, and this has happened in your Foxglove, where the apical bloom is erect and regular. This interesting transformation is known botanically as peloria, and Foxglove and Antirrhinum are plants in which it is frequently met with.

PRESERVING VEGETABLES: *S. H. G.* We hope to furnish you with a reply during the next few days.

PROLIFEROUS ROSE: *M. W. A.* Proliferation is of fairly common occurence in certain flowers, and is due to the abnormal development of buds which, in the ordinary course of events, are not developed. These buds may be at the base of a flower head, between the calyx segments, or at the base of petals. The abnormal development which gives rise to proliferous flowers is generally due to an excess of moisture, artificial or otherwise, accompanied by warm weather. In certain flowers, as in the Hen and Chicken Daisy, proliferation has been fixed, and is now a fairly constant character.

SILVER LEAF DISEASE: *E. M. M.* This complaint is spreading to gardens in all parts of the country and threatens to become one of the most serious troubles of fruit-growers. Investigations have proved that the fungus, Stereum purpureum, is present in affected trees, but no remedy is known, and the only course is to cut out the diseased branches and burn them. The parts removed should be cut back beyond the point where the wood is coloured brown. The walls on which the diseased trees have been trained should be coated with hot lime-wash, and the old soil removed. It would be advisable to defer the planting of fresh trees for a season or two and to use the walls for training another crop, such as Tomatos. (See leading article in the last issue, p. 8.)

SPOT ON ODONTOGLOSSUM: *Orchid.* The disease known as "Spot" on Orchids is due to a collapse of the tissues of the leaves and bulbs. The real cause of the trouble is usually a lack of healthy roots, and wherever the rooting material is unsatisfactory and watering is carried out carelessly roots are certain to become unhealthy, and often die. The remedy is to be found in the provision of smaller pots, ample drainage, porous rooting material and extreme care in watering. Remove all badly affected back pseudo-bulbs before repotting the plants.

SUCCULENTS: *T. W. T.* Write to Mr. Hemsley, Nurseryman, Crawley, Sussex, who may be able to supply you with the succulent plants you wish to obtain.

Communications Received.—W. C. A.—H. M.—F. A. D. W.—N. E. B.—D. R. W.—J. H.—H. P.—G. H. C.—V. G.—G. H.—T. B.—H. S.—C. B.—J. W. F.—J. P.—H. G.—A. L.—H. K.—G. A.—I. W. F.—Mr. G.—E. R. B.—D. B.—H. G.—J. B. J.—Miss S.—A. W.—H. P. B.—V. O., Brussels.

SITUATIONS VACANT.

Twenty words (or three lines including headline) **3s., and 6d.** *for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office,* **6d.**

PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.).

THE Standard of Wages and Hours adopted in January last is now withdrawn and a new Standard is under the consideration of the Executive Council. When this is published, an announcement will be made in these columns.—CYRIL HARDING, General Secretary, 22, Buckingham Street, Strand, W.C.2.

HEAD GARDENER required at St. Bartholomew's Hospital Convalescent Home, Swanley, Kent; must work with and superintend small staff; house, coal, and gas found.—Applications, stating age, previous experience, and wages required, to be sent in by the 19th instant, addressed to THE CLERK to the Governors, St. Bartholomew's Hospital, West Smithfield, E.C.1.

HEAD GARDENER required; specialist in Fruit and Vegetables growing indoor and out; one with Market Gardening experience preferred. Small house (empty now), larger one later. — Please reply, stating experience and wages required, to Major ROBERT FULLER, Great Chalfield, Melksham, Wilts.

WANTED, HEAD WORKING GARDENER (Cornwall); experience in cultivation of hardwood shrubs required; wages 45s.; cottage.—G. J., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (unmarried, SINGLE-HANDED) required; Vegetables and Flowers; small Greenhouse; Handy man preferred. Reply, with copies of references, stating salary required, to SHARP, "The Coppice," Warwickshire.

GARDENER (SINGLE-HANDED, experienced) wanted with knowledge of cows; lodge available. —C. H. McPHERSON, Chewton Place, Keynsham, nr. Bristol.

WANTED, GARDENER (single, boy under); for place near Sunningdale; good wages to a man who thoroughly understands his work.—Apply, J. MORRISON, Little Paddocks Gardens, Sunninghill, Berks.

GARDENER wanted at the COUNTY ASYLUM, SHREWSBURY; wages at present under revision. — State age, experience, if married number of children, wages required, to MEDICAL SUPERINTENDENT.

WANTED for small place at Seagry, Great Somerford, Wilts, efficient all-round WORKING GARDENER, with knowledge of Fruit Trees, no Glass; wages 35s. a week and cottage.—Apply E. R. FURSE, 25, Elvaston Place, London, S.W.

WANTED, SECOND GARDENER to take charge of Inside: also JOURNEYMAN for Inside and Out. State wages required, with bothy, milk and vegetables.—MADDOCK, Harcourt Gardens, Stanton, Salop.

WANTED, SECOND MAN in Gardens; good vegetable and spade man.—FAIR, Willoughby House, near Rugby.

UNDER-GARDENER wanted who can also take charge of two cows; must be well recommended; good cottage.—Apply to W. FRECHEVILLE, Esq., High Wykehurst, Ewhurst, near Guildford.

WANTED, UNDER - GARDENER, experienced in growing Orchids; wages 35s.; free house and coal; if single, good bothy, with attendance.—Apply CHEADLE, Gardener, Wallhouse, Torphichen, Linlithgowshire.

WANTED, energetic YOUNG MAN (single) as UNDER-GARDENER. Wages and refs. by post to, MISS BURDON, F.R.H.S., Munstone House, Hereford.

WANTED, FOREMAN for Glasshouses.—Write, stating experience and wages required, with bothy, etc., HEAD GARDENER, Broxmead, Cuckfield, Sussex.

FOREMAN WANTED for Glasshouses; thoroughly experienced in Vines and Peaches; must be a good plant grower; wages 35s. per week, 5s. duty, bothy and vegetables. — HEAD GARDENER, Colwood Gardens, Warninglid, Hayward's Heath, Sussex.

WANTED, FOREMAN; also FIRST JOURNEYMAN; chiefly Orchids.—State wages and experience, BURNS, Bridge Hall Gardens, Bury, Lancs.

WANTED, FOREMAN for Pleasure Grounds and Decorating; wages 38s. per week, bothy and vegetables; 1 o'clock Saturdays.—G. BRADLEY, The Gardens, Hamstead Marshall, Newbury, Berks.

WANTED, FOREMAN for the Fruit and Plant houses; wages £2 per week; good lodgings; close to gardens.—Apply, W. TRATT, Holywell Park Gardens, Wrotham, Kent.

FOREMAN wanted for Glasshouses; must be thoroughly experienced; bothy if single, if married, cottage found.—Apply, SHOEBRIDGE, The Gardens, Pinkney Park, Malmesbury, Wilts.

WANTED, FOREMAN for Pleaure Grounds; must understand Alpines and Flowering Shrubs. Also Young Man wanted for Inside and Out; bothy.—Park Gates, Ince Hall, Chester.

WANTED, MARRIED MAN as OUTSIDE FOREMAN; about 2 guineas per week and good cottage; must be experienced in Flowers, Fruit and Vegetables, also good manager of men. Please state age and other particulars to T. WALLER, Tredegar Park Gardens, Newport, Mon.

WANTED, JOURNEYMAN (INSIDE), chiefly for Carnations.—Copies of testimonials and wages required, with bothy, etc., to J. CHILD, Porters Park, Shenley, Herts.

WANTED, FIRST JOURNEYMAN for Fruit and Plant Houses; knowledge of decorating essential; wages 38s. per week, bothy, etc.; Sunday duty paid; hours, 7 to 4.30, 1 o'clock Saturdays.—State age, experience, to LEWIS GUILE, Sulby Gardens, Welford, Rugby.

WANTED, JOURNEYMAN for the House.—State wages required, with bothy, milk and vegetables, E. W. PULL, Petworth.

WANTED, JOURNEYMAN used to Orchid Potting; no bothy.—Apply, stating wages, J. V. MACDONALD, The Gardens, Whetstone, Edgbaston, Birmingham.

WANTED, two JOURNEYMEN for Inside and Out; must be able to take duty if required; state age and experience, bothy, etc.—WILLIAM TURNHAM, Greenlands Gardens, Henley-on-Thames.

WANTED, an experienced MAN to take charge of Outside, Mowing Lawns, and attend Boarders; cottage found.—Apply, SHOEBRIDGE, The Gardens, Pinkney Park, Malmesbury, Wilts.

WANTED, good MAN, chiefly for Kitchen Garden and Pleasure Grounds; no cottage.—State age, experience, and wages required, to H. EDWARDS, The Gardens, "Underfield," Boreham Wood, Elstree, Herts.

WANTED, good MAN for Orchid, Fruit and Plant Houses; must have good experience; 50s., no bothy.—Letters only, GARDENER, Feltham Lodge, Feltham.

TWO MEN wanted, experienced Kitchen Garden and Pleasure Grounds; wages 36s. 6d. weekly, no bothy; lodgings near. — HEAD GARDENER, Halswell Park, Bridgwater, Somerset.

WANTED, experienced MAN for Kitchen Garden; wages 38s. per week, with bothy; duty paid extra.—Apply, with references, to T. HAZELDINE, Crosswood Gardens, Cardiganshire.

WANTED, a thoroughly experienced MAN for Fruit and Plant Houses; £2 10s. per week to commence with; no bothy.—State age and particulars of experience to HEAD GARDENER, The Gardens, Hendrefoilan Sketty, Glam., S. Wales.

WANTED, a good SINGLE MAN for Kitchen Garden and Fruit; must be well up in his work and energetic.—Reply to H. W. WITHALL, Head Gardener, Hempton Lodge, Monks Horton, nr. Hythe.

WANTED, YOUNG MAN for Kitchen Garden; wages and particulars to J. MORRISON, Little Paddocks Gardens, Sunninghill, Berks.

WANTED, strong YOUNG MAN for Kitchen Garden.—State age, experience, and wages, with bothy, etc., to E. J. SLADE, Plas Power, Park Gardens, Wrexham.

WANTED, YOUNG MAN (single) to assist in Orchid Houses; state experience and wages required; must be well recommended; no bothy.—Apply, R. J BUCKNELL, 22, Bayhall Road, Tunbridge Wells.

WANTED, a competent YOUNG MAN with a thorough knowledge of Alpines, who is able to take charge of a Rock Garden, and who is interested in the propagation of such plants, and also more particularly the raising from seed of many and rare plants and shrubs which are being sent from collectors in China and Burma.—Apply, with references, stating whether married, with age and wages required, to C. B., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER (College trained) for Inside fruit and plants; one Lady Gardener here; good rooms.—Apply, J. D. COLLEDGE, Cobham Hall, Cobham, Kent.

TRADE.

WANTED, good, reliable MAN to manage a small trade Nursery; thorough allround knowledge of trade work; permanency to suitable man; highest references essential.—Apply, stating age and wages required, to T. B. L., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

WORKING FOREMAN wanted for Landscape dept.; accustomed to supervision of labour, and able to work from plans.—State experience and wages required, CLIBRANS, Altrincham.

WANTED, PROPAGATOR (man), experienced in raising Shrubs and Conifers, New Chinese plants, etc.; one with a knowledge of Alpines, etc., preferred; no houses, but good lodgings.—Wages and references to, HILLIER AND SONS, Nurserymen, Winchester.

WANTED, INSIDE FOREMAN GROWER; Midlands; Cues., Toms., Bulbs Ferns, Bolbforcing; house provided; liberal terms to good man.—W. A., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, HARDY PLANTSMAN, young man, under foreman, as ASSISTANT, with knowledge of Herbaceous and Alpine Plants; mostly Outdoors.—Wages and references, to HILLIER AND SONS, Nurserymen, Winchester.

SMART MAN required for Glass, Bulb forcing, Bedding Plants, Chrysanths., etc.—Please state wages, with copies of refs., to THOMAS ROBINSON, Porchester Nurseries, Nottingham.

WANTED, MAN for raising Ferns and Pot Stuff.—T. FEWSTER AND SONS, Ragworth and Norton Nurseries, Stockton-on-Tees.

WANTED, two SINGLE MEN for Fruit and Vegetable growing; 50 hours per week.—Full particulars to MANAGER, Laverstock Nurseries, Salisbury.

WANTED at once, YOUNG MAN for Budding, Training and General Nursery work.—Full particulars, stating wages, to JOHN PEED AND SON, Morden, Surrey.

WANTED, SEED MANAGER; one with wholesale experience in garden and farm seeds; able to control staff; highest references; must be practical; state salary expected (correspondence private).—E. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, YOUNG MAN, 25 to 30 years of age, as part-time TRAVELLER for well-known Seed establishment in Lancashire; one with some knowledge of Market Grower's trade preferred (not indispensable); a good and progressive position will be given to a young man who is capable and possesses a good knowledge of his business. — Apply, B., c/o Messrs. Hurst and Son, 152, Houndsditch, London, E.1.

WANTED, YOUNG MAN as KNIFEMAN, with experience in Roses and Fruit Trees.—Apply JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

WANTED, experienced, energetic ASSISTANT to take charge wholesale seed counter; good opportunity for smart man; state wages required; —E. W. KING & CO., Seed Growers, Coggeshall, Essex.

WANTED, SEED ASSISTANT, male or female, for wholesale seed counter; state age, experience, and wages required.—E. W. KING & CO., Seed Merchants, Coggeshall, Essex.

WANTED, energetic MAN, well acquainted with hardy Nursery Stock, to assist in the office of a large Nursery firm, dealing in Fruit Trees, Roses and general Ornamental Trees, etc. (No indoor stock or seeds.) Chief work required would be to dissect orders, correspondence, and general assistance in working the business; good and increasing wages offered to suitable man.—Apply, stating experience and wages required, to W. C. S., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, smart, energetic YOUNG MAN with some knowledge of Seed or Seed Corn Trade, to assist in Office and at Markets; must have first-class references.—State age, experience and salary required, to ELSOMS, Seedsmen, Spalding.

WANTED, ASSISTANT (male or female) for Seed and Florist shop; state experience and wages expected.—W. TROUGHTON, Florist, Preston.

WANTED, in large Seedsman's Office, CORRESPONDENCE CLERK; good writer; experienced, good references, salary required, married or single.—K. E., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

LADY FLORIST wanted, experienced in making up essential.—Apply, stating age, salary required, to H. RICHARDS, 162, Coventry Road, Birmingham.

YOUNG LADY FLORIST wanted, as IMPROVER; good Saleswoman and Maker up; knowledge of Seeds and Bulbs preferred; for shop in Aldershot.—Full particulars, with references and salary expected, to S. BRIDE AND SONS, LTD., Alma Nursery, Farnham, Surrey.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

MR. T. CRADDUCK, Middleton Park Gardens, Bicester, Oxon, wishes to recommend his late General Foreman as HEAD GARDENER to any Gentleman requiring the services of a first-class fruit and vegetable grower; life experience; age 35; married, no children; demobilised, 3½ years Army.—Apply, W. T. CHATTERLEY, The Green, Snitterfield, Stratford-on-Avon.

MRS. WILLIAM SALOMAN will be pleased to highly recommend a HEAD GARDENER for a good establishment; thorough knowledge of Fruit, Flower and Vegetable culture, under Glass and Outside; Herbaceous and Alpine Plants; life experience gained in good establishments; leaving through estate being sold; 3 years' B.E.F.; age 38; married (no family).—W. WARD, The Gardens, Lymes Holme, Stanmore, Middlesex.

MISS MANSEL can highly recommend her late HEAD GARDENER, for 12 years with her at Sulby Hall; good Organiser and Manager and grower of Carnations and Plants; also Fruit, Indoor and Out; also Forestry and Grass Land.—Apply, WILSON, Dunsmore, Rugby.

H. T. PEARSON, Esq., wishes to highly recommend his late HEAD GARDENER as thoroughly competent in all branches, Inside and out; life experience gained in large private and nursery establishments; age 34. — HALES, 115, Ketts Hill, Norwich.

MRS. NATHAN, Floresta, Ashtead, highly recommends her GARDENER ((HEAD) where three or more are kept; age 35; married; life experience in all branches; 2 years Kew; leaving on account of place being sold; first-class testimonials.—H. W. EPPS, 2, Chatsworth Terrace, Skinners Lane, Ashtead, Surrey.

MR. T. BURN, Cuerdon Hall, Bamber Bridge, Preston, wishes to highly recommend his late GENERAL FOREMAN as HEAD GARDENER to any Lady or Gentleman in want of a thorough, reliable, and competent man in all branches; capable of taking charge of large establishment; age 34; married (no family).—Particulars, apply above, or to J. T. TILDESLEY, Church Eaton, nr. Stafford.

MRS. TAIT thoroughly recommends her late HEAD GARDENER for a good establishment; thorough knowledge of Fruit, Flower and Vegetable Culture under Glass and Outside, House and Table Decoration; good general knowledge of Grassland, Woods, etc.; capable and trustworthy; abstainer; (two years and nine months Army).—W. A. MOORE, Park Lodge, Lyston, Long Melford.

GARDENER (HEAD). — B. C. Forder, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establishment; life experience in all branches; ten years as Head; good manager and economical; age 39; married (one child, 13 years); excellent references; Army discharged.—Full particulars, The Gardens, Whatcombe House, Blandford, Dorset.

A LADY wishes to highly recommend R. SMITH as experienced HEAD GARDENER.—Apply to, The Weir Cottage, Henley-on-Thames.

HEAD GARDENER. — The Hon. A. Mulholland, having sold estate, personally recommends his late GARDENER as a first-class man in all branches, landscape and estate; daughter capable of managing Glass department.—MORRIS, 44, Fairclose Road, Beccles.

HEAD GARDENER seeks situation where 3 to 10 are kept; 25 years as Head; thoroughly experienced in all branches, Vines, Melons, Peaches, Tomatos, Cucumbers, Orchids, Carnations, Chrysanthemums, Stove and Greenhouse Plants; 7 years previous and 7 years present situation; highest references.—L.C., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD), demobilised, practical experience, 7 years' Head; skilled grower of choice Fruits, Vines, Peaches, Melons, Figs and Strawberries (early forcing); Vegetables, choice Plants, Carnations and Orchids, and Well-kept Grounds.—Apply, J. BOOTH, Ivy Lea, Coxwold, York.

GARDENER (HEAD); thoroughly practical, energetic man seeks position as such; life experience in the culture of choice Flowers, Fruit and Vegetables; 5 years Head of several, previous to war; married; age 35; demobilised. — MAY, "The Hutch," Prestbury, Cheltenham.

GARDENER (HEAD), age 43 years, is open to engagement with lady or gentleman; well versed in the requirements of well-kept establishments; 15 years Head; married (one daughter, 10 years); disengaged.—J. A. PESKETT, 62, Eastfield Road, Peterborough.

GARDENER (HEAD); age 50; first-class experience all branches, including Landscape and alterations; one in family.—J. F. LEWIS, Dell Park Gardens, Englefield Green, Staines.

GARDENER (HEAD), demobilised, seeks post where several are kept; 20 years' thorough practical experience in all branches; good manager; last post 3 years and 8 months to the Hon. Carr and Lady Mary Glyn; excellent references. — A. MORPHETT, Wootton, near Ashbourne, Derbyshire.

GARDENER (HEAD); thorough practical experience in all branches of the profession gained in good establishments; good references; age 35.—State wages, etc., to W. KING, Woodcote Grove House Gardens, Coulsdon, Surrey.

GARDENER (HEAD), 32, demobilised, requires post in first-class establishment; life experience; good references; 4½ years in Army; awarded M.M., Belgian Croix de Guerre and mentioned in despatches.—C. S. HESELTINE, High Street, Chipping Sodbury, Glos.

GARDENER (HEAD), age 41, requires temporary employment in Private Garden or Nursery; life experience, Inside and Out, in first-class places.—FLEET, The Gardens, Packington Hall, Meriden, Coventry.

GARDENER (HEAD or GARDENER-BAILIFF).—Advertiser seeks position as above; life experience in all branches, Fruit, Flower and Vegetables, Land and Stock; good organiser of labour, accounts, etc.; highest references; age 48; married; disengaged.—J. BRIDGER, 47, Temple Road, South Croydon.

GARDENER (HEAD or good SECOND); experienced, age 30; married (one girl, 5 years); Midlands preferred; demobilised.—BRAMBLEY, 66, Foley Road, St. John's, Worcester.

GARDENER (HEAD), where two or more are kept; life experience, both Inside and Out; 7½ years last situation; good references; demobilised; age 41; married (no family).—L. KETTLE, 5, Baron Row, Mitcham, Surrey.

GARDENER (HEAD) where two or more are kept; life experience in all branches; excellent testimonials.—W. UNDERHILL, Fernleigh, Bushey Heath, Herts.

ADVERTISER seeks re-engagement as HEAD; 28 years' practical experience, Inside and Out; age 43; married (one daughter).—SCOFIELD, The Kennells, Wraxall, near Bristol.

MR. A. MITCHELL, Head Gardener to the Rt. Hon. Lord Sherborne, Sherborne Park, Northleach, wishes to recommend his late Foreman, W. THOMPSON, as HEAD WORKING GARDENER to any lady or gentleman requiring a good, capable man well up in all branches; a good manager of men; demobilised; age 30; married when suited.—W. THOMPSON, Delamere Gardens, Northwich, Cheshire.

LORD ASHCOMBE, Denbies, Dorking, Surrey, highly recommends G. ALLAN as HEAD WORKING GARDENER; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

CAPT. SAVILE recommends his HEAD WORKING GARDENER; life experience in all branches; first-class testimonials from good places; certificate from the R.H.S.—STOKES, Ven, Milborne Port, Somerset.

GARDENER (HEAD WORKING); life experience in all branches; good references; 18 years present situation.—E. ISAACS, The Gardens, Elm Grove, Ewen, Nr. Cirencester.

GARDENER (HEAD WORKING); life experience gained in good establishments; Inside and Out; 13 years head; married; age 44; highly recommended.—HAYNES, Walcot Hall Gardens, Stamford, Northants.

GARDENER (HEAD WORKING), demobilised, experienced in Flowers, Fruit, and Vegetables, Inside and Out; experience gained in good establishments; eight years as Head; age 38; married.—A. B., 32, Park End, Bromley, Kent.

GARDENER (HEAD WORKING) where one or more are kept; life experience; age 44; married; excellent references. — REDDING, Court Gardens, Marlow.

GARDENER (HEAD WORKING or good SINGLE-HANDED); life experience Inside and out; age 30; married (one child). Please state wages.—Bailey, Heydon, near Royston, Herts.

GARDENER (HEAD WORKING); life experience, Inside and Out; recommended by Lord Vaux, Harrowden Hall, Wellingborough; age 3[illegible], married (one child).—Apply, WM. WARREN, Shirburn, Watlington, Oxon.

GARDENER (HEAD WORKING), age 34, married; 4 to 6 under; life experience, including Inside work, Kitchen and Pleasure Gardens; Carnations a speciality; well recommended in upkeep of gardens; energetic and good manager.—E. ODDY, [illegible] Calvert Road, High Barnet, Herts.

HEAD WORKING GARDENER; thoroughly experienced Fruit, Flowers and Vegetables, Inside and Out, and management of good gardens; 12 years' Head of nine; age 43; excellent character.—F. SMITH, Harpton Cottage, Yateley, Hants.

GARDENER (HEAD WORKING), age [illegible], married, no children, seeks engagement; life experience all branches; well recommended.—DAVIDSON, 40, Rothesay Road, Luton, Beds.

HEAD WORKING GARDENER where others are kept; life experience in all branches, Inside and Out; highest references; would manage estate.—F. M., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) where one or two others are kept; 8 years previous Head; life experience; age 42; married (one child).—WHEELER, Glengarriff, Queen's Road, Crowborough, Sussex. (Demobilised.)

GARDENER (HEAD WORKING) where two or more are kept; life experience; excellent references; age 29; married (no family); demobilised.—A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING) where two or more are kept, or would take good SINGLE-HANDED; life experience, inside and out; married (no family); age 39; excellent references.—A. J. SMITH, The Gardens, Greenfields, Horley, Surrey.

GARDENER (HEAD WORKING); thorough practical experience, Inside and out; high references; age 30; married when suited.—E. DAY, Queen Anne's Gardens, Caversham, Reading.

GARDENER (HEAD WORKING) where more are kept; thoroughly experienced Inside and Out; Fruit, Flowers and Vegetables; married (one child); wife useful; disengaged.—DRAGE, Am[illegible] Cottage, Huntingdon.

GARDENER (HEAD WORKING); 25 years' experience in good places; excellent references; married (no family); age 38; just demobilised.—BACK, 22, South Street, Derby.

GARDENER (HEAD WORKING); practical all round experience all branches, Inside and Out; age 45; 16 years Head; good references; married.—A. BURBIDGE, Shantock Hall, Bovingdon, Herts.

GARDENER (HEAD WORKING) where two or more are kept; 22 years' experience in good establishments; Electric Light if required; knowledge of Land and Stock; well recommended; age 38; married (five children); demobilised.—MEAGER, Nursery Terrace, Potten End, Great Berkhamsted, Herts.

GARDENER (HEAD WORKING of three or more); life experience Inside and Out; excellent references as Foreman and Second of six; age 31; married (two children).—AYERS, 6, Barmouth Cottages, Rickmansworth.

GARDENER (HEAD WORKING) where others are kept; life's experience Inside and Out; good references; age 48.—GARDENER, Longbridge Manor, Warwick.

GARDENER (HEAD WORKING) seeks situation with any Lady or Gentleman; life experience in all branches; highest references from first-class establishments; just demobilised; age 30; married.—ROBERTS, 36, Denmark Street, Diss, Norfolk.

GARDENER (HEAD WORKING) where two or three Men kept; age 47; married (no family); life experience in all branches of private gardening; 17 years in last situation; excellent reference.—Apply C. F. KEEP, 27, Johnson Road, Bromley Common, Kent.

GARDENER (HEAD WORKING); thoroughly experienced; 8 years' Head in large establishment; well recommended; married; age 41.—HOWARD, Claremont, Camelsdale, Haslemere, Surrey.

GARDENER (HEAD WORKING of two or more); life experience; Inside and Out; 8 years' last situation; demobilised; age 35 years; married (one child); near London preferred; no circulars.—CUNNINGHAM, 105, Kew Road, Richmond, Surrey.

GARDENER (HEAD WORKING or SINGLE-HANDED) with help; life experience, Inside and Out; five years' reference; seven previous; married, age 43; cottage required.—KIY, The Mount, Hendon Lane, Finchley, N.3.

GARDENER (HEAD WORKING), demobilised, A1, seeks post where several are kept; twenty years' practical experience in all branches; good manager; excellent references; last post two years, previous to enlistment; age 38; married (no children).—E. LANG, 24, Johnson Street, Notting Hill Gate, London, W.

GARDENER (HEAD WORKING); life experience in every branch of the profession, Inside and Out; five years' with Lady Pigott at Wrexham Park; land and stock if required.—R. DOWDING, Foxleighs Gardens, Holyport, nr. Maidenhead, Berks.

GARDENER seeks situation, SINGLE-HANDED or Kitchen Garden and Lawns; experienced, use scythe; age 46; married (one child).—G. EWINS, New Cottages, Washington, Sussex.

GARDENER (good SINGLE-HANDED or Second); willing, obliging; understands Electric light; age 46; married (no family); 12½ years' reference.—F. B. THRIPLANDS, Kensington Court, London

GARDENER (SINGLE-HANDED); ten years' experience, Inside and Out; 2½ years' as Foreman in large establishment; age 30; married (no family); demobilised.—A. L. B., Box 23, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER seeks situation; SINGLE-HANDED preferred; single; thoroughly understands Vegetables, Fruits; good references. Please state full particulars.—Address, W. PARKER, Doric House, Burgh Heath, Surrey.

GARDENER (SINGLE-HANDED) seeks situation; thoroughly experienced in all outside work; good references; cottage required; one son, 10 years.—G. H., 5, Haven Terrace, Lion Lane, Haslemere, Surrey.

GARDENER, Handy-man, wants situation, SINGLE-HANDED; age 45; single; good references.—A. S., 104, Bloomfield Street, Saint John's, Ipswich.

GARDENER (SINGLE-HANDED or with help) seeks situation; thoroughly experienced, Inside and Out; married (two children); good references.—FOSTER, 4, Court Farm Cottages, Warlingham, Surrey.

GARDENER seeks situation, SINGLE-HANDED; age 32; single; life experience; good references. Apply, WESTWOOD, Pilgrim's Hatch, nr. Brentwood, Essex.

GARDENER (SINGLE-HANDED or otherwise); 10 years' experience, Inside and Out, gained in good establishments; excellent references; demobilised; married (no family).—FRED KIMBER, 7, Bush Road, Aylesford, Maidstone, Kent.

GARDENER (SINGLE-HANDED); can drive car if required; 10 years' good refs.; cottage required; married; abstainer. State wages, etc.—BUTTLE, The Lodge, 243, South Norwood Hill.

GARDENER (SINGLE-HANDED or with help); life experience in all branches of Gardening; excellent references; married; age 34.—G. SIMMONS, 4, Stanwick Terrace, Kingsbridge Road, Newbury, Berks.

GARDENER (SINGLE-HANDED); age 26; 10 years' good experience, Inside and Outside; good references; Home counties; married when suited. Please state wages.—R. BROWN, Torre House, 151, Cottenham Terrace, Hornsey Rise, N.19.

GARDENER seeks situation, SINGLE-HANDED preferred; cottage required; good refs.—E. A. TURNER, 56, Gladstone Road, Wimbledon, S.W.

GENTLEMAN recommends GARDENER where two or three are kept, or Leading Man Outside on large establishment; life experience; no encumbrance; demobilised.—HAMMOND, North Lodge, Warfield Park, Bracknell, Berks.

GARDENER, age 36, seeks situation, chiefly Outside work; 16 years' experience Inside and Out; good references; demobilised; single. — E. SLOSS, 4, Foot's Cottages, The Hyde, N.W.

GARDENER desires situation where he would be taught to drive motor-car; 16 years' practical garden experience; age 33; married (one child); good references. — F. SHAMMON, Leaholme Lodge, Plymouth Road, Barnt Green, Worcestershire.

GARDENER (WORKING) where two or three are kept; life experience, both Inside and Out; age 33; married (no children); excellent references.—GARDENER, Welham Hall, Retford, Notts.

GARDENER, experienced Inside and Out; good references; age 27; wife willing to help in house if required.—H. HUGGETT, Bailey Road, Westcott, Surrey.

GARDENER, Kitchen Garden and Pleasure Grounds; good reference; age 45; married (one boy, 13). Please state wages, with cottage.—E. MAY, Edells, Markbeech, Edenbridge, Kent.

FOREMAN or SECOND GARDENER (Inside).—Mr. Thompson, Compton Place Gardens, Eastbourne, can recommend L. KIMBER, 12 years' experience, age 27, married, but would take bothy till housing improves; South preferred.—12, Bath Road, Eastbourne.

GARDENER (SECOND or SINGLE-HANDED) requires situation; demobilised; excellent references; married (no children); age 30. Please state wages.—L. TREAGUS, 82, North Hill, Highgate, London, N.

GARDENER (demobilised) seeks a situation as second; Inside and Out, or Outside; 8 years' experience; age 27; single. Please state wages and full particulars (with bothy) to J. H. PAPWORTH, Naseby Hall Cottage, Rugby.

GARDENER (SECOND) seeks situation, Inside and Out preferred; age 31; married (one child); good references; abstainer. — H. STARMES, Bartley Cottages, Bartley, Southampton.

GARDENER seeks situation as SECOND, Inside if possible; good experience and references if required; South of England preferred; age 23; single.—A. E. ROBERTS, 32, Avon Street, Highfield Estate, nr. Gateshead-on-Tyne.

ORCHID GROWER desires situation; 15 years' practical experience, including hybridising and seedling raising; best references; disengaged; recently demobilised; age 35; married (two children).—O. G., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

KITCHEN GARDEN FOREMAN, experienced in Vegetable and Hardy Fruit gained in good establishments; age 37; two girls, age 10 and 8.—P. CHAPLIN, Scotland Green, Parkwood, Henley-on-Thames.

T. BURN, Head Gardener at Cuerdon Hall, Bamber Bridge, Preston, highly recommends a smart young fellow to take the lead under Glass; well up in his work.—Apply as above.

FOREMAN; Outside or Kitchen Garden; demobilised; age 37; married (one child, age 7); life experience in large gardens; excellent references.—ALLEN, St. Ippolyts, Hitchin, Herts.

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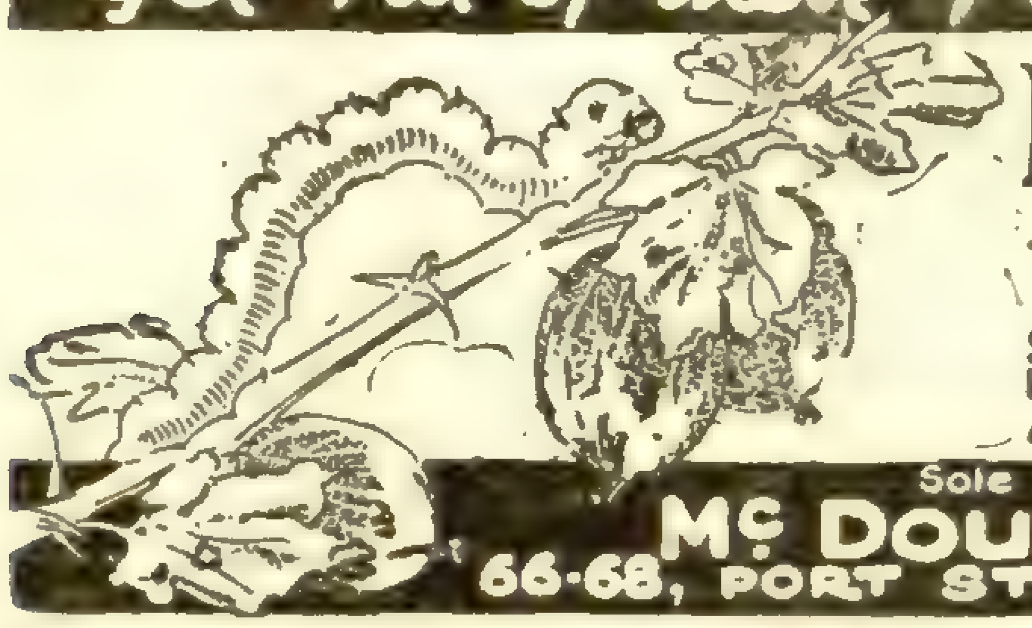

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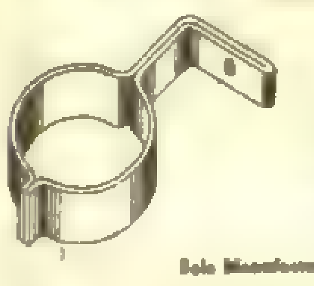

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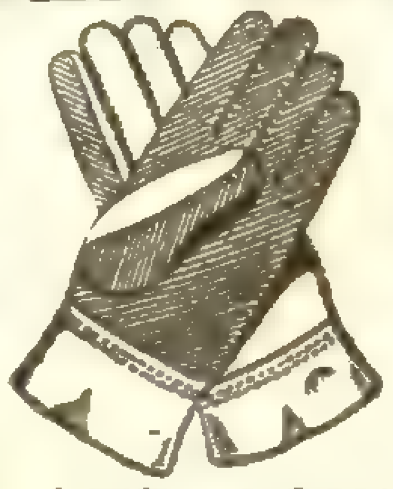

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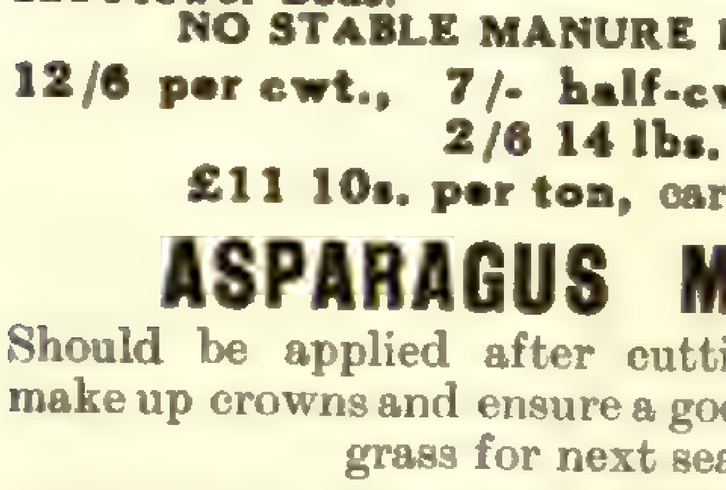

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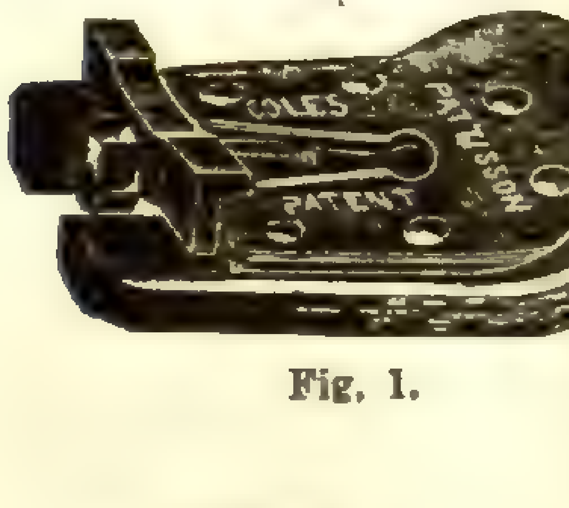
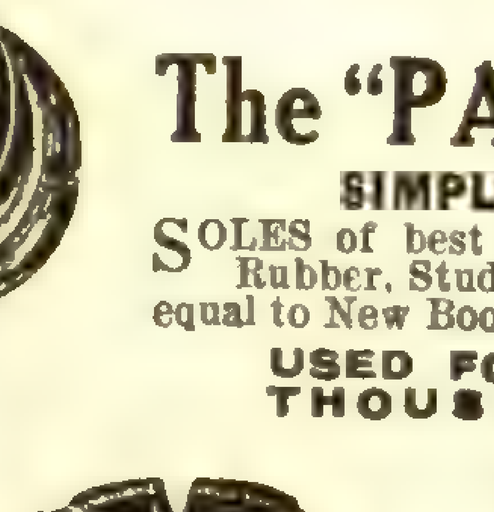


Fig. 2, A Quality.



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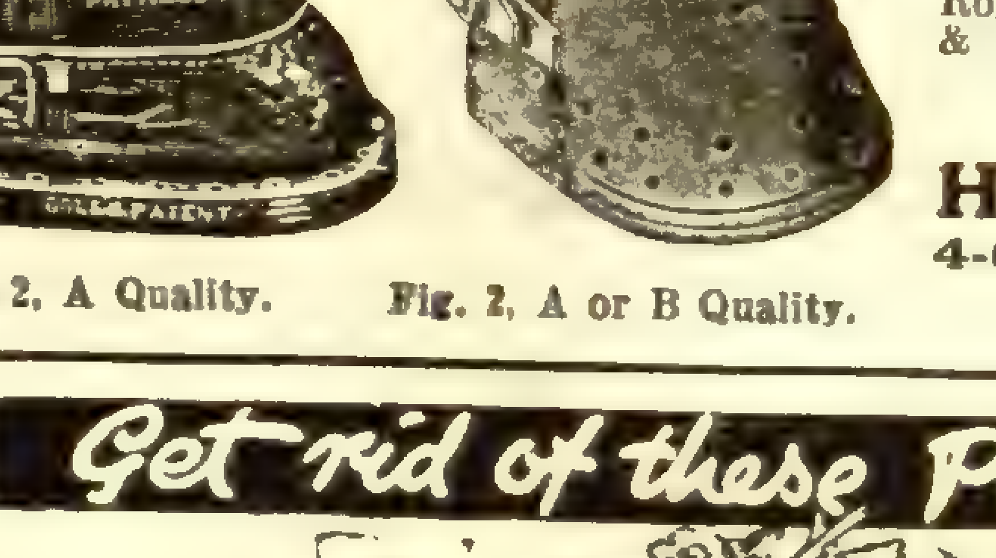

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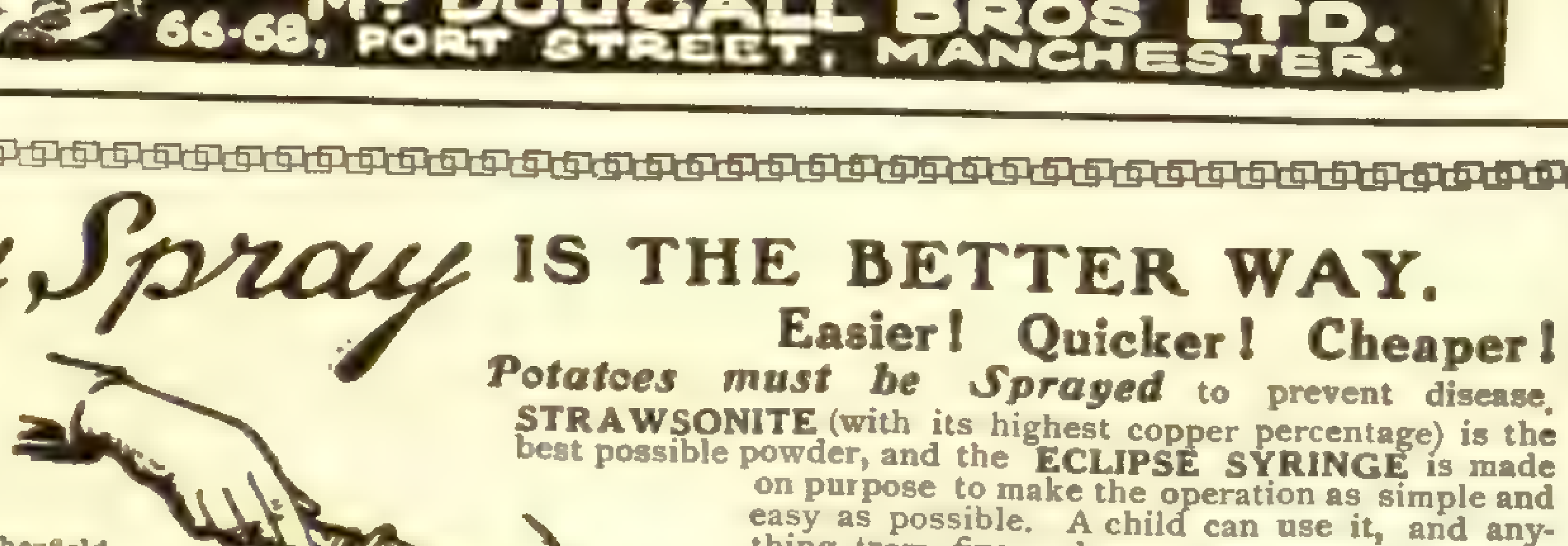

10/6

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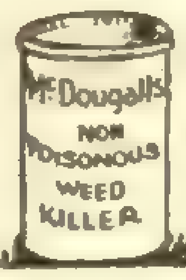

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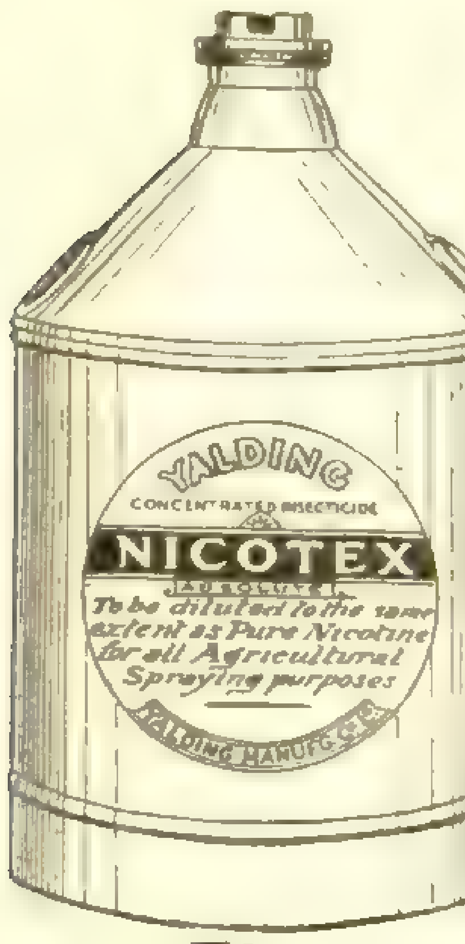

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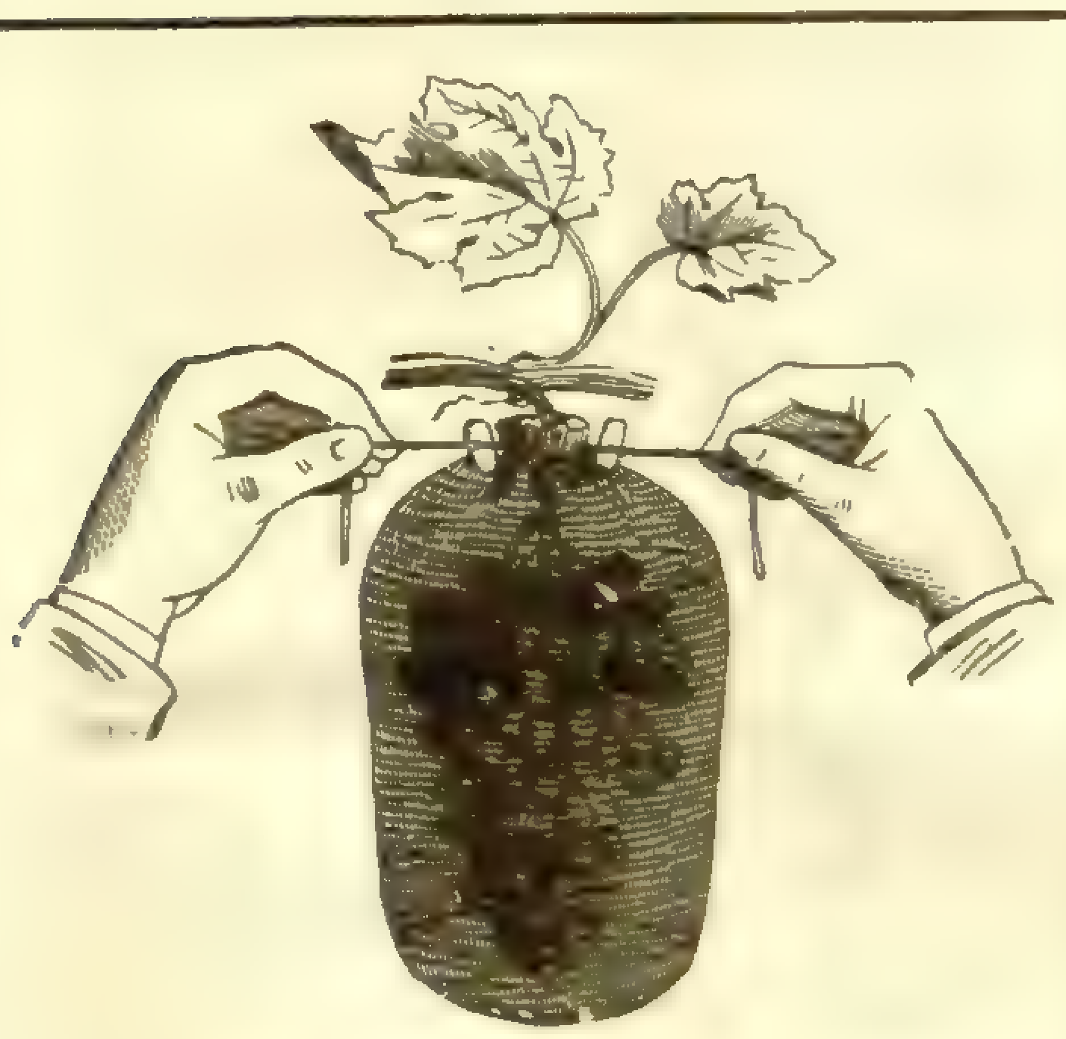

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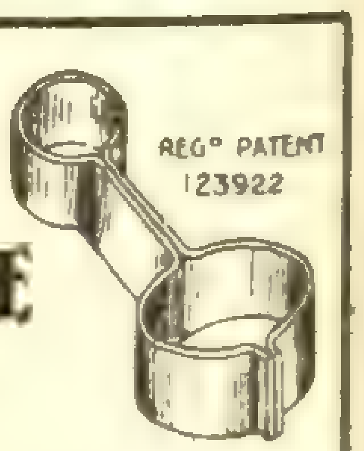

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THE

Gardeners' Chronicle

No. 1699.—*SATURDAY, JULY* 19, 1919.

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LAND SETTLEMENT.

I. THE OPPORTUNITY.

ALL who are interested, whether directly or indirectly, in the present and pressing problems of land settlement, should study the latest "Reconstruction" pamphlet of this title, issued by the Ministry of Reconstruction and obtainable from any bookseller for two pence.

The object of the pamphlet is to state the opportunity for successful land settlement, which this country offers at the present time. Such a statement is urgently needed and deserves a wide publicity, for at the present time, the stream of emigration dammed back during the war, is beginning to flow again in more than pre-war volume, and as a consequence many men and women of enterprise are leaving this country to seek fortune elsewhere. Nor is this by any means to be deprecated so long as those who emigrate are not compelled to go from a belief that this country has nothing to offer them. For as this pamphlet states, such is not the case. "There is no land more rich or more desirable." The soil of Great Britain can carry a larger agricultural population than occupies it at present.

The area of the land of the United Kingdom is seventy-six million acres, of which thirty-two million acres are in England, twenty in Ireland, nineteen in Scotland, and five millions in Wales. Of the seventy-six million acres, about three fifths, *i.e.*, nearly forty-seven million are under cultivation.

The land under the plough in the United Kingdom is nearly twenty million acres, and of this area, the greater part was in 1914 either under rotation grasses or was cropped for feed for stock. Wheat, Barley, Potatos, fruit, and other market garden crops occupied only about one quarter of the ploughed land.

One seriously misleading statement contained in the pamphlet which should be corrected at once, lies in the assertion that in previous days, we produced "the great bulk of vegetables, poultry, and eggs we required." In point of fact, we imported before the war, about ten million pounds-worth of fruit and vegetables, and a like value of eggs and poultry. At present values, this would come to nearly forty million pounds-worth of imported fruit, vegetables and poultry. Whether the pamphlet is right in implying that this is but a small part of the total only a reference to the statistics of home production could show; but evidently forty million pounds-worth of imported foods of kinds which are capable of being grown in sufficient quantity in this country, is no small matter.

An interesting summary of agricultural holdings in England and Wales, shows that there are 420,000 farms or holdings.

These may be classified into:—

Very large farms: 14,000=25 per cent. (500 acres and upwards.)
Large farms: 38,000=29 per cent. (Averaging 200 acres.)
Ordinary Farms: 93,000=30 per cent. (Averaging 90 acres.)
Economic small holdings: 78,000 =10 per cent. (Averaging 35 acres.)
Part time holdings: 83,000=1 per cent. (Up to 5 acres.)

Although of great importance the two million allotments, many of which are of very small extent, may be omitted here: but even if included, would bring the area under part-time holdings to only five per cent. of the total cultivated land.

The progressive depopulation of the country side which accompanied the laying down of plough land to pasture during the last forty years, resulted in a decrease of one-fifth in the number of agricultural workers, and it is estimated that this decline was at the rate of seven men for every hundred acres of arable land laid down to grass.

The steps which are now being taken to restore men to the land, are briefly summarised in the pamphlet, but having regard to the great importance of this subject, we propose to deal with it in a subsequent article.

Although everyone will agree that there is, as mentioned in the pamphlet, a large scope for land settlement in this country, it would be foolish to ignore the difficulties which must be overcome if success is to be achieved — one of these difficulties lies in the enhanced cost of building and appliances, and of land; another in the competition with which in pre-war times the market gardener and fruit grower was faced. To get over this difficulty in a way acceptable alike to producer and consumer, will prove a heavy tax on statesmanship.

ORCHID NOTES AND GLEANINGS.

DISAS GROWN IN LEAF-MOULD.

THOSE who saw the splendidly-flowered plants of Disa shown by Messrs. Flory and Black, of Slough, at the Royal Horticultural Society's meeting on the 1st inst. (see *Gard. Chron.*, July 5, p. 11), were much impressed by their extraordinary vigour in very small pots, each specimen bearing a stout spike three to four feet in height. The selection shown was a sample of a very fine batch raised at Slough where, under the treatment given, they thrive to perfection, although many growers fail to get satisfactory results with these beautiful Orchids. The success at Slough is largely attributed to the fact that they are potted entirely in decayed Beech leaves, which have been stored in a heap for three years. At potting time the pots, after crocks are placed therein for drainage, are filled nearly to the brim with decayed leaves firmly pressed down. The strongest tubers intended for next season's flowering are planted in the leaves and afterwards a surface of living Sphagnum-moss is added. The plants are placed in a moist cool house and carefully watered, the supply of moisture being increased as growth and flower-spike develop. Those who do not succeed with Disas potted in other composts, should try the experiment. The cultivation of these tuberous, rhizome-bearing Disas in leaf-mould may prove a permanent success, although the formerly lauded leaf-soil culture of Odontoglossums and other epiphytes in most cases was a costly failure.

LAELIO-CATTLEYA MENDIONA.

A FIRST flower of a cross between Cattleya Mendelii and Laelia Iona (Dayana × tenebrosa) is sent by Eustace F. Clark, Esq., Evershot, Dorset, who states that the plant is Cattleya-like in growth and dwarf in habit, a character probably derived from L. Dayana. In size and shape the flower is intermediate between that of C. Mendelii and L. tenebrosa, but in colour it closely approaches some of the forms of C. Mendelii. The lanceolate shaped sepals and broader petals are white, tinged and veined with pale mauve. The lip, which is rather narrow and elongated, is tinged with mauve at the base, the median area being primrose yellow and the front dark purple.

Mr. Clark also sends a specially fine Laelio-Cattleya Lucia (C. Mendelii × L. cinnabarina), which, although not of such broad proportions, may be likened to a bright yellow C. Mendelii with deep crimson front to the lip.

FLORISTS' FLOWERS.

THE BORDER CARNATION.

THE article by *Old Florist*, on p. 4 in your issue of July 5, is much to the point, and I agree with most that he writes.

The art of dressing and showing blooms on cards is going out slowly but surely, and although I consider that the old striped flowers are shown to the best advantage when laid out carefully on cards, they may be displayed almost equally well in vases, as well as the White Ground Picotees, when invisible cards or backs are allowed to support the guard petals, such as are now stipulated for at the Southern Carnation and Picotee Society's show in London. I can still tolerate the striped flowers, Bizarres and Flakes, in boxes, spread out on cards, but see no reason why any other kind should be tolerated shown in such a way.

But why the Midland Society allows Selfs, Fancies, Yellow Ground Picotees, as well as the White Ground Picotees to be shown on cards, passes my comprehension, and I consider it high time for that Society to give up the practice, at least as regards the three first-mentioned kinds.

Old Florist merely touches on one very important matter, namely, the advance that has been made in recent years in rigidity and strength of stem in many of the recently introduced border varieties. I wish to emphasise the point, as I consider it the greatest improvement that has taken place since Selfs, Fancies and Yellow Ground Picotees became the leading features at shows. I could name not fewer than a dozen varieties which would show themselves equally well with the best of to-day's much fancied perpetual varieties, in fact, they would carry their blooms without wire supports on stems, say, two feet in length. And during Peace Year I hope to see this fact brought to notice by our Border Societies in order that classes for such flowers may be arranged for competition in 1920.

Diverging somewhat from the border Carnation to the perpetual flower, I consider it time that raisers of seedlings of that kind should look

a little more to form and symmetry of petal and a little less to commercialism, which seems up till now to have been their main object. I feel almost certain that the perpetual varieties might yet be looked upon favourably even by a 1919 florist, provided the flower is much improved in its general outline and the petals in the centre were formed more like the outer and guard petals, instead of standing straight up and crowded to excess, such as in a double annual Poppy.

Granted the perpetual Carnation is a valuable

[*Photograph by E. J. Wallis.*

Fig. 15.—Catalpa speciosa in flower.

market flower on account of its very floriferous habit, and possessing more of the old Clove scent than the general run of "Borders," on the point of variety of colouring it is, however, a long way behind, and there has not been as yet a real yellow self introduced. The recent award of the R.H.S. to the variety "Sunstar" was doubtless made because this happens to be the nearest approach so far to yellow, but I look upon the colour of the flower as a very washy yellow.

As regards comparing the Border with the Perpetual Carnation, the ideals of the two are at present so widely separated that it is unwise for them to enter into competition, such as happened at St. Dunstan's Flower Show, at Chelsea, on the 3rd and 4th inst. I happened to be the "Border" judge of the three judges selected for Carnations generally at that Show, and we had no difficulty in finding the best of each kind introduced since August, 1914, but when we were asked to give a verdict for the best Carnation, both kinds included during the same period, the matter was entirely different. Being outnumbered I, of course, had to give in, but not without a vigorous and, I trust, clearly audible protest. The sequel arose when I learned on the following day that the special judges awarded the trophy for the best exhibit of Carnations in the Show to the border varieties exhibited by Mr. James Douglas, and this, I infer, goes to prove that whatever the perpetual Carnation may be from September to May inclusive—and I grant that during these months it reigns supreme—it is no match for the border Carnation during June, July, and August.

Had the vase of "borders" which competed with the perpetual Carnation for the smaller award contained anything like an equal number of blooms, I wonder how my two fellow judges, who were both, in the first instance, "perpetual" fanciers, would have decided?

In conclusion, and in sympathy with the views of *Old Florist*, I have no hesitation in saying that, from a florist's point of view, there is still only one Carnation for us. *R. Morton.*

TREES AND SHRUBS.

CATALPA SPECIOSA.

[The Western Catalpa.]

Although it is now many years since Catalpa speciosa (see Fig. 15) was introduced to this country, it is only recently that it has flowered freely enough to justify its place in gardens as a flowering tree. But if, having now reached the blossoming age, it continues to flower annually, it will prove a great acquisition, for it is at its best from the end of June well on into July, a period of the year when it has but few rivals. Coming into flower a fortnight or three weeks before C. bignonioides, it lengthens the Catalpa season very considerably. A tree near King William's Temple at Kew has made a very good show this year.

It is quite easy to confuse this Catalpa with the older and better known C. bignonioides unless trees of each kind are growing near enough to be compared. But besides its earlier blossoming, it may be distinguished out of flower by the leaves being longer and more tapered towards the apex, and especially in being inodorous, those of C. bignonioides having a very perceptible and somewhat unpleasant smell when crushed. The flowers are produced in panicles and are rather larger and less densely packed compared with those of the other species. The corolla is about two inches long, with a bell-shaped tube and a frilled, lobed margin, the tube having two rows of yellow spots; there are also purple spots on the lower lobe. The remarkable fruits, which I have not yet seen on cultivated trees, are up to 20 inches in length, and not much thicker than a very stout pencil. The tree, a native of the S. and S.E. United States, is more erect and pyramidal in growth than C. bignonioides, and in a wild state, according to Prof. Sargent, is occasionally 120 ft. high, with a trunk over 4 ft. in diameter. The tree produces a very valuable timber, almost unequalled in durability when in contact with the soil. For this reason it is prized for railway sleepers, gate posts, etc. Gate posts are known to have stood in place and undecayed from 50 to 100 years. *W. J. B.*

HARDY FLOWER BORDER.

LYCHNIS CHALCEDONICA.

This old flower is again in bloom, and looking over that delightful little book, *Stray Leaves from a Border Garden*, I have been interested in what Mrs. Milne Home says of it under date of July 9. This is written shortly before the corresponding date, and the Scarlet Lychnis has been open for a week or more, but I feel sure that the garden which called forth such a delightful causerie from Mrs. Milne Home, is in a colder district than this. The authoress tells us of its popular names, all of which I have heard before. These are, Summer Lightning, Flower of Constantinople, Bristol Flower, and Maltese Cross. Mrs. Home quotes an old saw:—

"The Scarlet Lychnis, the garden's pride,
Flames at St. John the Baptist's tyde."

Old writers devoted much notice to the plant but within late years it has been less cultivated. Yet its brilliant scarlet flowers in good heads on stems from 2 to 4 feet high, are of considerable effect in the herbaceous border. I do not care much for the white variety, which is less common. The double forms were popular in former days, and are still in request by a few, especially those who exhibit at early shows, when a good bunch of the double Scarlet Lychnis

often attracts the eyes of a judge. Apart from this, however, the old Lychnis chalcedonica is worthy of being cultivated in any border of hardy flowers, especially if the soil is rich and the situation sunny.

ALYSSUM SINUATUM.

THE late Mr. W. E. Gumbleton, a most acute and incisive critic of flowers, would probably have designated the above as a "pooh" plant, and, failing that extreme depreciative expression, would certainly have called it a "tush" one, these being the two most contemptuous terms in his critical vocabulary. It may, therefore, appear needless to say anything of such a flower at the present time, when we are enjoying a wealth of floral beauty in the beginning of this month of July. Yet there are some who would describe Alyssum sinuatum as the nearest approach to a summer-flowering Madwort or Gold Dust we have. It comes into flower soon after A. saxatile, and lasts until well into autumn. Its foliage, which is not so white as that of the Rock Madwort, is sinuate. The flowers are borne more erectly, and the whole habit is less trailing than in A. saxatile when it is of large size. The seeds came to me from abroad, as those of A. gemonense, some years ago, but the name has been given as A. sinuatum by a competent authority. The plant needs a dry soil and grows about one foot high. The flowers are of a good yellow tone, and, in a mass, look fairly well, although poor individually. *S. Arnott.*

TWO NEW CARNATIONS.

ON the occasion of the British Carnation Society's exhibition, held at Westminster on May 13 last, the Misses Price and Fyfe, Birchgrove, East Grinstead, exhibited several new, seedling, perpetual-flowering Carnations, and two of these varieties appeared to be of outstanding excellence (see Fig. 16). The white variety, named Isobel Felton, has such a beautifully rounded form that it attracted the attention of those lovers of border Carnations who place regularity of outline and breadth of petal before all other attributes. Fortunately, the pure white blooms are full, substantial, and borne on long, stiff stems, consequently they lack no good point from a decorator's point of view. The second variety, named Scarlet Dragon, has a larger, very solid and yet elegant flower of rich, glowing scarlet colour.

LETTERS FROM SOLDIER GARDENERS.

CHARALAMBOS' GARDEN.

CHARALAMBOS was a Greek wartime policeman with whom I made friends on the basis that we were colleagues, his job being to keep the natives of the village in order and mine to prevent the "Tommies" from entering it without due and lawful authority.

He came from Athens, was very well educated, and had the most supreme contempt for the prehistoric ways of the natives of Macedonia. During the winter we studied together and in a few weeks could converse fairly well in each other's language. When the last blizzard took its departure and the ridiculous looking long-legged storks came back and began to stand contemplatively on the house roofs, I, after the fashion of Englishmen all the world over, began to think about gardening. So far as I could see, I was booked to stay there indefinitely and I set to work with my two comrades to cultivate about nine or ten rods of ground adjacent to our quarters. One or other of us used to work at it during our spells off duty and we did it thoroughly, trenched two spades deep and put everything in nice, military-looking rows. We had to fight with jackdaws, which pulled up the sprouting Peas and laid them in long neat lines, and we were constantly on the alert to threaten with fearful penalties the shepherd boys who went to sleep and allowed their charges to wander on to the unfenced plot.

Charalambos was at first inclined to pity men who could toil in this absurd fashion when they could get all that was necessary to eat without it, especially, as he said, when we never knew at what moment we might have to leave it all, but when our things came up and looked very green and tempting, he began to recall half forgotten memories of gardens in his own homeland. One day I went round to his quarters, which were in an old Turkish chapel and found him with his coat off, digging a trench in the graveyard. He had already unearthed the crumbling bones of two Turks—they bury very shallowly in those parts—and I wondered whether he had got hold of some tale of treasure buried with these folks and was out to get rich quick.

But he told me that he was going to make a garden, and when he explained the scheme to me I began to wonder whether his plan wasn't a good deal ahead of mine. The trench, apparently, was to be a sort of sunk walk round the beds, so that the plants could be attended to without stooping. "Summer, plenty hot, very to water, I," he explained.

He and his comrade had really more time on their hands than we had, and in the course of a week the garden had been completed with the exception of planting. It was quite an elaborate affair, though tiny. It was oval in shape, the length less than a hundred feet, and the breadth at the widest part, only a little over twenty. Besides the sunk walk round the outside, there was a path down the centre and the ground each side of this was divided into four beds. There was certainly no excuse for treading on the beds at any time. They had not bothered about trenching the ground, but had imported plenty of rotten manure and appeared to pin their faith on watering. When it came to planting, I was, to put it mildly, flabbergasted. It was utterly impossible to find any trace of plan. Onions, Peas, Lettuces, Cucumbers, dwarf Beans, Carrots, Aubergines and Cauliflowers were all mixed up together and right in the middle of all, when one would have thought it impossible to squeeze anything further in, Maize, which in a few weeks shoots up to an immense height in that country, was sown haphazard all over the beds.

FIG. 16.—NEW PERPETUAL-FLOWERING CARNATIONS. TOP FLOWER, SCARLET DRAGON; COLOUR, GLOWING SCARLET. LOWER FLOWER, ISOBEL FELTON; COLOUR, PURE WHITE.

One evening Charalambos came and begged a few sprouted Potatos I had left over and these were stuck in the corners between some patches of seedling Marrows. What was to become of the Marrows, I could not see, but the problem was solved later on, when they were transplanted on to the ridge of earth surrounding the outside trench and went rambling among the gravestones at their own sweet will.

Watering, the men did most diligently. They constructed an aqueduct of petrol tins leading from the well head to the garden and spent an hour or two daily in drowning the things in water.

But the crops grew. Long after my garden had been abandoned (we were recalled to Headquarters just as the Peas were swelling nicely in the pods and of course, everything went to rack and ruin) they were cutting Cucumbers and picking Peas—and watering. I am convinced that a chemical friend of mine is right when he says that one can grow plants without soil if one only gives them plenty of water and warmth. I used to visit the village once or twice a week during the summer and there were always a few Cucumbers or Tomatos to spare for me. It was a veritable intensive garden and it was flourishing up to the great day in September when "Johnny" retired and we were ordered to follow on his heels.

I shall long remember Charalambos with affection and not least of all because he is a great gardener. *Herbert Mace.*

PHYLLOPERTHA HORTICOLA, LINN.

This beetle (see Fig. 17), which has been very prevalent in certain districts of Surrey this season (see *Gard. Chron.*, vol. lxv., pp. 308, 310, 321), has several common names, such as June-bug, Bracken Clock, Fernshaw beetle and Fernweb. This multiplicity of names probably owes its origin to two reasons. Firstly, the beetle is very striking in appearance, and secondly, it has the habit of appearing in large numbers in certain years. The beetle (see Fig. 17 A) is about 10 mm. (2-5th in. long). Its head and thorax are greenish, metallic and shining, making a good contrast with the reddish-brown elytra. The antennae are also reddish with a dark coloured club consisting of three plates. These plates, or lamellae, are characteristic of the large group to which this beetle belongs, namely the Lamellicornia. It is thus clearly allied to the common Cockchafer, which it resembles in its larval habits. The adult June-bug may be found on flowers and young trees, and in seasons of abundance, like the present year, may be found damaging fruit. The eggs, like those of the Cockchafer, are laid in the ground, and the larva feeds on the roots of grasses. It most resembles a Cockchafer grub, except that it is smaller (see Fig. 17 B); it is pale in colour, with a dark head and strong mandibles that are black at the tips. The body is clotted with a few brown hairs and usually lies in a curled position. The hind end is darker owing to the presence of digested food remains. The larva remains three years in the soil, and where abundant, causes great damage to turf, killing the grass plants. The presence of the grubs is often indicated by the large numbers of rooks and starlings which feed on them, and thus these birds are very useful in keeping down the pest. As is the case with the Cockchafer, certain years are remarkable for the abundance of the June-bug. It would appear that, for some reason or another, conditions during some critical period of larval life are particularly favourable and that, therefore, an abundance of beetles occur in the corresponding years of emergence. This fact is seen in the American Seventeen-year Locust (Cicada), where the abundant years are well known for any given locality, and warnings can then be issued to the particular locality concerned. In the case of the June-bug, control methods consist in shaking the affected plants in dull weather, when the beetles readily drop, or, where it can be employed, of spraying with lead arsenate. *A. H. Lees.*

[The beetles and damaged Apple shoots and fruits illustrated were kindly sent us by Mr. S. T. Wright from the gardens of the Royal Horticultural Society, Wisley, where the pest has been very prevalent this season, causing considerable damage to many of the crops there. Mr. Wright states that the beetle spread to gardens and farms all round the neighbourhood of Wisley

Fig. 17.—The June bug (Phyllopertha horticola) attacking apples.

and was even attacking the Wheat in some places. The June-bug is especially harmful to fruit crops; a correspondent in *Gard. Chron.*, June 28, 1919, p. 321, stated that it had attacked not only Apples and Pears, but had destroyed the foliage of his Raspberries, and even spread to his Roses.—Eds.]

The Week's Work.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Tall Bearded Irises.—Large clumps of these Irises may be lifted and divided most satisfactorily immediately after they have flowered. Plant them on a slightly shaded border in fairly good soil and supply plenty of moisture to the roots (if the weather is dry) until they are established. Keep the beds free from weeds and ply the hoe between the plants at intervals. Thus treated good plants will result and these may be transferred early in autumn to their permanent quarters where they will flower well the following season.

Foxgloves.—A good sowing of seeds of best varieties of Foxgloves should be made now on a well prepared border to raise plants for blooming next summer. Sow the seeds in drills 6 inches apart and transplant the seedlings when large enough to handle in an open situation. Seeds may also be sown amongst other plants in the wild garden, and in a few seasons ample seedlings will spring up from self-grown seeds without any further trouble and make a good display.

Heuchera sanguinea.—This useful dwarf Herbaceous plant should be lifted and divided as soon as the flowers are over. It is necessary to maintain a stock of young plants if large flowers and sturdy spikes are desired. When dividing large clumps reject pieces from the centres of the plants.

Roses.—Anyone intending to plant large quantities of Roses during the coming autumn should prepare notes of the different varieties while they are in flower. A good plan is to pay visits to some of the large Rose growers and select the most suitable varieties.

Garden Roses.—The garden Roses are very beautiful and will grow freely in almost any soil if the latter is properly broken up and manure added. Large clumps or bushes need very little attention when well established.

Sweet Peas.—To prolong the season of flowering remove all seed pods from Sweet Pea plants and keep the roots well supplied with water and liquid manure. In some cases, owing to the drought, growth was greatly retarded, but since rain has fallen the plants have greatly improved and there is a good show of bloom.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Cabbage.—A piece of ground should be enriched with leaf-soil and burnt garden refuse to receive a small sowing of Cabbage seed to provide plants for winter and early spring use. The plants from this sowing often prove very valuable, even in January. When the plot has been well worked, sow the seeds an inch deep in drills drawn one foot apart. Soak the drills with water, sow immediately, cover with fine soil, and then net the plot to prevent trouble from birds. Sutton's Harbinger, April, and Webb's Emperor are first-rate varieties for this early sowing.

Herbs.—Many kinds of herbs will be ready for gathering to dry and store for winter use.

Onions.—Autumn sown Onions are nearing the completion of their growth. If left in the ground longer many of the bulbs will crack and spoil; therefore, lift them carefully and dry them off under cold frames, the lights of which should be withdrawn on all dry days. If the bulbs are well harvested they will keep fit for use until the spring sown crop has ripened, and even longer, thus reserving the latter for spring use. This point should be remembered as Onions

will be exceedingly scarce before next spring arrives. If there is any doubt about a full crop of Onions I should not hesitate to at once sow seed of quickly maturing varieties in watered drills on good ground.

Spinach.—Sow summer Spinach at intervals of a fortnight in various positions, choosing open as well as partially shaded sites. Sow a batch of Spinach Beet where ordinary Spinach does not stand the winter. Choose an open position and sow in lines 15 inches apart; thin the seedlings to 9 inches apart.

Turnips.—Two sowings of Turnips should be made at the end of the month if a good supply of roots is needed for the autumn. From these sowings good Turnips will be produced for lifting and storing. Store before severe frosts set in. Choose Veitch's Red Globe and the Snowball types for this sowing. Allow 16 inches between the lines when sowing to allow freedom for hoeing.

Swede.—The small, quick-growing, garden varieties of Swede should find a place in every garden. Sow at this date, on land that has been occupied with early Potatos. Given a slight application of superphosphate of lime, lightly harrowed in, little else will be needed in the way of preparation. Sow in drills an inch deep and 15 inches apart.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Strawberries.—As soon as the early varieties of Strawberries have finished fruiting all runners not required should be removed, also weeds and rubbish. When this has been done hoe the soil and continue to keep down weeds. The plants should be well watered and given weak liquid manure to assist them to form strong crowns. This treatment also applies to later varieties as they finish cropping.

Walnuts.—Young Walnuts are excellent for pickling, and trees carrying heavy crops should be thinned of some of the nuts for this purpose. To ascertain if the nuts are at a proper stage for pickling, pierce them with a needle, which will pass through easily if they are in the right condition: if the shell is tough the needle will not pass through. Trees carrying heavy crops will be much benefited by receiving copious applications of liquid manure. Feeding is often neglected in the case of Walnuts, but the trees need it quite as much as Apples, and the same is true of Cob Nuts and Filberts.

Cob Nuts and Filberts.—Where close winter pruning is practised, these trees will have made strong shoots, many of which are not necessary and some should be thinned. Shoots required to fill vacant spaces should have the tops twisted out now. This may be done by a twist with the thumb and finger.

Sawfly on Apples.—This insect causes the fruits of Apples to drop, as the mother deposits her eggs in the fruits when they are setting, and the grubs are full fed at the beginning of July, when the Apples drop. All infested fruits should be gathered from the ground and burned, otherwise the grubs will eat their way out, burrow in the soil and remain there until the following spring. The soil should be lightly forked over in autumn to enable birds to pick up the cocoons.

Slugworm on Pears.—The Pear slugworm is of a sluggish disposition, but has a big appetite and soon consumes the soft parts of the leaves, causing them to turn brown and drop. The insects appear during the present month and deposit their eggs on the leaves, and these hatch in a few days. The grubs feed on the leaves till the end of August, when they form a cocoon and enter the ground for hibernating through the winter. As soon as attacks are noticed the trees should be syringed with Quassia extract or soft soap, 2 oz. to one gallon, mixed with ½ pint of nicotine. Freshly-slaked lime dusted on the insects with a dredger will also kill them. Hellebore powder and Paris green insecticide will destroy them, but the latter is an arsenical spray and should not be used when fruit is on the trees.

PLANTS UNDER GLASS.

By JAMES WHITOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian

Begonia.—To obtain good specimen plants of B. Gloire de Lorraine those that are sufficiently rooted in small pots may be transferred to receptacles six or seven inches in diameter. For general decorative purposes 5-inch pots are the most useful size, and a late batch of cuttings grown in 3½ or 4-inch pots will be found very useful. In a house devoted to the flowering of these plants an additional good effect is produced by having a certain number in hanging baskets. Whatever kind of receptacle is used in potting it should be well drained, and filled with soil of an open texture. A suitable soil is formed of three-parts turfy loam, one-part half of dried cowdung and one-half of half-decayed leaves. Pass the dung and leaves through a sieve, and add a sufficient quantity of sharp sand to keep the compost porous. The soil should not be pressed firmly. The plants will grow best in a low-roofed house or pit near the roof glass in a temperature 60° to 65°. Shade from bright sunshine, keeping the house moist. Syringe the plants twice daily, dust the stage frequently with soot, and fumigate the plants occasionally to keep down attacks of insects. Begonia Gloire de Sceaux is a handsome winter flowering plant, and large specimens may be grown in 8-inch pots although those in 6-inch pots are suitable for general decorative purposes. The soil, temperature and general treatment should be similar to those recommended for Gloire de Lorraine. Cuttings of this variety may still be rooted in small pots, plunged in bottom heat. Those raised in this way should be shifted into larger pots before they become pot bound. This Begonia is very subject to infestations of mite, and the house must be fumigated as occasion requires.

Souvenir de la Malmaison Carnation.—It is now time to raise young stock of these Carnations by layering. The shoots will root best in frames, and the latter should be filled with soil almost to the glass. The surface soil for layering should consist of sifted loam, leaf-mould and sharp sand. Prepare the plants for layering; select stout shoots for layers, and remove a little of the foliage to facilitate the work. Make the cut lightly, taking care not to break the stem when inserting the peg. The plants should be watered, shaded and syringed daily. Keep the frame close until roots begin to develop, when air may be given. When well rooted the lights may be removed entirely; soak the roots well before lifting the layers for potting, which should be done firmly.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cypripedium.—The group of Lady's-Slipper Orchids, which includes C. Lawrenceanum, C. Rothschildianum, C. Sanderianum, C. Curtisii, C. callosum, C. Maudiae, C. Lord Derby and the many others that usually flower during late spring and early summer are attractive and useful kinds. These species and hybrids need the heat of the warmest division, and the plants should be given a position where they can be shaded from strong sunshine. The present is a very suitable time to examine the plants and afford new material to those in need of it, as growth commences afresh soon after the flowering period. These Orchids thrive better potted in Osmunda or A.1. fibre and Sphagnum, with a little good loam fibre added for the strongest growing sorts, than in a heavier material. Plenty of drainage is necessary, as much soil about their roots is undesirable, and every endeavour should be made to keep the compost thoroughly sweet and open. All through the summer and while the plants are growing freely the roots should be abundantly watered, and there should be plenty of moisture in the atmosphere. The species and hybrids with handsome, tessellated foliage enjoy frequent overhead spraying when the weather is favourable.

Succulent-Leaved Cypripedium.—The small group of succulent-leaved Cypripediums, composed of C. concolor, C. niveum, C. bellatulum and C. Godefroyae may justly be included among the gems of this extensive genus, but it cannot be said that these species are so easily grown as the majority of Cypripediums. Plenty of warmth and atmospheric moisture are essential for their successful cultivation, and the plants should be grown either suspended from the roof, or on a stage close up to the roof glass. In a state of nature these plants are found growing in far more sunshine than the majority of species, and they undoubtedly retain their liking for bright light when under cultivation. Shading, of course, is necessary, because if exposed to direct sunshine under glass the foliage would be ruined, but at the same time the plants should not be overshaded. In affording water to the roots the greatest care is necessary, at all times, and more especially during the winter months, when water should not be allowed to remain on the leaves. Whilst these species need a plentiful supply of water during their most active season of growth and should at all times be kept fairly moist, they require to be kept somewhat drier in winter than most Cypripediums. Repotting is best done soon after the plants have ceased to flower. Disturbance, however, should not take place unless the state of the compost and drainage make this necessary. The plants usually grow best in a compost consisting of turfy loam, good peat, and Sphagnum-moss, and as experience has shown that these plants display a preference for limestone, most cultivators find advantage in using this material in lieu of crocks for drainage. Crushed lime may also be mixed with the compost to keep it open. There are numerous hybrids from these species, and while some of them are good growers and much more easily managed than the species, others are found to be difficult of cultivation, and require very careful treatment.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Strawberries.—Let there be no delay in layering suitable runners to obtain plants for early forcing. The prolonged drought having seriously affected the development of early runners, it is necessary to hasten the work. The size of pot is optional; some growers prefer to layer direct into the fruiting pots, others use small pots and transfer the plants to the receptacles in which they will fruit at a later date. In any case the inside of the pot should be quite clean. The soil for potting should consist of turfy loam taken from a stack of turf which has rotted for one year. To each barrow load of soil add a six-inch potful of bone flour and a good sprinkling of wood ash. If the soil is deficient in lime, apply a dusting of air-slaked lime. Loam of a light nature is improved by adding an equal quantity of soil taken from an old Melon bed. If the soil is very adhesive, mix coarse sand with it, as it is essential for water to have a free passage through it. When using fruiting pots let the drainage be perfect; a layer of half-inch bones over the crocks is an aid to growth when the soil has become filled with roots. Soot dusted over the crocks will deter worms from entering the pots during the time they are standing on the soil. The first runner nearest the parent plant should be selected for layering, and those beyond removed. For convenience of watering, etc., when layering on a large plot, arrange the pots in alternate rows. Wooden or bracken hooks may be used to keep the layers in position on small pots, but for larger pots stones or pieces of brick are suitable for the purpose. Layers kept in position by stones root quicker than those pegged in the soil. Water the plants carefully until roots develop freely in the soil, and this is the more necessary in the case of large pots, for if the soil becomes sodden root action receives a check and the plants suffer accordingly. On warm, bright days sprinkle the plants overhead during the late afternoon with clear water. The plants in small pots should be repotted at the earliest opportunity, and afterwards stood on a layer of coal ashes in full exposure to the sunshine.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

APPOINTMENTS FOR THE ENSUING WEEK.

THURSDAY, JULY 24—
Manchester Victory Flower Show, Platt Fields, Rusholme, Manchester. (3 days).

FRIDAY, JULY 25—
Horticultural Club outing to Wisley Gardens.
Midland Carnation and Picotee Society's Exhibition, Birmingham. (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich 62.9°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, July* 16. 10 a.m.: Bar. 30.1; temp. 67°. Weather—Sunny.

The Genetical Society. The formation of a society for the advancement of knowledge in the breeding of plants and animals is an important event in the history of the progress of genetical science in this country. It marks the close of the probationary period to which all new scientific methods must be submitted before they are accepted as part of the general method of scientific discovery. During that period it is the hard task of the pioneers to lay in pain and labour the foundations of the science and at the same time to defend their methods against the attacks and criticisms of colleagues who are apt to resist convictions with a passionate prejudice worthy of a less barren application.

The science of genetics has passed triumphantly through that ordeal. The methods which it introduced have become the recognised means of discovery, not only of the general laws of heredity, but also of new and economically valuable varieties of animals and plants. With the establishment of the science of genetics on a firm basis of ascertained fact, the breeder of plants and animals need no longer rely solely on luck and perspicacity, but may follow his avocation along defined and business-like lines.

This stage having now been reached, it is well that there should be formed in this country a society which, by bringing together all those interested in the science, will help to accelerate the rate of its advance. To ensure a full measure of usefulness to the labours of the society, it is essential that its membership should include not only research workers in and teachers of genetics, but also practical plant and animal breeders, who no less than the scientific workers are interested in and contributory to the advancement of our knowledge of genetics. The advantages of co-operation between the academic workers and the professional plant-breeders are manifest, and it is to be hoped that the membership of the society will be thoroughly representative of both classes.

Inasmuch as the meetings of the society will, as a general rule, be held either at research stations or at plant or animal breeding establishments, it is necessary to limit the number of members in accordance with the amount of accommodation likely to be available at these places. Hence the Society has decided to limit the membership to 120. The number of members already elected is 86, and we have no doubt but that when the existence and objects of the Society are more widely known, the full membership will speedily be secured.

The first meeting of the Society — a report of which is given on p. 44, was well attended, and proved of great interest. It was held at Cambridge, the home of British genetics, and was attended by Mr. W. Bateson, Prof. Punnett, Prof. Biffen, and Miss Saunders, all of whom have contributed so largely to the advancement of genetics. Horticulturists were represented by Mr. A. W. Sutton, who is one of the vice-presidents, and Mr. E. A. Bunyard, who is a member of the committee. As mentioned by Prof. Bateson at the dinner which concluded the proceedings, the foundation of the Society was due to the initiative of Miss Saunders. Everyone of the large number of members who attended the first meeting was impressed with the value which lies before the Society. The science of genetics has a brilliant future and a vast scope. Who shall say what are the limits set by nature to the development of her offspring? It will be the function of the society to help its members and the world at large to make the world of domesticated animals and cultivated plants better than they found it—more prolific, beautiful, resistant to disease, and generally more serviceable to man. Pioneering, unconcerted action, have done much. Co-operation, concerted action and interchange of knowledge should do yet more. We therefore wish long life and prosperity to the Society.

Lord Lambourne has been appointed President of the Bribery and Secret Commissions Prevention League, Incorporated, in succession to the late Sir Edward Fry.

Aberdeen Flower Show.—The Royal Horticultural Society of Aberdeen will hold a flower show in the Duthie Public Park, Aberdeen, on August 21, 22 and 23, the first since 1913. Many valuable prizes are offered for competition, including several challenge cups—some presented by the Society and others the gifts of patrons—and about £200 in money prizes. Some years ago the directors instituted special prizes for Sweet Peas, and these flowers will be at their best in the north at the time of the show. With a view to making this section a distinctive feature, specially valuable prizes will be offered, including the Scottish Challenge Cup of the National Sweet Pea Society, which the directors have secured for their show this year. Many other interesting and novel features, including special prizes for Roses, are also provided in the prize schedule, and it is hoped that, despite the severe handicaps horticulture has laboured under during the past years of war, the show will prove a great success.

The Kew Flag Staff.—It has not been found possible to erect the new flag staff at Kew by Peace Day, as was hoped. The heavy rains have delayed the "setting" of the huge concrete base on the mound and the settings of the great eyes to which the guys will be fixed. These masses of concrete must, of course, be thoroughly set before the giant flag staff is erected. It will perhaps be remembered that the sum of £1,500 was recently voted in "The House" to cover the cost of erection. Besides the concrete foundations, the scheme provides for making a large manhole in order that the base of the staff may be readily inspected from time to time.

Promise of an Unfavourable Harvest.—The monthly agricultural report of the Board of Agriculture states that, mainly as a result of the long drought, all the crops, except hops, show but poor prospects. Expressing an average crop by 100, the appearance of the crops on July 1 indicated probable yields per acre shown by the following percentages:—Wheat, 91; Barley, 84; Oats, 80; Beans, 93; Peas, 90; Potatos, 90; Mangolds, 80; Seeds' Hay, 80; Meadow Hay, 78; Hops, 101. Potatos are very backward and badly in need of rain, while some of the later planted are not yet above ground. Throughout the country the yield is expected to be below the normal, but the great Potato districts of Lincoln and Lancashire (as well as Wales) have rather better prospects than the rest of the country.

Chrysanthemum Society of America.—To those who remember the furore caused by the extension of Chrysanthemum culture in America, in the early eighties of the past century, and intensified very largely by the introduction of Mrs. Alpheus Hardy, the first of the hairy section, it seems strange to notice nowadays how the ardour of the American Chrysanthemum lover has cooled. This was noticeable long before the war. The annual reports of the American Society have long shown an indication of this fact. In the issue, just to hand, entitled *Proceedings of the 17th Annual Meeting*, we notice that last year the shows were much reduced, and the lack of interest in the Society is referred to as deplorable. American growers, however, must not be too pessimistic. To a large extent the flower was under a cloud here during the five years of war, whilst in France the operations of the Chrysanthemum Society were suspended. Yet it is the intention of the Society to resume them. The American bulletin contains a frontispiece portrait of William W. Vert, the president. Then follow a list of the officers, a report of the 17th annual meeting held in New York on November 6-8 last, balance sheet, and list of special prizes. The list of novelties distributed during the past year is divided into two sections, one for purely American raised varieties and the other those imported. The names and addresses of the members, numbering in all 119, conclude this neatly printed little pamphlet, which, we hope, in the near future will grow in usefulness and in bulk.

Horticultural Trade in Belgium.—In a letter from Mr. Herman Ronse and Mr. H. De Schryver, the President and Secretary respectively of the Horticultura Belgica, we learn that the Belgian nurserymen are deeply grateful to their English colleagues for the help already offered, but they point out that this and any other assistance will be of little value to them so long as the United States of America prohibits the importation of plants from Europe. Still further, they are concerned as to the position Great Britain will take up in regard to this matter. If this country also adopts prohibition, the Belgian nurserymen will be completely ruined, because France, Sweden and Norway cannot provide sufficient customers, Germany is out of the question, and fifty out of the very large number of Belgian nurserymen could easily supply all the home requirements. It will be seen, therefore, that in addition to the destruction of many nurseries, or portions of nurseries, and the horrors Belgians have suf-

fered, the horticultural traders of this gallant little country are faced with the loss of practically the whole of their trade if prohibition is also against them. They appeal, therefore, to British nurserymen to help them politically as well as materially, so that the good business relations of pre-war days may soon be resumed.

The Useful Lemon.—The *Phillipine Farmer*, vol. V., No. 2, gives the following numerous uses to which the Lemon can be put. The lemon has many uses in the sick room, the kitchen and the house. The juice from half a lemon in half-a-glass of water before breakfast will correct the most torpid liver and prevent bilious troubles. For hoarseness, lemon and sugar will prove helpful and pleasant to take, and will cure sore throat when used as a gargle. In fever, the lemon is cooling and of great value for moistening the lips and cleansing the tongue. Two or three slices of lemon in a cup of strong, hot tea will often cure a nervous headache, and refresh the mind and body. A spoonful of lemon juice in a cup of black coffee will frequently cure bilious headache. An outward application of lemon will allay irritation caused by insect bites. If a teaspoonful of lemon juice is added to boiling rice or sago, the kernels will be whiter and have a more delicate flavour. Tough meat is made less tough by adding a teaspoonful of lemon juice to the water in which it is boiled. Use slices of lemon to garnish fish and game of all descriptions. Lemon juice with olive oil instead of vinegar is preferred by many for salad dressings. After the pulp has been removed, the skins of lemons may be used as receptacles for serving salads on lemon ice. Lemon ice is one of the cheapest, most healthful and refreshing desserts for the summer. Lemonade should be made the national drink, and is greatly improved when the well-beaten white of an egg is added. Iced tea is improved in flavour and made less constipating by the use of lemons. After the juice has been extracted, the rind dipped in salt will clean tarnished brass. Salt and lemon juice will remove rust, ink or fruit stains from white goods. Lemon juice removes stains of all kinds from the hands, and prevents roughness and chapping. Lemon juice and rose water, equal parts, will remove tan and whiten and soften the skin. A dash of lemon juice in water makes a cleansing tooth wash, removes tartar, sweetens the breath and hardens the gums. Dried lemon peel sprinkled over coals will kill disagreeable odours. A cloth soaked in lemon juice and bound around a cut stops severe bleeding until medical aid can be secured.

FIG. 18.—SUNK ROSE GARDEN AT EARLHAM HALL, NORWICH, THE RESIDENCE OF MR. SYDNEY MORRIS.
(See p. 42.)

Kew Gardens on Peace Day.—We understand that the Royal Gardens, Kew, will be open to the public on the 19th inst., under the same conditions as obtain on a Bank holiday, and the charge for admission will be one penny.

Horticultural Club Outing.—It has been found necessary to make fresh arrangements for the outing of the Horticultural Club to Wisley Gardens on the 25th inst. Lunch will be provided at the Hautboy Hotel, Horsley, and instead of proceeding to Byfleet, the members will entrain at Waterloo Station at 11.10 a.m. for Horsley, which will be reached at 12 noon. From Horsley Station the party will proceed by cars to the Hautboy Hotel, and later, to the Gardens. Tea will be provided in the R.H.S. Gardens, and the return journey will be made by the 7.4 p.m. train from Horsley, which is due to arrive at Waterloo at 7.53 p.m.

Publication Received.—*The Kitchen Garden and its Management.* Abridged and adap'ed from the French work of Professor Gressent, with additions by David Garnett. London: Selwyn and Blount. Price 1s. net.

HOME CORRESPONDENCE.

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

Chamois-coloured Mole (see p. 26).—In reply to Mr. Davidson, our people caught a white (or dirty white) mole here nearly twenty years ago, but I have not seen one since. I believe there are a fair number of records of this kind. *Chas. E. Pearson*, Lowdham, Notts.

Onions Flowering Prematurely.—Autumn sown Onions and Onion sets have a tendency to flower more or less every year, but this has gone to an extreme this year, apparently, judging from the record by *K.*, Dublin (see p. 28), as well as my own observations. The great heat about the end of May and early part of June, as well as the lack of moisture, would seem responsible for the result. Usually it is sufficient to pick off the flower head at an early stage of growth, to ensure a second growth, resulting in a large bulb at the side of the old one which carries the flower stem. This year I have noticed that the flower stem has often attained a great thickness and produced a medium-sized bulb of good shape. In several cases a second growth of leaves commenced, but, the drought continuing, this became arrested, and it remains to be seen whether any further growth will be made as the result of rain. *J. F.*

Privet Trees.—I wonder if many of the readers of the *Gardeners' Chronicle* are aware of the beauty of a Privet tree. A specimen in front of my window is an exquisite object, now covered with the clusters of white flowers. I cannot tell the height of the bush, but the top is about on the level of the ceiling in the rooms on the first floor. *George Henslow, Danehurst, Bournemouth.*

MR. WILLIAM CRUMP, V.M.H.

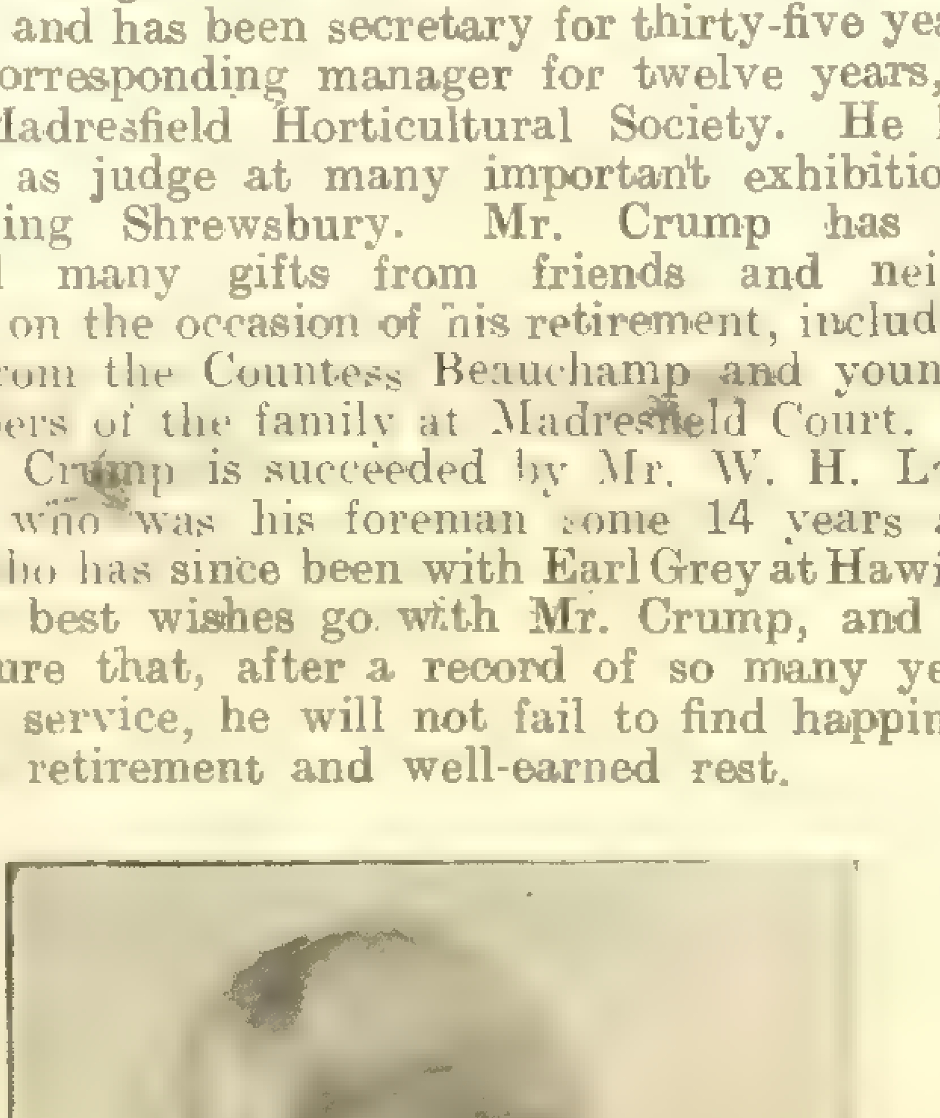
In the *Gard. Chron.*, April 19, 1919, p. 192, we made the announcement that Mr. William Crump was relinquishing his care of the gardens at Madresfield Court, Malvern, after a period of about 40 years' service in that famous establishment. His retirement has now taken effect and readers will be interested in the following account of the career of this distinguished horticulturist. He was born in Shropshire on June 27, 1843, and, as a youth, exhibited a strong inclination for gardening. After receiving the usual education of the village lad, at the local National School, he determined to make gardening his career, but his parents put every possible obstacle in his way, and endeavoured to persuade him to adopt some other occupation. Various posts were offered him, but he was so determined to adopt gardening as his profession that finally his parents consented, and, after a course of probation, he was duly apprenticed in a garden. His first responsible charge was that of foreman of the glass department at Powis Castle, Welshpool, under the late Mr. G. Brown, a famous Scotch gardener of the old school. Powis Castle gardens included a good home nursery at that time, also splendid specimens of trees and shrubs and collections of choice and rare Conifers. The cultivation of the Pineapple was a feature of the place, which also included fine wall trees of Peaches and Nectarines and terraces of hardy, herbaceous flowers. After four years' service, he accepted the office of general foreman at Heckfield Place, Hampshire, under the late Mr. Wildsmith. It was for the experience to be gained from a place where so many famous gardeners had received their early training, rather than for the wages, which were lower than those he had received previously, that Mr. Crump accepted this appointment. After staying there for three years, where fruit and flowers were specialities and so grandly cultivated, he obtained a position as gardener to Mr. F. Harris, Lamberhurst, Kent. The place did not realise his expectations and, after four years, he was appointed to Blenheim Palace gardens, an office demanding much ability and general all-round knowledge. At this time Mr. Crump commenced exhibiting extensively and was successful at the R.H.S. shows at South Kensington, at the Crystal Palace, Royal Botanic Gardens, Manchester, and at other provincial shows. He won several silver cups and gold medals, including the Blue Ribband at the International Potato Exhibition at the Crystal Palace. Most appreciated of all was Messrs. Webbers' packing prize of ten guineas, awarded for the three best packed boxes of fruit, delivered by the railway company at South Kensington intact. This prize was twice competed for against such exhibitors as the late Mr. Coleman, of Eastnor, Mr. Austin of Witley Court and others, and Mr. Crump won the first prize each time. Blenheim Orange, which still holds its own as a scarlet-fleshed Melon, was raised and successfully exhibited in open competition with about thirty others and obtained the R.H.S. First-Class Certificate the same year. After seven years' service at Blenheim Palace, Mr. Crump was appointed to Madresfield Court, where, as stated above, he was gardener for nearly forty years. At Madresfield large numbers of hardy fruit trees are raised annually for both cottage and farm tenantry, and distributed gratuitously. Mr. Crump made many experiments in grafting and double grafting, with a view to the improvement in flavour of choice varieties of fruits. Partial success, at times, seemed hopeful, but further trials proved disappointing, and were abandoned. At Madresfield there is an interesting experimental plot where about 250 varieties of Apples, 80 varieties of Pears and 40 varieties of Plums—all bush trees—are on trial. In addition, there are numbers of seedlings and local varieties of these fruits.

There are many flourishing young orchards on the estate, the result of a scheme introduced some twelve or fifteen years ago, whereby the landowners' and tenants' interests are identical and mutual. A tenant requiring a new orchard makes application for trees, and if the site and soil are considered suitable for fruit growing, the landlord undertakes to find the trees (which are always of the very best and home raised), the stakes, fencing and a skilled man to plant them. He also undertakes the pruning, spraying and other attention for five years, gratis to the tenant. The latter undertakes to find a labourer to assist with planting, and one barrow-full of soil for mulching each tree. At the expiration of five years, the tenant pays an annual rent of 6d. per tree so long as it is in good health. The landlord continues the pruning and the tenant takes all the fruit. The property value is, thereby, very much enhanced, as recently proved.

Mr. Crump was among the first sixty horticulturists selected to receive the Victoria Medal of Honour of Horticulture. He is one of the examiners for the park employees, cottage gardens and allotments, and school teachers' examinations of the Royal Horticultural Society. For twenty-one years he has officiated as a churchwarden of Madresfield Church, has served as a manager of the local schools for seventeen years, and has been secretary for thirty-five years, and corresponding manager for twelve years, of the Madresfield Horticultural Society. He has acted as judge at many important exhibitions, including Shrewsbury. Mr. Crump has received many gifts from friends and neighbours on the occasion of his retirement, including one from the Countess Beauchamp and younger members of the family at Madresfield Court.

Mr. Crump is succeeded by Mr. W. H. Lambert, who was his foreman some 14 years ago and who has since been with Earl Grey at Hawick.

Our best wishes go with Mr. Crump, and we feel sure that, after a record of so many years useful service, he will not fail to find happiness in his retirement and well-earned rest.



MR. WILLIAM CRUMP, V.M.H.

SOCIETIES.

ROYAL HORTICULTURAL.

July 15.—There was a capital exhibition at Westminster on this date, and during the afternoon there was a large attendance, many of the visitors coming from considerable distances to see the National Carnation and Picotee Society's display.

In addition to Carnations, hardy flowers, stove plants and Orchids were prominent features, but the outstanding display was a group of vegetables from Aldenham House, Elstree. Delphiniums and Sweet Peas provided the greater number of novelties.

Floral Committee.

Present.—Messrs. H. B. May (in the chair), E. A. Bowles, George Paul, J. W. Barr, H. Cowley, John Dickson, C. Dixon, John Green, John Heal, Andrew Ireland, E. H. Jenkins, H. J. Jones, J. F. McLeod, W. P. Thomson, Charles Pearson, Thos. Stevenson, Wm. Cuthbertson, S. Morris, C. R. Fielder, Arthur Turner, G. Reuthe, E. F. Hazelton, W. Howe, J. Jennings, and Jas. Hudson.

Awards of Merit.

Delphinium Sir Douglas Haig.—A remarkable variety, with large, semi-double flowers carried in dense spikes of extraordinary size. The colour is deep purplish blue.

Delphinium Millicent Blackmore. — This beautiful variety has semi-double flowers of large size, of a clear, bright mauve blue shade that is very pleasing. The deep brown centre adds to the attractiveness of the flowers that are of regular form and each nearly 3 inches in diameter.

Both the foregoing were shown by Messrs. Blackmore and Langdon.

Delphinium F. W. Smith.—A most attractive variety with rounded, semi-double flowers of large size, long-stalked and daintily set on tall spikes. The colour is bright rich blue, with white centre. Shown by G. Fergusson, Esq. (gr. Mr. F. W. Smith), Weybridge.

Delphinium Joan.—A single variety of large size and good form. The colour is soft medium blue with brown centre. Shown by Mr. W. Wells, Jun.

Sweet Pea Gladys.—A charming variety that bears some resemblance to R. F. Felton, but is of soft lavender blue or light mauve colour and more refined in form than the older variety.

Sweet Pea Doris.—A very attractive Sweet Pea of very waved form and good size. The colour is a very bright shade of cerise pink.

These two varieties were shown by Messrs. E. W. King and Co., Coggeshall.

Sweet Pea Mascott's Scarlet. — A handsome Sweet Pea of fine size and good form and bearing four blooms on every spike shown. The colour is very dense and of a rather deeper shade than one usually understands by scarlet.

Sweet Pea Annie Ireland (see Fig. 22). —A dainty variety with white wings and a blush standard which has a flushed edging of bright pink. The flowers are of exceptionally good form and size.

These two Sweet Peas were shown by Messrs. Ireland and Hitchcock, Mark's Tey.

Rose Sea Foam.—This Rose is a seedling from Rosa bracteata. It bears its double, full blooms in bracteate clusters on stout growths furnished with deep green, neat, shining foliage. The flowers are slightly scented and the petals curve prettily at the margins. Shown by Messrs. Wm. Paul and Son.

Groups.

J. Osborne, Esq., Walton-on-Thames (gr. Mr. G. Cook), exhibited fine flowers of Nymphaea chromatella, N. Marliacea albida, N. M. carnea; and fruiting sprays of Eleagnus longipes; these fruits are said to be useful for preserving. The elongated, ground group contributed by the Alder River Nursery, contained very freely-flowered branches of Plagianthus Lyallii, and fine specimens of Lilium regale, L. pardalinum, Hypericum patalum Henryi, and Coriaria japonica (Silver Banksian Medal).

Stove plants were again well shown by Mr. L. R. Russell (Silver Flora Medal).—Messrs. H. B. May and Sons arranged standard Fuchsias over Ferns, Verbenas, Hydrangeas and Heliotropes (Silver Banksian Medal).—Messrs. Blackmore and Langdon are as expert in Gloxinia culture as in Begonias, and they showed a dozen fine specimens representing a good strain.

Messrs. B. R. Cant and Sons showed a handsome group of cut Roses and displayed the varieties Mrs. Alfred Tate, Iona Herdman, Lyon Rose, Lady Hillingdon, Cupid, Emily Gray and Christine in fine form (Silver Flora Medal).—The Director of the Royal Gardens, Kew, sent flowering branches of the pink Kew Rambler Rose (see *Gard. Chron.*, July 27, 1918, Fig. 12), obtained by crossing Hiawatha with Rosa Soulieana.

Paul's Scarlet Climber Rose was well shown by Messrs. Wm. Paul and Son, who also displayed the single, light yellow Mermaid in excellent condition, as well as their new Seafoam (Silver Banksian Medal). The Rev. J. H. Pemberton showed Roses in variety, including Havering Rambler (pink) and many other varieties of his own raising (Silver Banksian Medal).

Some wonderfully well grown spikes of Delphiniums were shown in big vases by Messrs. Blackmore and Langdon; the spikes of Sir Douglas Haig, Statuaire Rude, Sergeant

Beranger, The Alake, Ampere and Leonardo da Vinci were remarkably good (Silver-gilt Banksian Medal). Mr. G. REUTHE showed hardy flowers and had capital batches of Acantholimon venustum, dwarf heaths and small growing Campanulas.

Mrs. CAMBELL, Upper Gatton Park, Reigate, exhibited about two dozen bunches of Sweet Peas, the leading varieties being Royal Purple, Dobbie's Cream, R. F. Felton, The President, Elsie Herbert and Jean Ireland (Silver Banksian Medal). Messrs. CARTER, PAGE AND CO. made up a very attractive exhibit of Violas. (Silver Banksian Medal). Mr. J. W. MILLER showed Delphiniums and other hardy flowers.

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. secretary), William Bolton, Arthur Dye, Frederick J. Hanbury, R. Brooman-White, W. J. Kaye, J. Charlesworth, S. W. Flory, Pantia Ralli, Fred Sander, E. R. Ashton, J. Wilson Potter, Richard G. Thwaites and Gurney Wilson.

AWARDS OF MERIT.

Odontioda Lyra, Rosslyn variety (*Odm. Jasper* × *Oda. Royal Gem*), from H. T. PITT, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood). The flowers are large and Odontoglossum-like; the sepals and petals are deep claret-red colour, with faint whitish markings on the tips. The lip is rose coloured in front, the base around the yellow crest being claret-red. The spike bore seven flowers.

Odontoglossum Antinous (*Othello* × *excellens*), from Messrs. CHARLESWORTH AND CO., Haywards Heath. The flower is of perfect shape, the petals and sepals being equally broad, pale yellow in colour, with a profusion of small purple spots on the inner two-thirds of the segments. The very broadly ovate lip is white in front and the basal half bears numerous rose-coloured spots.

OTHER EXHIBITS.

Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), showed Dendrobium Gatton Sunray (illustré × Dalhousieanum luteum), a handsome new hybrid raised at Gatton, and which approaches nearest to the Dalhousieanum parent. The flowers are light yellow, with patches of dark claret on each side of the centre of the lip, united by a striated band in front; also the singular Dendrobium chrysocrepis (*Bot. Mag.*, t. 6007), discovered by Mr. Parish in Moulmein in 1871 and later imported by Messrs. James Veitch and Sons. The slender stems bear single yellow flowers, with an orange-coloured pouched lip. Sir Jeremiah Colman also showed a fine spike of the pure white Aerides odoratum album.

Messrs. CHARLESWORTH AND CO., Haywards Heath, were awarded a Silver Flora Medal for an excellent group in which their hybrid Odontoglossums and Odontiodas were the main feature. In the centre of the group were hybrid Thunias, fine forms of Laelio-Cattleya Britannia and the white Cattleya Hesta.

Messrs. STUART LOW AND CO., Jarvisbrook, Sussex, staged a good group, for which a Silver Flora Medal was awarded. At the back of the exhibit was the scarlet Renanthera Imschootiana, with specimens of the pretty Oncidium divaricatum and O. pulvinatum, with a profusion of yellow blooms spotted with red. Other species noted were the rare Dendrobium Farmeri album, D. Brymerianum and other species of Dendrobium arranged with showy Laelio-Cattleyas and Odontoglossums.

Messrs. J. and A. McBEAN, Cooksbridge, showed Miltonia Hyeana McBean's variety (Bleuana × vexillaria Memoria G. D. Owen), a charming, clear white flower, the broad labellum having a blackish crimson mark at the base; also the new Vuylstekeara Bella (Odontioda Thwaitesii × Miltonia Roezlii), a very distinct hybrid with lanceolate sepals, having a tinge of purple at the base, and similar petals with closely-arranged dark, purple markings on the inner half, the broader lip being blush-white with purple markings around the yellow crest.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (chairman), E. A. Bunyard, W. Poupart, H. S. Rivers, H. Markham, Ed. Beckett, A. D. Tuckett, Owen Thomas, A. W. Metcalfe, G. Reynolds, Geo. F. Tinley, A. Bullock and J. C. Allgrove.

The Hon. VICARY GIBBS (gr. Mr. Edwin Beckett), Aldenham House, Elstree, exhibited a group of vegetables that "out-Becketted" Beckett (see Fig. 19). It was a wonderful display of cultural skill, of excellent and attractive arrangement, and included almost all kinds of vegetables obtainable at this season. Duke of Albany and Quite Content Peas, Long Purple Aubergines, Early Sunrise and Golden Perfection Tomatos, Victory and Golden Ball Turnips, Walcheren Cauliflowers, Summer Favourite Carrots, White Emperor Onions, and Peerless Cucumbers, were all superb, but Cabbages, Lettuces, Radishes, Broad and Dwarf Beans, Capsicums, Potatos, Beet, Celery, Spinach, Marrows and Artichokes were all surprisingly good. One lady visitor observed: "Beckett is the greatest grower of vegetables on earth," and another lady considered the exhibit to be "exquisitely sweet" —a rather curious description of vegetables.

Mr. H. CLOSE, Littlecroft Nursery, Orpington, Kent, showed a variety of Red Currants named Littlecroft Beauty. The bunches were of large size and hung in profusion from the branches. It was stated that two plants of this variety were included in the trial of Currants at the Wisley gardens.

Mr. A. J. MORGAN, Porthwidden, Devoran, Cornwall, submitted fruits of a seedling Raspberry and a portion of a cane of the current season, showing the exceptional vigour of growth. The berries have stalks some two or more inches long. The variety was recommended for trial at Wisley.

Mr. G. H. MOULD, Rydal, Ambleside, submitted a seedling Strawberry raised from Joseph Paxton × Royal Sovereign. The variety was recommended for trial at Wisley.

FIG. 19.—VEGETABLES EXHIBITED BY THE HON. VICARY GIBBS AT THE R.H.S. MEETING.

Messrs. R. FELTON AND SONS, Hanover Square, showed remarkable fruits of seedless Oranges, imported from South Africa. It was stated that some of them weighed more than a pound each. The fruits were of the seedless or navel type and were among the largest we have seen.

NATIONAL ROSE.

JULY 10.—No more beautiful place than the park of Earlham Hall, Norwich, could have been chosen for the first post-war provincial show of the National Rose Society. Mr. Sydney Morris, of Montbretia fame, the owner of Earlham Hall, is president of the Norfolk and Norwich Horticultural Society. The latter body invited the N.R.S. to visit Norwich—the clean and prosperous city of curving tramways, many churches, and boasting an ancient cathedral. The invitation was accepted as cordially as given and the societies combined forces to produce a great attraction for the people of Norfolk.

The show was held in a hollow in the park,

where five large tents were put up amid a surrounding of fine old trees. Earlham Hall is about between four and five miles from Thorpe Station, Norwich, and the tram terminus in its direction falls short of Earlham by about a mile and a half. In the cool of the morning, as we rode out to Earlham, we had no expectation of seeing a crowd of people during the afternoon, but we did not fully reckon with the great attraction that Roses, other flowers, vegetables and beautiful gardens (see Fig. 18) have for the people of East Anglia. The clerk of the weather did his part admirably, keeping everything cool till just after midday, and then pouring out the summer sunshine in prodigal fashion. The result was a very large attendance. As we left Earlham there was a goodly number of visitors, and we counted a hundred motor-cars just inside the gates, besides a large number of cycles. Between the tram terminus and Earlham some enterprising person did good business with a motor char-a-banc, and all along the Earlham road people in motors and traps, on bicycles and on foot, were streaming out of Norwich and following the route marked out by the ever-present sign: "To the Flower Show."

Mr. S. Morris entertained the officers, members of committee and chief exhibitors of both societies to lunch, at which he presided. Mr. H. R. Darlington, president of the N.R.S., in returning thanks, wished the Norwich society every success and expressed the hope that it would at no distant date again invite the N.R.S.

The Rose show was comparatively small, the recent bad weather having been all against it. With some few exceptions, however, the quality of the flowers was quite good. It was in the matter of competition, especially in the amateurs' section, that there was a great falling off. New Roses were unusually well shown, and the veteran ex-president, the Rev. F. Page-Roberts, was chairman of the adjudicating committee.

FIG. 20.—ROSE MRS. CHARLES LAMPLOUGH; A NEW CREAM COLOURED H.T. VARIETY
(Awarded the National Rose Society's Gold Medal on the 10th inst.)

New Roses.

GOLD MEDAL AWARDS.

Clara Curtis.—A beautiful new Hybrid Tea Rose (see Fig. 21). It has large, full and finely formed flowers of exhibition form and size. The colour is clear Marechal Niel yellow and the broad petalled flowers are exquisitely tea-scented. As judged by the plant shown it is a strong grower. The first flower of this variety shown, at the N.R.S. show at Regent's Park on July 2, gained the silver medal offered for the best H.T. Rose in the nurserymen's section. In shape, substance, colour and fragrance it is a welcome addition. Shown by Messrs. ALEX. DICKSON AND SONS, Newtownards.

Mrs. Henry Morse.—A lovely H.T. variety, with broad petalled flowers of medium size, and slightly tea-scented. The colour is bright shell pink with a glow of salmon pink which comes from the deeper hued bases of the petals. It should prove a keen competitor for popularity with Catherine Mermet. Shown by Messrs. S. McGREDY AND SON, Portadown.

Mrs. Charles Lamplough (see Fig. 20).—A H.T. Rose of large and full exhibition size, broad petalled and shapely. The clear cream colour is of even tone all over the substantial blooms. We predict that this fine novelty will be used as a back and corner flower by exhibitors—a most exacting position. Shown by Messrs. S. McGREDY AND SON.

Mrs. H. R. Darlington.—A large and full exhibition variety with finely-formed blooms, broad-petalled and substantial. It is a H.T. variety, but has little fragrance. The colour is light creamy-yellow. Shown by Messrs. S. McGREDY AND SON.

CERTIFICATE OF MERIT.

Sweetness.—A beautifully formed, medium sized Hybrid Tea Rose of a lovely soft, clear, intense rose, with a soft suffusion of scarlet. Shown by Messrs. S. McGREDY AND SON, Portadown.

Mrs. Arthur Johnson.—A Rose of strong growth. The blooms are of good form and substance, and very slightly tea-scented. The colour is rich orange-yellow, shading to chrome-yellow. Shown by Messrs. S. McGREDY AND SON.

Sceptre.—A brilliant H.T. Rose of similar shape to The Queen Alexandra. The colour is bright flame, with gold at the base of the petals and a dull yellow shading on the outside of the petals. Shown by Messrs. S. McGREDY AND SON.

Berkeley.—A lovely decorative H.T. Rose of attractive shape. The colour is deep golden yellow. Shown by Messrs. S. McGREDY AND SON.

Capt. F. Bald.—A large-flowering variety with unusually broad petals that make up a big bloom. The colour is soft and dull rosy crimson. Shown by Messrs. ALEX. DICKSON AND SONS.

Nurserymen's Classes.

The Nurserymen's Jubilee Trophy for thirty-six Roses, distinct, was won by Messrs. D. PRIOR AND SON, Colchester, in a keen competition between four entrants. Messrs. Prior's exhibit was a capital one, the blooms large and full. Notable blooms were those of Mdme. Jules Gravereaux, Mamie, Mrs. A. E. Coxhead, Lieut. Chauré, Gloire de Chédane Guinoisseau, Bessie Brown, Modesty, The Bride, Louise Crette, George Dickson, and Maman Cochet. Messrs. B. R. CANT AND SONS second, and Messrs. FRANK CANT AND CO. third.

For forty-eight blooms, distinct, Messrs. D. PRIOR AND SON were again first prize winners, with a set very little inferior to their 36 stand. Maman Cochet, Cardinal, Mrs. Sam Ross, Avoca, Candeur Lyonnaise, Mildred Grant and Mélanie Soupert were finely shown. Messrs. FRANK CANT AND CO. second, and Messrs. B. R. CANT AND SONS third. Messrs. G. and W. H. BURCH won first prize for twenty-four blooms, distinct, and were followed by Mr. GEO. LONGLEY, Rainham.

The only entry of twelve Teas and Noisettes came from Messrs. D. PRIOR AND SONS, and they obtained the first prize for a fair stand in which Maman Cochet, Medea and White Maman Cochet were the best flowers.

For a dozen new Roses introduced since January 1, 1915, Messrs. ALEX. DICKSON AND SONS led with Col. Oswald Fitzgerald, Margaret Dickson Hamill, Capt. Fane Bald, Janet and Alex. Emslie as their best varieties: Messrs. FRANK CANT AND CO. second, and Mr. ELISHA HICKS third.

Messrs. ALEX. DICKSON AND SONS scored for a basket of fourteen blooms of one variety with very fine specimens of the deep and rich crimon-scarlet Col. Oswald Fitzgerald: Messrs. D. PRIOR AND SON second, with White Maman Cochet; and Messrs. G. and W. H. BURCH third, with Modesty. A beautiful set of five baskets of decorative Roses obtained first prize for Messrs. ALEX. DICKSON AND SONS; the varieties, in fine form, were Lady Hillingdon, Mrs. C. V. Haworth (see Fig. 13), K. of K., Irish Fireflame, and Chrissie McKellar. For three baskets of Roses, Mr. HENRY MORSE, Westfield Nurseries, Eaton, was first with K. of K., Golden Emblem (very fine), and The Queen Alexandra; Mr. ELISHA HICKS, second.

Groups of Roses.

The first prize for two dozen bunches of decorative Roses was won by Messrs. FRANK CANT AND CO. with a beautiful exhibit in which the varieties Simplicity, Mrs. Alfred Tate, Rayon d'Or, General McArthur, Francois Guillot, Mrs. Carnie (a new Wichuraiana seedling, white with cream centre), Mme. E. Herriot and Crimson Emblem were of outstanding merit. This was the only exhibit in its class.

The best group of a dozen vases of decorative Roses was staged by Messrs. G. AND W. H. BURCH, who had charmingly fresh blooms rather closely bunched; Mr. ELISHA HICKS was placed second, but we think many judges would have reversed the order of the awards.

An exceptionally fine group won for Messrs.

B. R. Cant and Sons the first prize for a representative group of Roses arranged on a space 25 feet by 4 feet. It was a grand exhibit and it was a pity it had no competitors because it would have compelled a very keen contest. The firm had fine stands of Red Letter Day, American Pillar, Lady Pirrie, Isobel, Mrs. Alfred Tate, K. of K., Lady Mary Ward (exceptionally good), Cupid and Golden Ophelia.

In a similar but smaller class Mr. Henry Morse was a good first, with the Rev. J. H. Pemberton second.

Amateurs' Classes.

The Rev. J. A. L. Fellowes gained the Jubilee Trophy—the provincial amateur championship prize—with a very poor stand indeed, one of the poorest twenty-fours we have seen for a long time. Some of the best blooms were J. B. Clark, Hugh Dickson and Mme. Jules Gravereaux. This exhibitor was very plucky to enter in this class and as all other folks declined to compete he received his due reward.

In the class for growers of fewer than 250 plants, Mr. W. H. Simpson, Warrington Lodge, Ipswich, was first and Mr. G. O. Nicholson second. For six blooms of Roses grown without assistance, Mr. George O. Nicholson, Market Harborough, was awarded the first prize; he was the only exhibitor and he had good blooms of Lyon Rose, Jonkheer van Mock, and Maman Cochet.

In the open amateurs' class for a dozen teas or noisettes there was only one entry, and this, from the Rev. J. A. L. Fellowes, Bunwell Rectory, was awarded the Trophy, but the stand was a poor one and the flowers had all suffered from the recent unpleasant weather; Harry Kirk, White Maman Cochet, A. Hill Gray, Mrs. Foley Hobbs and Bridesmaid were the best blooms.

Mr. H. R. Darlington was all alone in the class for two baskets of decorative Roses and secured the premier award with a good display of Mrs. Edward Powell and Mme. Leon Pain. Mrs. Chaffery Giddins, Winchmore Hill, had no competitors in the class for a basket of mixed Roses and had a charming arrangement that well deserved the first prize. Mr. H. R. Darlington was awarded first prize for a basket of exhibition Roses consisting of Hugh Dickson and Mrs. John Laing.

Mr. H. R. Darlington, Park House, Potter's Bar, had the class for a group of cut Roses all to himself and gained first prize with a very pleasing display in which the varieties Marquise de Salisbury, Gardenia, Irish Elegance, Mrs. E. G. Hill, Blush Rambler, Mrs. Wemyss Quin, Red Letter Day and Moonlight were all well shown.

Decorative Classes.

Mrs. L. Courtney Page, Earldoms, Enfield, won first prize for a table decoration of Roses with a neat arrangement of Afterglow, Irish Elegance and Old Gold; Mrs. Oakley Fisher, Sudbury, Harrow, second with Irish Fireflame; and Mrs. C. Giddins, third, with Iona Herdman.

Mrs. Giddins led for a vase of Roses, with Joanna Bridge. Mrs. Oakley Fisher and Mrs. Courtney Page following in the order of mentioned. For a bowl of Roses, Mrs. C. Giddins, Mrs. Courtney Page and Mrs. Oakley Fisher were placed as named, for blooms of Irish Elegance, Mrs. Wemyss Quin and Lady Pirrie.

Mr. Elisha Hicks was awarded first prize for a large bowl of Roses, showing Joanna Bridge in fine form.

Silver Medal Blooms.

Silver Medals for the best blooms were awarded as follows:—Nurserymen: Messrs. Frank Cant and Co., for George Dickson; and Messrs. D. Prior and Son, for Maman Cochet. Amateurs: Rev. J. A. L. Fellowes, for Mrs. Foley Hobbs; and Mr. G. O. Nicholson, for Avoca.

WOLVERHAMPTON.

July 9 and 10.—During the years preceding the great war Wolverhampton Floral Fête was insistently forcing its way to the forefront of the provincial exhibitions, but in 1914 it and others were forced to call a halt. It had then attained to the same rank as Shrewsbury, though the two splendid gatherings differed so widely that there could be no real rivalry. In 1914 the five magnificent marquees were filled to overcrowding with the best products of British gardens, and it was acknowledged to be the finest exhibition since the inception of the fête, in 1888. Then came the war, and until now no show was possible. Then came, however, considerations of a fresh start. The Committee, always keen, enterprising, and business-like, discussed all the points, took council with those who had been associated with them in pre-war times, and decided to proceed. With characteristic energy the details were taken in hand, difficulties arose only to be surmounted, and the reward came on the above dates.

The exhibits were not so numerous as formerly and less tent space sufficed for their accommodation, but the arrangements were, as always, as nearly perfect as foresight could make them. Comparisons were ever odious, and they do not always convey correct impressions. It has been said that exhibits were fewer, but what was lost in numbers was gained in general super-excellence of quality and in the comfort which the additional space afforded for close, accurate inspection. We have no hesitation in stating that the quality of the show as a whole has never been exceeded at Wolverhampton, and it might safely be affirmed that it has rarely been equalled. The arrangements made by Mr. Alderman Craddock, Mr. F. T. Beck and their committees were admirable, and they were carried out most satisfactorily by Mr. G. W. A. Martin, the secretary, and a band of loyal, untiring helpers. It is good to know that the reward gave promise of being commensurate with the endeavours made. Visitors were flocking in from mid-day on Wednesday, season tickets were sold in greater numbers than ever before in the fête's history, and there appeared to be no doubt that success was easily assured. We hope that such has proved to be the case, for it was never better deserved.

Groups.

There were three exhibitors in the Class for a Group of Plants, in and out of bloom, arranged on a ground floor space of 25 ft. by 12 ft. in the centre of the tent, and Messrs. J. Cypher and Sons, Cheltenham, took the place of honour with an exhibit in which the varied plants were most skilfully and artistically displayed. Mr. W. A. Holmes, Chesterfield, was a good second; and Sir G. H. Kenrick, Edgbaston, Birmingham (gardener, Mr. J. McDonald), a most creditable third. In a somewhat similar class for foliage plants only, Messrs. J. Cypher and Sons maintained their place, while the positions of the second and third prize winners were reversed. Each of these groups was very fine.

Messrs. Blakmore and Langdon, Twerton-on-Avon, Bath, were the sole exhibitors in the class for a group of Begonias, and it is probable that they have never staged a more magnificent collection. The plants were clean, healthy, splendidly flowered, and admirably arranged. Some of the finest varieties were Royal George, Mrs. R. Caulfield, Princess Victoria Louise, Mrs. J. Davidson, Queen of the Belgians, Chrystabel Spry, A. W. Sutton, and Grand Monarch.

Roses.

In view of the weather which we have experienced of late, it is needless to say that Roses were not up to the usual Wolverhampton standard, but the display was generally good. Messrs. Hugh Dickson, Ltd., Belfast, won for 36 blooms, distinct, with bright flowers of good

Fig. 21.—Rose Clara Curtis: a H.T. variety of clear yellow colour.
National Rose Society's Gold Medal, July 10, 1919 (see p. 42.)

size: Messrs. A. Dickson and Sons, Ltd., Newtownards, were second. First and second places remained the same for 12 new Roses, Mr. Hy. Drew, Longworth, Berks, taking the third prize. Messrs. H. Dickson, Ltd., lead with Augustus Hartmann in the class for a basket of dark Roses; Mr. J. Mattock, Headington, was second with General McArthur; and Mr. H. Drew third with Red Letter Day. Messrs. Hugh Dickson, Ltd., won with Lilian Moore, and Mr. J. Mattock followed with Marie Van Houtte in the class for a basket of 12 light Roses. Mr. Hy. Drew won for 12 Tea Roses, Mrs. Foley Hobbs, White Maman Cochet and Alex. Hill Gray being good. Messrs Hugh Dickson, Ltd., excelled for 18 perpetual flowering Roses in vases, with Isobel, Golden Spray, Robin Hood, Madame Ravary, Flame of Fire, H. D. M. Barton, Prince Charming, and Margaret Dickson Hamill among the best. Messrs. J. Mattock and Hy. Drew followed in this order. Precisely the same order was maintained for 9 perpetual flowering Roses in vases. Mr. J. Mattock won the 1st prize easily for a collection of Roses artistically arranged; Messrs. A. Dickson and Sons, Ltd., were second.

Plants and Flowers.

For a collection of decorative plants and cut flowers arranged for effect, Messrs. J. Cypher and Sons were the only exhibitors, and deservedly received the first prize. Messrs. Harkness and Sons, Leeming Bar, were first for a grand group of hardy border flowers. For a collection of Delphiniums, Messrs. Blackmore and Langdon were easily first; some of the best varieties were Sir Douglas Haig, Turquoise, Dusky Monarch, Queen of Bath, Queen Mary, Mrs. Shirley, and Elsie. Mrs. B. Brooke, Denbigh (gardener, Mr. C. M. Holt), and Sir Chas. Mander, Bart., Compton (gardener, Mr. A. E. Williams), were second and third respectively.

Fig. 22.—Sweet Pea Annie Ireland.
(See awards by the Floral Committee, p. 40.)

Mr. Hy. Drew, Sir G. H. Kendrick, and Messrs. W. Pemberton and Son, Bloxwich, secured the prizes in the order named for a dinner table decoration. Mr. H. J. Tanner, Birmingham, was easily first for a tasteful arrangement of Violas and Daisies; the former were superb. Messrs. W. Pemberton and Son were second, and Mr. J. H. Stokes, Coseley, third. Mr. C. Wall, Milton Nurseries, Bath, was a splendid winner in the class for a display of cut Carnations; Mr. C. H. Taudevin, Willaston, Chester, was second.

Sweet Peas were not numerous but of supreme quality. In the class for 18 varieties distinct Mr. W. H. Holloway, Shrewsbury, was first with fresh bunches of beautifully coloured flowers. Some of the best were Prince George, May Unwin, Elegance, King Mauve, Mrs. Hardcastle Sykes, Jean Ireland, Sunproof Crimson, Lady Miller and R. F. Felton. The second prize went to Mr W. Philip, Astley, gardener to Mr. L. Goliah, who had Constance Hinton, Elfrida Pearson, Edrom Beauty, Maud Holmes, Hercules and Royal Purple in good form. The positions of the prize-winners were reversed in the class for 12 varieties, and again both were in admirable form. In a further class for 12 varieties Mr. W. H. Holloway was first.

Non-Competitive Displays.

In pre-war days non-competitive exhibits were an outstanding feature at Wolverhampton, both quality and quantity being very fine. On the present occasion the quality was as good as, or better than, of old, but the numbers were fewer. Messrs. Alex. Dickson and Sons, Ltd., contributed as fine a collection of Sweet Peas as has ever been staged; indeed, it was the exhibit of the show. Some of the best varieties were Raven's Wing, Daisy Bud, President, John Porter, Elegance, Beryl, Orchid, Royal Purple, Jean Ireland, Hawlmark Pink, Hawlmark Scarlet, Hawlmark Maroon, Hawlmark Gladys, Hawlmark Cream and Hawlmark Brocade. Miss Thompson, Handsworth, sent an interesting group of Cacti and succulents. Mr. A. S. Dunton, Wolverhampton, showed Petunias and other plants, while Mr. Arthur Edwards, Arnold, Notts, showed the well known Edwardian Ware.

Messrs. Ed. Webb and Son, Ltd, Wordsley, Stourbridge, exhibited beautiful Sweet Peas and other flowers, and a varied and excellent collection of vegetables. Mr. John Forbes, Hawick, N.B., arranged Phloxes, Pentstemons, Violas and Carnations, all in wide variety and of very fine quality. Messrs. Robert Sydenham, Ltd., Tenby Street, Birmingham, staged an attractive collection of Sweet Peas; Messrs. J. Cypher and Sons, grandly grown miscellaneous plants; and Messrs. Blackmore and Langdon, glorious Delphiniums. Messrs. Bakers, Wolverhampton, constructed a formal garden surrounded by hardy border flowers and shrubs.

THE GENETICAL.

July 12.—The first meeting of the Genetical Society (see p. 38) was held at Cambridge on Saturday, the 12th inst. The meeting, which was held in the laboratories and Botanic Gardens, was attended by some 36 members, including Prof. W. Bateson and Mr. A. W. Sutton (vice-presidents), Prof. Punnett and Miss Saunders (secretaries), Prof. Biffen, Mr. E. A. Bunyard, Mr. A. W. Hill (assistant director of Kew), Dr. Keeble, Mr. F. Chittenden, Mr. Hurst, and other well-known students of genetics.

The proceedings were opened by Miss Saunders who gave an account of her researches in the Genetics of Stocks. The inheritance of six distinct characters has now been investigated in the garden Stock (Matthiola incana). They are:—

1. Sap colour (whether the flower is coloured or whether it is white or cream).
2. Plastid colour (whether when sap colour is absent the flowers are white or cream, or whether the colour of coloured flowers appears on a white or cream ground).
3. Doubling.
4. Surface character (whether the green parts of the plant are fully hoary, partially hoary, or destitute of hairs).
5. Habit (whether branched or unbranched).
6. Gland formation.

With respect to sap colour, Miss Saunders has now shown that the wide range of colours and of shades is due (1) to the occurrence of a factor essential to the production of any colour, and (2) other factors ineffective in the absence of the colour factor, but in its presence capable of converting red shades to blue or of producing pale tints in place of full colours. Plastid colour, apparent at once in the non-sap coloured flowers white and cream, but distinguishable even in coloured types in the "eye" of the flower, is determined by a single factor which is present in the white (dominant), and absent in the cream (recessive). Between the factors for sap colour and plastid colour there is a certain degree of association, hence where a cross is made between strains of opposite character, as, *e.g.*, pale sap colour on white ground × deep sap colour on cream ground, by far the greater number of the second generation show the parental combinations, comparatively few individuals show the recombinations—pale colour on cream ground or deep colour on white ground.

Doubling is as definitely inherited as the other characters investigated, and is entirely independent of external conditions. It must now be accepted that we are powerless to alter the natural output of an individual belonging to a double-throwing strain. These strains, if kept pure, will yield on the average about 57 per cent. of doubles. If no selection is made, this proportion will be found to be constant, but by choosing the more vigorous individuals at the time of pricking out the percentage shown in the flower bed may be raised to 90 per cent., or even higher. A similar result may also be obtained with the interesting sulphur-white race, which is peculiar in having the doubles cream and the singles white. If the yellower seeds only are selected for sowing, the fixed output of doubles becomes comprehensible now that we know that in the double-throwing strains the ovules are of two kinds, rather more than half carrying the double, rather less than half the single character. As the pollen is all double-carrying, the proportion of singles among the offspring is determined entirely by the ovules. The sulphur-white race, which is ever sporting in regard to plastid colour, as well as doubling, owes this peculiarity to the fact that the pollen is not only all double, but also all cream, while the ovules are mixed, white and cream.

Surface character. Gardeners are familiar with the smooth Wallflower-leaved strains of Stocks, which contrast sharply with the fully hoary types. Hoariness, like colour, is a two-factor character, and the factors for hoariness show a curious relation with the colour characters, for they are unable to produce hoariness unless the colour factors are present. In another and less well known type of Stock the hoariness is less than in the fully hoary forms, and this type may be called half-hoary. Half-hoary forms breed true, and when crossed with the various Wallflower-leaved strains produces a complete series of intermediate grades which bridge the gaps between the ordinary forms of commerce. Full details of the characters and genetical behaviour of these intermediates will be published shortly.

Branching. The unbranched habit of the true Brompton Stock is a recessive character, and after crossing with a branched form reappears in a certain proportion of the second generation. *Hand production* is also a recessive character.

Prof. Punnett described experiments with Sweet Peas, which he was carrying out with a view to testing the hypothesis that Mendelian factors are located in the chromosomes. In the course of these experiments Prof. Punnett has found that the "marbling" of the flower is a character recessive to full colour and dominant to certain kinds of white.

It will be remembered that Prof. Punnett, when working with Mr. Bateson, discovered that of white-flowered Sweet Peas there are two kinds which, when bred together, give a coloured flowered offspring, and that they ascribe this result to the fact that these kinds of white-flowered Sweet Pea carry each one or the other of two factors, both of which must be present if colour is to appear in the flower. These factors are denoted

C and Rv

and a type of which flower is Cr, the other cR, so that when they are united together we get

$$Cv \times CR = CcRv,$$

and by C and R meeting we get a coloured F_1. The marbling factor (M) takes its place in the colour-producing series of factors thus:—

$$C — M — R$$

M behaves as a recessive to C, and as a dominant to R, and of course, marbling also behaves as a recessive to full colour.

Marbling is therefore an intermediate stage between full colour and white.

Further, as is the case with white-flowered Sweet Peas, marbled flowers cannot occur on plants with dark axils, though the seed coats of marbled-flowered plants may be of dark colour.

Prof. Punnett also showed an extremely interesting series of Acacia-leaved Sweet Peas, in which each of the tendril branches is replaced by a leaflet or a series of leaflets arranged like an imparipinnate leaf. Among this series is a "double-leafer" form, that is, a leaf which has two pairs of paired leaflets in place of the one pair in the normal leaf. This double-leafer gives a more vigorous and presumably more efficient leaf than that of the normal plant, and could the character be fixed it might prove useful in making Sweet Peas better doers in gardens, for they would then combine large leaf surface with climbing habit. So far as is known, however, the double-leafer is always a heterozygote of a normal Acacia-leaf character, and yields normal-leaved and Acacia-leaved offspring in the usual 3 : 1 ratio.

Mr. Haldane gave an account of researches carried out by Prof. Castle in America, and also by himself, proving the linking of characters in rats similar to that which has been proved to occur in plants.

At the close of the proceedings a meeting of the committee, followed by a business meeting, was held, at which the rules of the Society were considered and adopted. The members dined together in the Combination Room of St. John's College, and after brief speeches by Mr. A. W. Sutton and Mr. W. Bateson, a most successful inaugural meeting came to an end.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

JUNE 5. Committee present: The Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, A. Burns, A. Coningsby, D. A. Cowan, J. Cypher, J. Evans, J. Howes, A. Keeling, D. McLeod, J. MacNab, Dr. F. T. Paul, W. Shackleton, E. W. Thompson, J. Thrower and H. Arthur (secretary).

Awards.

FIRST-CLASS CERTIFICATE.

Cattleya Mabel var. Invincible (C. Myra Peeters × Warneri alba), from S. GRATRIX, Esq.

AWARD OF MERIT.

Cattleya Bridesmaid (C. Brenda × intertexta alba), from Mrs. GRATRIX.

C. Wagneri West Point Monarch, from S. GRATRIX, Esq.

Miltonia Bleuana var. Gold Crest, from Capt. W. HORRIDGE.

CULTURAL CERTIFICATES.

Mr. A. BURNS for Cattleya Dusseldorfii Undine.

Mr. W. SHACKLETON for Odontoglossum crispum var. Grace.

The name of Odm. King George V., that received a First-class Certificate on April 17, 1919, and exhibited by A. HANMER, Esq., has been altered and will appear on record as Odm. Rex Britannicus.

GROUPS.

Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. A. Burns), staged a group for which a Large Silver Medal was awarded.

Messrs. CYPHER AND SONS, Cheltenham, were awarded a Silver Medal for a group.

At the meeting held on Thursday, June 19, the members of the Committee present were: Rev. J. Crombleholme (in the chair), Messrs. A. Burns, J. C. Cowan, J. Howes, A. Keeling, J. Lupton, D. McLeod, Dr. F. T. Paul, W. Shackleton, and H. Arthur (secretary).

Awards.

FIRST-CLASS CERTIFICATES.

Cattleya Mossiae Wagneri Beardwood var., from Col. Sir J. RUTHERFORD, Bart.

Laelio-Cattleya Pelius (C. Enid × L.-C. Dominiania), from S. GRATRIX, Esq.

AWARD OF MERIT.

L.-C. Aphrodite Bridge Hall var., from Mrs. PRUCE and Miss WRIGLEY.

CULTURAL CERTIFICATE.

Mr. J. LUPTON for Cattleya Mossiae Wagneri Beardwood var.

GROUPS.

Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. A. Burns), were awarded a Silver Medal for a group composed principally of Odontoglossums of the crispum section and a few hybrids.

Mr. J. BIRCHENALL, Alderley Lodge, staged a form of Miltonia G. D. Owen.

Obituary.

Lady Griffith-Boscawen.—The sympathy of our readers will be extended to Sir Arthur Griffith-Boscawen, M.P., Parliamentary Secretary to the Board of Agriculture, on the death of his wife from heart failure. Lady Griffith-Boscawen attended the Thanksgiving Service at St. Paul's Cathedral on Sunday, 6th inst., and spent the afternoon of the same day in Kew Gardens. She died suddenly a few hours later at her London residence. Lady Boscawen was the eldest daughter of the late Mr. Samuel Williams, of Greenwich and Boone's Park, Edenbridge, Kent, and she married Sir Arthur in 1892; many beneficent public movements had her enthusiastic support and she worked hard in connection with war pensions, war savings, and the Victory Loan campaign. The interment took place on Friday afternoon in Speldhurst Churchyard. The funeral service was held in All Saints Church, Langton Green, and simultaneously there was a memorial service at Holy Trinity Church, Kensington Gore.

TRADE NOTES.

WE learn with very great interest and pleasure that Messrs. Lowe and Shawyer, of Uxbridge, are celebrating the signing of peace by paying their employees double wages for the week ending July 18. They are also giving the men a holiday, with pay, on the 19th, but stipulate that all necessary work (reduced to a minimum) must be carried out, but the time made on that day will be paid for at the usual rates, plus the holiday pay. It is of still further interest to know that this enterprising firm has already commenced to distribute a bonus on takings to its employees. This scheme is entirely voluntary and is being conducted by the firm by way of experiment in the hope that it will be the means of improving and increasing production to the mutual advantage of all concerned. From whatever the sales may be for each week the firm will first deduct the outgoings for salaries and wages, and on the balance, whatever this may amount to, they will pay a bonus of five per cent. This bonus will be divided between all those employees who have given no serious cause for complaint. The bonus will fluctuate with the amount of the sales. During slack times it will not amount to very much for each employee, but when sales are heavy, as during the Tomato and Chrysanthemum seasons it will provide a very considerable addition to the weekly wages of all. In a notice posted up in the nursery the firm states: "We hope our people will see in this scheme an endeavour on our part to start giving them interest in the general good of the nursery. If, through this means, we find we can work more closely together, it should be possible to go further in the same direction as time goes on."

MARKETS.

COVENT GARDEN, July 16.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Heliotropes, 48's, per doz.	15 0–18 0
Asparagus plumosus	12 0–15 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
—Sprengeri ...	12 0–18 0	— Pink, 48's, per doz.	30 0–48 0
Aspidistra, green	48 0–72 0	Marguerites white	18 0–24 0
Cacti, per tray 12's, 15's ...	5 0–6 0	Mignonette, 48's per doz. ...	18 0–21 0
Crassulas, red 48's per doz. ...	24 0–30 0	Palms, Kentia ...	18 0–24 0
—white and pink	24 0–30 0	—— 60's ...	15 0–18 0
Fuchsias, 48's, per doz.	12 0–18 0	—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0–6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0–4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

REMARKS.—Business remains very quiet in this department. The latest on offer are Lilium longiflorum in 32's and Verbenas. Ramblers are practically over, and Hydrangeas are getting finished. Ferns and Palms are the chief attraction in foliage plants; a few pyramid Bays are offered at high prices.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aubergines; pr doz	6 0–8 0	Melons, each ...	4 0–10 0
Bananas... ...	40 0–60 0	—Canteloupe ...	10 0–20 0
English Peaches per doz. ...	6 0–18 0	Nectarines, per doz. ...	6 0–18 0
Black Currants (French) ½ sieve	20 0–24 0	Nuts—	
— English... ...	24 0–26 0	— Brazils (new) per cwt.	110 0–115 0
Cherries (English) black, per ½ bus.	20 0–30 0	Pines, each ...	4 0–8 0
— White	20 0–30 0	Plums (French) per ½ sieve ...	22 0–23 0
Gooseberries, per ½ bus, cooking	12 0–14 0	— Gages	27 0–30 0
— Dessert ...	16 0–18 0	Raspberries, per chip	4 0–5 0
Grapes:—		Strawberries, Kent per chip ...	4 0–5 0
— Alicante ...	2 6–4 0	Worthing Figs, per doz.	4 0–12 0
—Blk Hamburgh, per lb. ...	2 0–4 0		
— Canon Hall ...	4 0–7 0		
—Muscats, per lb.	3 0–5 0		

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	1 0–2 0	Onions (Egyptian) per bag ...	18 0–20 0
—Broad per bus.	4 0–5 0	Peas, per bus. ...	13 0–16 0
Beetroot, per bus.	6 0–10 0	Parsley, per doz. bunches ...	8 0 —
Cabbage per doz.	3 0–4 0	Potatos, new, per cwt.	15 0–18 0
Carrots, New, per doz. buns. ...	3 0–5 0	Radishes, per doz. bunches ...	2 0–3 0
Cauliflowers, perdoz.	5 0–6 0	Rhubarb, natural, per doz.	6 0–9 0
Cucumbers, perflat	20 0–23 0	Spinach per bus.	8 0–12 0
Garlic, per lb. ...	0 6–0 8	Spring Onions, per doz. bunches ...	9 0–12 0
Greens, per bag	4 0–5 0	Tomatos, English, per doz. lbs. ...	11 0–12 0
Herbs, per doz. bun.	4 0–6 0	Vegetable Marrows, each	0 6–0 9
Lettuce Cabbage and Cos, per doz.	1 0–1 6	Watercress, per doz.	0 9– —
Mint, per doz. bun.	9 0–12 0		
Mushrooms per lb.	2 6–3 6		
Mustard and Cress, per doz. punnets	1 3–1 6		
New Turnips, per bunch	6 0–10 0		

REMARKS.—The general tone of business during the past week has been brisk, almost all produce being in good demand. Cherries have arrived in much reduced quantities, and most samples show the effects of rain. The supplies of Black Currants are well maintained, and the demand continues exceptionally good. Raspberries are in shorter supply, but there is no material change in their price. First samples of English Apples are to hand, some of which are quite good, and have realised full control value. Hothouse fruits have been in good demand; there are increased quantities of Grapes, Peaches, Nectarines, Melons and Figs at slightly lower prices. Large consignments of Spanish and French Greengages and Plums have reached Covent Garden, and these fruits are selling well. The prices of Tomatos have a tendency to fall, due to increased quantities. Cucumbers are in heavier supply; these vegetables have not been favourably affected by the dull weather, and prices show a slight recession in value. Peas are in better supply, in good condition, and brisk demand. Out-door French Beans are now to hand. English and Dutch new Potatos are arriving in larger quantities, and their prices are much lower.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Achillea, per doz. bun.	6 0–8 0	Orchids per doz.:	
Alstroemeria, per doz. bun. ...	3 0–10 0	— Cattleyas ...	15 0–18 0
Canterbury Bells, per doz. bun....	6 0–9 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Carnations, perdoz. blooms, best American var.	1 6–2 6	— white, per doz. bunches ...	15 0–18 0
Coreopsis, per doz. bun.	2 6–3 0	Roses, per dozen blooms—	
Cornflower, blue per doz. bun....	2 6–3 0	— Lady Hillingdon	1 0–2 6
Daisies, white, large, per doz. bun.	4 0–6 0	— Liberty ...	1 6–2 0
Gaillardia, per doz. bun.	4 0–5 0	— Melody ...	1 6–2 6
Gardenias, per box specials ...	8 0–9 0	— Mme. Abel Chatenay ...	1 6–2 6
— ordinary ...	2 0–3 0	—Mrs. J. Laing...	1 6–2 6
Gladiolus, The Bride, per bun.	— —	— Ophelia ...	3 0–4 0
—Brenchleyensis, per doz. spikes	4 0–5 0	— Richmond, var.	1 6–2 6
Gypsophila, per doz. bun. ...	9 0–12 0	— Sunburst ...	3 0–4 0
— paniculata, per doz. bunches ...	12 0–15 0	—White Crawford	2 0–3 6
Iceland Poppies, doz. bun. ...	2 0–2 6	Saponaria, per doz. bun.	3 0–4 0
Lapagerias, perdoz. blooms ...	3 0–4 0	Scabious, per doz. bun.	6 0–8 0
Lilium longiflorum, per bunch ...	8 0–10 0	Statice, mauve ...	12 0–15 0
Myosotis (Forget-Me-Not), per doz. bun. ...	— —	— white... ...	12 0–15 0
		Sultan, white, per doz. bun. ...	8 0–10 0
		— — mauve ...	8 0–10 0
		Stephanotis, 72 pips	3 0–3 6
		Sweet Peas, per doz. bun.—	
		— white	3 0–5 0
		— coloured ...	3 0–5 0
		Stock, Dbl. White	8 0–12 0
		—Dbl. Pink ...	8 0–12 0
		—Dbl. Mauve ...	8 0–12 0
		—Dbl. Purple ...	8 0–12 0
		Violas, perdoz. bun.	3 0–4 0

REMARKS.—There is very little of special interest to record this week. Supplies of white and coloured flowers appear equal to the demand, and prices all round are easier, especially for Carnations, Sweet Peas and Roses. Lilium longiflorum is offered at cheaper rates, but there is no particular demand for this flower at the present time. Gladioli consist of Brenchleyensis and Hallé. In addition to Gypsophila elegans, paniculata is now offered. Choice white flowers consist of Gardenias, Lapagerias, and Stephanotis; there is also a good supply of Sweet Sultan, which is arriving in fine condition, Statice sinuatia, and Scabiosa caucasica. There is now a better supply of foliage, consisting of Adiantum (Maidenhair Fern), Asparagus Sprengeri A. plumosus and Smilax.

ANSWERS TO CORRESPONDENTS.

APPLE BLOSSOM WILT: *J. G. A.* The trees are suffering from the disease known as Blossom Wilt and Canker (Monilia cinerea). A full account of this disease will be found in Leaflet No. 312, recently issued by the Board of Agriculture, and obtainable therefrom, at Whitehall, S.W.1, post free on application.

COST OF DIGGING AND PLANTING LAND FOR FRUIT GROWING: *A. J.* At the present rate of wages, digging an acre of ground one foot deep would, if done thoroughly, cost from £5 to £6. The digging of grass land would cost nearly twice as much. Trenching the ground 3 feet deep would probably cost £25 to £30, but it is not only quite unnecessary, but in most cases would be actually harmful for the purpose in view. Bastard trenching is the best preparation for planting fruit trees. This would cost three or four times as much as digging. Quotations for two-year-old trees last autumn ranged from £5 to £10 per 100, but the price was recently about £6 10s. Currant bushes were 25s., and Gooseberries 35s. per 100.

DISEASED TOMATO LEAVES: *E. B.* The disease is Tomato Leaf Mould (Cladosporium fulvum). The best method of preventing the disease is to spray the young plants at intervals, from the time they are planted, onwards, especially where the disease has been prevalent in the previous season. Badly affected leaflets should be removed and burned without delay and the plants sprayed with sulphide of potassium or with dilute Bordeaux mixture, and the fruits should be cleansed before they are consumed.

DISEASED TOMATOS: *A. S., J. W. K.* and *T. L.* The material sent was quite insufficient for adequate examination. In every case when specimens are sent for the purpose of having a disease determined, leaves, stems, roots and fruit should be enclosed whenever possible, and a sufficiency of each.

GRAPES DISEASED: *A. L. K.* The disease from which your Grapes are suffering is "Grape Rot" or "Grape Spot," caused by a mi[...] fungus named Gloeosporium ampelophag[...] It is sometimes the cause of consider[...] damage as it arrests the development of t[...] fruits it attacks. Dusting the shoots [...] leaves with flowers of sulphur at intervals [...] ten days should be practised until the dis[...] disappears. A small quantity of quick li[...] should be mixed with the sulphur on t[...] second application, and the amount of li[...] increased for subsequent dressings, but in [...] case must the lime quite equal the amount [...] sulphur used. The late Mr. Massee consid[...] it to be advantageous to thoroughly wet [...] stems and branches with a solution of [...] phate of iron during the resting period of [...] vines.

HARD AND SHRIVELLED FIGS: *J. G.* [...] *S. J. C.* An examination of the fruits [...] ceived shows that the trouble is due to [...] presence of a fungus of the Botrytis gro[...] Dusting the trees and foliage with flower[...] sulphur may help to keep the disease [...] check, but general cleanliness, fresh air [...] a proper thinning of the growths to fav[...] full development of the leaves will [...] more than anything else to secure good c[...] and their proper development. Fig t[...] rarely succeed in perfecting crops if allow[...] an unrestricted root-run.

NAMES OF PLANTS: *G. B.* 1, Escallonia [...] leyensis; 2, Spiraea filipendula; 3, M[...] moschata; 4, Sempervivum arboreum v[...] gatum; 5, insufficient for identification; [...] Chlorophytum elatum variegatum.—*H. G.* [...] 1, Tradescantia virginica; 2, Galega pat[...] 3, Oenothera fruticosa; 4, Lythrum Salicar[...] 5, Lysimachia punctata; 6, Achillea m[...] golica; 7, Sidalcea spicata; 8, Poterium [...] 9, Phlomis viscosa; 10, Achillea filipendul[...] 11, Sidalcea candida; 12, Lychnis Viscari[...] *W. S.*: The Plumbago is P. capensis; [...] climber Hardenbergia monophylla; [...] Mesembryanthemum M. blandum.—*D.* [...] Sedum Cepaea, an annual species, somet[...] found in Corn fields in this count[...] *J. W. F.*: Salvia virgata (syn. S. nemor[...] —*A. T. S.*: 1, Eucomis punctata; 2, Ri[...] humilis; 3, Begonia maculata; 4, B. we[...] iensis; 5, Mackaya bella; 6, Mimulus lut[...] 7, Maranta sp.; 8, Dracaena Sanderi[...] —*A. L. W.*: Syringa japonica.—*J. W.* [...] Amelanchier canadensis. Propagate by se[...] suckers in the case of plants on their [...] roots; or by grafting or budding on Hawthorn.—*G.* Eriobotrya japonica: Loquat.—*E. R. B.*: Gaultheria Shallon.

PROFITABLE TOMATO CULTURE: *S. W. W.* [...] is apparent from your letter that you h[...] very little practical knowledge of To[...] growing, therefore it would be foolish on [...] part to advise you to undertake Tomato cul[...] tion as a commercial proposition. Price[...] Tomatos have been good this season owin[...] the shortage of labour and low importat[...] but such prices are not likely to continue [...] definitely. Houses would cost from £5 to [...] per foot run to build. Each plant w[...] require about 3 square feet of space, a[...] good crop of fruit throughout a large [...] would be at the rate of 5 lbs. per plant[...] crop may be half-developed and then [...] totally ruined by injudicious manuring, [...] insect or fungus troubles, which would sp[...] before an inexperienced person knew [...] were present. You should obtain prac[...] experience before embarking in the busi[...]

ROT IN CUCUMBER STEMS: *T. A. F.* [...] cultural error which has damaged the ba[...] the stem is the cause of the collapse. [...] or flowers of sulphur placed around the [...] bases may help to improve matters, and [...] late planted crops should be so treated. [...] bacteria and mycelium of a fungus were pr[...] in the decayed stems, but these are not ne[...] arily the cause of the damage.

Communications Received.—F. C.—C. T.—L. [...] —H. S. N.—J. S.—M.—M. J.—H. P.—A. O. [...] A. W.—G. L.—H. B.—H. C.—J. B.—J. P.—L. [...] F. G.—A. K.—A. C.—W. M. M.

SITUATIONS VACANT.

Twenty words (or three lines including headline) **3s.**, *and* **6d.** *for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office,* **6d.**

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Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T:).

THE Standard of Wages and Hours adopted in January last is now withdrawn and a new Standard is under the consideration of the Executive Council. When this is published, an announcement will be made in these columns.—CYRIL HARDING, General Secretary, 22, Buckingham Street, Strand, W.C.2.

ASSISTANT HORTICULTURAL INSTRUCTOR, with scientific knowledge, ability to control and demonstrate; preferably young ex-service man.—State qualifications, practical experience, wages, to CRISP, Horticultural Superintendent, Enham Village Centre, Andover.

WANTED, first-class HEAD GARDENER, for large place in Wilts; 12 men kept; state age and wages; copies of references only, which will not be returned.—HOPKINSON, Cross Heath, Coleshill, Warwickshire.

WANTED for Maidenhead, a thoroughly experienced Second Gardener to take post as HEAD WORKING GARDENER; also a SECOND GARDENER; post would suit two friends, as there is a good eight-roomed cottage, which might be shared.—Apply, giving details, testimonials, and stating wages required, to MAJOR BRYANT, Trevose View, Trevone, Padstow, Cornwall.

GARDENER (HEAD WORKING) wanted; thoroughly experienced Inside and Out; two men kept; lodge. Reply, stating age, experience and wages required, to MISS PRICE, The Limes, Southwood Lane, Highgate.

MARRIED COUPLE wanted in Surrey; experienced GARDENER (Fruit, Flowers, Vegetables, Greenhouses and Vinery); and wife (good Laundress and willing to assist in house); unfurnished cottage.—Apply, stating age, wages required and past experience, to M. N. O., c/o Potter's Advertising Agency, Temple Chambers, Temple Avenue, London, E.C.4.

WANTED, MARRIED COUPLE, without children, to live in employer's house in Cambridgeshire. The wife must be experienced HOUSEMAID, the husband single-handed GARDENER, with boy to help; good wages.—Write LADY W., c/o Henningham Hollis, 4, Mount Street, London, W.1.

WANTED, married man as GARDENER, and wife to milk cow and occasionally help in house; small cottage on estate.—J. C. STEVENS, 38, King Street, Covent Garden, London, W.C.2.

WANTED, SECOND GARDENER (Inside and Out); age about 30, married, no family preferred; 5 kept; wages £2 per week, with cottage, etc. Apply to CAPTAIN F. T. D. BELLEW, Casewick, Stamford, Lincs.

UNDER-GARDENER wanted; married (no children); country; wages 35s. and cottage; age under 40; willing to do boots, wood and coal. G. H. TWIST, Withybrook, nr. Coventry.

WANTED at once, UNDER-GARDENER; single; inside; knowledge of Fruit and Plants; duty alternate weeks; lodging free. -Wages and refs. to W. H. SWANBOROUGH, Haines Hill, Twyford, Berks.

LEICESTERSHIRE EDUCATION COMMITTEE.

APPOINTMENT OF HORTICULTURAL INSTRUCTOR.

The Committee propose to appoint a HORTICULTURAL INSTRUCTOR: salary £250 per annum; travelling allowances £100 per annum. Particulars of duties may be obtained from the undersigned. Applications must be received not later than SATURDAY, 9th August, 1919.

W. A. BROCKINGTON,
Director of Education.
6, Millstone Lane, Leicester.

UNDER GARDENER wanted; single man with some knowledge of stove plants, ten miles north of London.—Apply by letter, with age, etc., to X. N., 6, High Street, Shoreditch, London, E.1.

THIRD GARDENER wanted for Kitchen Garden and Pleasure Ground; wages 35s. weekly; references essential.—Apply, R. GRIFFIN, Court Garden, Marlow, Bucks.

WANTED, MAN to take charge of glass, with assistance; experienced Fruit and Plants; bothy; 1 o'clock Saturdays.—Experience and wages required to HEAD GARDENER, Oakwood House, Otterbourne, nr. Winchester.

WANTED, MAN to take the lead in Kitchen Garden; also Journeyman to help; cottage or bothy; state age, wage and experience.—A. SMITH, Parkwood Gardens, nr. Henley-on-Thames.

WANTED, FOREMAN; Inside; good plantsman; state experience; wages 35s., bothy, milk and vegetables.—Apply SHOEBRIDGE, The Gardens, Pinkney Park, Malmesbury Wilts.

WANTED, JOURNEYMAN for Inside and Out; wages 35s. per week, bothy, vegetables and attendance. Also IMPROVER; 27s. per week, with bothy, etc., as above.—Apply to HEAD GARDENER, Dunraven Castle, St. Brides Major, Bridgend, Glam.

WANTED, JOURNEYMAN, Kitchen Garden and Pleasure Grounds; duty every third week; wages 30s., bothy, milk and vegetables; 1 o'clock Sats.—Apply, R. RYE, Woodlands, Uxbridge.

WANTED, JOURNEYMAN for Fruit and Plant Houses.—Write, stating experience and wages required, with bothy, etc., HEAD GARDENER, Broxmead, Cuckfield, Sussex.

JOURNEYMAN. — Pushing young man required for good Plant Charge.—Particulars of age, height, and wages required, to S. LEGG, Warter Priory Gardens, York.

WANTED, JOURNEYMAN for Inside and Out; well up in Fruit.—Reply, stating wages, copies of testimonials and experience, WREN, The Gardens, Ashby St. Ledgers, Rugby.

WANTED, experienced MAN for fruit and Plant Houses; 45s. week, no bothy. Send particulars of experience and references to HEAD GARDENER, Penrice Castle Gardens, Reynoldston, Glamorgan.

WANTED, single MAN for Outside Gardening; able to scythe and to take charge; furnished room available until lodgings can be obtained; wages 45s. to 50s.—Apply, T. H. CANDLER, Westholme, Selly Oak, Birmingham.

WANTED, good MAN for Garden; Inside and Out; well up to his work.—Apply, MATTHEW BELL, Danes Court, near Wolverhampton.

WANTED, a good MAN; single; chiefly for Oustide; with knowledge of Rock, Water and Flower Garden; wages £2, with comfortable furnished room.—Apply, stating age and experience, F. DAY, The Gardens, Treeton Grange, Rotherham, Yorks.

WANTED, single MAN for Pleasure Grounds and Kitchen Garden; duty every third week; one o'clock Saturdays; bothy, milk, vegetables and attendance; wages 31s. 6d. State age and particulars. —G. E. WEEKES, Penoyre Gardens, Brecon.

WANTED, experienced single MAN for General Work; Lawns and Pleasure Grounds; wages 40s. per week; no bothy; 1 on Saturdays.—Apply to E. SMITH, Falcon Wood, Shooter's Hill, London, S.E.18.

WANTED, a good SINGLE MAN for Kitchen Garden and Fruit; must be well up in his work and energetic.—Reply to H. W. WITHALL, Head Gardener, Hempton Lodge, Monks Horton, nr. Hythe.

WANTED, a young MAN, chiefly for Pleasure Grounds; 35s. weekly, with bothy and attendance.—WHITELEY, Silkworth House Gardens, Sunderland, Durham.

WANTED, a competent YOUNG MAN with a thorough knowledge of Alpines, who is able to take charge of a Rock Garden, and who is interested in the propagation of such plants, and also more particularly the raising from seed of many and rare plants and shrubs which are being sent from collectors in China and Burma.—Apply, with references, stating whether married, with age and wages required, to C. B., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, GARDEN LAD; about 16; strong and willing; 18s., with bothy, to start; 1 o'clock Saturdays.—HOLMES, Kenton Grange, Harrow-on-the-Hill.

WANTED, HANDY MAN, to make himself useful about house, attend to heating apparatus, fowls, pigs, etc.; 30s. per week, 4 tons coal per year, house and good garden.—Apply, with copies of references, to J. H. SIMPSON, Biddlesden Park Gardens, Brackley, Northants.

TRADE.

WANTED, good, reliable MAN to manage a small trade Nursery; thorough allround knowledge of trade work; permanency to suitable man; highest references essential.—Apply, stating age and wages required, to T. B. L., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

LANDSCAPE FOREMAN (experienced) required, one competent to take entire charge and carry out work from detailed drawings.—Apply, WM. WOOD & SON, Ltd., Wood Green, London, N.22.

ORCHID GROWER wanted for a firm in South America.—Apply, stating age, experience, etc., to JOHN COWAN & CO., Gateacre, Liverpool.

PALM GROWER wanted to take charge of Palm Houses in London; thoroughly experienced; middle-aged; permanency.—Apply ROBERT GREEN (1911) LTD., 28, Crawford Street, London, W.

WANTED, HARDY PLANTSMAN, young man, under foreman, as ASSISTANT, with knowledge of Herbaceous and Alpine Plants; mostly Outdoors.—Wages and references, to HILLIER AND SONS, Nurserymen, Winchester.

WANTED, PROPAGATOR (man), experienced in raising Shrubs and Conifers, New Chinese plants, etc.; one with a knowledge of Alpines, etc., preferred; no houses, but good lodgings.—Wages and references to, HILLIER AND SONS, Nurserymen, Winchester.

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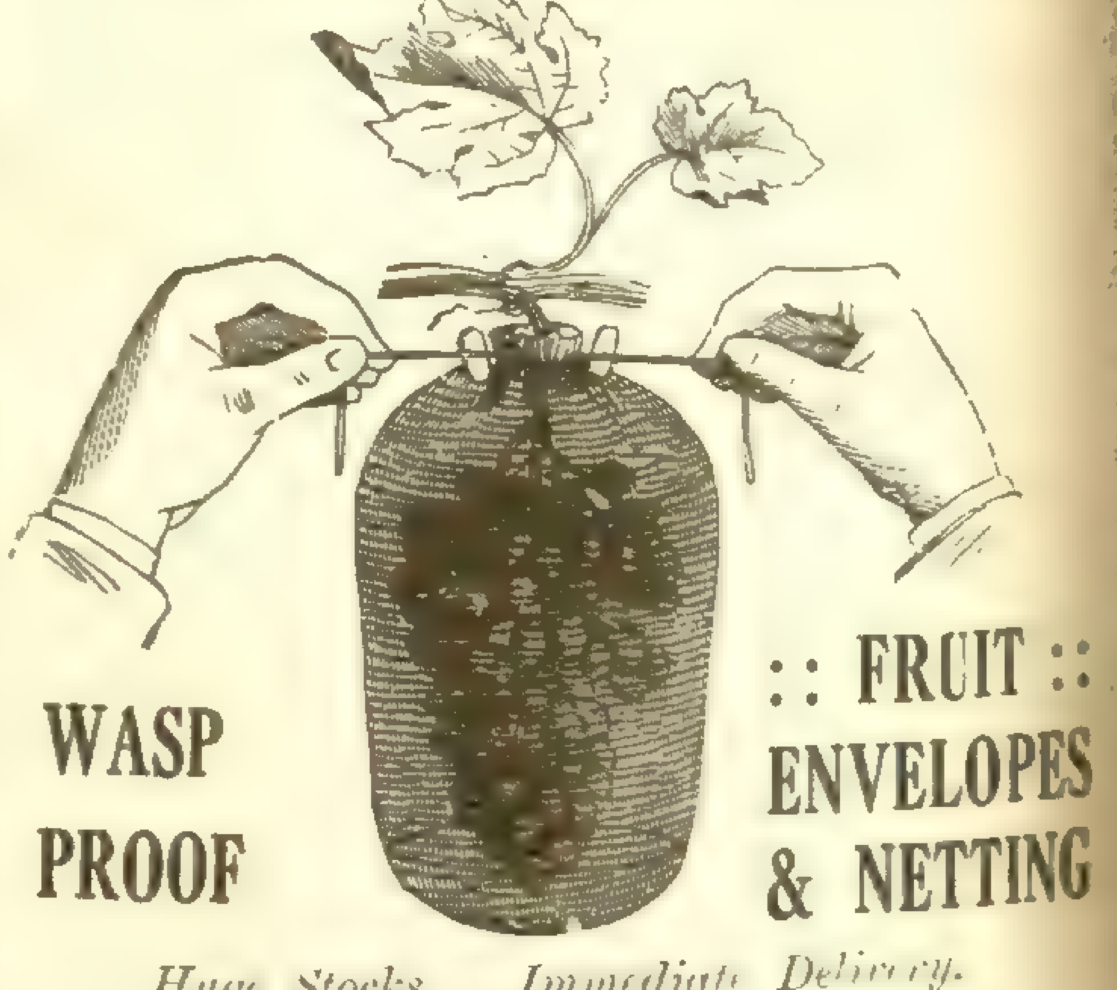

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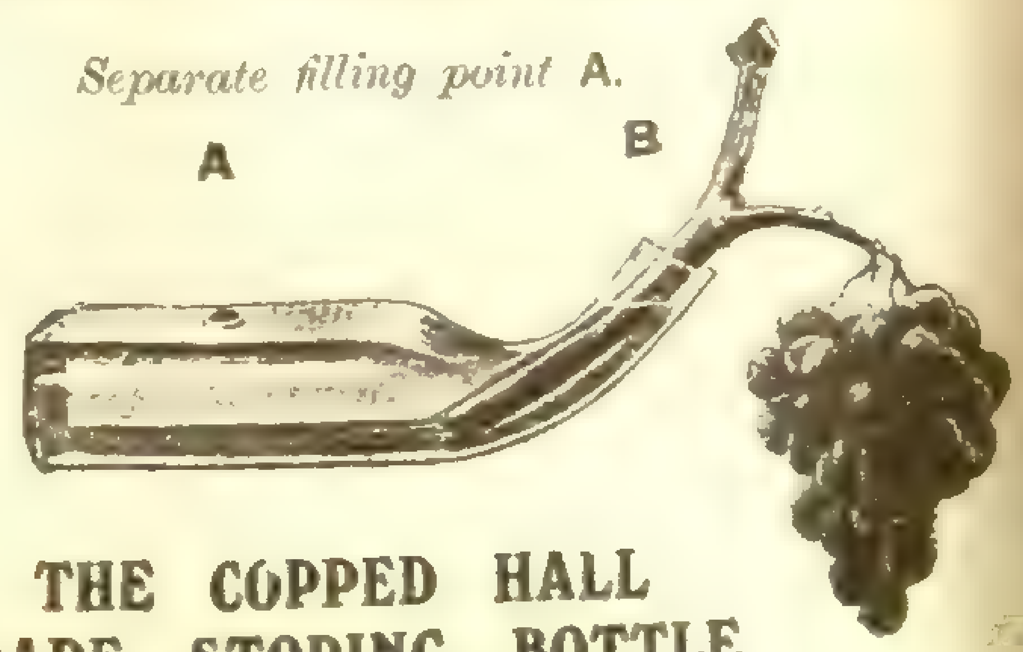

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THE

Gardeners' Chronicle

No. 1700.—SATURDAY, JULY 26, 1919.

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THE LONDON PLANE.

(Platanus acerifolia.)

In a recent issue of the *Proceedings of the Royal Irish Academy*, Prof. A. Henry, in association with Miss M. G. Flood, contributes a very interesting article on the London Plane. The mystery which has always surrounded the origin of this tree—known to botanists as Platanus acerifolia (see Fig. 23)—Prof. Henry has done much to solve. Never having been found in a wild state, there only remained for the London Plane an origin under cultivation, but whether it was a mere seedling variant of the Oriental Plane (P. orientalis) or a hybrid between that species and the American Plane (P. occidentalis) has for some years been a question much discussed. As lately as 1908 Prof. Henry himself rejected the hybrid theory in *The Trees of Great Britain and Ireland*, vol. iii., p. 620, and I remember some years ago, in conversation with Prof. Sargent, suggesting that the London Plane was a hybrid, and that he disagreed. The habit of the tree, with its clean, stately trunk, and its much less deeply lobed leaves as compared with those of the Oriental Plane, are resemblances to P. occidentalis, but the fact that the latter will not at the present time live more than a few years in this country, much less attain to the flower-bearing age, made the theory that the London Plane is a hybrid descendant of that tree difficult to accept. P. occidentalis has, of course, been grown in this country in an intermittent sort of way for nearly three centuries (it was introduced in 1636), and in its early years it may have been free from the fungous attacks or other causes which make it so short-lived now. But I do not know that any positive evidence exists of its ever having reached the flowering state in this country.

The studies that Prof. Henry has made in recent years of hybrid trees, such as Salix coerulea, Lucombe Oak, and Black Italian Poplar, which have added much that is valuable and interesting to our knowledge of those trees, led him also to the study of the London Plane. His conclusion is that this tree "is undoubtedly a hybrid, and must have originated as a chance seedling in some botanic garden where an Occidental Plane and an Oriental Plane happened to be growing together." The first description of the London Plane was published in 1700 by Plukenet, who described it then as bearing large fruit balls. This gives only sixty-four years for P. occidentalis to have reached the flowering state after its introduction, to have hybridised with P. orientalis and produced P. acerifolia, and for that hybrid to have itself reached the fruiting stage. This, although not at all impossible, strikes one as a very short period, considering all the chances involved, in which this sequence of events must have occurred; and, taken in conjunction with the absence of any proof that P. occidentalis has ever flowered in England at all, enables one to appreciate the reluctance of some to accept the origin of the London Plane as a hybrid one.

But after reading Prof. Henry's paper, and all the evidence he adduces, circumstantial though it may be, few probably will fail to be convinced by his reasoning. One of the first proofs of hybridity is in the variability of the seedlings of the London Plane (see Fig. 24), a well-established characteristic of the seedlings of a first cross. This variability is to be noted in the size and depth of lobing in the leaves, in the number of fruit balls on a stem and in the characteristics of the individual fruits (achenes) that make up these balls, all more or less intermediate between those of Oriental Plane and American Plane.

Oxford and the London Plane.

Prof. Henry makes a very interesting attempt to show that the London Plane possibly originated at the Botanic Garden of Oxford about 1670. The younger Bobart, who became curator of the garden in 1680, compiled a manuscript list of the trees and shrubs there, which was printed by Messrs. Vines and Druce in 1914. In this list three Planes are included, viz., Platanus orientalis, P. occidentalis, and one which Bobart distinguished as *P. inter orientalem et occidentalem media*. And in the Sherard Herbarium at Oxford there is a dried specimen (No. 476) corresponding to this diagnosis, and labelled "Platanus media," which Prof. Henry says is undoubtedly the London Plane. Additional evidence is also found in the British Museum, where is preserved the type specimen of Plukenet, used by him in his (the first) published description of P. acerifolia in 1700, also two fine leaves of this tree, collected by Petiver, and labelled "Platanus media n.d. Bobart, Ox." There seems to be no doubt then that the London Plane was growing at Oxford late in the seventeenth century, and as Plukenet described it as bearing large fruit balls in 1700, it was at that time probably some thirty years old. Moreover, this is the earliest extant evidence of the existence of the London Plane.

There are four trees of the London Plane which in their age and dimensions surpass all others known. One is in the Palace Garden at Ely, one in the grounds of the Ranelagh Club at Barnes, one at Peamore, near Exeter, and the fourth is at Woolbeding, in Sussex. Of the last three nothing certain as to their history is available, although they are probably coeval with the tree at Ely. Of this, fortunately, the history is known. It was planted by Gunning, who was Bishop of Ely from 1674 to 1684, and as he is known to have lived for some time at Oxford before his appointment to the Ely diocese, there is, both in time and circumstance, a clear probability of a connection between the Ely and the Oxford trees.

Progeny of the London Plane.

Although usually propagated by cuttings or layers, the London Plane produces plenty of fertile seeds. It has already been mentioned that the seedlings vary greatly, and thereby afford strong presumptive evidence of the hybrid origin of the tree. Several of these seedling variations have been named. The oldest of them, P. hispanica (see Fig. 25), is mentioned by Miller in the seventh edition of his *Dictionary*, published in 1759, as being at that time called the "Spanish Plane tree." Two fine examples are growing near the Azalea Garden at Kew, very graceful, and vigorous in habit, and with remarkably fine foliage. P. hispanica (also known as macrophylla) shows more distinctly than any other of these seedlings of London Plane the influence of P. occidentalis in its fruits. The fruit balls, although occasionally two or three on a stem, are very frequently solitary, and the solitary fruit balls of P. occidentalis furnish the best specific character, distinguishing it from P. orientalis, which has two to as many as seven on a stem. Also, the individual fruits, or achenes, that make up the balls in P. hispanica, are almost glabrous, as in P. occidentalis, and more flattened at the apex than those of P. orientalis.

A second seedling from P. acerifolia, much better known than P. hispanica, was described in these pages by Rivers (*Gard. Chron.*, 1856, p. 86) as P. pyramidalis (see Fig. 26). The erect habit of this tree, its vigour, and its easy propagation by means of cuttings and layers, have made it the most popular of all the Planes for street planting. It is also known as P. orientalis var. pyramidalis.

Two other trees which Prof. Henry includes under the progeny of the London Plane are P. cuneata and P. digitata, both of moderate size, and of no particular importance to planters in general. He also describes in this paper for the first time two Planes which come in the same category, viz., P. cantabridgensis and P. parviloba. The former grows in the Botanic Garden at Cambridge, the latter at Kew, but the history of neither is known.

From what has been written it will be seen that Prof. Henry, in this paper, has made an important contribution to our knowledge of the tree which contributes more to the amenities of London streets and open spaces than any other, and has added a very interesting further instalment to the history of hybrid trees. This is a study to which he has devoted a good deal of time and research, with the result that much of the uncertainty that has enveloped their origin has been removed. *W. J. Bean.*

THE CLEMATIS.

The many species and varieties of Clematis give the grower choice of a wide range of colour at different times of the year, and it will be found that some one or other is suitable for almost every situation and position.

By the judicious use of these beautiful climbers much may be done to beautify unsightly parts of the garden and pleasure grounds.

Should the natural soil of the garden be unsuitable for the Clematis, prepare stations for them and fill these with a compost consisting of turfy loam, leaf soil, and old mortar rubble, well mixed together; this mixture provides a suitable rooting medium for all sections of the plant.

C. Jackmanii, and its hybrids, blossom profusely during the summer and early autumn

on the shoots of the current year. Varieties of this type should be closely pruned each spring, whilst C. montana and its kindred varieties require little beyond a judicious thinning of the previous year's growths.

All Clematis of the Jackmanii type are admirably adapted for massing, and may be trained over tree stumps, or on wire supports of almost any shape. Clumps of these plants form very conspicuous objects when in bloom.

Strong, thinly trained growths, well ripened by full exposure, develop the finest flowers, and afford a longer succession of bloom than do overcrowded or neglected plants.

A pleasing combination is to plant any of the types named in conjunction with Honeysuckle. The Clematis and Honeysuckle will soon clothe unsightly objects in a graceful and natural manner. *W. Hedley Warren.*

FIG. 23.—PLATANUS ACERIFOLIA (see p. 47).

RARE FLOWERING TREES AND SHRUBS FOR SOUTH DEVON AND CORNWALL.

BERBERIS HAKEOIDES is a rare Chilian species, with striking foliage of greyish-white and masses of orange-yellow flowers; it should be planted in good loam. Buddleia Colvillei is distinct from all other Buddleias; the flowers resemble those of a rosy Pentstemon and the foliage is silvery grey. This is a grand shrub, but requires to be established for a year before it flowers. Calceolaria alba is very beautiful with its pretty foliage and white flowers, but requires to be grown in light sandy soil, and a sheltered situation. Calceolaria integrifolia is another beautiful shrubby species, and stands remarkably well by the sea-side in Devon and Cornwall without any protection whatever. A light, sandy soil suits all these plants. Calceolaria violacea is a charming shrubby species with tiny foliage, and develops a profusion of small, violet-blue and mauve coloured flowers. Camellias are much hardier than most people imagine, and are once more becoming popular. They are surprisingly beautiful, and possess the advantage of being very simple in their cultural requirements; good fibrous loam, a little leaf mould, a small quantity of soot and silver sand and copious supplies of water in dry weather, are all they need. In no case should the soil in which Camellias are grown be allowed to become dry, as when this happens, a considerable number of the buds drop prematurely. When established, the plants should have an annual top dressing and an occasional watering with liquid manure. The following are beautiful species: Camellia latifolia, bright semi-double, rosy-crimson flowers, with a large tuft of golden stamens. The plant is a very fine grower, quite hardy and very floriferous. Camellia reticulata is very rightly called the Queen of Camellias, and is the largest flowered of all. Camellia Sasanqua is a fine species, with small foliage and flowers; it is very early in blooming and there are red, white, and pink varieties, all of which are very hardy. Stuartia pentagyna, the American Camellia, is little known. The creamy white flowers are very similar to those of the single Camellia. Stuartia Pseudo-camellia is the Japanese Summer Camellia. This beautiful plant produces large, white flowers. Carmichaelia australis is a Broomlike shrub from New Zealand and very rare. The blue flowers open in June. This plant requires good soil and situation. Carpenteria californica is now pretty well known, and is a beautiful, free flowering evergreen, and bears in great profusion Anemone-like, pure white flowers, two inches across, with showy yellow stamens. This splendid shrub should be planted in good loam, and in a semi-shaded position.

All the Daphnes are very beautiful, especially Daphne Dauphinii, a rare, evergreen species, with bright green, glossy foliage. Daphne rupestris is another rare and exceedingly beautiful shrub. It is the smallest growing of all the Daphnes, and the flowers are sweetly scented. These shrubs revel in semi-shaded situations, and thrive in sandy, peaty soils. Embothrium coccineum, the Fire Bush, is evergreen and bears in great profusion, large clusters of vivid scarlet flowers of Honeysuckle shape. No other tree can compare with it for grandeur when in full blossom. The tree is quite hardy in Cornwall; a fine specimen was in full flower on June 15 at Penrose Park, Helston, Cornwall, that fine old Cornish seat of Capt. J. P. Rogers, R.A., who has a very fine collection of flowering trees and shrubs.

Grevillea rosemarinifolia is a handsome evergreen, with soft, graceful foliage, and flowers of a brilliant red in spring. G. sulphurea is similar in foliage but has an abundance of yellow flowers. These plants require a sheltered situation, and should be planted in good loam, leaf-mould and sand. Lorospetalum chinensis is a beautiful Chinese shrub of the Witch Hazel family, that has white fringe-like flowers in spring, and thrives in loam and leaf-mould, lightened with sand. Magnolia salicifolia is a very scarce shrub; the flowers somewhat resemble those of Magnolia Kobus, but they are more abundantly produced, and are sweetly scented. The foliage is small, narrow, and pointed, and the whole plant emits a pleasing aroma. Magnolia parviflora is pretty, the flowers being freely produced on young plants, and they are like pure white balls until expanded, when they show their rosy red stamens. Magnolia conspicua alba bears large snowy flowers in March. There is a fine specimen of this tree at Maristow, the beautiful old Devonshire seat of Sir Henry Lopes, Bart., who also has a fine collection of flowering trees and shrubs. Rich loam and sheltered situations are needed by these rarer Magnolias. Plagianthus Lyallii, a rare semi-evergreen shrub from New Zealand, is a very beautiful, and a great acquisition. The pure white flowers are nearly two inches across, with a tuft of golden stamens; they are freely produced in the autumn. Although the plant is hardy, in the south-west it requires a sheltered situation, and should be planted in rich fibrous loam mixed with a little leaf-mould and rather coarse sand. Sphacelia Lindleyana is a pretty evergreen shrub, with blue flowers.

Ceanothus rigidus is a distinct evergreen with violet-blue, ball-like flowers, borne along the branches in May. Clethra arborea is a rare evergreen shrub, producing, in summer large Lily-of-the-Valley-like flowers. C. canescens a rare Japanese species, bears in great profusion spikes of fragrant, white flowers. Both these Clethras should be planted in partial shade, in peaty soil, and in a sheltered situation. Enkianthus campanulatus is a rare deciduous tree or shrub, bearing clusters of dark-red, waxy, bell-shaped flowers in spring. The foliage assumes a beautiful golden colour in autumn. It is a very choice plant for the shrubbery, but peat should be added to the soil in which it is planted. Eucryphia pinnatifida is quite hardy, although native of Chile; the flowers are large and white, the foliage pinnate, and a pleasing green colour. Perowskya atriplicifolia is a very distinct beautiful, hardy shrub, the foliage being scented and of a glaucous colour, with a white tomentum underneath. The flowers are borne in spikes, and are of a lovely shade of blue in autumn. Davidia involucrata, a tree recently introduced from China, is very uncommon in gardens. The flowers, or rather the bracts, are not unlike strips of white silk hanging from the twiggy branches. The tree is very decorative, and should become very popular in the future.

Catalpas are fine vigorous trees, and should be more widely grown. Catalpa Bungei is very fine, the white flowers being spotted with purple. C. speciosa is another species worth growing. C. syringaefolia has heart shaped leaves and violet tinged flowers, with speckled yellow throats. The blossoms are freely produced. The tree will thrive in good loam. All flowering trees and shrubs should be examined after flowering, and any necessary pruning and shaping should then be done at once.

The Rhododendrons include a very large number of species, over two hundred and fifty having been introduced into this country. Some of the Himalayan species are well worth growing on account of their handsome leaves and flowers.

Rhododendron Fulconeri is a noble foliaged plant, with flowers a pale primrose colour, borne in large trusses. The flowers of R. Aucklandii are pure white, tinged with pink. I think this is the largest flowering species in the genus. R. Dalhousiae is a very tall grower, with fine flowers of a sulphur yellow colour. R. Sesterianum is very fragrant, the bloom being pure white, sometimes tinged with blush. R. campylocarpum is a very attractive plant with its beautiful yellow flowers. Other good Rhododendrons include R. decorum, delicately scented; R. Pink Pearl, R. White Pearl and R. Baron de Bruin, of splendid scarlet colour, a free flowering shrub of great beauty but a rather straggling grower. A few of the dwarfer species from China include R. racemosum, a dwarf plant with small foliagt, and flowers coloured a pleasing shade of pink. The new Chinese species of Rhododendrons that make growth early do well in Cornwall. I have received several letters for advice on Rhododendrons not flowering; if growers would mulch their beds and borders annually with well-decayed leaf-mould several inches deep there would be fewer complaints. *Victor C. A. Francis-Grayson, Penrose Park, Helston, Cornwall.*

NOTES FROM AUSTRALIA.

FRUIT-GROWING BY EX-SOLDIERS IN AUSTRALIA.

THE New South Wales Government has alotted the sum of £300,000 for settling soldiers as planters of tropical fruit. An additional £14,000 has been marked for the administration of the group settlement which provides for the settling of 250 ex-soldiers at a cost of £1,200 each.

The venture is well-timed, as the outlook for the Banana market has never been more promising with every indication of a settled period of comparatively high prices. The most suitable type of soldier has been selected as pioneers of the branch of settlement, generally being young, tough physically and teachable. They are a cheerful lot, and evidently enjoy the rough life on these hills. Their chances are increased enormously by being under the supervision of a practical man. Mr. C. Rose, the manager, has been a successful Banana planter on the north coast of Queensland, and his experience and foresight have given the settlement a start on the right lines. He regards the men almost without exception as splendid types of planters, and has no fear that anything but success will reward the hard work they are putting in to establish their plantations. Banana growing is not work for the lazy, and most of the plantations are on hillsides that one would regard as hopeless for cultivation. The principal Banana settlement is at Byron Bay (N.S.W.), and soldiers camped on the hillside overlooking the ocean, have, together with outside labour, cleared the scrub, and within six months Bananas have been planted out in regular rows.

In the jungle-like scrub that remains, tall Fig trees and a big variety of softwoods reach the open sunlight above, while underneath is a tangle of brush and creepers where the Bananas have been planted; the massive butts of fallen giants still proclaim their old-time strength, but the quick-growing Bananas will soon hide all but few of these. Last spring was very dry, and enabled the settlers to burn the scrub, and consequently to plant out large areas straight away. There are few industries giving such a quick return as Banana-growing, for from a year onward their crops expand until full maturity is reached. The plants need moisture, and the rainfall in the district being nearly 80 inches annually they thrive on the salt-laden air and on the rich volcanic soil that is one of the characteristics of the Brunswick. The industry would long ago have been established but for the fact that dairying has proved such a lucrative industry on these northern rivers. This soldiers' settlement comprises 400 acres subdivided into 12 Banana and two dairy farms. The average area of each Banana block is about 20 acres, and about five acres are being planted on each. The land was purchased at £14 per acre, and the first 12 months is a probationary period for each settler, after which, if suitable, their blocks will be confirmed to them. It is expected that the returns from small crops like vegetables and Maize will enable them to repay their sustenance almost at once. These settlers went there quite raw, and under supervision have felled the scrub, helped to make tracks, and to build houses. The £625 which is advanced to each settler is devoted to the purchase of implements, stock, plants and building materials for their houses. That the district is well suited for Banana-growing is proved by the fact that the average under this fruit has doubled in 12 months, and Brunswick River growers now have a strong association, which has set out to improve methods of transit, marketing and the fighting of disease.

The Minister for Lands recently promised this body that he would strongly recommend the appointment of an inspector capable of investigating Banana diseases in the district. The Government was, he said, determined that in the enormous development of the fruit industry which would follow the establishment of groups of growers the producer would have the larger say in marketing. During the next 12 months they hoped to have an organisation that will safeguard the soldiers' interests in the matter of prices.

FIG. 24.—PLATANUS ACERIFOLIA SEEDLINGS (see p. 47)

GENISTA AETHNENSIS.

THE MOUNT ETNA BROOM.

CONSIDERING the comparative scarcity of hardy shrubs in flower after June is past, it is rather surprising that this beautiful bloom is so seldom seen in ordinary gardens. It commences to open its rich yellow flowers early in July, and for three weeks or a month is not surpassed in grace and beauty by any hardy shrub. It has tiny, scarcely noticeable leaves, but the slender, string-like shoots are bright green and are dense enough to give the plant the quality of an evergreen. It is perhaps the latest to flower of our hardy Brooms and reaches from 15 to 20 feet in stature, the younger branchlets pendulous and very elegant. The golden yellow flowers are scattered singly along the shoots of the current season. Coming from as far south as Sicily, where it inhabits the slopes of Mount Etna at altitudes of 3,000 to 6,000 feet, and from Sardinia, it naturally loves all the sunshine it can get in this country. In dull, sunless summers it does not ripen its seed freely, but usually sufficient is developed to make it easy of increase. The pods are only about half an inch long and carry but one to three seeds. Like most of its tribe it does not transplant well, except when young, and, unless grown in pots, should be given a permanent place early. For sunny positions, especially where the soil is poor and light, there are few shrubs to be recommended more confidently. It is admirable for planting towards the back of shrubberies of moderate height. *W. J. B.*

PLANT NOTES.

CAMPANULA CAESPITOSA.

DURING the nineties of last century Campanula caespitosa was very common on rockeries in the two ends of Britain, under the name of C. pumila, and the white variety, C. pumila alba. Curtis, in the *Botanical Magazine*, t. 512, was responsible for the name C. pumila, which is generally recorded as a synonym of C. pusilla. Now the latter seems to have usurped the synonym and the place of C. caespitosa in gardens, for during the past decade or more it has largely disappeared from gardens, while C. pusilla is in the ascendant. The two species are closely allied but distinguishable by botanical characters. There is a feature of C. caespitosa, however, upon which no one seems to lay stress. The broad leaves of this species are carried more or less up the stem, and when a plant is growing vigorously upon the rockery it gives the soil a clothed appearance, which C. pusilla does not. I have seen it flowering a second time in September, and the bright green leaves are very pleasing.

VERONICA COLENSOI GLAUCA.

The dwarf, erect habit of this shrubby Veronica and the decidedly glaucous leaves give it an interesting appearance even when not in

bloom; but the pure white flowers, with pale purple anthers, are quite effective, as the racemes are just sufficiently long to hide the terminal leafy bud. This form comes from the North Island, New Zealand, between the Rangitikei ford and Erewhon, and the collector, W. Petrie, wished it to be referred to as the Erewhon Veronica. It differs from the type in having the leaves of glaucous on the upper as well as the under side. My specimens differ from the description of V. Colensoi in having the tube of the corolla twice as long as the calyx, and obtuse lobes instead of acute. This variability would partly account for the confusion between V. Colensoi and V. Menziesii, with which the long corolla tube agrees. At the same time, the plant flowering with me has simple racemes and glaucous leaves, thus agreeing with the plant originally collected by Rev. W. Colenso, whereas V. Menziesii has much-branched racemes. *J. F.*

Fig. 25.—platanus acerifolia var. hispanica (see p. 47).

THE APIARY.

By Chloris.

Bee Diseases.—To become a successful bee keeper keen observation is essential. It will be found that if a colony is numerically strong the bees will be warmer, consume less food proportionately than those of a weaker stock, and will, other things being equal, give a profitable return. Bee diseases are often spread by unobservant apiarists who fail to realise that unclean conditions and fermenting food are the seed beds of disease. Bees should never be fed with fermenting food, either honey or syrup, and especially syrup made from beet or raw sugar. Dead bees are generally removed by the inmates, but in bad weather, when a cleansing flight cannot be indulged in, then their removal devolves upon the beekeeper. This is easily done by pushing a piece of bent wire through the entrance and drawing the dead bees out. It is not sufficient to do this and then allow them to rest in a heap outside the hive; they must be destroyed by burning. No filth or decaying matter should be allowed to accumulate near the hives. Leaky roofs cause the quilts to become wet: these then become mildewed, which in turn brings about the fermentation of the honey. Bees are so crowded in a hive that when disease obtains a footing it spreads rapidly.

Foul Brood.—Until the last ten years the worst disease among bees was foul brood. This is a highly infectious complaint which attacks the brood in the cells. Since it attacks the brood very soon, there are no young bees to take the places of those dying (and the life of a bee in the busy season is only eight weeks). Therefore, the colony becomes very weak, and then the inmates often try to join up with stronger colonies and carry the germs of the disease to an otherwise healthy hive. A careful examination of such hives soon reveals the cause of the trouble, as the cells are perforated and are filled with a brown coffee-coloured, evil-smelling liquid, which cannot be mistaken. The safest plan to adopt is to burn the infected hive and contents. This in itself will not suffice to stay the spread of the disease. The beekeeper must take care to wash his hands and apparatus handled in any suitable disinfectant, but, as the germs may be carried in the clothing, it will be well not to handle any healthy stocks for a few days.

Isle of Wight Disease.—This mysterious disease has worked havoc among the apiaries of this country. The first thing noticeable in an infected colony is that the bees cannot fly. They fall off the alighting board, crawl up blades of grass, and then attempt to fly when they reach the top, but only to fall to the ground. At night clusters of infected bees may be found on the ground in the vicinity of the hives. In the former disease brood was infected, in this instance the brood seems immune, while the other members succumb easily. Whole colonies are attacked during the period of hibernation, and when spring arrives the bees are all dead. Many remedies have been suggested, but none has yet been discovered which can be recommended with certainty of success. All diseased bees should be burned and the hives thoroughly cleansed with a suitable disinfectant; better still, the interior should first be scorched with a painter's blow lamp and, when the smell of the disinfectant has disappeared, the hive may be used again.

NOTICES OF BOOKS.

The Catalogue of a Notable Library.

It is with feelings of great satisfaction that we record the publication of the long-looked-for Catalogue of the Library of the Massachusetts Horticultural Society.

The reader, but especially the student of horticultural literature, who is interested in the Bibliography of the Garden knows full well the reputation of the Library of the great American horticultural society. It is, as the preface to the Catalogue tells us, a collection . . . which is believed to be the oldest, most complete, and best organised strictly horticultural library in the world.

On this side of the Atlantic there are probably only four societies of any account that can boast of a horticultural library worthy of the name. The Royal Agricultural and Botanical Society of Ghent possesses one, and a perusal of its Catalogue shows that the collection there does not include many more than about 1,500 volumes. In this country the Royal Botanic Society has a library in which gardening works figure to some extent, although in the Catalogue published in the Society's *Quarterly Record* thirty years ago only the principal books are enumerated. The Lindley Library of the R.H.S., according to the most recent report, has about 8,500 volumes, of which no modern Catalogue has yet been issued. The library of the National Horticultural Society of France numbers about 15,000 volumes, a Catalogue of which, and two supplements, were published in 1900, 1905 and 1910.

The Massachusetts Library had its earlier catalogues printed in the Society's *Transactions*. In 1854 a small separate Catalogue containing the titles of 414 volumes, was published; another followed in 1867, with 1,290 titles, and in 1873 a complete Catalogue, occupying 155 pages 8vo., formed the last issued until this year.

In the forty-six years' interval many valuable additions have been made, and to-day the members of the Society have access to no fewer than 22,000 volumes exclusive of a most comprehensive collection of nurserymen's and seedsmen's catalogues dating back to 1776.

As may be readily imagined, many of these additions are rare and costly, but owing to liberal provision by certain well-to-do members there are several funds set apart, the income of which is applied to the purchase of books on botany, horticulture, landscape gardening and kindred subjects. We cannot attempt to enumerate the most valuable of them, but it is pointed out that it was by these means that the Society has been able to add to its store such literary treasures as *The Flora Danica*, Sibthorp's *Flora Graeca*, Curtis's *Flora Londinensis*, Gallesio's *Pomona Italiana*, and *The Herefordshire Pomona*.

The Catalogue is arranged in two parts. Part I. is an alphabetical list of authors and titles, and is the one now issued. Part II. is a classified arrangement of the same material under subject headings, but at present is not ready for distribution. The two parts together will be an invaluable book of reference. The volume is 4to in size and contains 364 pages in double columns. It is well printed in a neat, clear type and bound in plain dark green cloth. To the eye its pages look uncommonly like a newly-printed edition of Pritzel's *Thesaurus*, excepting that its items are unnumbered. Authors' names are in heavy type and the information given includes not only the title but size, number of pages, if illustrated and in colour, place and date. The cross references are numerous and most helpfully arranged. To the uninitiated many little bibliographical troubles and difficulties are made plain. Where authors' names or dates or other matter is not apparent on the title page of a book the information, so far as it is possible, is supplied in brackets.

In the Library itself, comprehensive as it is,

there appear to be not a few omissions. There are still many gardening books to be added, but this is not surprising, for what library or bibliography is there that can be said to be complete? The chief matter for congratulation is that so many rare and valuable books have been got together under the difficulty which exists for those who are in charge of the Library, three thousand miles away from the centre of horticultural literary activity. The publication of horticultural books by native American writers is, of course, a somewhat modern development.

No doubt while the Catalogue was in course of preparation there was a gradual and steady increase going on. To cover this and bring the work close up to date, a list of additions, amounting to 11 pages, finds a place at the end of this very remarkable and interesting book.

So far, and even without taking into account the promised Second Volume, it may be safely said without any fear of exaggeration that the Catalogue of the Library of the Massachusetts Horticultural Society is the finest catalogue of the finest library of its kind in the world.

In conclusion, it is worthy of note that acknowledgment is made to Miss Mary Crane Hewett, the assistant librarian, who is mainly responsible for so praiseworthy a result. *C. H. P.*

NEW PERPETUAL PINKS.

AMONG the many interesting novelties exhibited at the Royal Horticultural Society's exhibition, at Chelsea, on May 20-22 last, few were more beautiful or suggestive of future possibilities than the new perpetual-flowering Pinks exhibited by Mr. C. H. Herbert, of Acocks Green, Birmingham. His set of novelties of this strain included Pink Model, a pure bred variety descended from the well-known variety Progress. This has flowers of perfect form and the colour is clear, medium pink, with rich crimson markings at the bases of the petals (see Fig. 125, *Gard. Chron.*, May 24, 1919). Another beautiful form was named Queen Mary, and this, as well as the foregoing, merited and obtained the R.H.S. Award of Merit (see Fig. 27). Queen Mary is a particularly vigorous variety, with double flowers of large size and excellent substance, but not so regular in outline as those of Pink Model, and the broad petals are slightly fringed at the margin. The colour is rich rose-pink, and the regular zone of bright cardinal-red round the eye adds very considerably to the attractiveness of this handsome new introduction. In the evolution of this strain of Pinks it would appear that the aim has been to secure a race of erect, free growing plants, with long stemmed flowers and a habit of flowering over a long period; in short, to produce among Pinks a race analogous to the perpetual varieties among Carnations. Mr. Herbert is to be congratulated upon the persistence with which he has worked at this perpetual-flowering strain of Pinks, and upon the success which has attended his efforts.

LAND SETTLEMENT.—II.

FACILITIES FOR DISABLED MEN.

IT may prove useful to confine ourselves on this occasion to a summary of the facilities which are being provided for settling men on the land.

According to the information already published (see p. 33), it appears that the land settlement scheme contemplates the provision of land, facilities for stocking it and training. The scheme applies in the first place to ex-service men, but civilians are not precluded from sharing in it. The holdings to be provided are broadly of two kinds, (1.) whole time holdings, that is, those which will require the whole energy of the holder, (2.) part-time holdings, that is, those which a man (or woman) will work for part of his time only. The full scheme contemplates the provision of land and housing for (1.) the fit men, (2.) the partially disabled men, and provision is to be made in it for enabling the permanently disabled man to occupy a cottage-holding as a means of regaining such a measure of health and strength as may be granted to him as a result of living under healthy rural conditions. It also contemplates that the temporarily disabled man as he regains strength, may be able either to work for wages or establish himself on a "whole time" holding, or to take up a cottage holding of an acre or so and to work partly on it and partly for wages.

Attention has been drawn prominently to this aspect of land settlement, not, of course, because of its economic importance, but in order to emphasise the moral obligation under which the people of this country lie to provide to the fullest possible extent for those who have suffered disablement by reason of the war.

FIG. 26.—PLATANUS ACERIFOLIA VAR. PYRAMIDALIS (see p. 47).

The solution of the problem of the settlement of the temporarily or permanently disabled ex-service men consists in first discovering what men, who, after experience of work on the land, desire to continue this mode of life rather than to become urban dwellers; secondly, if their disabilities admit of their doing regular work, of providing them with holdings or agricultural employment proportionate to their powers. As a means of working out this difficult problem training centres are being established for disabled men, and it is to be hoped that by the exercise of sympathetic discrimination it may be possible to discover the measure of agricultural efficiency in each individual case and to provide for the several cases which will merge from men permanently unfit for regular work, to recovered men who are capable of undertaking, with prospect of success and after adequate training, the cultivation of a holding.

The numbers of men who have suffered disabilities in the war are so great that to deal with them adequately will require all the resources and energy, not only of the State, but also of private individuals, and no one can do a better service to his fellows than by lending assistance in this work of helping disabled men who desire to take up rural pursuits to become—to the full measure which the disabilities admit of—fitted for them. We believe that His Majesty has recently put his gardens at Windsor to this use, and that Mr. McKellar, the head gardener, is now making arrangements for the instruction of some fifty partially disabled ex-service men. This example will doubtless be followed in other establishments, and if so, no inconsiderable number of men will be helped at this, the most critical time of their lives.

Needless to say, if these schemes for land settlement for disabled men are successful, their very success will raise serious and difficult problems to the professional market and fruit grower. According to the measure of their success there will be a greater home production of food and means will have to be found for ensuring a market for their increased produce, for otherwise, if the professional market grower had to bear the whole competition arising from free imports and increased home production, it would ultimately be upon him, and not on the community at large, that the costs of these schemes would fall. It may, of course, prove to be the case that we shall have, by reason of an adverse exchange, to rely more on home produced food and less on imported food, and if so the home market for our own produce will be proportionately increased. It may also be that home produced food will meet with better facilities for transport than exist at present, and that thereby it will gain a fair advantage over imported produce; but these are questions of difficulty into which it would serve no purpose to enter in this article.

The Week's Work.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Miltonia.—Miltonia vexillaria, with its varieties and the numerous hybrids derived from them, are the most showy and popular members of the genus. They are mostly vigorous and very floriferous under good treatment. They are restless Orchids, frequently starting into growth again after a very short rest following the completion of their pseudo-bulbs. The repotting of any plants that may require it is best done at this season as soon as new growth commences. Young, vigorous plants that require more root room should be shifted into larger pots with as little root disturbance as possible. Exhausted specimens are best shaken free from the old compost, divided if necessary, and potted afresh. A plant may remain in the same pot for two years, therefore the best potting materials should be used. A suitable potting compost is one composed of Osmunda or A1. fibre, Polypodium fibre and Sphagnum-moss in equal parts. The pots should be half filled with drainage, and in no case should the plants be overpotted. Potting should be done moderately firmly and the plants surfaced with a mixture of hard fibre one part, to two parts of Sphagnum-moss. Afterwards they should be staged together in a house where an intermediate temperature is maintained, and shaded from strong sunshine. The supply of water at the roots during the early stages of growth is a very important detail of cultivation: an occasional light watering with a can to which a fine rose is affixed will keep the rooting material sufficiently moist, provided the surroundings are kept moist with the syringe. Yellow thrips will prey on the succulent young growths of Miltonias unless checked by occasionally dipping the plants in an insecticide.

Thunia.—Specimens that have gone out of flower should now occupy a position in a well-ventilated house where they may be exposed to full sunshine, and be frequently syringed. It is from the flowering stage onwards until the leaves begin to fall that these Orchids are sometimes neglected. This is a great mistake, for next to the strength and health of the plants the main factor in the production of abundance of bloom is the thorough ripening of the old pseudo-bulbs. Water in abundance should be afforded the roots until the autumn, when the leaves begin to decay, then the amount should be reduced gradually until the foliage has all fallen, when water should be entirely withheld and the plants placed in a light, dry position in a cool house, where they may enjoy a long rest.

Fig 27.—Perpetual-flowering pink Queen Mary.
R.H.S. Award of Merit, May 20, 1919. (See p. 51.)

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Carrots.—Make sowings of forcing and short-horn varieties of Carrots on borders facing south and west. Prepare the ground by dressing the surface with soot and burnt garden refuse and fork these materials in. They will to a large extent ward off wireworms, which are so injurious to Carrots during the autumn. Draw the drills sufficiently wide apart to allow of hoeing well into the winter. Inimitable, Golden Ball, Early Horn and Early Nantes are first-rate varieties for these late sowings. Continue to make sowings until the middle of August.

Peas.—It is practically useless to sow late varieties of Peas after this date, but well-proved early varieties sown at once produce Peas in eight to nine weeks. The variety Early Giant has produced pods here in less than that time. Prepare trenches, mix well-decayed manure with the soil, tread the whole firm, and sow the seeds thinly, covering them with two inches of soil. The soil surface in the trench should be two inches below the general level. The Pilot, Bountiful and Early Giant are all useful varieties for present sowing.

Coleworts.—Make a good sowing during the next few days, as the crop will prove valuable during the late autumn, after frosts have occurred. The earlier sown Coleworts will now need transplanting, and nothing will suit them better than ground which has lately been occupied by early Peas and Potatos. Plant in lines fifteen inches apart and allow one foot between the plants.

Broccoli.—Continue the planting of the late winter and spring varieties of Broccoli. If the weather continues dry, draw a quantity of plants and place them for two hours in muddy water before planting. A handful of lime should be added to the water if gall weevils are present, but plants badly attacked by these pests should be thrown to the chickens. Set the plants two feet apart.

Celery.—Late batches of Celery may still be planted, but the trenches need not be so deep for these as for early crops, especially on heavy soils. Give water after planting, and do not proceed with the earthing up of this batch until frosts are feared.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Streptocarpus.—Plants of Streptocarpus raised from seed sown in January if potted into larger pots in a compost of fresh loam, leaf-mould, dried, sifted cowdung, and sand will flower in succession to older specimens. A cool greenhouse suits these plants in summer. Shade them from bright sunshine, and when they are in full flower water them on frequent occasions with a weak solution of a plant fertiliser. Remove the spent flowers to prolong the period of blooming.

Cyclamen.—Plants raised from seeds sown last autumn are now ready to be potted into 6-inch pots, in which they will flower; the soil should consist of two parts turfy loam to one of leaf-mould, adding coarse sand and some sifted, dried cowdung. Place the plants in a frame or pit, on coal ashes, and keep them rather close for a time. Shade them from bright sunshine, syringe them daily, and keep a look-out for thrips, to which they are subject, and fumigate them occasionally. Plants that flowered last season, intended to be grown again, should have the old soil shaken from their roots, and be repotted in the flowering pots, using soil similar to that advised for young plants.

Violets.—Double varieties are, during hot weather, liable to be infested with red spider and should have the underside of the foliage frequently syringed in the afternoons. Keep the ground between the plants well stirred with the hoe, and remove all runners. Syringe the

foliage in the evenings during the period of rapid growth with a weak solution of liquid cow manure, which has a stimulating effect and is a preventive of red spider.

Cineraria and Primula.—Transfer seedling Cinerarias and Primulas to four-inch pots, using a compost of fresh loam, leaf-mould, sand and old mushroom-bed manure. Place them in a cold frame with a north aspect, or otherwise shaded from bright sunshine, and spray the foliage daily. Keep the frame rather close at first, admitting more air as the plants begin to grow. An occasional spraying with a nicotine insecticide is desirable. Old Primula plants may be divided and potted into 6-inch pots, as they will be useful for early winter flowering. Seedlings from the latest sowings may be pricked out into boxes and placed in a shaded cold frame.

Herbaceous Calceolaria.—For producing plants to flower next spring or early summer, seeds should be sown towards the end of the month in effectively drained seed-pans, in soil well mixed with sand and passed through a fine sieve. Before sowing the seed, soak the soil thoroughly with water. Place the pans in a cool, shady place, preferably in a cold frame. A slight surface sprinkling will be sufficient watering until the seedlings are fit to be pricked out into boxes.

Hydrangea.—Cuttings should be inserted in small pots as young shoots become available; plunge the pots in a propagating case and keep them there until the cuttings are rooted, when they may be hardened off in a cool frame or pit. Specimens passing out of flower should be plunged in ashes, out of doors, in bright sunshine, to ripen the wood. Some of the younger plants may require larger pots.

Greenhouse and Conservatory.—The various flowering plants such as Celosias, Begonias, Gloxinias, Fuchsias, Pelargoniums and Achimenes, that are contributing to the floral display, relieved with sufficient Ferns or other greenery, will, during bright sunshine in hot weather, require careful attention in watering, abundant airing and shading the glass. Careful treatment will do much to keep the plants in good health, and prolong their flowering period. Pick off decayed flowers, and water the roots frequently with a weak solution of plant fertiliser. Plants passing out of flower, such as Fancy Pelargoniums and certain bulbous plants, should be placed out of doors to ripen; arrange the pots on their sides, headed to the sun and withhold water from the roots. Before ripening the wood of the Pelargoniums, cuttings may be taken from them to raise fresh stock. Lilies in pots, intended for autumn flowering, should be watered sufficiently at the roots and given frequent doses of manure water. Syringe with an insecticide to prevent attacks of green fly; stake the growths, and keep the plants in the shade to extend the period of flowering.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Wasps.—These pests will soon become troublesome, and they are particularly fond of Pears, Plums and Apricots. They are also a source of danger as well as a nuisance. The number of nests seems to vary with the season; often after an early warm period in spring, followed by a late frost, there are fewer than usual. All queen wasps caught in April and May keep down the number of nests, but after May a sharp watch should be kept for nests, and these should be destroyed by pouring some tar into the holes at nightfall, or inserting squibs made of gunpowder and blown into the nest. I think, however, the best plan is to mix about 2 ozs. of cyanide of potassium or sodium cyanide in a pint and half bottle, with a little warm water to dissolve it; after it is dissolved fill the bottle with water, keep it tightly corked, label it "deadly poison" and lock it in a safe place until wanted. When a nest is found pour a wine-glass full of this liquid into the mouth of the hole; this will kill all the wasps. About two hours afterwards the nests may be dug out and the grubs used for fishing. The cyanide becomes harmless after such exposure. Where the nests are in trees or bushes, a little of the cyanide solution sprayed into the nest from the bottom kills the wasps, or they may be sprayed with petrol and lighted. The wasps travel a long distance, but they are easily tracked when the sun is shining, as they make a straight course for the nest after feeding. Bottles half filled with sweetened beer or syrup are useful as traps for wasps; these should be hung against fruit walls.

Tying Fruit Tree Branches.—All wall-fruit trees carrying heavy crops should be examined and the branches securely tied, otherwise there will be breakages and the trees spoiled for some years to come.

Apricots.—These should be given plenty of water, and liquid manure until the fruits begin to ripen, but only clear water afterwards until the crop is gathered. Where trees are planted near paths, or where the ground is very hard and the water cannot enter freely, holes should be made with a crowbar to allow the water to enter, but care should be taken not to injure the main roots.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Tomatos.—Tomato seeds should be sown thinly in pans or shallow wooden boxes to provide plants for fruiting early in winter. As soon as the seedlings have formed their first pair of leaves transplant them into four-inch pots. An ordinary cold frame will suit the plants during their early stages, and is also suitable in which to germinate the seeds. Tomato plants grown in pots or restricted borders require an abundance of water and frequent applications of weak liquid manure, or a suitable concentrated fertiliser. Remove the fruits as soon as they commence to colour, and admit plenty of fresh air when the weather is favourable. Fumigate the house immediately signs of white fly are observed; it usually requires two or three fumigations at intervals of three or four days to thoroughly check this pest.

Pineapples.—Plants swelling their fruits should have frequent applications of weak liquid manure; guano and soot water applied seasonally are also beneficial. For early fruiting next season select the stoutest successional plants, and afford them somewhat cooler treatment with sufficient space to allow full development of the foliage. Less moisture at the roots, and in the atmosphere will allow the plants a partial rest, but the soil must not be allowed to become dry, or the plants will suffer. A rest of five or six weeks generally brings about the desired results, when more heat and moisture should be afforded. If tanner's bark is employed to provide bottom heat it is advisable, when opportunity occurs, to remove the exhausted portion and add fresh material. Any specimens requiring more root room should be re-potted but water must be very carefully given until the roots have entered the new soil. Damp the plants lightly overhead (avoiding an accumulation of water in the axils of the leaves), keep them somewhat close for a time, and let the bottom heat range from 85° to 90°. Suckers may be removed and inserted in seven-inch pots, in good friable loam, to which is added a portion of bone-meal and sand; remove the bottom leaves and pot firmly. Plunge the pots over brisk bottom heat, and if the soil is in a moist condition water will not be required until the roots have commenced to grow freely.

Frame Cucumbers.—The treatment advised for Cucumbers in houses applies to those grown in frames. The plants need but little bottom heat, sun heat being sufficient with that derived from, perhaps, a bed of leaves used for other purposes early in the season. The plants should be syringed and the frame closed by 3 p.m., even when the weather is warm, and while the lights are being partially removed for the purpose, let the stopping of the shoots be done. Plants may be in vigorous and clean growth, but unless the shoots are often stopped, cropping is slow and uncertain; crowding of the growths must be rigorously prevented. The ventilation of the frames needs careful attention during changeable weather; if the plants receive a check from cold air admitted to the frames it may cause the fruits to become bitter and tough.

Peaches and Nectarines.—As the trees are cleared of their fruits, cut out the old bearing wood with the exception of the shoots required for extension. This operation should really be the main pruning, as the amount of growth needed to form a well-balanced tree for next season can easily be determined. Some varieties are more robust than others, and this must be taken into consideration when laying in the young growths, but ample space must be allowed for the proper development of the foliage. Rank or gross wood is useless for fruit-bearing, and should be removed. The ties on young vigorous trees should be examined to see that the young wood has room to swell properly. After the trees have been pruned and the shoots tied in, cleansing operations, where necessary, should be carried out. The roots must not suffer for lack of moisture, and if the borders require it, give them a good soaking with water, adding manure in some form, particularly in the case of trees which have borne a heavy crop of fruit. Young, vigorous trees which are inclined to make gross wood, require no stimulants. The ventilators should be left wide open day and night, to fully expose the trees to light and air. Thoroughly syringe the trees late in the afternoon, and during hot weather damp the paths and walls occasionally. After a spell of dull weather, Nectarines in the later houses should be lightly shaded, as the fruits are apt to scorch under strong sunshine. Peaches and Nectarines, if ripening too quickly for any particular date, may be retarded several days by affording a moderately heavy shade during bright weather.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Carnations.—Beds intended for Carnations should be well prepared some few weeks in advance of planting, in order that the soil may settle. Dig the ground deeply and add a liberal dressing of thoroughly decayed manure and other materials, light or heavy, according to the texture of the land, to obtain a good tilth. Dress the surface freely with soot and bone superphosphate prior to planting, and work these fertilisers in the bed with a digging fork.

Antirrhinum.—A sowing of Antirrhinums made now in shallow drills should result in plants suitable for flowering next year. The intermediate varieties are probably the most useful to grow, and Coral Red, Carmine Pink, Rosy Queen, Orange King, Yellow and White are all good sorts; similar colours may be had in varieties of the taller sections.

Roses.—Fully-blown flowers should be removed before the petals drop, and spread out thinly on sheets of paper to dry; dried slowly they give a pleasing scent and are much appreciated in dwelling-rooms for their sweetness.

Bedding Plants.—All kinds of bedding plants have benefited by the recent rains, and they are making rapid progress. Remove all decayed leaves and faded flowers, and stir the soil frequently to prevent the evaporation of water, so that the roots will receive moisture and grow freely. Keep the beds free from weeds and the different patterns sharply defined, and especially in the case of carpet bedding plants. Where the stock of any plant is scarce, endeavour to increase it by suitable methods of propagation.

Lavender.—Gather and dry the spikes of Lavender before the blooms are too fully open, otherwise much of the perfume will be lost. See that the heads are quite dry when they are cut, and do not dry them too rapidly.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* Publisher; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* Editors. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, JULY 29—
Royal Horticultural Society's Committees meet. Exhibition of British grown Bulbs. Lecture at 3 p.m., by Mr. George Monro, Junr.

THURSDAY, JULY 31—
Maidenhead Horticultural Society's Show.

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich 62.2°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, July 23. 10 a.m.: Bar. 29.9.; temp. 62°. Weather—Dull.

Fruit and Vegetable Prices and Control. All of us as consumers, deprecate the present high level of prices which all manner of commodities, including foodstuffs such as vegetables and fruit, have reached. Everyone is interested in the discovery of a remedy for the present state of affairs, but those who have most wisdom are most reticent in announcing a remedy which is to lower the general level of prices. Unfortunately, we, the people of the greatest commercial nation in the world, are singularly unlearned in economic science, and hence, when the interest of our pocket is so shrewdly concerned as it is by existing prices, we are apt to cast about and fix upon some superficial symptom of the malady, and to assert that this being the symptom, the remedy is obvious. Take, for example, the present agitation with respect to the prices of vegetables. It will be admitted by all that the retail prices are extraordinarily high and it will be agreed that it is most desirable that they should be lowered. But to claim, as is done, that retail shopkeepers are profiteering, would require evidence that is not yet forthcoming. They are also consumers and tax-payers, and employers of labour, and it is probable that the great majority of retail greengrocers are less prosperous now than at any time in the past. We have no interest in suggesting this line of thought, and indeed in common with the public at large and with the growers, we wish heartily that retail prices of vegetables and fruit could be lowered: for the often undue disparity between growers' price and retailer's price is, we are convinced, not only bad for the public, but bad also for the growers.

Evidently if this world wide malady of high level of prices is to be cured, it will not be by denouncing one section of the community as profiteers, but rather by finding out the nature of the malady and reforming the conditions responsible for the abnormal increase. The proposal of the Ministry of Food to control prices of Plums is not to be wondered at; but it is nevertheless, we are convinced, a mistake. To switch from control to decontrol and then to control again is a course of despair—not only an admission that the malady is beyond control, but a way of preventing recovery by the doctor's chief ally—the curative power of Nature.

It is true that the Ministry proposes only to fix the maximum price of Plums sold to manufacturers for jam making purposes, and it must be admitted that an adequate supply of jam at a reasonable price must be secured. Provided therefore, that the price fixed is adequate to cover costs of production and to encourage the industry of fruit growing, growers of fruit will probably accept the decision with resignation.

Nevertheless we doubt whether in the long run, the public will benefit. The crop of Plums is a fairly large one, and if transport can be utilised for its carriage, prices should fall below their present level. As it is, consumers will be driven in their desire to secure the fruit to offer prices above the maximum fixed for jam fruit. The market price, instead of being a natural one, will be artifically raised.

We confess that the problem is extremely difficult. Although we differ from the Ministry of Food in the matter of principle, we recognise the dilemma with which it is faced. The authorities left prices for soft fruit alone in the hope that they would come down. The prices remained high. Now they are confronted with the prospect of high prices for Plums, and they hesitate to take the risk of these prices falling naturally. It is, however, to be pointed out that whereas, owing to the reduction of acreage under soft fruit, and, also to the season, there was a scarcity of soft fruits, in the case of Plums, we are now sure of a good crop—though whether the whole crop can be marketed remains to be proved. One moral is clear, that strenuous effort should be made by the Ministry of Food to assist in the gathering in of the Plum harvest, for the more Plums there are marketed, the greater the chance of prices falling.

Director of Wisley.—It is with much regret that the President and Council of the Royal Horticultural Society received on Tuesday last the resignation of Dr F. Keeble, F.R.S. C.B.E. as Director of the Society's Gardens at Wisley, on his having been appointed Assistant Secretary to the Board of Agriculture. Mr. F. J. Chittenden, F.L.S., V.M.H., the Head of the Wisley Scientific Station and Laboratory, and of Technical Instruction in Horticulture, and who has for the past twelve years been prominently associated with the Society, has been appointed Director in his stead.—W. Wilks, Secretary.

Wages Board.—The position of Secretary to the Wages Board, vacated by Mr. Popplewell, has been filled by the appointment of Mr. E. W. Moss Blundell, who has been a member of the staff of the Board of Agriculture and Fisheries since 1896, and has had varied experience in administrative work. Mr. Moss Blundell was one of the Investigators in the Enquiry into the Wages and Conditions of Agricultural Employment, conducted by the Board of Agriculture for the information of the Wages Board last year. He reported on the counties of Cambridge, Norfolk and Suffolk.

Smoke Bombs for Fruit Growers.—In reply to a question asked in the House of Commons by Capt. Starkey, if the Parliamentary Secretary to the Ministry of Munitions would grant the use of smoke bombs by fruit growers for experimental purposes, in order that they might determine how far a smoke screen so produced was likely to ward off spring frosts from their crops, and if he would at the same time quote a price for the bombs, which, although not producing a very saleable commodity, may yet for this purpose prove of great value and lead to a new industry, Mr. Kellaway said he would be glad to give every facility for the purchase of smoke bombs for the purpose suggested if he found any demand for them. Applications should be addressed to the Controller, Explosives Section, Disposals Board, Storey's Gate, S.W.

Peaches from Nectarines.—The claim that a Nectarine may bear Peaches (see p. 24) is supported by Darwin, who, in Vol. I., p. 341, of *Animals and Plants Under Domestication*, quoting from the *Gardeners' Chronicle* (1856, p. 531), cites the unique case which occurred at Carclew of a Nectarine tree raised twenty years before from seed, and never grafted, producing fruit half Peach and half Nectarine. The tree subsequently bore a perfect Peach.

Trial of Strawberries at Wisley.—The Royal Horticultural Society will carry out a trial of Strawberries (outdoors) during the coming season in their gardens at Wisley. They hope to include as many varieties as possible in this trial, and would be glad if growers would send 20 plants of each variety to be tried, to reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey (L. and S.W. Railway, Horsley), not later than August 16.

Spread of Aleyrodes, "Snowy Fly."—Many complaints have been made this year of plagues of "Snowy Fly" in glass-houses, and especially of damage to Tomato plants from this cause. In some places so serious is the infestation that the usual remedies have more or less completely failed. Fumigation and frequent syringing with strong soapsuds or tobacco water will destroy the fly itself, but they have no effect upon the larvae and pupae under the scales. A persistent use of tobacco water will sometimes prevent the females from laying their eggs on the foliage of Tomatos and other plants, but more drastic treatment may be required, and in this case kerosene emulsion is recommended. Kerosene emulsion is made by boiling ½ lb. of soap in a gallon of water and pouring the boiling mixture into 2 gallons of kerosene. The whole of the mixture is violently churned with a force pump or syringe for five minutes. Then 30 gallons of water are added to the emulsion. The resultant wash is used in the form of a light spray directed to the under surface of the leaves. This spraying should be repeated every few days until the pest is exterminated, the operator avoiding so far as possible the splashing of any fruits that may be on the plants.

Vegetables from Bermondsey Public Gardens.—Mr. W. H. Aggett, Superintendent of the gardens and open spaces for the Metropolitan Borough of Bermondsey, has sent us samples of vegetables grown in the Public Gardens at Bermondsey. This metropolitan borough comprises part of the most densely populated area of the Metropolis and is adjacent to the City proper, the south end of London Bridge being within its borders. From the samples sent it is evident that certain kinds of vegetables succeed admirably in this congested district, notably Cauliflowers and Lettuces, of which excellent heads were included. There were also French Breakfast Radishes, Market Favourite Carrots, Seville Long-pod Beans, Onions from sets, and good stems of Dawe's Champion Rhubarb. Mr. Aggett informs us that the Bermondsey authorities have supplied many tons of vegetables to public institutions, including Guy's Hospital, the local cottage hospital, the local maternity home and the Children's Welfare Centres.

Allotments and Smallholders.—During the consideration of the report of the Land Settlement (Facilities) Bill in the House of Commons on the 22nd inst., some very interesting points were raised in connection with allotments and smallholdings. On behalf of the Government, Sir A. Griffith-Boscawen accepted an amendment ensuring that public parks, recreation grounds and playing fields shall not be permanently appropriated for the purpose of smallholdings or allotments, but he pointed out that this amendment would not interefere with the rights of those people who, as in the London parks, had cultivated allotments, and who had been promised a further term. In opposition to the amendment it was urged, however, that on most commons there was plenty of space for

both allotments and recreation. Clauses were accepted giving councils power to appropriate for allotments land held by such councils for other purposes; and providing for agreements as to compensation where land is let for allotments. Mr. A. Williams moved the insertion of a new clause providing that local councils may hire compulsorily any unused land and let it for allotments, on the understanding that two thirds of the rent paid by the allotment holders should be paid to the owner as rent, and the other third allowed to accumulate as a fund for the provision of compensation to the allottees in the event of the owner claiming to resume possession of the land for necessary building operations. This amendment was discussed at some length, but was withdrawn on Sir A. Griffith-Boscawen giving an undertaking that the matter should be reconsidered in another place. It was stated that the Government proposed to point out to councils, by circular, the obvious advantages of hiring the land as against purchase, and Sir A. Griffith-Boscawen said he did not think it wise to introduce powers of compulsory purchase in cases where land was hired by voluntary agreement, because it would have the effect of preventing acquisition by voluntary agreement, but an amendment was accepted, extending the period during which the Board of Agriculture should acquire land, in such cases, from two to three years. Another amendment, to give the tenant of a smallholding an option to purchase his holding, and to give ex-soldiers special facilities for such purpose, was withdrawn on an undertaking being given that the President of the Board of Agriculture would be consulted with a view to inserting, in another place, an amendment which would meet the case. The Bill was read a third time.

Two New Sweet Peas (see Fig. 28).—Sweet Peas have a special charm of their own and are admirable alike for garden and home decoration. During July probably no flower is so largely represented on the stands in Covent Garden Flower Market, and the enthusiasm of those who grow Sweet Peas for exhibition purposes is well known. Every new variety which comes before the public is subjected to the keenest criticism, and it must possess distinction from or improvement on older sorts before it becomes popular. Several new Sweet Peas have been exhibited this season by their raisers and they have proved more interesting than usual because so few new varieties were distributed during the period of the war. Messrs. E. W. King and Co., Coggeshall, showed two fine novelties at the meeting of the Royal Horticultural Society on the 15th inst., and both received Awards of Merit. They are attractive varieties and bear pleasing names. Gladys, soft lavender blue, or bluish mauve, has flowers of fine form, size and substance, and when exhibited at York Gala, at the Chelsea shows, at the National Sweet Pea Society's meeting, and on the above mentioned date, it was very greatly admired. Doris, scarcely less admired, has beautifully waved flowers, and their delightful shade of bright cerise pink is sure to appeal to a very large circle of flower lovers.

Vegetables at the Drill Hall.—The exhibit of vegetables shown at the R. H. S. meeting on the 15th inst. by the Hon. Vicary Gibbs's gardener, Mr. Edwin Beckett (see p. 41, Fig. 19), was awarded a gold medal. The group was considered by the Fruit and Vegetable Committee to be one of the most comprehensive and finest displays of vegetables staged at an R. H. S. meeting, and the members were unanimous in their opinion that it merited the highest award at the disposal of the Council.

War Item.—We have just learned of the death of Capt. Lucien Charles Baltet, son of M. Charles Baltet, the eminent French pomologist, of Troyes. Capt. Lucien Baltet had a most distinguished career throughout the war. At first he held a Commission in the Cavalry, but finding his energy cramped in that branch of the Service he transferred to the Infantry, in which he did some excellent work. He was mentioned four times in Orders, was awarded the Croix de Guerre and the Legion of Honour. He fell during the attack on the Chemin-des-Dames. He was Secretary of the Horticultural Society of the Department of the Aube.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Phyllotaxis and Evolution.—Mr. E. Judson Page (*Gard. Chron.*, July 5) raises the question as to Paris quadrifolia, how whorls of four and seven leaves can be accounted for. Phyllotaxis may, perhaps, explain it. Four is an anomalous number in monocotyledons, as following a single cotyledon. The usual series of representative fractions is $\frac{1}{2}$, $\frac{1}{3}$, $\frac{2}{5}$, $\frac{3}{8}$, $\frac{5}{13}$, $\frac{8}{21}$, etc. The last usually corresponds with the scales of a Fir cone. The numerators of the fractions stand for the numbers of coils of the spiral line through the leaves which would agree with the number of circles, if the spiral were flattened like a watch spring. Another series is $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{7}$, $\frac{3}{11}$, etc. And it would seem that Paris has in some unaccountable way slipped into it, as 4 and 7 are two of the numbers; while 3 is a common number in normal grown flowers of monocotyledons. With regard to evolution, Mr. Page does not refer to Darwin's alternative explanation; which he discovered in 1835, long before he published his mistaken theory of natural selection in 1859. In his *Naturalist's Voyage Round the World* (p. 378) he tells us he found a *variety* of the common rat in an island of the Galapagos group, and says:—"I can hardly doubt that this rat is merely a variety, produced by the new and peculiar climate, food and soil, to which it has been subjected." He found two more rats in Ascension and repeats this remark. In 1868 he formed an expression suitable to the cause to which changes are due:—"to the direct action of changed conditions of life" (*Variation of Animals and Plants under Domestication*, Vol. II., p. 271-2). Darwin never supplied us with any examples wherewith to prove his theory of natural selection (as he called it) from *nature*, where species arise; whereas Dr. Warming proves from ecology that Darwin's suggestion about the rat was right and is the only method known by which varieties *and* species can arise. A good illustration is to be found in comparing Bentham's *Handbook of the British Flora* with Hooker's *Students' Flora*. Bentham describes one species only of the Water Crowfoot (Ranunculus aquatilis) but observes that "some forms have been regarded as species, but as they are due to their localities, we can only regard them as varieties," Turning to Hooker we find he describes eight well-defined species. Neither of these two botanists refers to natural selection. The fact is, it is only a difference of degree according to the view of the describer, whether a plant be a variety or a species, both being due to changed conditions of life. The Lungwort (Pulmonaria) has one variety, but Hooker and Bentham disagree as to which is the species and which the variety. Many years ago I applied this explanation

FIG. 28.—TWO NEW SWEET PEAS: DORIS, CERISE PINK: GLADYS, SOFT LAVENDER.
These varieties received R.H.S. Award of Merit on the 15th inst.

of Darwin's to flowers and vegetable structure (*Origin of Floral* and of *Plant Structures*, two vols. in the "International Scientific series," K. Paul and Co.) as well as elsewhere, but the world did not believe it. Consequently Darwin's *Origin of Species* has reached upwards of 20,000 copies. I would invite the reader to turn to his 6th Edition (p. 420), but I presume the same reproach will be found in later ones. He writes:—"I formerly underrated the frequency and value of these latter forms of variation, as leading to permanent modifications of structure independently of natural selection. . ." He then quotes from the introduction of the first edition:—"I am convinced that natural selection has been the main, but not the exclusive means of modification. This has been of no avail. Great is the power of steady misrepresentation; but the history of science shows that fortunately this power does not long endure." It has endured from 1859 to July, 1919. But Darwin himself was unwittingly the cause. All he said in the first edition was "some slight amount of change may, I think, be due to the direct action of the conditions of life" (p. 11), and then devoted himself entirely to the theory of natural selection. On p. 272 of the *Variation*, etc., he elevates it to a level with natural selection, saying:—"The direct action of the conditions of life [may lead] to definite or indefinite results." He gives us plenty of illustrations of the former; but none of the latter, upon which natural selection is supposed to depend. A later botanist, Dr. Warming, tells us in *Oecology* (p. 370):—"The plant is extremely plastic, and external factors can evoke numerous changes in it." He named 18 botanists "who have investigated the morphological and anatomical plasticity of individuals." . . . "Direct adaptation is beyond doubt one of the most potent evolutionary factors in the organic world." (*Op. cit.*, p. 373.) *George Henslow.*

Privet Trees (see p. 39).—The Rev. Prof. Henslow, in his praise of the Privet tree, refers, I presume, to the most generally cultivated species of the genus Ligustrum ovalifolium. Poets have sung of it:

"Hail to the Privet, with thy flowers white,
Thy berries black,
Thy glossy leaves, etc."

It is true that certain of the choicer species are very desirable garden shrubs. I grew L. japonicum, L. lucidum, and L. Massalongianum in a northern garden for a number of years, and many inquirers as to their identity were surprised to hear that they were "Privets." *Jonathan Fiona, Ultima, N.B.*

CALIFORNIAN NOVELTIES.

When at Los Angeles, California, in April, I visited the nursery of Mr. Theodore Payne, of 345, Main Street, and was much pleased with the collection of native trees and plants of which he makes a speciality. Among them were two new plants of great interest and beauty which, though not likely to be hardy in many parts of England, are well worth trying in the south and south-west.

Fremontia mexicana was described by Dr. Davidson in the *Bulletin of the S. Californian Academy of Science* in July, 1917, and was discovered just over the Californian frontier in Northern Mexico. The shrub, which likes a hot, dry place, has flowers of a much deeper yellow than those of Fremontia californica, and are of a rich reddish-brown on the underside. The jet black seeds are of about half the size of those of the other species.

Lupinus Paynei, described by Davidson in the same journal for July, 1918, was found near Santa Susana, South California, and is a tree Lupin, 8 feet high, with long lavender flower spikes, like those of a Wistaria, but erect. It differs from L. longifolius Watson being silvery-pubescent and in other characters. From the photograph which accompanies the description it seems to be the best of all the tree Lupins. *H. J. Elwes.*

NOTES OF A SHOW IN THE BLACK COUNTRY.

Having occasion to be in Wolverhampton during the time of the flower show, or as they term it locally "The Floral Fête," I attended the show and made notes of some of the more interesting exhibits. The groups of plants caused a considerable amount of interest to visitors. In the forefront of these large exhibits was the grand display of tuberous-rooted Begonias staged by Messrs. Blackmore and Langdon. I have seen several fine exhibits of these Begonias at flower shows, but have never seen better specimens. The following varieties especially appealed to me:—Grand Monarch, a noble flower of a deep crimson shade; S. W. Sutton, an orange scarlet bloom of great substance; Lord Methuen, a deep scarlet variety carrying a profusion of blooms; Mrs. J. Davidson, a deep yellow flower of large size; Mrs. J. Reid, a most attractive variety of soft pale-pink; Mrs. W. Weston, a very distinct flower of deep orange colour; and Mrs. J. Thornton, a beautiful pure white variety. The group included some fifty plants, all in the finest conditions; the foliage was well developed and the growth generally robust. The staging was excellent, but the stage itself was rather too high to show the plants to the best effect. The group provided one of the finest examples of cultivation I have ever seen.

Next to this exhibit was one of Gloxinias of the erect type, exhibited by the same firm. These flowers also showed a marked advance, both in vigour and in colouring, notably those of the reticulated, or veined section. The flowers were of large size, the habit of growth close and compact, and the plants were flowering very freely.

Delphiniums, from the same firm, found many admirers; these were staged on the grass and had the appearance of being planted. Notable varieties were Sir Douglas Haig, with deep purple flowers closely set on the spike, and Millicent Langdon, a charming combination of pale blue shades. This system of staging should be copied by other exhibitors, for it is more natural than when flowers are set on stages, whilst it is possible to keep cut blooms fresh for a long time by the free use of the water-can between the vases.

Roses were an endless source of attraction, and the quality of the flowers in the single and other classes was all that one could desire. Notably was this the case with the Hybrid Tea and Tea varieties. A class provided for five baskets of cut Roses made a gorgeous display. Another was for 18 varieties of any perpetual-flowering Roses, loosely arranged. Competition was keen in this class, which is not surprising seeing the sum of £23 was offered in four prizes. A few of the choicest varieties were Madame Herriot, Golden Emblem, Mme. Abel Chatenay, Mrs. Waddell, Nellie Parker (a distinct blush colour), K. of K. (a grand Rose of deep crimson colour), and Mme. Mélanie Soupert. In the class for a collection of cut Roses, artistically arranged for general effect, Mr. John Mattock, of Erdington, was a conspicuous first prize winner. He arranged several pyramids with Roses of the decorative type; one named Ethel, of soft pink colour, was most attractive. Roses are keenly appreciated in Wolverhampton, and competition was keen in the local classes.

In the classes for groups of plants six very fine exhibits were staged. Messrs. J. Cypher and Sons, who won the first prize for a mixed group arranged in a space 25 feet by 12 feet, showed in their best style. The group was noteworthy for the careful colour blending, for everything toned harmoniously. Three profusely-flowered specimens of Clerodendron Balfourianum were set up with surroundings of Crotons and other foliage plants well chosen for the purpose. Orchids were a feature in the exhibit, and among fine foliage plants were three specimens of Nandina domestica, the leaflets of a deep bronzy shade. Mr. W. A. Holmes ran the winners very closely, and his group included well-flowered little plants of Ixoras and others of a deep scarlet flowered Lantana.

In the class for a group of foliage plants only, arranged for effect, Messrs. J. Cypher and Sons again excelled, and in this case included a number of Japanese Maples, all excellently coloured. It was interesting to find a local exhibitor, Sir G. H. Kenrick, of Edgbaston, competing with a fine group in this class; he was a close second to Messrs. J. Cypher and Sons with an exhibit that was distinct in character. Crotons were conspicuous for their high colouring, whilst Anthuriums were used with good effect, and I noticed his plants of Selaginella caesia had developed fine bronzy colouring. A most useful plant for these groups appears to have been quite overlooked, viz., Caladium argyrites.

In the non-competing exhibits, Messrs. Baker's, of Wolverhampton, arranged a dry wall and planted it in a very delightful manner. At the base were beds of Iceland Poppies, Astilbes in variety and a pale blue Campanula. This group was backed by Conifers, the dark-green of the foliage providing a charming setting to the flowers.

The group of Sweet Peas staged by Messrs. Alex. Dickson and Sons, of Belfast, was a noteworthy feature of the show.

Both fruit and vegetables were poorly represented. In the case of forced fruits this is easily to be accounted for, but I could not understand why hardy fruits and vegetables were lacking unless the date of the show was too early for the locality.

The West Park, in which the show was held, was in excellent condition. Elms and other trees were in luxuriant growth, whilst Hollies were a notable feature. Evidently the park has not been allowed to get into a state of neglect during five years of war. *H.*

SOCIETIES.

NATIONAL CARNATION AND PICOTEE.

July 15.—The annual show of the Southern Section of this old Society was held in conjunction with the R.H.S. fortnightly meeting on this date. Considering all the circumstances, it was quite a good show, though there are ample opportunities for new exhibitors, particularly in the open classes. Messrs. Allwood Bros. and Mr. James Douglas contributed splendid non-competitive exhibits of border Carnations, and were each rewarded with the Affiliated Societies' Gold Medal.

The Martin Smith Memorial Challenge Cup was won by Mr. J. J. Keen, who had the highest aggregate in the chief amateurs' classes; while Mr. E. W. Painter won the Edmund Charrington Challenge Cup in the division restricted to growers of not more than 300 plants. Premier Cards were awarded to Mr. James Douglas for the following blooms:—Mrs. G. D. Murray (white ground fancy), Albion (self), Eclipse (yellow ground Picotee), and Pasquin (fancy); and to Mr. J. J. Keen for George Melville (flake), Scarlet King (flake shown on card), and King Lear (bizarre shown on card).

Competitive Classes.

The first six classes required blooms to be shown in vases without cards and were for open competition. Mr. R. Morton, Woodside Park, was awarded first prize for six varieties, bizarres and flakes, and for six varieties, white ground Picotees, for praiseworthy collections. Mr. J. Douglas, Great Bookham, was awarded first prize for (a) six selfs, (b) six fancies, yellow or buff ground, and (c) six fancies other than yellow or buff. In the first class he had fine blooms of E. K. Wakefield, Grenadier and Margaret Keep. The best of his yellow ground fancies were Liberté, Loveliness and Naomi Ellis, while the other fancies included splendid flowers of Mrs. Hawksby, Maharajah and Fair Ellen.

In the Amateurs' Classes for flowers in vases, Mr. J. J. Keen, Southampton, was particularly successful. He won first prizes for (a) three vases of bizarres and flakes, showing grand blooms of Scarlet King, (b) three vases of

Picotees, white ground, where he had excellent flowers of Radiant (heavy edge), and Mrs. Hammond (light edge), (c) three vases of selfs, and (d) three vases of fancies, other than yellow or buff, where he had a splendid vase of Fair Ellen; and was second in the classes for three vases of fancies, yellow or buff ground. Miss E. SHIFFNER, Wallands House, Lewes, was first for three vases of fancies, yellow or buff ground, with grand blooms of Lieut. Shackleton, and for three vases of yellow ground Picotees, showing John Ruskin and Neil Kenyon in grand form, and was second in the other classes.

Six classes were arranged for competition amongst amateurs who do not grow more than 300 plants, and in these Mr. G. W. PAINTER, Brentford, was first for (a) two vases of selfs; (b) two vases of fancies, in which the variety Lord Steyne was particularly good; (c) three blooms of fancies; and (d) three blooms of yellow ground Picotees; and was second in the class for two vases of Picotees. Mr. A. G. GEMBLE, Ilford, won first prizes for two vases of Picotees, and was second in three other classes. Mr. E. Charrington, Limpsfield, was second for three blooms of fancies, and Mr. H. ELMES, Chippersfield, was second for three blooms of yellow ground Picotees.

There were not many exhibits of blooms on cards. Mr. J. J. KEEN was awarded first prizes for six flakes and bizarres, and for six white ground Picotees. His best blooms in the first instance were of Scarlet King and Daisy (a rose-flaked seedling), and in the last Diadem and Clytie. The first prize for a vase of seedlings was awarded to Mr. G. D. MURRAY, Worcester Park, for an interesting collection.

In what may be termed the Colour Classes, which each require six blooms of one variety of stipulated colour, there were many splendid examples. Mr. JAMES DOUGLAS won most of the first prizes, including (a) pink or rose self with Margaret, (b) white self with Albion, (c) dark red or maroon self with Garnett, (d) yellow self with Daffodil, (e) red or scarlet self with Fujiyama, (f) buff or terracotta self with Akbar, (g) yellow ground Picotee with Eclipse, (h) yellow or buff ground fancies with Pasquin, and (i) other fancies with Mrs. G. D. Murray. Miss SHIFFNER won first prizes for six selfs of any colour not named, with excellent blooms of The Grey Douglas, where Mr. DOUGLAS was second with the same variety, and was second in four other classes.

BIRMINGHAM HORTICULTURAL.

JULY 18.—This society's annual exhibition—the first since the outbreak of war in 1914—held on the above date, suffered by comparison with some shows of previous years. It was, however, pronounced a success, and the committee and officers are to be congratulated. Five large marquees were provided for the accommodation of exhibits, but, owing to various causes, there were more empty spaces than one likes to see. To make matters worse, the frontal part of some of the staging was uncovered, thus bringing into prominence empty boxes, packing material and other flower show appurtenances, which made an unpleasant impression on visitors, and detracted from the good effects of the exhibits.

Roses, Double Begonias, Carnations, Sweet Peas and groups of plants were good, but fruit and vegetables—with the exception of two exhibits—were very disappointing. The exhibit from Messrs. SUTTON AND SONS, of Reading, was the choicest, most comprehensive and best arranged collection of fruit and vegetables ever seen at Birmingham, and well deserved the Gold Medal and Silver Challenge Cup offered for the most meritorious exhibit in the show. Cut flowers and flowering plants added greatly to the general effect of this wonderful exhibit.

As usual, the show was held in Handsworth Park, situated on the north-west side of Birmingham, and easily reached by train or tram from the centre of the city.

The schedule comprised 187 classes, and the sum of upwards of £750 was offered in prize money, together with gold and silver medals, and a silver challenge cup of the value of 20 guineas.

A deputation from the Royal Horticultural Society, consisting of Lord Lambourne (President), the Rev. W. Wilks, M.A. (Secretary), Mr. H. B. May, Mr. James Hudson and Mr. F. J. Chittenden visited the show and made numerous awards which gave general satisfaction. The show was opened by Lord Lambourne in the presence of a company which included the Lord Mayor and Lady Mayoress of Birmingham.

Plants (Open Classes).

The principal class for a group of plants, the exhibits in which were arranged down the centre of the biggest marquee, was for a collection occupying a space of 300 square feet. The three contestants were local exhibitors, although Messrs. J. Cypher and Sons, Cheltenham, had entered but were unable to compete. The first prize of 25 guineas was won by Sir GEORGE KENRICK, Whetstone, Edgbaston (gr. Mr. J. V. Macdonald), whose group was constructed on the familiar lines, with a central rustic arch on which a graceful Palm comprised the centrepiece. The "body" of the group consisted of well grown, richly coloured Codiaeums (Crotons) interspersed with Anthuriums, Nandina domestica, Dracaenas, Pandanus, Orchids, Begonias, Ferns and Selaginellas. Second, H. GREEN, Esq., Gravelly Hill, whose general arrangement was similar to that of the first prize winner, but the arch spanning the centre of the group was indifferently decorated and the Crotons less brightly coloured. Of flowering plants, Odontoglossums and Kalanchoes were excellent. Third, J. A. KENRICK, Esq., Berrow Court, Edgbaston (gr., Mr. A. Cryer).

Messrs. J. R. HAYES AND SONS, Keswick, were the only exhibitors in a class reserved for rock and water gardens. The arrangement of the light-coloured stone and the disposition of the plants were well carried out, and found many admirers during the day. The specimens were arranged in "colonies," and included Ericas, Campanulas, Saxifragas, Sempervivums, Dianthuses, Ferns and Water-Lilies floating on the surface of a miniature pool of water.

Competition in the specimen plant classes was very poor, there being only one exhibitor, viz., J. A. KENRICK, Esq. (gr., Mr. A. Cryer), who was awarded the first prize for six Fuchsias; second, for six Coleus; second, for twelve stove or greenhouse plants; third, for six Caladiums; and second for a group of tuberous-rooted Begonias.

Cut Flowers (Open Classes).

ROSES.—The three exhibits of Roses occupying table space of 20 ft. by 5 ft., constituted one of the features of the show. The first prize was won by Messrs. GUNN AND SONS, Olton, Birmingham, who showed large masses of George Dickson, Pink Cochet, Ophelia, and Florence Forrester; ten tall pillars, beautifully clothed with suitable varieties, added greatly to the effectiveness of a very charming exhibit. Second, Mr. ELISHA HICKS, Twyford. Third, Mr. JOHN MATTOCK, Oxford.

In a class for twelve bunches of garden Roses the last-named exhibitor led, followed by Mr. ELISHA HICKS. Mr. J. MATTOCK's exhibit included beautifully fresh bunches of American Pillar, Ethel and Dorothy Perkins. The same two exhibitors were placed as named in a class for a bowl of Roses. Mr. MATTOCK also won the first prize in a class for twenty-four varieties distinct, in which the varieties Hugh Dickson, Lady Ashtown, Florence Forrester, and Augustus Hartmann were of superior merit. Third, Mr. W. BOND, Junr., Lornby. The second prize was not awarded. Mr. MATTOCK had the best stand of eighteen varieties, showing very good specimens of Mrs. S. Clarke, Dr. O'D. Browne, Sachenguis (Premier bloom), Duke of Wellington, and Frau Karl Druschki. Mr. MATTOCK was the only exhibitor in a class for twelve Tea Roses not fewer than six varieties. His blooms of Mrs. Foley Hobbs, Niphetos, and Maman Cochet were handsome and well deserved the first prize awarded.

Carnations (Open).

Mr. C. W. WALL, Bath, was the only exhibitor in a class provided for Tree Carnations. He had grand blooms of Mrs. C. W. Ward, Triumph, Rose Dore, Snowstorm and Mikado.

For twelve Self border Carnations, Mr. ROBERT MORTON, Woodside Park, London, led with stout petalled beautifully shaped flowers of Elaine, Fujiyama, Rosetta and The King. Second, Mr. H. WOOLMAN, Sparkhill, Birmingham, whose flowers were large but lacking in quality. Third, Messrs. A. R. BROWN, LTD., King's Norton. In a class for twelve yellow-ground Fancies, the last named exhibitors beat Mr. H. WOOLMAN and Mr. ROBERT MORTON, who were placed in the order named. Messrs. BROWN showed handsome specimens of Ted Kenright, Rhea, Lord Steyne, Linkman and Lieut. Shackleton. For twelve fancy varieties other than yellow or buff grounds, Mr. H. WOOLMAN excelled with choice quality flowers of The Bride, Othello, Gwendoline and Fair Ellen. Second, Messrs. A. R. BROWN, LTD., whose collection included the premier border variety Fair Ellen. Other good varieties were Sinister's Seedling, Joseph Reeves, Daisy Walker and Elsie Scott. The best dozen Flake or Bizarres were also shown by Messrs. A. R. BROWN, LTD., who had Guardsman, Ophelia and George Melville in splendid condition. Second, Mr. ROBERT MORTON. In a class for twelve white-ground Picotees, Mr. MORTON won first prize with exquisite blooms of Silas Osbaldiston, Perfection, Radiant and Thos. William. The second award fell to Mr. H. WOOLMAN, whose quality of flowers was not commensurate with their great size.

For twelve yellow-ground Picotees Messrs. A. R. BROWN excelled with pleasing flowers of Onward, Ethel Hinton, Professor Burstall, Madame Pavlova, Her Majesty, Eclipse, Santa Claus, Zena Dare, Margaret Lennox, Neil Kenyon, Forward and Pure Gem. Second, Mr. H. WOOLMAN.

VIOLAS.—There were two splendid exhibits of twelve vases of Violas. First, Mr. T. DESMOND, Moseley, with nicely arranged, well developed flowers of great substance and size. A few of the best varieties were Master Stephenson Premier variety), W. R. Milligan, Oschill Purple, Moseley Wonder and Mrs. James McEwan. Second, Mr. J. BASTOCK, Moseley. The most tasteful arrangement of Violas occupying a space of 9 feet by 3 feet was shown by Messrs. A. R. BROWN, LTD., King's Norton. The flowers, of good quality, were exhibited in tubes attached to slender stands artistically draped with Fern and Selaginella. Second, Mr. H. J. TANNER, Sparkhill. Third, Mr. J. BASTOCK.

SWEET PEAS.—In a class for a display of Sweet Peas, arranged on table space of 20 feet by 4 feet, Messrs. E. W. KING AND CO., Coggeshall, Essex, won the first prize easily with beautifully fresh, shapely flowers. Second, Messrs. HERD BROTHERS, Penrith. For twenty-four bunches of Sweet Peas, not fewer than 12 varieties, W. HOLLOWAY, Esq., Port Hill, Shrewsbury, was placed first with stiff-stemmed, large flowered varieties. Second, Mr. W. PHILIP, Astley, Shrewsbury. Third, Sir R. J. GRAHAM, Netherby, Carlisle.

PELARGONIUMS.—Mr. H. WOOLMAN was awarded the first prize for twelve trusses of Zonal Pelargoniums. Competition in the dinner-table class was not so keen as we are accustomed to see at Birmingham. On the present occasion eight exhibits were placed before the judges, who awarded the first prize to SIR GEORGE KENRICK, Edgbaston (gr. Mr. J. V. Macdonald), who employed dainty pink Roses, relieved with long sprays of Selaginella. Second, W. J. GRESSON, Esq., Stoke House, Severn Stoke, Worcester (gr. T. Perry).

Fruits and Vegetables (Open).

Fruit was very poorly shown. In no class were there more than two entries—in most of them only one—whilst in several classes there was no entry. W. J. GRESSON, Esq., Severn Stoke, was awarded first prize for (1) Black Currants, (2) Red Currants, (3) Gooseberries and (4) Loganberries. Sir R. J. GRAHAM, Netherby, Carlisle (gr. Mr. G. F. Hallett), was the only exhibitor of white-fleshed Melons, and he was awarded the first prize. The only pair

of bunches of Black Grapes (Black Hambro) was shown by Major Harcourt Webb, Bewdley (gr. Mr. W. Gaiger), who was awarded the second prize.

In a class for nine distinct kinds of vegetables, Major Harcourt Webb won the first prize, W. J. Gresson, Esq., Severn Stoke, Worcester, second, and Mr. H. Davis, Stourbridge, third.

Amateur Classes.

Competition was very weak in all the classes for amateurs. The most successful plant and cut flower exhibitor was J. A. Kenrick, Esq., Berrow Court, Egbaston (gr. Mr. A. Cryer), who won seven first prizes. Other first prize winners were W. Bonn, Esq., Birchfields, Handsworth (gr. Mr. A. Hill), for well flowered Gloxinias, tuberous-rooted Begonias, Zonal Pelargoniums and Carnations; Mrs. Boston, Yardley, for Ferns; R. A. Garbett, Esq., Handsworth, for Carnations; and C. B. Worsey, Esq., Edgbaston (gr. Mr. A. Davis), for Roses.

Premier Flowers.

Rose Sachenguiss, exhibited by Mr. John Mattock, Oxford.

Tree Carnation, Snowstorm, exhibited by Mr. C. W. Wall, Bath.

Border Carnation, Fair Ellen, exhibited by Messrs. A. R. Brown, Ltd., King's Norton.

Vase of Viola, Master Stephenson, exhibited by Mr. T. Desmond, Moseley.

Vase of Sweet Pea, Progress, exhibited by W. Holloway, Esq., Shrewsbury.

Honorary Exhibits.

Mr. A. S. Dunton, Wolverhampton, exhibited a large group of Roses (Silver-Gilt Medal). Mr. C. H. Herbert, Acocks Green, Birmingham, had a choice selection of his new strain of large flowered sweet-scented Pinks. Messrs. Blackmore and Langdon, Bath, staged a superb group of large, double-flowered Begonias, together with a collection of Delphiniums (Gold Medal). Mr. H. Woolman, Shirley, Birmingham, contributed Zonal and Regal Pelargoniums, Violas and Carnations (Silver-Gilt Medal). Messrs. K. Luxford and Co., Harlow, had an attractive group of Tree Carnations (Gold Medal). Messrs. Webb and Sons, Stourbridge, exhibited a large collection of vegetables and Sweet Peas (Gold Medal). Mr. C. Vickers, Leicester, showed three choice Bouquets (Silver-Gilt Medal). Miss S. S. Thompson, Handsworth, made an interesting group with Cacti and Succulents (Silver-Gilt Medal). The Rev. J. H. Pemberton, Havering-atte-Bower, showed a handsome collection of Roses (Silver Medal). Mr. Herbert Jones, Bath, constructed a pleasing, old-fashioned English garden (Gold Medal). Mr. James Douglas, Edenside, Great Bookham, staged choice Border Carnations.

FORMBY.

July 9.—After a lapse of five years this Society has resumed its labours and arranged summer and autumn shows. The former was held in the Parish Hall on the 9th inst. The display was somewhat below the usual average, but was interesting and of considerable merit.

Roses, as hitherto, formed the principal feature, seventeen classes being devoted to them, and twelve silver cups were provided by generous donors. For twelve distinct varieties, Mr. G. Lunt had the premier stand, in which Lyon Rose, H. V. Machin, and Margaret D. Hamill were excellent; Mr. Thomas Lunt was a good second, and Mr. Paul Layton third. For twelve Roses in six varieties, Mr. T. Lunt proved the winner, his George Dickson and Lady Ashtown being noteworthy; Messrs. G. Lunt and W. Heyworth followed in the order named. For twelve blooms in four varieties the awards went to Messrs. T. Lunt, G. Lunt, and P. Layton. Mr. S. Moseley showed the best six blooms. For six light Roses in three varieties, Mr. G. Lunt led, and for six dark Roses, Mr. G. Hacking won with fine blooms of George Dickson. For six blooms of one variety Mr. T. Lunt led, also with good blooms of George Dickson. Messrs. Loo Thomson and G. Lunt obtained the remaining awards. For six dark Roses in no fewer than three varieties Mr. Loo Thomson won with a good box and held his own for a like number of light Roses, while for the six varieties, distinct, Mr. W. Beckett led.

Two N.R.S. Silver Medals were awarded, the one in A. Section going to Mr. T. Lunt for Ambrose Ricardo, and the other in B. Section to Mr. Loo Thomson for a fine George Dickson.

Mr. H. Lunt won easily in the class for double Begonias, and Mr. Robert Hoehn for single sorts.

Biennials and herbaceous cut flowers were shown well, Mr. F. H. Harris proving the victor for the first-named, and Mr. James Goulbourne for the latter.

Mr. E. Sargencson led in the class for border Carnations, whilst for perpetual varieties Mr. H. Lunt excelled.

Sweet Peas were not in the usual Formby quantity, but evidence was given that the growers had not failed as such. For twelve bunches, Mr. G. Lunt won first prize with excellent blooms of King Manoel, Mildred Howard (seedling), and Edna May. For nine vases Mr. G. Lunt proved the victor with a good all-round display, and for six vases Mr. D. Goulbourne had the premier collection; the Silver Medal of the N.S.P.S. went to Mr. G. Lunt for the best exhibit for Sweet Peas.

For miscellaneous plants Mr. Joshua Rea won with ferns and double Begonias.

Fruit was moderately shown: Mr. John Tyrer had splendid Strawberries, and Mr. J. Goulbourne had good Black Currants.

The ladies gave evidence of their skill in the decorated table classes and baskets of Roses; Miss Bremner secured the premier position in the former class with a well executed design, and Mrs. W. E. Fisher had the best basket of Roses.

Messrs. Alex. Dickson and Sons, Newtownards, staged a meritorious display of cut Roses, and Mr. R. Bolton showed a pleasing array of Sweet Peas.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

July 14.—The monthly meeting of this Society was held in the R.H.S. Hall, Mr. C. H. Curtis in the chair. Seven new members were elected. Three members were allowed to withdraw interest amounting to £10 9s. 10d. The Army forms of the late Lance.-Corpl. G. E. Hall and Privates F. Alsop and G. R. Lea were received, and the sum of £12 3s. 4d. was passed for payment to their respective nominees. One member was assisted from the Convalescent Fund. The sick pay on the ordinary side amounted to £50 14s. 8d., State section £28 7s. 6d., and maternity benefits £10 10s. The quarterly payments to chronic sick members totalled £15 15s.

TRADE NOTES.

The increased rates for female workers of 18 years of age and over, which came into operation on July 14, are the corollary of the increased rates for male workers. As with male workers, it will be noticed that no change has been made in the rates for workers under the age of 18. It will be observed also that the value at which board and lodging may be reckoned in part payment of minimum rates of wages for female workers has been made uniform through the country.

The Board of Agriculture is prepared to inspect in England and Wales any crops of varieties of Potatos immune to Wart disease, and will issue certificates to the growers whose crops are true to type and free from rogues. These certificates will be of value to growers having a seed trade, as the seed from certified crops will be in demand for planting in areas scheduled by the Board as Infected Areas under the Wart Disease Order. At present the Board have received applications to inspect some 2,000 areas of immune varieties, and this work will be carried out as soon as possible. Growers of immune varieties who, as yet, have not sent in applications are advised to consider the advisability of doing so before it is too late to carry out the inspection satisfactorily. Particulars may be obtained from the Board of Agriculture, 72, Victoria Street, S.W.1.

Those engaged in the cultivation of pot plants for the markets and wholesale trade generally, find many difficulties placed in the way of the development of their business by certain railway companies. Notwithstanding repeated requests for an alteration in the conditions prevailing for the carriage of these goods, no effort appears to have been made to meet the growers and facilitate business. Certain of the trade associations have approached the railway authorities for the purpose of arranging a conference between the growers and the railway officials, but without result. It is interesting to observe that the Great Northern Railway Company does not collect plants for, or convey plants by, passenger train service from King's Cross, although plants will be conveyed by the Company from stations a little farther down the line. The G.N.R. will dispatch plants from King's Cross by goods train, but very seldom will they collect plants from Covent Garden Market. The Midland Railway Company will not collect plants for, or dispatch them by, passenger train at St. Pancras, but they do collect from the market for and will dispatch by goods train. The London and North-Western, the Great Western and the Great Eastern Railway Companies do collect pot plants in Covent Garden and dispatch them, either by passenger or goods train. The Great Central, London and South-Western, London Brighton, and South-Eastern and Chatham Railway Companies convey plants by passenger train if these are delivered at the London termini, but they will not collect. They will, however, collect and dispatch these goods by goods train.

A curious anomaly is that the South-Eastern and Chatham Railway will bring pot plants up to Holborn Viaduct and deliver them in Covent Garden Market, but will not so deliver them from Charing Cross Station and only from Cannon Street and London Bridge Stations if they think fit, consequently, the goods from these latter stations are never in time for the market. Moreover, the delivery vans are not allowed to collect goods in the market. Why the growers should be saddled with all these difficulties it is hard to understand, but the fact remains that growers south of London are in many ways handicapped as compared with those resident north of London.

The Great Western, Great Eastern and London and North-Western Railway Companies have conducted the business of collecting and dispatching pot plants during the war, in the same way as they did before the war; further, the South-Eastern and Chatham Railway Company has always conveyed plants to London by passenger train during the war period, and yet this Company has done more than any other for its mileage in the conveyance of men and material for the war. This being so, it is unreasonable that other companies, with nothing like the amount of pressure upon their resources, fail to afford full facilities for the conduct of the pot plant trade. As the authorities at Euston Square will not meet a delegation from the trade associations, it remains for the growers and their principal customers to enlist public sympathy, for after all it is in the interests of the country that home trade of every kind should not only be maintained, but largely developed.

The Chamber of Horticulture, in co-operation with the British Florists' Federation, has secured from the Department of Import Restrictions an extension of the period in which licences to import Dutch bulbs may be obtained, from September 1, 1919, to December 31, 1919. The Deputy Controller, Colonel J. B. Karslake, accorded Mr. R. Wynne (secretary of the Chamber) and Mr. C. H. Curtis (secretary of the British Florists' Federation) an interview on Thursday last, and formally advised them that the extended date during which licences are available might be officially announced.

CROPS AND STOCK ON THE HOME FARM.

OLD GRASS LAND.

GRASS land ploughed during the spring of 1918, sown with Wheat or Oats, or planted with Potatos, is this year giving more trouble under cereal crops, as wireworms are more numerous than they were the first season. The pests were formerly too busy in the old turf, but now they have attacked the roots of Oats, and in some cases of Wheat also.

Directly the Corn is cleared from such fields the land should be at once ploughed, leaving the surface as rough as possible to enable the birds —especially rooks—to devour the wireworms. A second cross ploughing, and stirring with a cultivator, drag or harrow, will further expose the wireworms.

BASIC SLAG FOR WHEAT.

As there is only a limited quantity of basic slag available in each area for autumn delivery, I advise early ordering. With the reduction in sheep that is taking place in many counties, the increase in motor power, and consequently fewer horses, animal manure will be less plentiful, and so recourse must be had to artificials to a much greater extent than ever before.

For the Wheat crop there is no doubt that basic slag, either in conjunction with, or without green Mustard will play a prominent part in production and fertility. If the land is clean and well fallowed, good Wheat crops can be produced by the aid of basic slag and sulphate of ammonia, without the aid of green Mustard, or any other green manure crop. Sulphate of ammonia used at the proper time has a powerful effect on the growth of the Wheat plant, stimulating the production of chlorophyll, without which success cannot be obtained. When the Wheat plant is well furnished with dense green leaves, this usually betokens large ears, and without these heavy yields of grain cannot be secured. The present price of basic slag is 89s per ton, delivered to the nearest railway station; this, at 30 per cent. solubility, cannot be other than a cheap yet efficient manure. I advise the sowing of 6 cwt. per acre for the Wheat crop. It is not only for this cereal that basic slag is efficacious, but the crops that follow are benefited, especially when Grasses or Clovers are sown with the Wheat or with the Oats which usually follow Wheat.

Four years ago I noted the effect of basic slag on Hampshire Bents (a form of Italian Rye grass) and Trefoil, which were sown among the Oats the preceding year, the slag having been used for a previous Turnip crop. The soil was thin, only about five inches above the chalk, and yet there was a wonderful crop of grass, and of that deep green colour which gives Hay of first quality, provided it is not allowed to become too old before being cut.

RYE AND WINTER OATS.

In the southern counties Rye and Winter Oats are now ready for cutting. These cereals enable those who have run short of food for the horses and pigs to make an early start and fill up the gap. In the case of Rye, I prefer to thrash the crop direct from the field, as ricking is saved and straw for thatching other Corn ricks is provided. Winter Oats and Rye, apart from the early food supplies they give, enable the farmer to prepare a plot for Trifolium incarnation or Vetches for sheep feed in May. Plough the land directly the Rye and Oats are carted, allowing time for weeds to rot before sowing the Trifolium in August and the Vetches in September. Where Couch is present, if the weather remains dry there will be a reasonable opportunity of getting rid of it by cross ploughing, dragging, and finally burning it in small heaps on the land.

SWEDES.

The recent rains have given a fillip to the growth of the sparse plant of this crop. No time should be lost in hoeing and "setting out" the plants. No crop that I know displays quicker appreciation of an early provision of ample room for development. *E. Molyneux, Swanmore Farm, Bishop's Waltham*

MARKETS.

COVENT GARDEN, July 23.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Heliotropes, 48's, per doz.	15 0–18 0
Asparagus plumosus	12 0–15 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
—Sprengeri ...	12 0–18 0	— Pink, 48's, per doz.	30 0–48 0
Aspidistra, green	48 0–72 0	Marguerites white	18 0–24 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Mignonette, 48's per doz. ...	15 0–21 0
Crassulas, red 48's per doz. ...	24 0–30 0	Palms, Kentia ...	18 0–24 0
—white and pink	24 0–30 0	—— 60's ...	15 0–18 0
Fuchsias, 48's, per doz.	12 0–18 0	—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 0–4 0

REMARKS.—The first batch of Pot Chrysanthemums reached the market last week and were soon sold. Hydrangeas, in very fine condition, are offered in limited quantities. Other flowering plants include Marguerites, Viscarias, Pelargoniums (Geraniums), also a few Lilium longiflorum in pots.

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d.
Aubergines; pr doz	6 0– 8 0	Grapes, Canon Hall	4 0– 7 0
Bananas... ...	30 0–60 0	—Muscats, per lb.	2 6– 5 0
English Peaches per doz. ...	6 0–18 0	Melons, each ...	2 0– 6 0
Black Currants (French) ½ sieve	22 0–24 0	—Canteloupe ...	10 0–12 0
— English... ...	25 0–26 0	Nectarines, per doz. ...	6 0–18 0
Cherries (English) black, per ½ bus.	16 0–25 0	Nuts— — Brazils (new) per cwt.	110 0–115 0
— White	16 0–30 0	Pines, each ...	3 0– 6 6
Gooseberries, per ½ bus, cooking	10 0–12 0	Plums (French) per ½ sieve ...	16 0–20 0
— Dessert ...	16 0–20 0	— Gages	20 0–25 0
Grapes:— — Alicante ...	2 6– 4 0	Raspberries, per chip	4 0– 5 0
—Blk Hamburgh, per lb. ...	2 0– 4 0	Worthing Figs, per doz.	3 0–12 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	0 4– 0 6	Onions (Egyptian) per bag ...	12 0–16 0
—Broad per bus.	4 0– 5 0	Peas, per bus. ...	10 0–11 0
Beetroot, per bus.	6 0–10 0	Parsley, per doz. bunches ...	8 0 —
Cabbage per doz.	3 0– 4 0	Potatos, new, per cwt.	18 0–20 0
Carrots, New, per doz. buns. ...	3 0– 5 0	Radishes, per doz. bunches ...	2 0– 3 0
Cauliflowers, perdoz.	5 0– 6 0	Spinach per bus.	5 0– 6 0
Cucumbers, perflat	16 0–24 0	Spring Onions, per doz. bunches ...	9 0–12 0
Garlic, per lb. ...	0 6– 0 8	Tomatos, English, per doz. lbs. ...	7 6– 8 6
Greens, per bag	4 0– 5 0	Vegetable Marrows, each	0 5– 0 7
Herbs, per doz. bun.	4 0– 6 0	Watercress, per doz.	0 9– —
Lettuce Cabbage and Cos, per doz.	1 0– 1 6		
Mint, per doz. bun.	9 0–12 0		
Mushrooms per lb.	2 6– 3 6		
Mustard and Cress, per doz. punnets	1 3– 1 6		
New Turnips, per bunch	6 0–10 0		

REMARKS.—Business was firm for all produce until the week-end. The market being closed for Peace celebrations caused a congestion of produce, and a fall in price of most kinds of fruits and vegetables. The most noteworthy depression was in Tomatos, but at the time of writing, trade for these fruits is getting more stable, and the demand is very good. Cherries are arriving in very poor condition, the effect of rain being most obvious. Black Currants are in short supply and continue in good demand. English Apples are improving both in quantity and quality. Hot-house fruits are also available in larger quantities, and Grapes, Peaches, Nectarines, Melons and Figs are meeting a ready demand. Large consignments of Spanish and French Greengages and Plums are to hand, but the fruits are in a very indifferent condition, probably due to delay in transit. Cucumbers are firm in good supply and prices show a slight increase. Peas are plentiful at lower prices. New Potatos are realising good prices, due to decrease in the supply.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Achillea, per doz. bun.	6 0– 8 0	Orchids per doz.: — Cattleyas ...	15 0–18 0
Alstroemeria, per doz. bun. ...	8 0–10 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Asters, white, per doz. bun. ...	8 0–12 0	— white, per doz. bunches ...	15 0–18 0
Carnations, perdoz. blooms, best American var.	1 6– 2 6	Roses, per dozen blooms— — Lady Hillingdon	1 0– 2 6
Coreopsis, per doz. bun.	2 6– 3 0	— Liberty ...	1 6– 2 0
Cornflower, blue per doz. bun....	2 6– 3 0	— Melody ...	1 6– 2 6
Daisies, white, large, per doz. bun.	4 0– 6 0	— Mme. Abel Chatenay ...	1 6– 2 6
Gaillardia, per doz. bun.	4 0– 5 0	—Mrs. J. Laing...	1 6– 2 6
Gardenias, per box specials ...	8 0– 9 0	— Ophelia ...	3 0– 4 0
— ordinary ...	2 0– 3 0	— Richmond, var.	1 6– 2 6
Gladiolus, The Bride, per bun.	— —	— Sunburst ...	3 0– 4 0
—Brenchleyensis, per doz. spikes	5 0– 6 0	—White Crawford	2 0– 3 6
Gypsophila, per doz. bun. ...	6 0– 8 0	Saponaria, per doz. bun.	3 0– 4 0
— paniculata, per doz. bunches ...	12 0–15 0	Scabious, per doz. bun.	6 0– 8 0
Iceland Poppies, doz. bun. ...	2 0– 2 6	Statice, mauve ...	8 0–12 0
Lapagerias, perdoz. blooms ...	3 0– 4 0	— white... ...	8 0–12 0
Lilium longiflorum, per bunch ...	6 0– 8 0	Sultan, white, per doz. bun. ...	6 0– 8 0
Myosotis (Forget-Me-Not), per doz. bun. ...	— —	— — mauve ...	6 0– 8 0
		Stephanotis, 72 pips	3 0– 3 6
		Sweet Peas, per doz. bun.— — white	3 0– 5 0
		— coloured ...	3 0– 5 0
		Stock, Dbl. White	8 0–12 0
		—Dbl. Pink ...	8 0–12 0
		—Dbl. Mauve ...	8 0–12 0
		—Dbl. Purple ...	8 0–12 0
		Violas, perdoz. bun.	3 0– 4 0

REMARKS.—Large supplies were maintained throughout last week, and on Friday morning, the 18th inst., many salesmen were unable to clear, even at exceptionally low prices. The market being closed on Saturday, extra consignments arrived on the Friday, due, doubtless, to most growers expecting a better demand in view of the Peace celebrations. Many country buyers were unable to get their orders through to the north, owing to the railway strike, beyond York, and on Thursday, many boxes of flowers were returned, and these increased the bulk considerably on Friday. Asters are offered in limited quantities. Achillea is getting finished. Sweet Peas are still plentiful, and some fine exhibition blooms are offered. Gypsophila paniculata is taking the place of G. elegans. Blooms of Lilium longiflorum were offered at reduced prices this morning. There are abundant supplies of Roses and Carnations, Sweet Sultans, white and coloured Stocks, mauve and white Statice, and Scotch white Heather, with a plentiful supply of all foliage.

THE WEATHER.

THE WEATHER IN SCOTLAND.

With the exception of the strong winds, which have been a feature of the month, the weather during June departed little from the normal. Rain fell on 14 days, yielding a total of 1.18 inch, the wettest day being the 13th, with 0.18 inch. Of sunshine we had in all 198 hours, to which total every day but one contributed its quota, the average per day being 6.6 hours, and the percentage 37.9. The mean temperature for the month was 54.5°, with a mean maximum of 64°, and a mean minimum of 45°, giving a mean range of 19°. On the 7th the highest maximum of 76° was registered, and on the 2nd, 3rd and 26th the lowest minimum of 36°, thus the absolute range was 40° The highest minimum was 54° on the 5th, and the lowest maximum 57° on the 22nd and 25th. With means of 56.8° and 52.0° respectively, the dry and wet bulb thermometers showed a relatively humidity of 71 per cent. On the grass the mean minimum was 41°, with a lowest of 30° on the 26th, there being one night of ground frost. At one foot deep the soil temperature rose from 56° to 58°, and then fell to 56°. The prevailing winds were from the south and west, with gales on the 7th and 8th. There was a thunderstorm on the 12th.—*James Malloch, Director of Studies, Training College Gardens, Kirkton of Mains, near Dundee.*

GARDENING APPOINTMENTS.

Mr. W. M. Macdonald, recently of the 1/1st Highland Cyclist Battalion (Black Watch), and for 6½ years previous to July, 1916, Gardener at Mount Melville, as Gardener and Instructor at the St. Andrews Schools for Girls, St. Leonards, St. Andrews, Fife.

Mr. George Rubython, for three years Foreman at Stackpole Court, for two years Foreman at Itton Court, and previously at Londesborough Park and Bedstone Court, as Gardener to COLONEL SHIRLEY, Pinewood, Farnborough, Hampshire. [Thanks for 2s. for R.G.O.F. box.—EDS.]

Mr. C. Harvey, for the past 2 years and 8 months with H.M. Forces, and previously for eight years Gardener to Major FEILDEN, Cokethorpe Park, Witney, Oxfordshire, as Gardener to ROGER GREGORY, Esq., Shoreham House, Shoreham, near Sevenoaks, Kent. [Thanks for 2s. 6d. for R.G.O.F. box.—EDS.]

Mr. Wm. Crighton, for the past three years Gardener to C. W. COWAN, Esq., at Dalhousie Castle, Midlothian, as Gardener to the same gentleman at Morton Hall, Liberton, Midlothian.

ANSWERS TO CORRESPONDENTS.

"There are few gardeners, and still fewer amateurs, who do not on occasion require immediate information upon various points of practice. But either from an unwillingness to inquire, or from not knowing of whom to make the inquiry, they too often fail to obtain the information they are in want of. And let no one be alarmed lest his questions should appear trifling, or those of a person ignorant of that which he ought to know. He is the wisest man who is conscious of his ignorance: for how little do the wisest really know! except that they know little. If one man is unacquainted with a fact, however common, it is probable that hundreds of others in the same position as himself are equally in want of similar information. To ask a question, then, is to consult the good of others as well as of one's self." *-Gardeners' Chronicle, No. 1, Vol. I., January 2, 1841.*

ABNORMAL GROWTH IN SHIRLEY POPPY: *J. S. M.* The photograph of the Shirley Poppy showing a flower bud springing from the axil of a sepal of an old flower illustrates an interesting and unusual abnormality. Theoretically such a development is accounted for by the fact that any leaf—and a sepal may be regarded as the homologue of a leaf—may bear a bud in its axil. Although generally such buds, if found, do not develop from floral leaves, in unusual circumstances and under abnormal conditions they may: and apparently this is what has happened in the example sent.

BITTER APPLE: *T. B.* The Bitter Apple is Citrullus Colocynthis, a member of the Cucurbitacae and native of India. It is, of course, useless as a stock for grafting Apples.

CATERPILLARS ON SOLOMON'S SEAL: *H. S.* The caterpillars are those of Blennocampa alterrima, a sawfly which is a common pest on Lily-of-the-Valley, a plant very closely allied to Solomon's Seal. The larvae differ from caterpillars of moths or butterflies in having more than 16 legs, in this case 22. Sawfly larvae can generally be detached by shaking the plant attacked, and if a cloth or light-coloured paper is placed beneath them many of the pests may be caught. The removal and burning of surface soil around the plant in winter will be the means of destroying many coccoons and their contents.

CUCUMBER WITH LEAFY OUTGROWTH: *P. E. C.* Examples of Cucumbers developing foliar growth are rare, but specimens are sent to us from time to time, and the illustration in Fig. 29 is of one we received in September, 1903. As the true fruit is embedded in a branch which forms the outer portion or rind of the Cucumber, it is not wonderful that such an abnormality sometimes occurs.

DISEASED GOOSEBERRIES: *H. B.* Your Gooseberries are suffering from an attack of American Gooseberry Mildew, which is a notifiable disease. (See *Gard. Chron.*, July 12, 1919, p. 32).

DISEASED PELARGONIUMS: *W. R. H.* The Pelargoniums are suffering from a severe attack of Botrytis, a fungus which is capable of doing a large amount of damage among plants that are in the least degree unhealthy. Remove all dead and dying portions of the plants and burn them; clear away all vegetable debris and other decaying matter from around the plants and keep the atmosphere of the greenhouse as dry as possible, because the fungus spreads rapidly in a moist atmosphere.

ENTERTAINMENT TAX AT FLOWER SHOWS: *O. F. F.* We have seen no decision in the courts on this subject, but we suspect you would be liable to pay the tax if the show is run for profit, in aid of the funds of your society. If, however, the exhibition is to assist some charity or to help the Food Production Movement, we believe that no entrance tax would be required. Your best plan is to ask the advice of the local excise authorities.

GRAPES DISEASED: *A. K., G. L., H. C.* In each case the Grapes are suffering from "Grape Rot Disease," caused by a fungus named Gloeosporium ampelophagum. We refer you to p. 46 of *Gard. Chron.* for July 19, 1919, for curative and preventive measures.

LIQUID AMMONIA AS A FERTILISER: *C. S.* Provided the liquid ammonia contains no impurities of a harmful nature, it should be quite suitable for use as a plant fertiliser. Ordinary commercial sulphate of ammonia is largely prepared as a by-product in the making of coal gas.

MELON SPLITTING: *A. T. T.* The probable cause of your Melons cracking is an excess of water after the soil has been allowed to become dry for some time. The Melon plant requires plenty of atmospheric humidity, and regular supplies of moisture at the roots while growing freely and swelling a crop of fruits. If water is withheld for a time and then given freely, the roots absorb more than the plants can assimilate, whilst the dry atmosphere hardens the skin of the fruit, with the result that when moisture is applied freely the tissues do not expand sufficiently, and cracking results.

MOTH FOR NAMING: *T.* Having been sent alive the moth had, by its flutterings, become

FIG. 29.—ABNORMAL CUCUMBER BEARING A SECOND FRUIT AND LEAVES.

stripped of its scales and therefore was scarcely identifiable. It appears to be the Dark Arches (Hadena polyodon). Moths forwarded for identification should be killed by placing them in a "killing" bottle, or in a closed bottle containing crushed young Laurel leaves.

NAMES OF PLANTS: *C. H. W.* 1. Senebiera Coronopus (Wart Cress); 2. Chenopodium album (Common Goosefoot); 3, Melilotus arvensis (Field Melilot); 4. Chenopodium polyspermum (Many-seeded Goosefoot); 5. Polygonum aviculare (Knot-grass); 6. Gnaphalium uliginosum (Cudweed); 7. Equisetum arvense Horsetail); 8. Sisymbrium officinale (Hedge Mustard). *Pique.* 1. Sedum spurium (syn. S. stoloniferum); 2. Sedum kamtschaticum; 3. Sedum spurium album (syn S. ibericum, of gardens); 4. the small-flowered white species is Sedum album; 5. Campanula rhomboidalis; 6. Cotula dioica (syn. Leptinella dioica, an old carpet bedding plant). *J. P.* 1. Sidalcea malvaeflora; 2, Salvia Horminum; 3, Scabiosa ochroleuca; 4, Borago sp.; 5, Lysimachia punctata. —*W. H.*: 1, Oenothera fruticosa Youngii; 2, Lythrum Salicaria; 3, Hieracium aurantiacum. *A. C.*: Liriodendron tulipifera. *F. G.*: We do not recognise the varieties of Roses; your best plan is to send them to some grower, who can compare them with those in his collection. *H. C.*: Bignonia radicans.

PEAR LEAF CURL: *A. J.* Pear Leaf Curl is caused by the larvae of a small midge fly (Cecidomyia pyri). This appears in the spring as a small, dark brown fly; later, the larvae appear as small maggots in the rolled up leaves, and when fully grown they creep out and pupate in the soil. As a general rule this pest is not sufficiently plentiful to do much harm or to need the application of specific remedies. The curled leaves should be picked at an early stage and burnt. Two possible remedies may be suggested; (1) spraying with lead arsenate paste (2 lbs. per 40 gallons of water) as soon as the leaves have sufficiently expanded in spring; and (2) the use of a deterrent like naphthaline—or a commercial soil disinfectant—on the soil at the present time when the larvae would normally be entering the ground.

PEAR SCAB: *A. J.* The hard condition of the Pear fruits is due to the presence of the fungus Venturia pirina, popularly known as Pear Scab. Affected trees should be sprayed with dilute Bordeaux mixture (not over half strength) just when the buds commence to open; a second spraying should be given when the flowers are losing their petals, and a third when the young fruits are about the size of Peas. A further helpful measure in combating this disease is spraying the trees, while dormant, in winter, with a solution of sulphate of iron.

SUMMER PRUNING: *Leavesden.* Stop the lateral shoots to four or five leaves, as you suggest, but allow the leading growths to extend and shorten them at the winter pruning.

VINE GROWING AND FRUITING UNSATISFACTORILY: *L. D. F.* The berries are attacked by Spot Disease (see replies under "Grapes Diseased"). The foliage you send is apparently healthy, the brownish leaves being due to sap colouring in the juvenile stage. The small size and general enfeebled condition of the leaves, however, point to some wrong cultural treatment, and we suspect that the borders are exhausted and need remaking. Your best plan would be to ask the advice of some experienced gardener in your district, with a knowledge of Grape growing, who would advise you as to the proper treatment.

WASPS IN TREE TRUNK: *J. A. J.* The insect is one of the solitary wasps belonging to the Sphegidae. Owing to the absence of a head it was not possible to accurately determine the species, but it is probably Pemphredon lugubris, a common species that lives in holes in wood posts. In this case the burrow in the tree was probably formed by a borer such as the larva of the Leopard Moth, and the hole has been subsequently occupied by the wasp. The latter makes its home in such a burrow, lays its eggs therein and feeds the young grubs on various insects which it brings home after having carefully and effectively stung them.

WORMS IN LAWNS: *A. W.* It is not very likely that the mustard has damaged the lawn, but as you have given us no information concerning the method of application, we cannot reply definitely on this point. There are several proprietary specifics on the market for clearing worms from lawns, and some of these are advertised in our columns from time to time.

Communications Received.—C. C.—W. and S.—W. W. and Co.—A. M.—G. K.—Miss B.—E. L.—G. I. B.—N. E. B.—J. R.—A. B. H.—C. and Sons.—Mrs. O.—E. L.—F. R.—A. N.—E. M.—W. L. L.—E. G. L., F. S.—J. P.—A. B. H.

SITUATIONS VACANT.

Twenty words (or three lines including headline) **3s.**, *and* **6d.** *for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office,* **6d.**

PRIVATE.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

BRITISH GARDENERS' ASSOCIATION.
(Reg. No. 1666 T.).

THE Standard of Wages and Hours adopted in January last is now withdrawn and a new Standard is under the consideration of the Executive Council. When this is published, an announcement will be made in these columns.—CYRIL HARDING, General Secretary, 22, Buckingham Street, Strand, W.C.2.

HERTFORDSHIRE COUNTY COUNCIL.
HERTFORD SPECIAL RESIDENTIAL SCHOOL.

THE COMMITTEE OF MANAGEMENT of the Hertford Special Residential School invite applications for the following appointments on the Staff of the School:—

Day and Night Nurse Attendants	Salary £42 per ann.
Under Housemaid	Salary. £30 per ann.
Porter and Assistant Gardener and Portress (man and wife) ...	Salary £50 and £20 per ann.
Needlewoman	Salary £91 per ann.
Cook	Salary £42 per ann
Kitchenmaid	Salary £30 per ann.

The above-mentioned members of the Staff, with the exception of the Needlewoman will reside at the School and have their board and lodging free.

The School will be opened shortly under the Hertfordshire County Council as a School for Mentally Defective Children, and is situate at Hertford.

Further particulars may be obtained from the undersigned, and applications should be sent in not later than August 2nd, 1919.

PHILIP R. LONGMORE.
Clerk to Committee of Management of Hertford Special Residential School.

28, Castle Street, Hertford.
July 15th, 1919.

GARDENER.—Wanted, a GENERAL MAN, to undertake the supervision or a large Garden, including Glass Work, and the management of a small Farm, with a few milking Cows, at the County Asylum, Shrewsbury; wages £2 10s. a week, cottage, coal, light and vegetables.—Apply to MEDICAL SUPERINTENDENT.

SINGLE MAN WANTED to take sole charge of Large ROCK GARDEN in Liverpool District; must have a thorough practical knowledge of this branch of work; comfortable position and good wages to man prepared to take enthusiastic interest in making garden successful. ALSO SINGLE MAN, to help in Pleasure Grounds, with knowledge of Hardy Plants.

BAKER'S, CODSALL, WOLVERHAMPTON.

WANTED, SECOND GARDENER; chiefly Inside; single man. Also YOUNG MAN, Inside and Out; state experience and wages required, with bothy.—SEAL, Branksome Tower Gardens, Bournemouth West.

WANTED, SECOND GARDENER; chiefly Outside; duty alternate weeks; three kept.—Apply, stating experience and wages expected, to J. CHAMBERS, The Gardens, Leigh Holme, Streatham, S.W.16.

WANTED, SECOND GARDENER, to take charge of plant houses, single, good wages. Apply, G. COTTERELL, Littleton Park, Shepperton, Middlesex.

WANTED SECOND GARDENER of five; previous experience of Glasshouse work; knowledge of Grapes, Melons, Carnations.—Apply personally, CAREY, Swanston, Whitchurch, Oxon.

UNDER-GARDENER wanted; married (no children); country; wages 35s. and cottage; age under 40; willing to do boots, wood and coal.—G. H. TWIST, Withybrook, nr. Coventry.

UNDER-GARDENER wanted; single; chiefly for Outside; with knowledge of Rock, Water and Flower Gardens; wages £2, with comfortable furnished room.—Apply, stating age and experience, F. DAY, The Gardens, Treeton Grange, Rotherham, Yorks.

WANTED, GENERAL FOREMAN; good knowledge Outside gardening essential, including Rose and Herbaceous gardens. Wages 45s., with bothy and attendance.—E. GUILE, Shortgrove, Newport, Essex.

WANTED, FOREMAN (Inside); experienced in Fruit, Plants; 35s. per week, good bothy, vegetables. Also three JOURNEYMEN; one for Houses, one for Kitchen Garden, one for Herbaceous Borders and Lawns; 30s. per week, bothy vegetables; 1 o'clock on Saturdays.—Apply, GARDENER, "Holmwood," Henley-on-Thames.

WANTED, JOURNEYMAN for Inside and Out. Good bothy, etc. Apply, C. FROUDE, Cusworth Gardens, Doncaster.

WANTED, JOURNEYMAN for Outside; good wages, with bothy, etc., to suitable man. State experience with copies of references to W. H. BACON, Mote Park Gardens, Maidstone, Kent.

WANTED, JOURNEYMAN for Inside and Out (principally Inside); wages 35s., good bothy (with attendance).—Apply, Wood, Wallhouse, Torphichen, Linlithgowshire.

WANTED, a good, reliable MAN (married or single), for Pleasure Grounds, with experience Herbaceous Borders, Roses, Lawn Tennis Grounds, etc.; if married, 35s., house, coal and light; state age, experience, with copies of testimonials.—T. LLOYD, Belmont Hall Gardens, Northwich.

WANTED, good MAN for Pleasure Grounds; understanding Lawn Mowing and Borders and Specimen Shrubs; wages 35s. and bothy; duty every third week.—Apply, with references, to GARDENER, "Aberpergwm," Glyn-neath, Glam.

WANTED, MAN for Pleasure Grounds; please state experience and wages required, with cottage.—W. DOUCE, The Gardens, Calthorpe Towers, Rugby.

WANTED, a thorough, good MAN for Kitchen Garden. Single one who thoroughly understands his work, good wages, apply C. HART, The Gardens, Tolmers, Newgate Street, Herts.

WANTED, thoroughly experienced married or single MAN for Rock Garden; if single, good bothy and attendance; if married, good cottage and garden. State wages, age and experience to HEAD GARDENER, Pasture Wood, Dorking, Surrey.

WANTED, two good MEN for Garden; single; well up in their work; Inside and Out; wages £2, no bothy.—Apply, R. ONSLOW, The Gardens, The Elms, Spaniards Road, Hampstead, N.W.

WANTED, two MEN for bothy; one for Inside and one for Inside and Out; three in bothy; duty every third week; wages according to age and experience.—HEAD GARDENER, Poles, Ware, Herts.

WANTED, a competent YOUNG MAN with a thorough knowledge of Alpines, who is able to take charge of a Rock Garden, and who is interested in the propagation of such plants, and also more particularly the raising from seed of many and rare plants and shrubs which are being sent from collectors in China and Burma.—Apply, with references, stating whether married, with age and wages required, to C. B., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, YOUNG MAN for Inside work; must be reliable and have had good experience, state age and wages.—T. CARR, Ridgemead Gardens, Englefield Green, Surrey.

WANTED, YOUNG MAN about 21; Inside and Out; state experience, wages expected, with bothy, milk and vegetables.—Apply, T. GIBBS, The Gardens, Thorpe Satchville Hall, Melton Mowbray, Leicestershire.

WANTED, two good experienced YOUNG MEN for Kitchen Garden and Pleasure Grounds (one as SECOND); no bothy; 1 on Saturdays.—GEORGE RUBYTHON, The Gardens, Pinewood, Farnborough, Hants.

WANTED, strong LAD for Inside and Out; 25s., bothy, etc.; overtime paid; 1 o'clock Saturday.—LAMPARD, The Gardens, Stanmore Hall, Middlesex.

WANTED, experienced LADY GARDENER, as head in girls' school. Knowledge of poultry essential. Bees kept. Apply to Miss KEMP, St. George's Wood, Haslemere.

WANTED, PAINTER AND GLAZIER (single).—Apply, RICHARD NISBET, Byrkley Gardens, Burton-on-Trent.

TRADE.

WANTED, good, reliable MAN to manage a small trade Nursery; thorough allround knowledge of trade work; permanency to suitable man; highest references essential.—Apply, stating age and wages required, to T. B. L., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, HARDY PLANTSMAN, young man, under foreman, as ASSISTANT, with knowledge of Herbaceous and Alpine Plants; mostly Outdoors.—Wages and references, to HILLIER AND SONS, Nurserymen, Winchester.

PROPAGATOR AND GROWER wanted, to take entire charge of a Choice Collection of Shrubs, Rhododendrons, etc.; single man preferred, owing to house shortage.—Apply, stating experience, wages, etc., to DONARD NURSERY CO., Newcastle, Co. Down. (An interview could be had at our exhibit at R.H.S. Dry Bulb Show, on 29th inst.)

WANTED, PROPAGATOR (man), experienced in raising Shrubs and Conifers, New Chinese plants, etc.; one with a knowledge of Alpines, etc., preferred; no houses but good lodgings.—Wages and references to, HILLIER AND SONS, Nurserymen, Winchester.

WORKING FOREMAN wanted for Landscape dept.; accustomed to supervision of labour, and able to work from plans.—State experience and wages required, CLIBRANS, Altrincham.

WORKING FOREMAN wanted for Nursery where Carnations and Chrysanthemums are grown in quantity; must be trustworthy, capable man. —State wages, with reference, to J. E. LOWE, Hatton, Warwick.

EXPORT SEED GROWER wanted, to take sole charge of seed growing on small portion of Gentleman's Home Farm; one who has been in the Trade preferred.—State age, etc., and whether married or single, also wages required, to E. S. G., c/o May and Williams, 160, Piccadilly, W.1.

AGRICULTURAL SEED TRADE. Traveller with thorough knowledge of Agricultural Seeds and Crops, required by high-class progressive house; remuneration on salary and commission basis. State age, experience, and districts worked in present or former position.—L. G. A., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—Smart, energetic junior ASSISTANTS required immediately; permanent and progressive situations.—Apply, stating age, experience, and salary required, to SAMUEL FINNEY & CO., LTD., 18 and 20, Grainger Street, Newcastle-on-Tyne.

SMART ASSISTANT, young, with good knowledge of garden Seeds and Bulbs, required for established local seed business in West Midlands. State age, experience, and salary expected.—L. G. A., Box 16, 41, Wellington Street, Covent Garden, W.C.2

POSITION VACANT.—Wholesale seed firm; country; MANAGING CLERK, correspondence and general (not ledger) office; staff of 20; organising ability and trade experience essential.—Apply, with full particulars and references, S. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

COMPETENT DRAUGHTSMAN wanted for Garden Architect's office; knowledge of surveying essential, and of Plants and Garden Design an advantage.—Apply, stating experience, and salary required, to PERCY S. CANE, 148, Fleet Street, E.C.4.

WANTED, from August 8 to 23rd, inclusive, a competent LADY FLORIST; must be good at making up Bouquets, Wreaths, etc.—For particulars, apply, MANAGER, Martyr Road Nursery, Guildford.

FLORIST; YOUNG LADY with a good knowledge of the trade.—Apply, Madgett, Queen's Road Nursery, Peckham, S.E.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

MRS. AINSLIE wishes to recommend her HEAD GARDENER (discharged soldier) for situation in North Wales or Southern Counties, where four or five men are kept; life experience in some of the largest gardens in England; thoroughly experienced in Inside and Outside work, forcing early Fruit and Vegetables under glass, decorating, etc.; can superintend Farm and Electric Light Installation; age 38; single.—Apply G. H. ROBINSON, Hanworth House, Harrow Weald.

SIR ALAN BAGOT can with the utmost confidence recommend his Head Gardener, W. GIBSON. Thoroughly experienced in every branch of gardening; including Carnations, Early and Late Forcing, Forestry, etc.; at liberty when suited. For further particulars apply to SIR ALAN BAGOT or W. GIBSON, The Gardens, Levens Hall, Milnthorpe.

SIR HENRY FAIRFAX-LUCY recommends his Head Gardener; life's practical experience, inside and out, where produce sold or otherwise. Abstainer, age 48.—RICHARDS, Charlecote Park, Warwick.

MAJOR E. H. THURLOW (estate sold) highly recommends his late HEAD GARDENER; a capable manager of large Gardens; experienced Fruits, Plants, Vegetables, Rock Gardens, etc.; abstainer; age 46.—E. SNELGROVE, Buckham Hill, Uckfield, Sussex.

LADY LILFORD wishes to most highly recommend a first-rate HEAD GARDENER, leaving present situation through death; thorough knowledge of Orchids, Carnations, Alpines, Flowering Shrubs, Daffodils, and all branches of Gardening; very active and hard working.—Apply L. H. DYER, 9, Fore Street, Plympton St. Maurice, Devon; or to The LADY LILFORD, Lilford Hall, Barnwell, Peterborough.

GARDENER (HEAD).—A. G. SOAMES, Esq., will be pleased to recommend W. EDWORTHY (recently demobilised), for over eight years Head Gardener at Sheffield Park, Uckfield, Sussex, to anyone requiring first-class Man for good establishment; thoroughly efficient in all branches; age 43; married (two children, 8 and 4).—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

HEAD GARDENER.—The Hon. A. Mulholland highly recommends A. MORRIS as a first-class man, skilled in all branches of Gardening, and thoroughly fitted to meet requirements of a good establishment; Estate, Woods, Bees, etc. 44, Fairclose Road, Beccles.

GARDENER (HEAD). — B. C. Forder, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establishment; life experience in all branches; ten years as Head; good manager and economical; age 39; married (one child, 13 years); excellent references; Army discharged.—Full particulars, The Gardens, Whatcombe House, Blandford, Dorset.

HEAD GARDENER OR GARDENER-BAILIFF (Working). — E. D. MENZIES, late Temporary Head Gardener to Lord Clinton, Bicton, Devon, is open to engagement as above; thoroughly experienced in first-class gardening, gained in good gardens; Forestry, Land, Stock, Roots, Cereals, Dairy, Poultry and General Estate Management; holds good testimonials as to abilities and character.—Mascall's Cottages, Ewhurst, Surrey.

HEAD GARDENER OR GARDENER-BAILIFF.—A. Hitchman, Head Gardener to S. J. Anderson, Esq., Cooks Folly, Sneyd Park, Bristol, is open to engagement as above; thoroughly experienced in first-class Gardening; also Agriculture and General Estate Management; good references as to abilities and character.

GARDENER (HEAD), Scotch, demobilised, 28 years' experience, requires situation where several are kept; understands power plant; 11 years head; first-class references; married (two children, 9 and 5).—J. DONALDSON, 5, High Street, Sandy.

GARDENER (HEAD), 36 (Scotch), desires engagement with any lady or gentleman interested in gardening; experience wide and practical; keen cultivator of choice Flowers, Fruit and Vegetables; speciality, Landscape Gardening (old English or modern); high awards for draughtsmanship.—A. B., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD); thoroughly experienced all branches; well recommended; eight years Head of ten; left through reduction; age 41; married (one child).—FRENCH, Whitehanger, Hazlemere, Surrey.

GARDENER (HEAD or SINGLE-HANDED); life experience in good gardens; first-class references; family grown up.—CHAS. SMITH, 2, Honorah Cottages, Chalfont St Peter, Bucks.

ADVERTISER seeks re-engagment as HEAD; 28 years' practical experience, Inside and Out; highly recommended; age 43; married (one daughter).—SCOFIELD, The Kennells, Wraxall, near Bristol.

GARDENER (HEAD or good SECOND); experienced; age 30; married (one girl, five years); Midlands preferred; demobilised.—BRAMBLEY, 66, Foley Road, St. John's, Worcester.

GARDENER (HEAD); where one or two are kept; 16 years' experience, Inside and Out; 5 years in last place, previous to enlistment; good references; married (one child); age 55.—H. BILLING, Park Street, St. Albans, Herts.

GARDENER (HEAD), Army discharge, seeks situation with lady or gentleman; life experience in all branches; good references from first-class establishments; foreman previous to joining H.M. Forces: well up in decorating; age 30; married.—ROBERTS, 36, Denmark Street, Diss, Norfolk.

MR. EARP, Gardener to the Marquis Camden, Bayham Abbey, Lamberhurst, Kent, wishes to recommend T. BOTTING, to Lady or Gentleman requiring a good Working Head Gardener; life experience, Inside and Out; age 29; married.—T. BOTTING, c/o Mrs. Hoath, Fordecombe Green, near Tunbridge Wells, Kent.

C. A. MOREING, ESQ., highly recommends HEAD WORKING GARDENER; life experience in all branches; highest references from first-class establishments.—FASEY, Martin's Cottage, Heywood, Diss, Norfolk.

LORD ASHCOMBE, Denbies, Dorking, highly recommends G. ALLAN as Head Working Gardener, life experience in all branches, excellent references gained in first class establishments, disengaged when required.

MAJOR ARBUTHNOT BRISCO has great pleasure in highly recommending his late HEAD WORKING GARDENER; thoroughly experienced Inside and Out; age 39; married.—GEORGE WALLINGTON, Rose Cottage, Sydenham, nr. Thame, Oxon.

MR. HARMON, Gardener to the Earl of Denbigh, Newnham Paddox, Lutterworth, highly recommends J. HAYNES to lady or gentleman requiring a good HEAD WORKING GARDENER; fully qualified; Inside and Out; married; age 44.—J. HAYNES, Walcot Hall Gardens, Stamford, Northants.

HEAD WORKING GARDENER; thoroughly competent in all branches; good manager of men, land, and stock, etc.—M. F., Box 21, 41, Wellington Street, Covent Garden, W.C.2

GARDENER (HEAD WORKING); thorough practical experience gained in good establishments in all branches, Inside and Out, Fruit, Flowers, and Vegetables; good references; age 38; married (two children.—HEXTALL, Hill Top, Atherstone.

GARDENER (HEAD WORKING), age 34, married (no children), seeks engagement; life experience all branches; well recommended.—DAVIDSON, 40, Rothesay Road, Luton, Beds.

GARDENER (HEAD WORKING, where one or two others are kept); over eight years previous HEAD; age 42; married (one child); demobilised.—WHEELER, Glengarriff, Queen's Road, Crowborough, Sussex.

GARDENER (HEAD WORKING); middle aged; married (no family); thorough practical experience in every department; wide knowledge of market growing; first-class references.—GREEN, 9, Haverfield Gardens, Kew, Surrey.

GARDENER (HEAD WORKING, or good SINGLE-HANDED); life experience, Inside and Out; six years Head; aged 35; married; personal references.—TURNER, The Elms, Holmwood, Dorking.

GARDENER (HEAD WORKING); life experience, good establishments, Inside and Out; 18 years Head; excellent references; married; age 40.—SWAINE, 6, Gate Cottages, Chorley Wood, Herts.

GARDENER (HEAD WORKING), where two or more are kept, or would take good SINGLE-HANDED; life experience, Inside and Out; married (no family); age 39; excellent references.—A. J. SMITH, The Gardens, Greenfields, Horley, Surrey.

GARDENER (HEAD WORKING); thorough practical experience Flowers, Fruit and Vegetables; highly recommended; energetic and trustworthy; abstainer; no family.—T. HURST, 169, Osmaston Road, Derby.

GARDENER (HEAD WORKING); experienced in all branches, including Orchids; expert Fruit and Vegetable Grower; nine years in present position; age 50, energetic.—SUSSEX, Box 23, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING); life experience all branches (including exhibition) gained in good establishments; four years Army, R.F.A.; previous place, seven years (three as Head): excellent references; married (no family); age 32.—W. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING), demobilised, A1, seeks post where several are kept; twenty years' practical experience in all branches; good manager: excellent references; last post two years, previous to enlistment; age 38; married (no children).—E. LANG, 24, Johnson Street, Notting Hill Gate, London, W.

GARDENER (HEAD WORKING); demobilised; experienced in Flowers, Fruit and Vegetables; Inside and Out; experience gained in good establishments; 8 years as Head; age 38; married.—A. B., 32, Park End, Bromley, Kent.

HEAD WORKING GARDENER, thoroughly experienced Fruit, Flowers, and Vegetables, Inside and Out, and management of good garden; 12 years Head of nine; age 43; excellent character; demobilised.—F. SMITH, Harpton Cottage, Yateley, Hants.

GARDENER (HEAD WORKING); thoroughly experienced in all branches; highly recommended; competent manager; married; age 34; demobilised warrant officer.—LUCAS, c/o Woollam, The Hough, Alderly Edge, Cheshire.

GARDENER (HEAD WORKING); where two or more are kept; life experience; excellent references; age 29; married (no family); demobilised.—A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING); where others are kept; 20 years' thorough practical experience, Inside and Out; excellent references; married (no family); age 37.—A. D., c/o Mrs. G. Dickens, 43, Shaftesbury Road, Watford, London.

GARDENER (HEAD WORKING); thoroughly experienced all branches; highest testimonials; age 30; married when suited.—E. G. DAY, Queen Anne's Gardens, Caversham, Reading.

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GARDENER seeks situation, SINGLE-HANDED preferred; cottage required; good refs.—E. A. TURNER, 56, Gladstone Road, Wimbledon, S.W.

GARDENER (SINGLE-HANDED or with help); life experience; good reference; age 60.—BARRIE, 32, Birkbeck Place, West Dulwich, S.E.21.

GARDENER (SINGLE-HANDED) seeks situation; life experience Inside and Out; good references; age 30; married when suited; demobilised.—F. FIANDER, Charlton Marshall, Blandford, Dorset.

GARDENER (SINGLE-HANDED or with help); good all-round life experience; married; age 43; excellent references. — WELLS, 40, Dickson Road, Eltham, S.E.9.

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FOREMAN or SECOND (Inside) in good establishment; age 29. Please state wages.—L. BOSWELL, The Gardens, Compton Verney, Warwick.

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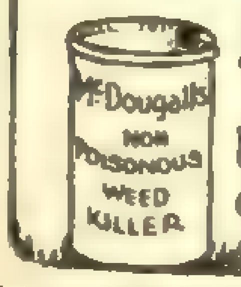

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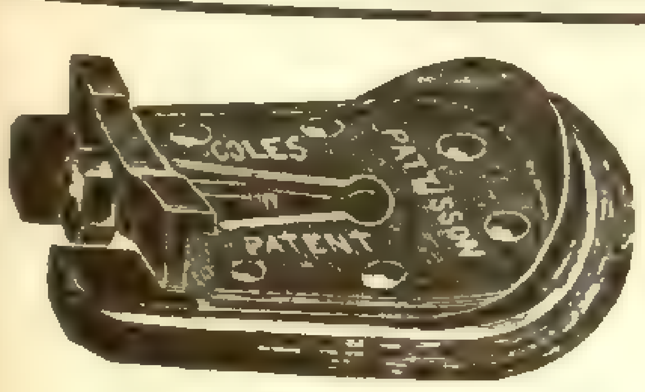

Fig. 1.

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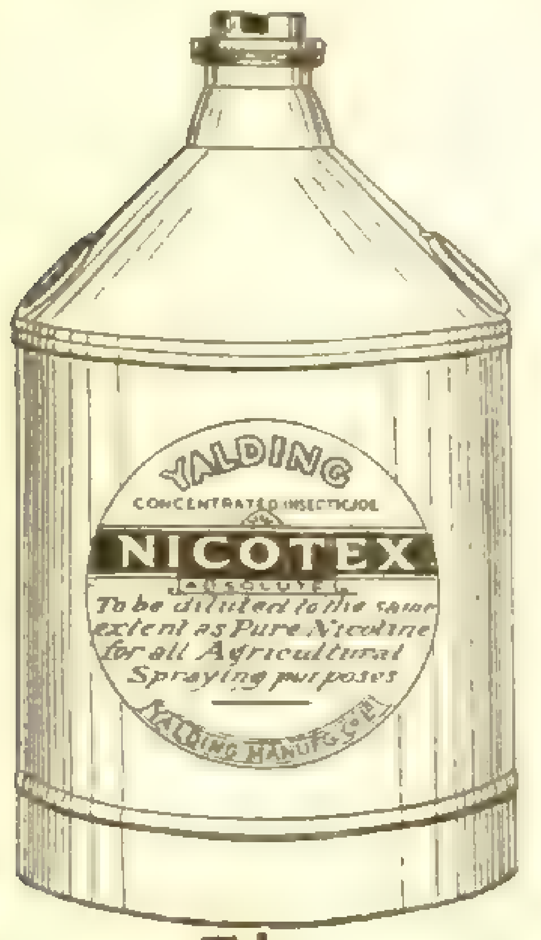

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Gardeners' Chronicle

No. 1701.—SATURDAY, AUGUST 2, 1919.

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THORNS AND THEIR FUTURE IN OUR ISLES.

THE garden value of this group of hardy trees lies in their beauty. Even in the case of our native kind it throws a veil of fairy charm over districts where it abounds, and this beauty has been told by poets from Ronsard to Burns; and, indeed, by all who see it. The many species of Thorns from other lands, including America and Northern Asia, are of great value in gardens. Mr. Bean's book, *Trees and Shrubs Hardy in the British Isles*, and Professor Sargent's *Trees of Northern America* show how very many Thorns there are. People may dispute whether they are all distinct species or merely varieties, but it matters little, the great beauty of the trees being undoubted, not only in their flowers, but in their fruits, some of which are edible. Being natives of countries colder than ours, including much of Canada and North-Eastern America, they are as hardy as any of our native trees, and well fitted for planting in any soil or position.

Here, there was a slope above the moat cottage too steep for plough or spade, and many years ago I planted most of the kinds that were obtainable at the time, and while some did very well, half of them failed owing to their being grafted on the wild Thorn. The latter being common in every nursery, opportunity is taken to graft exotic kinds upon it, with the result that the native kind will kill the foreigner. On my bank, those which never looked back were the forms of our native kinds, such as Paul's, which, "worked" on the mother tree, presented no difficulty.

As so many of these Thorns are sure to come to our country, the important thing is that they should be raised from seed, the natural method of increase, and as the shrubs are as free to fruit as to flower, there should be no difficulty in obtaining plenty of seed.

A number of kinds have been tried here that came from the Arnold Arboretum, in Massachusetts; they were seedling plants and all did well, the only enemy being the rabbit. Now we have fewer rabbits, and the Thorns thrive and flower well.

Apart from the beauty of these trees, they interested me very much for their value in making very good fences. We all know the value of our common native Thorn for this purpose, and it struck me that some of these foreign kinds might give a better fence than any contrivance of barbed wire could do.

A fault of the native Thorn is the constant labour it requires to keep it in shape, and it seems to me that some of the exotic kinds would give a better fence. This is an important point as the beauty of England is in the way of being lost through the use of iron fences. Some estates are quite disfigured for landscape beauty by the iron fence, costly and not so enduring as it would seem. Many people think it is the one way out of the fence trouble, but that is a mistake. The only fence for those who wish to preserve the beauty of our country is a "live" one of Thorn.

The Thorn I use most for this purpose is the Cockspur. It makes a very good fence for woods where frequent trimming is not needed, being well armed with spines, and the leaves turn a fine brown in autumn. It is likely that some other of the many known kinds may give much beauty of flower and fruit and leaf.

Among the Thorns I have tried, none seems to me so compact as the hardy Orange, a handsome tree in flower, and the most effective stop-gap ever seen. The boy who laughs at barbed wire would not attempt to cross it, the spines are so strong and fierce, and when a stock of this can be got, it might well be used to make garden fences on a small scale at first. Here in cool loam it flowers and fruits freely—a beautiful shrub.

In view of the great importance of dwarf effective fences for our landscape, it might be worth the while of the Royal Horticultural Society to make a trial of these Thorns, with the object of studying their habits. Some that I have are fiercely armed with spines, far more so than the common Thorns. I have had an effective kind from Messrs. J. Waterer, Sons, and Crisp's nursery, and there must be many others.

A wood of Cedars of Lebanon which I planted for a friend some years ago, was fenced with strong iron, but during a recent visit I saw the fence smashed to pieces by stock. Such fences are not without danger to animals, whereas a good live fence is wholly free. No doubt such a fence takes time to grow, but by planting seedlings in the full sun rapid growth is made and stout Quick might even be planted within the iron fence, the latter being eventually removed. The fairest landscapes are destroyed if one has to look at them through an iron grille. When I came to Gravetye I found much iron fencing and I removed it to the woods where its ugliness could not be seen and it had a real use for preserving the young plantations from the hare, rabbit and gipsies' horses.

To get their full beauty in a mature state, the best places for these valuable Thorns are the fringes of copses and woods, sandy banks or knolls and rocky places, and they should be grouped, not dotted about. They are vigorous enough to battle with weeds, and can be trusted to take care of themselves..

There is evidence of their picturesque form, endurance and beauty of flower and fruit in some of our park-like shrubland, and in Botanic Gardens trees raised from seeds before the art of grafting was used in so many ways. The fruit is so abundant that its value for game may be worth a thought, and the fruit of some kinds is known to be edible in S. Europe and in China. The colour of the foliage in autumn is well seen in fences of the Cockspur Thorn planted twenty or more years here. *W. Robinson, Gravetye, Sussex.*

THE ROSARY.

ROSE MME. ANNETTE AYNARD.

THE new Rose, Mme. Annette Aynard of Leenders, has just given two or three new flowers with their full character, showing it to be an extremely beautiful variety. The buds are large, with petals of ivory yellow, tipped with pink, the stalk is rigid, the flower very full. The novelty may be compared with Mme. Constant Soupert, but the pink-tipped petals are more yellow, which bestows fresh charm on this beautiful seedling. *J. C. N. Forestier, Bois de Boulonge, Neuilly-sur-Seine.*

THE GOLDEN HOP.

I WRITE this note in the hope of obtaining some information as to the origin of the various forms of the Golden Hop which are in cultivation in this country. The name Golden Hop has been given to the form in which the leaf is yellow or "golden." My first acquaintance with it was in 1910, when plants were sent to me by Messrs. G. Bunyard and Co. These plants on flowering proved to be male. Later, female plants with similar "golden" leaves were sent to me by the same firm. It appears that Messrs. S. Bide and Sons were the first in this country to send out these particular strains of "Golden Hop," and in material supplied by them later I found both the male and the female plant, so that it is clear that in both these nurseries the stock (which I understand was originally imported from the Continent) was, or has become, mixed. From the plant breeder's standpoint, this female Golden Hop is of great interest, since it proves to be immune, both in the greenhouse and out-of-doors, to "mould," or mildew (Sphaerotheca Humuli (Dc.) Burr.). The male plant, on the other hand, proves to be susceptible to the mildew.

There exists, also, I now find, another strain of the female Golden Hop. I have obtained cuttings of this from a plant growing in a garden at Malling, Kent, and I am informed that it was obtained originally from Messrs. J. Veitch and Sons, of Chelsea. The three cuttings obtained all proved (when grown in the greenhouse) to be susceptible to mildew.

I have also used in inoculation experiments with the mildew a form of the Golden Hop obtained from Messrs. Dicksons. This has proved to be susceptible. Messrs. Dicksons state that the plant is female.

To summarise the facts: it is clear that we have in cultivation in gardens in this country an immune female Golden Hop, a susceptible female Golden Hop, and a susceptible male Golden Hop. I have not yet had the opportunity of examining mature plants to compare the morphological characters.

I should be very glad of any information as to the origin of the various forms of the Golden Hop in commerce. The only published account which I have seen is a description of the male Hop in *Die Gartenwelt*, Jahrg. III, p. 476, 1899, where it is called Humulus Lupulus aureus. *E. S. Salmon, Mycologist, S.E. Agric. College, Wye, Kent.*

HARDY FLOWER BORDER.

GERANIUM FREMONTII.

THE hardy Geranium Fremontii was introduced to this country a few years since, but it is not yet found in many gardens. It is a good border plant, and the flowers are of different colour from those of the greater number of the other hardy Crane's Bills. It comes, I understand, from Colorado, and its hardiness appears to be beyond doubt. The plant grows from one to two feet high, and has pleasing foliage and good-sized blooms, which appear in early June. The colour is described as "rosy-lilac." Its height varies according to the soil, and in a dry border, where it flourishes admirably and flowers freely, it may not reach more than a foot. *S. Arnott.*

ITEA VIRGINICA.

A certain interest in the genus Itea has been revived in recent times by the appearance of a new species from China, I. ilicifolia, an evergreen bush with Holly-like leaves, not particularly hardy. But the species of which a flowering spray is illustrated (Fig. 30), although introduced in 1744, is still scarcely known in gardens generally. As a flowering shrub for the cooler parts of the country it is certainly superior to the Chinese species, but such is the fascination mere novelty holds that there are probably twenty people who know I. ilicifolia to one acquainted with I. virginica. The one thing perhaps more desirable than any other with regard to hardy trees and shrubs, is to augment the number and variety of those that flower during the second half of the year. Chinese exploration has not done so much in this direction as one hoped for. Itea virginica, however, flowers in July and August, and that fact adds much to its value. The illustration gives an excellent idea of its character. It is a deciduous shrub usually about a yard high, which renews itself by sucker-like growths from the base in the same fashion as many Spiraeas. Its narrowly oval leaves are 3 to 4½in. long on the virgin shoots. The flowers are borne on the terminal part of the year-old shoots, appearing at the end of short, leafy twigs. They are crowded on cylindrical racemes 3in. to 6in. long, creamy white, fragrant, each flower being about ⅓ in. wide, with five narrow petals.

[*Photograph by E. J. Wallis.*
Fig. 30.—Itea virginica: flowers, creamy-white.

In its native habitat, which is the Eastern United States, Itea virginica is usually found in moist or even swampy situations, but in cultivation it succeeds very well in good, deep, loamy soil. The plant may be propagated by cuttings inserted in Juy, or by dividing old specimens in spring.

The Week's Work.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Perpetual Carnations.—The earliest plants, established in their flowering pots, should be lightly and sufficiently staked. Crowding of the shoots must not be permitted, but to secure flowers in early winter, stop the shoots for the last time. Weak liquid manure applied to the roots once a week will be sufficient stimulant until the plants come into flower. As Perpetual Carnations are very subject to insect pests, the plants should be sprayed occasionally with an insecticide, and the house in which they grow should be fumigated frequently.

Ferns for Winter Decoration.—Pteris tremula and P. cretica are most useful decorative plants in small pots, and stock may be increased now. These species are not particular as to soil, but sharp sand and charcoal should be added to the loam. When repotting young plants of Adiantum cuneatum, use good, fresh loam, with the addition of some sharp sand and a little artificial manure, and grow them in a warm moist atmosphere. Adiantums that were potted in the early spring, and are to be used either as pot plants or for providing fronds for decorative purposes, should be hardened off, and given more light, as after this treatment the fronds will remain fresh for a long time after being cut. Afford these established plants frequent supplies of liquid manure.

Gypsophila elegans.—This hardy annual, if grown in pots, will provide most useful specimens for indoor decoration. From seeds sown in early August plants will flower in the autumn. Use 6-inch pots and a compost of good loam, leaf-mould and sand. Make the soil firm in the pots, place sifted material on the surface, give a thorough watering before sowing, and cover the seeds with fine soil. Place the pots of seeds in a cold frame, and afford shade until the seedlings appear. As the plants grow and the pots become filled with roots, give frequent applications of liquid manure to the latter, afford plenty of light and air, and remove the plants to the flowering house or conservatory as soon as they show flowers.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Evergreen Shrubs.—Small shrubs that were removed from the flower beds in spring should, if they are growing in pots, be plunged to the pot rims in a bed of ashes. See that the roots are kept well soaked with water and give liquid manure at intervals to keep the plants strong and healthy. Syringe them freely to prevent attacks of red spider and other insect pests.

Herbaceous Borders.—Notes should be made of successes and failures before the flowers are past their best, and any alterations to be made for another year should be settled at once, so that steps may be taken to carry out the alterations at once when the proper time arrives. It is far better to take notes now than depend entirely on memory at a later date.

Delphinium.—Keep the stems well supported to prevent breakage. Good varieties may be raised from seeds sown as soon as ripe, in cold frames, or the seeds may be kept and sown in spring.

Lilium candidum.—Where clumps of the Madonna Lily have become large and crowded with bulbs, they should be lifted and replanted as soon as possible after the flowers have faded. Plant the bulbs in well drained and deeply dug soil in which decayed manure has been thoroughly mixed.

Dahlia.—Single Dahlias have been much improved in recent years. They are showy

subjects, and make a brilliant display either in beds or borders, and for house decoration they are more useful than the double varieties. Give the roots copious waterings at intervals, thin out useless shoots and keep flowering branches neatly secured to suitable stakes. Earwigs are sometimes very destructive, and should be trapped in small flower pots half filled with moss and placed amongst the plants.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Early Potatos.—All early Potatos should be lifted at once as it is courting failure from disease to let the tubers remain in the ground. Potatos of culinary size should be selected and stored, and those intended for next year's planting should be stood in the seed trays, with the "rose" end upwards and placed in a light and cool place.

Turnips.—Ground from which early Potatos are lifted will form an ideal site for Turnips. Thoroughly work the surface, add a dressing of soot, or burnt garden refuse, draw drills 15 inches apart and sow varieties of white and coloured types for a succession. Thin out the seedlings when large enough, to 10 inches apart, and ply the hoe regularly between them.

Winter Greens.—Good breadths of green winter vegetables should be planted as ground becomes available after the removal of early crops. Clear Pea and Bean haulm away and burn it, and on the cleared plots bore holes 2 feet apart and plant Kales, etc., therein. Sutton's Favourite Kale should be grown largely where late greens are required; if the growths are gathered regularly in early spring, tender sprouts will be produced well into the month of June.

Tomatos.—The June raised batch of plants should be potted again and encouraged to produce 5 or 6 trusses of bloom, to provide fruit in December and January.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cattleya.—At this season of the year considerable attention is necessary in the management of Cattleyas. Without plenty of light and sunshine the plants cannot be kept in a healthy and free-flowering state. When any members of the Cattleya family are grown in houses affording less light than the plants require, the growth is deceptive. For a time, and especially the young seedlings nearing the flowering stage, they may show increased development of the leaves and pseudo-bulbs, but only for a time; such exuberant growth is sure to exhaust itself, and sooner or later the plants gradually become debilitated. Even if an attempt is made at the close of the season to ripen the growths by subjecting the plants to more sunshine, the results attained are not satisfactory. After the plants have been grown in an over-shaded house, the foliage is so flabby that in all probability it will become blotched or scorched if suddenly exposed to bright sunshine. I do not suggest that Cattleyas will bear full exposure to sunshine, but the cultivator's aim should be to allow the plants all the light possible without risk of injury. If the leaves feel hot to the touch, then it is advisable to shade the house. Fixed shading is not good in practice.

Ventilation.—Fresh air is as essential as light to the satisfactory cultivation of Cattleyas, therefore full advantage should be taken of warm summer weather to give full and free ventilation, not only by day, but also by night. Cattleyas delight in plenty of air; in fact, it is absolutely necessary, for without it the plants cannot possibly acquire that solidity of tissue which is essential in healthy specimens. Secondary growth and growths made out of season are often due to insufficient light and air. The whole of the Cattleya family delights in a high temperature by day, by sunheat, so long as moisture and air are abundant, but they dislike being shut up at night in a high temperature and stuffy atmosphere. It is far better for the plants if the house is kept comfortably warm, with the air in active circulation, and not too heavily charged with moisture. A condition of atmosphere that is conducive to health and vigour is of far greater importance than any particular kind of compost for the plants to root in.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Fig Trees in Pots.—Trees which have yielded their crops of fruit, and have received plenty of air and sunshine, may now be stood out of doors, the pots being plunged in coal-ashes or surrounded with strawy litter. The trees should receive an abundance of water during

Fig. 31.—Rose, Mrs. H. R. Darlington; a creamy-yellow H. T. variety. National Rose Society's Gold Medal, July 10, 1919. (See p. 42)

warm weather, otherwise the leaves and embryo fruits may be injured. Weak liquid manure, soot-water or dressings of artificial manure should be supplied to the roots occasionally. Fig trees carrying crops of fruit in various stages should be kept under glass and given similar treatment until the fruits are gathered, when they also may be placed out-of-doors. The side shoots should be pinched back whilst still quite young, and until the fruits begin to ripen the syringe should be used freely and the floors damped frequently during the hottest part of the day, but when ripening commences a drier atmosphere should be maintained, and air freely admitted when the weather is favourable.

Fig Trees in Borders.—As soon as the crop has been gathered, thin out all unnecessary growths. Trees carrying a second crop should have the fruits severely thinned, or the strain on the trees will adversely affect next season's crop. Water the borders freely and afford liquid manure in accordance with the needs of the trees. For packing, the fruits should be gathered before they have become quite ripe, but for home use they should be left on the trees until fully ripe.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Summer Pruning.—On fruit trees making medium growth or trees carrying good crops, summer pruning should be carried out, but on strong-growing and poorly cropped trees the work should be deferred for a week or two. Fruit trees have two periods of growth, spring and midsummer, and the first is generally over by the third week in July, but the second growth often continues to a late period. Growths made during the earlier period are the most important. It is from these the crop is produced the following season. Summer pruning at the present time encourages the formation of fruit buds, but when it is carried out at too early a date the tree breaks into growth again, and more harm than good is done. If a tree is full of very strong growths, branch pruning will not make it fruitful; it should be root pruned in the autumn. It is a mistake to summer prune the whole of a tree at once, as this imposes a severe check. The proper method is to do the pruning in two or three instalments, thus exposing the fruits gradually to the hot sunshine. Some knowledge of the work is required by the operator, but if the growths are shortened back to about six eyes, that will suffice, as it is generally the top eyes which break into growth again. Summer pruning has the effect of allowing sunshine and air to reach all parts of the tree, consequently the fruit buds plump up and the wood becomes thoroughly ripened.

REPORT ON THE CONDITION OF THE OUT-DOOR FRUIT CROPS.

[FROM OUR OWN CORRESPONDENTS.]

The words "Average," "Over," or "Under," as the case may be, indicate the amount of the crop; and "Good," "Very Good," or "Bad," denote the quality.

Fuller comments will be given in the following numbers. See also Leading Article on page 70.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
SCOTLAND										
O, Scotland, N.										
CAITHNESS	Average; good	Average; good	....	Average; good	....	....	Over; very good	Over; good	....	W. F. Mackenzie, Thurso Castle Gardens, Thurso.
ELGIN	Average; good	Average; good	Average; very good	Average; good	Under; bad	Under; good	Under; good	Under; good	....	John Macpherson, 4, Hawthorn Road, Elgin.
	Average	Average	Over; very good	Under	....	....	Average	Under	....	James Jamieson, Easter Elchies, Craigellachie.
SUTHERLAND	Under; bad	Under; bad	Under; bad	Under; bad	....	....	Under; bad	Under; bad	....	D. Melville, Dunrobin Gardens, Dunrobin, Golspie.
1, Scotland, E.										
ABERDEENSHIRE	Under	Under	Average	Under	....	....	Over	Over	....	Simon Campbell, Fyvie Castle, Fyvie.
	Under; good	Under; good	Average; good	Average; good	....	....	Average; good	Over; good	....	James Grant, Rothienorman Gardens.
	Average; good	Average; good	Average; very good	Under; bad	Average; very good	....	Average; good	Under; good	....	John McKinnon, Haddo House Gardens.
BANFFSHIRE	Average; good	Average	Over; good	Over; good	....	....	Average; good	Over; very good	....	George Edwards, Ballindalloch Castle Gardens.
BERWICKSHIRE	Over; very good	Average; good	Under; good	Under; good	Under	Under; good	Average; good	Average; very good	....	William Clayton, Milne Graden Gardens, Coldstream.
	Average; good	Under; bad	Over; very good	Under; good	Under; good	Average; very good	Average; very good	Average; very good	....	Peter Smith, The Gardens, Duns Castle, Duns.
CLACKMANNANSHIRE	Under	Average	Average	Average	Under	Under	Under	Under	Average	Alexr. Kirk, Consulting Gardener, Paton St., Alloa.
EAST LOTHIAN	Under; good	Under; good	Under; good	Average	Average; good	Under; good	Under	Under; good	....	R. P. Brotherston, Tyninghame Gardens.
FIFESHIRE	Under	Under	Under	Average	....	Under	Average; good	Average; good	....	Chas. Simpson, Wemyss Castle Gardens, East Wemyss.
	Average	Under	Under	Under	....	Under	Under	Average	....	D. McLean, Raith Gardens, Kirkcaldy.
	Average;	Under	Average	Average	....	....	Over; good	Average; good	....	William Henderson, Balbirnie Gardens, Markinch.
FORFARSHIRE	Average	Under	Under	Average; good	....	Under	Average	Average	....	Robert Bell, Kinnaird Castle, Gardens, Brechin.
	Over	Average	Over	Under; bad	Average	Average	Over; very good	Average; good	....	J. B. Peffers, Panmure House Gardens, Carnoustie.
	Over; good	Average	Over; good	Average; good	Over; very good	Under	Average; good	Average; good	....	Donald McInnes, Glamis Castle Gardens.
	Average; very good	Average; good	Under; good	Under	....	....	Average; good	Over; very good	....	David Boyle, Tay Park Gardens, Broughty Ferry.
	Average; very good	Average; good	Average; good	Under	Average; good	....	Average; good	Average; good	....	Andrew McAndie, The Gardens, Ruthven House, Meigle.
HADDINGTONSHIRE ..	Under	Under	Under	Average	....	Under	Average	Average	....	H. Nimmo, Broxmouth Park, Dunbar.
KINCARDINESHIRE ..	Under	Under	Average	Average	Average	....	Average	Under	....	William Thomson, Urie House Gardens, Stonehaven.
LINLITHGOWSHIRE ..	Under; good	Under; good	Average; good	Under; bad	Under; bad	Under; bad	Average good	Average very good	Under; bad	John Highgate, Hopetoun Gardens, S. Queensferry.
	Average; good	Under; good	Under; good	Under; bad	....	....	Average; good	Over; good	....	James Boyd, Newliston, Kirkliston.
MIDLOTHIAN	Under	Under	Under	Average	....	....	Average	Over; good	....	William Crighton, Morton Hall Gardens, Liberton.
	Under; good	Average; good	Under; good	Under	Under	Under	Under	Average; good	....	James Whytock, Dalkeith Gardens, Dalkeith.
PEEBLESSHIRE	Over; very good	Average; good	Over; good	Under; good	....	....	Average; good	Average; good	....	John Finnie, Stobo Castle Gardens, Stobo.
	Over; very good	Under; bad	Over; good	Average; very good	Average; very good	Under; good	Over; good	Average; very good	....	Alexander Black, The Glen Gardens, Innerleithen.
PERTHSHIRE	Over good	Under; bad	Average; good	Average; good	Under; bad	Under; bad	Over; good	Average; good	....	John Chisholm, Meikleour House Gardens, Meikleour.
	Over	Average	Average	Average	....	Under	Average	Average	....	Thomas Lunt, Keir Gardens, Dunblane.
	Under; very good	Under; good	Over; good	Under; bad	....	Under; good	Over; very good	Average; good	....	Henry H. Cook, Drummond Castle Gardens, Crieff.
	Over; very good	Average; good	Average; good	Average; good	Average; good	Under	Under	Average	....	Chas. Crighton, Jordanstone Gardens, Meigle.
	Over; good	....	Average; good	Under; bad	Average; good	....	Average good	Under; bad	Average	Malcolm Macnaughton, Scone Palace Gardens.
	Average; good	Average	Over	Under	Over; good	Average	Average	Over; very good	....	J. B. McKiddie, Rossie Priory Gardens, Inchture.
6, Scotland, W.										
ARGYLLSHIRE	Under	Under	Average	Under	....	....	Under	Average	Average	Henry Scott, Torloisk Gardens By Aros, Isle of Mull.
	Average; good	Average; good	Average; good	Over; very good	Under; good	....	Average; very good	Over; very good	....	D. S. Melville, Poltalloch Gardens, Kilmartin.
	Under	Under	Average	Average	....	....	Average	Over	Under	George Haig, Barcaldine Gardens, Ledaig.
AYRSHIRE	Average; very good	Average; good	Ovei; good	Under	....	....	Over; good	Average; good	....	John McInnes, Kirkmichael Ho. Gardens, By Maybole.
	Average; very good	Average good	Over; good	Under; very good	Average; good	Under; good	Average; very good	Over; very good	Average; good	D. Buchanan, Bargany Gardens, Dailly.
	Average; good	Under; bad	Under	Average	....	....	Over	Average	....	William Priest, Eglinton Gardens, Kilwinning.
BUTESHIRE	Over; good	Under; bad	Under; good	Under; bad	Average; good	....	Over; very good	Under; good	....	John J. Davidson, Ardencraig, Rothesay.
DUMBARTONSHIRE ..	Average; good	Under; good	Average	Under; good	....	....	Over; very good	Over; very good	....	John Brown, Cairndhu, Helensburgh.
	Average	Under	Under	Average	Average	....	Over	Average	....	Maurice Ferguson, Belmore Gardens, Gareloch, Helensburgh.
DUMFRIESSHIRE	Under; good	....	Under; good	Average; good	....	....	Average; good	Under; good	....	John Urquhart, Hoddam Castle Gardens, Ecclefechan.
	Average; good	Under; bad	Average; good	Under; bad	....	....	Average; good	Average; good	....	James McDonald, Dryfeholme Gardens, Lockerbie.

CONDITION OF THE FRUIT CROPS—(*continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
6. Scotland, W.										
LANARKSHIRE	Average	Average	Under	Average	....	....	Under	Average; good	....	John Shiells, Carstairs Gardens, Carstairs Junction.
	Average; good	Under; good	Over; good	Under; good	....	....	Over; good	Under; good	....	Hector Fraser, Drumpellier Gardens, Coatbridge.
STIRLINGSHIRE	Over	Average	Average	Under	Average	....	Over; very good	Over; good	Under	James W. Cunningham, Duntreath Castle Gdns. Blanefield.
WIGTONSHIRE	Over; good	Over; good	Average; good	Under; bad	....	....	Over; very good	Under; bad	....	John Bryden, Dunragit Gardens, Dunragit.
	Over; very good	Average; good	Average; good	Average; good	Under; good	Under; bad	Over; very good	Average; good	....	Jas. R. Crosbie, Galloway House, Gardens, Garlieston.
ENGLAND:										
2. England, N.E.										
DURHAM.............	....	Under	Under	....	Average	....	Under	Average	....	E. Tindale, Ravensworth Gardens, Gateshead.
NORTHUMBERLAND	Average	Average; good	Average	....	....	....	Under	Under	Average	Jas. Winder, Howden Dene Gardens, Corbridge-on-Tyne.
	Under	Under	Under	Average	Average	Average	Under	Average	....	John Jackson, Ford Castle Gardens, Berwick-on-Tweed.
YORKSHIRE	Average	Over	Over	Average	Over	Under	Over	Under	....	C. F. Fulford, North Riding Asylum Gardens.
	Average; very good	Average; very good	Average; good	Average; good	....	Under; good	Over; good	Average; very good	Average; good	Jas. E. Hathaway, Baldersby Park Gardens, Thirsk.
	Under; good	Average	Over	Under	Average	Under	Over; good	Average good	....	F. C. Puddle, Scampston Hall Gardens, Rillington.
	Under; very good	Under; good	Under; good	....	....	....	Average; very good	Over; very good	Average; good	Sidney Legg, Warter Priory Gardens, Pocklington.
3. England, E.										
CAMBRIDGESHIRE ..	Average; very good	Under; good	Under; good	Under; good	Average; good	Under	Over; very good	Under; good	....	Arthur Sewell, Barton Road, Ely.
	Average; good	Under; bad	Average; good	Over; very good	Average; good	....	Average; very good	Under; bad	....	T. Spooner, Meldreth.
	Over; very good	Average; very good	Under; good	Average; good	Under	Under	Average; good	Under; good	Average	E. Matthews, Moulton Paddocks Gardens, Newmarket.
	Over; very good	Average; good	Under	Under	Over; very good	Under; bad	Over; very good	Average very good	Over; good	W. Woods, Chippenham Park Gardens, Ely.
ESSEX	Average; good	Average; good	Over; good	Over; good	Average; good	Under; good	Over; good	Average; good	Average; good	Arthur Bullock, Copped Hall Gardens, Epping.
	Average; good	Average; good	Average	Under	Average	Under; bad	Over; good	Under	Average	Charles A. Heath, Gt. Hallingbury Place, Bishops Stortford.
	Over; very good	Under; good	Average; good	Average; good	Under; good	....	Over; good	Under; good	Average; good	Edwin Guile, Shortgrove, Newport.
	Average; good	Under; good	Under; good	Average; good	Average; good	Average; good	Over; good	Average; good	Average; good	C. Wakely, County Gardens, Chelmsford.
	Average; very good	Average; good	Average; good	Average; good	Average; good	Under; bad	Average; very good	Under; good	Average; good	William Johnson, Stansted Hall Gardens, Stansted.
HUNTINGDONSHIRE ..	Over; good	Average	Over; good	Over; good	Average	....	Over; good	Over; good	Average	James Hewitt, Castle Gardens, Kimbolton.
	Over	Average	Under	Over; good	Average	Under	Average; good	Under; bad	Over	A. V. Coombe, Ramsey Abbey Gardens.
LINCOLNSHIRE	Under; good	Under; good	Under; good	Under; bad	Under; bad	Under; bad	Average; good	Average; very good	....	Thomas Cox, Hainton Hall Gardens, Lincoln.
	Average	Under	Average	Average	Over; good	Under:	Over; good	Average	....	F. J. Foster, Grimsthorpe Castle Gardens, Bourne.
	Over; very good	Average	Under; bad	Average	Average; good	Under	Over: very good	Under	....	F. C. Stainsby, Brocklesby Park Gardens.
	Under	Average; good	Under	Average; good	Under	Under	Average; good	Average; good	....	J. Robinson, Somerby Hall, Somerby, Oakham.
	Average	Average	Under	Average	Under	Under	Average; good	Over:; very good	....	J. F. Vinden, Harlaxton Manor Gardens, Grantham.
NORFOLK	Over; very good	Average; good	Under; good	Average; good	Average; good	Under; good	Over; very good	Average; good	Under	C. Nichols, The Manor House Gardens, Ormesby St. Margaret, Gt. Yarmouth.
	Over; good	Average	Under	Average	Average; good	....	Over; very good	Over; very good	....	H. Naylor, The Pleasaunce Gardens, Overstrand.
	Over; very good	Under; good	Average; good	Average; good	Average; good	Under; bad	Over; very good	Over; very good	....	Isaiah Johnson, Catton House Gardens, Norwich.
	Average; good	Average; good	Under	Average; good	Average	Under	Over; very good	Under	Under	J. Wynn, Sedgeford Hall Gardens, King's Lynn.
SUFFOLK	Under; good	Under; good	Under; good	Average; very good	Average; very good	Under; bad	Average; very good	Average; very good	Under	Arthur Turner, Orwell Park Gardens, Ipswich.
	Average; very good	Under; good	Under; good	Average; very good	Under; bad	Under:	Average; good	Average good	....	H. Coster, Ickworth Gardens, Bury St. Edmunds.
	Average; good	Average; good	Under; good	Over; good	....	....	Average; good	Under; bad	....	E. G. Creek, Shire Hall Gardens, Bury St. Edmunds.
	Under	Average; good	Under	Average	Under	Under	Over; good	Over; very good	Average	James Hilson, Flixton Hall Gardens, Bungay.
4. Midland Counties.										
BEDFORDSHIRE	Over; very good	Under; good	Under, good	Average; good	Under; bad	Under; bad	Over; good	Average; good	Under	Wm. F. Palmer, Froxfield Gardens, Woburn.
	Over; very good	Over; good	Under; good	Over; good	....	....	Over; very good	Average good	Average; good	Chas. Turner, Ampthill Park Gardens, Ampthill.
	Over; good	Average; very good	Over; good	Average; very good	Average good	Under:	Over; very good	Under	Over; very good	Thomas Stanton, Hinwick Hall Gardens, Wellingborough

CONDITION OF THE FRUIT CROPS—(*continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
BUCKS	Average; good	Average; good	Under, good	Average; good	....	....	Over; very good	Under	Average; good	W. Hedley Warren, Aston Clinton Gardens, Tring.
	Average	Average	Average	Average	....	....	Over	(Average	Over average	Geo. Taylor, Bulstrode Gardens, Gerrards Cross.
	Over; good	Average	Average	Under; bad	Average; very good	....	Average; good	Average	....	Wm. Camm, Cliveden Gardens, Taplow.
	Average	Average	Average	Over; good	Average	Under	Over; very good	Under; bad	Average	James Wood, Hedsor Park Gardens, Bourne End.
	Average; good	Under; good	Average; good	Average; good	Under	....	Over; good	Average; good	Under	William Brooks, Abbey Gardens, Great Missenden.
	Average; very good	Under; good	Under; good	Average; good	....	....	Average; very good	Under; good	Under; bad	James MacGregor, Mentmore Gardens, Leighton Buzzard.
	Under	Under	Average	Under	Under	Under	Over; good	Average	Under	Philip Mann, Education Sub. Office, Aylesbury.
	Under; good	Average; good	Average; good	Average; very good	Average	Under	Average	Under	Average	Chas. Page, Dropmore Gardens, Maidenhead.
	Average; very good	Average	Under	Average; very good	Average	Under	Average; very good	Average; very good	Average	Wm. Turnham, Greenlands Gardens, Henley-on-Thames.
	Over; very good	Average; very good	Average; good	Average; very good	....	Under	Average; very good	Average; very good	....	G. F. Johnson, Waddesdon Gardens, nr. Aylesbury.
CHESHIRE	Average; very good	Average; good	Under	Under	....	....	Average; good	Over; very good	Average; good	Alfred N. Jones, Marbury Hall Gardens. Northwich.
	Average	Average	Under	Average	Under	Under	Over	Over	Average	Philip Bolt, Manor House Gardens, Middlewich.
	Under; good	Under; good	Average	Average	Under	Under	Average; good	Average	....	F. J. Cubberley, Tatton Park Gardens, Knutsford.
	Under; bad	Average; good	Under; bad	Under; bad	....	....	Over; very good	Over; very good	....	Jas. B. Allan, Tirley Gardens, Tarporley.
	Average	Under	Average	Under	Under	Under	Under	Good	Under	Jas. Atkinson, Torkington Lodge Gardens, Hazel Grove, nr. Stockport.
	Average; good	Under	Under; good	Average	....	Under	Average; small	Under; good	Under	N. F. Barnes, Eaton Gardens, Chester.
	Average; good	Under; good	Under; bad	Average; good	....	Under; bad	Average; very good	Under; good	Under; except Walnuts	E. Severn, Combermere Gardens, Whitchurch.
DERBYSHIRE	Over; good	Average; good	Under; bad	Average; good	....	....	Average; good	Over; good	....	F. G. Mills, Laneside Home Farm, Glossop.
	Average; good	Over	Over; good	Average; good	....	Under	Over; very good	Over; very good	....	John Maxfield, Darley Abbey Gardens.
	Under; bad	Under; bad	Under	....	....	....	Average	Under; bad	Under; bad	E. Wilson, Hardwick Hall Gardens, Chesterfield.
	Average; good	Average	Under	Average; good	....	Under	Over; very good	Over; very good	....	J. Tully, Osmaston Manor Gardens, Ashbourne.
	Under	....	Under; bad	Under	....	....	Average; good	Average	....	F. Jennings, Chatsworth Gardens, Bakewell.
HERTFORDSHIRE	Over; very good	Under; bad	Over; very good	Average; very good	Under; bad	....	Over; very good	Over; very good	Under	William Fulford, Delrow House Gardens, Aldenham, nr. Watford.
	Over; very good	Over; very good	Under; good	Average; very good	Under; good	Under	Over; very good	Average very good	Under	T. J. Hartless, Kings Walden-Bury Hitchin.
	Under: good	Under; bad	Under	Average; good	Under	Under; bad	Average; good	Under; good	Under	T. W. Birkinshaw, Caldecote Towers Gardens, Bushey Heath.
	Average; good	Under	Under	Under	Average	....	Average	Average	Under	Thomas Nutting, Childwickbury Gardens, St. Albans.
	Over; good	Over; very good	Over; good	Over: very good	Average good	Average; good	Over; very good	Average; good	Average; good	F. W. Fitch, Balls Park Gardens, Hertford.
	Over; very good	Under; good	Uunder; good	Average; good	....	....	Over; very good	Average; good	....	James A. Paice, Aldenham Vicarage Gardens, Watford.
	Average; good	Average; good	Average; good	Over; good	Average; good	Under; bad	Over; good	Over; good	Average	Edwin Beckett, Aldenham House Gardens, Elstree.
	Average; good	Average; good	Under; good	Average; good	Average; good	Under	Average; good	Under; good	Average; good	E. F. Hazelton, North Mymms Gardens, Hatfield.
LEICESTERSHIRE	Over: good	Under; good	Average; good	Average; good	Over; good	....	Over; good	Average; good	Under; good	D. Roberts, Prestwold Gardens, Loughborough, Leicestershire.
	Under	Under	Under	Under	Under	Under	Average	Average	Average	F. Ibbotson, Rolleston, Billesdon, Leicester.
	Over; good	Under	Under; very good	....	Under	Under	Average; good	Under; good	....	A. H. Campin, Whetstone Pastures Gardens, Leicester.
	Average; good	Over; Very good	Average; good	Over; very good	Average; good	....	Average; very good	Under; very good	Under; bad	W. Paterson, Swithland Hall Gardens, Loughborough.
NORTHAMPTONSHIRE	Under; good	Under; bad	Over; very good	Average; good	....	....	Average; good	Average; good	Under; good	Alfred Child, Catesby House Gardens, nr. Daventry.
	Average; very good	Over; good	Over; very good	Average; good	Average; good	Under; bad	Over; very good	Average; very good	Average; good	F. W. Gallop, Lilford Gardens, Oundle.
	Over; good	Average; good	Under; bad	Over; good	....	Average; good	Average; good	Under; good	Average	Robert Johnston, Wakefield Lodge Gardens, Stony Stratford.
	Average; good	Under; good	Average; good	Average; good	Average; good	Under; good	Over; very good	Average; good	Average; good	John Meager, Harrowden Hall Gardens, Wellingborough.
NOTTINGHAMSHIRE	Over; good	Over; good	Over	Average	Average	Under	Over	Over	Average	S. Barker, Clumber Gardens, Worksop.
	Average	Average	Under	Average	....	Over	Average	Over	Under	James Gibson, Welbeck, Worksop.
	Under; good	Average: good	Under; bad	....	....	....	Average; good	Under; good	....	Thomas Simpson, Newstead Abbey Gardens, Nottingham.
	Average	Under	Under; bad	Average	....	Under	Average	Under; bad	Under	J. R. Pearson & Sons, Lowdham.
OXFORDSHIRE	Average; good	Average; very good	Under; very good	Average; very good	Under; bad	Under; bad	Average; very good	Under; very good	....	T. W. Whiting, Shotover Park Gardens, Wheatley.
	Over; good	Average; good	Under	Over; good	Under	Under	Over; good	Over; good	Under	E. C. Kinns, Blenheim Gardens, Woodstock.
	Over; good	Under; good	Under; good	Average; good	Average; good	Under; good	Over; good	Under; good	....	C. E. Munday, Nuneham Park Gardens, nr. Oxford.
	Average; good	Average	Average	Under; bad	Under	Under	Average; good	Under	Average	Ben Campbell, Cornbury Park Gardens, Charlbury.
	Average; good	Under; good	Under; bad	Average	Under	Under	Over; very good	Over; good	....	Frank J. Clark, Aston Rowant House Gardens, Wallingford.
	Under	Under	Under	Average	....	Under	Over; good	Average	Under	A. J. Long, Wyfold Court Gardens, nr. Reading.
	Over; very good	Average; good	Average; good	Over; very good	Over; good	....	Over; very good	Over; very good	Over; good	J. A. Hall, Shiplake Court Gardens, Henley-on-Thames.
	Average	Under	Average	Under	....	Under	Average; good	Average; good	....	Thomas Cradduck, Middleton Park Gardens. Bicester.

CONDITION OF THE FRUIT CROPS—(*continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
STAFFORDSHIRE	Average; good	Under; good	Under; good	Average; good	Average; good	....	Over; very good	Average; good	Average	H. Collier, Rolleston Hall Gardens, Burton-on-Trent.
	Over; good	Over; good	Average; good	Average; bad	....	Under; bad	Average; bad	Average; good	Average	Thomas Bannerman, Blithfield Gardens, Rugeley.
	Average; good	Under	Under	Average; good	Under	....	Average; good	Average; good	....	Edwin Gilman, Ingestre Gardens, Stafford.
	Average; good	Over; good	Average	Average	Average; good	....	Over	Under	....	A. Cheney Shenstone Court Gardens, nr. Lichfield.
WARWICK	Over; good	Average; very good	Under; good	Under; good	Average; good	Under; good	Average; good	Under; good	Average; good	H. Dunkin, Mount Pleasant Gardens, Emscote.
	Average; good	Under; good	Over; very good	Average; very good	Under; good	Under; bad	Over; very good	Over; very good	Under	W. Harmon, Newnham Paddox Gardens, Lutterworth.
	Average; good	Under; good	Under	Average	Average; very good	....	Over; good	Under; good	Average	B. H. Martin, Moreton Paddox Gardens.
	Under; good	Under; good	Average; good	Average	Under; bad	Under; bad	Average; good	Average; good	Average;	Chas. Harding, Ragley Gardens, Alcester.
	Over; good	Average; good	Under	Under	Average; good	....	Over; very good	Under	Average	Burton Gaiger, Wellsbourne House Gardens.
	Over; very good	Average; good	Average good	Average; very good	Under	Under; bad	Over; good	Under; good	Average	H. F. Smale, Warwick Castle Gardens.
5, England, S. BERKSHIRE	Over; good	Over; very good	Under; good	Average; good	Average; good	Under	Over; very good	Over; very good	Average	A. MacKellar, Royal Gardens, Windsor.
	Average; good	Under	Under; good	Average; good	Under	Under	Average; good	Under; good	Under	A. B. Wadds, Englefield Gardens, Reading.
	Average; good	Average; good	Under; good	Average; good	....	Under	Over; very good	Average; good	Under	Edw. Harriss, Lockinge Gardens, Wantage.
	Over; good	Over; good	Under	Under; bad	Under	Under	Average	Under	Average	J. Minty, Oakley Court Gardens, Windsor.
	Average; good	Under; good	Average; good	Average; good	Over; good	Under; bad	Average; good	Under; good	Under; good	Geoffrey Cooper, "Ranworth" Malvern Road, Furze Platt, Maidenhead.
	Over	Under	Under	Average	Average; good	Average	Average	Under	Under	J. Howard, Benham Valence Gardens, Newbury.
	Average; good	Average	Average	Average	Under	Under	Over	Under	Under	Thomas Wilson, Castle Gardens, Wallingford.
DORSETSHIRE	Over; good	Average; good	Under	Under	Under	Under	Over; good	Average; good	Average	Thos. Denny, Down House, Garden, Blandford.
	Over; good	Under; bad	Under; good	Average; good	Under	Under	Over; good	Average; good	Under	T. Turton, Castle Gardens, Sherborne.
	Over; good	Average; good	Under; good	Average	Average; good	Under; bad	Over; good	Average	Average	W. E. Axford, St. Giles Gardens, Salisbury.
HAMPSHIRE	Average; very good	Average; very good	Under; good	Under; bad	Under; bad	Under; bad	Over; very good	Average; good	Average; good	Henry Martin, Bartley Lodge Gardens, Cadnam.
	Over; good	Average; good	Average; good	Average; good	....	Average; good	Over; good	Over; very good	Average; good	A. W. Blake, The Castle Gardens, Highclere, Newbury.
	Over; very good	Average; good	Under	Average; good	Under	....	Average; good	Under; good	Average	E. Molyneux, Swanmore Park, Bishop's Waltham.
KENT	Average	Average	Average; good	Average	....	....	Average	Average	Under; bad	Geo. Lockyer, Mereworth Gardens, Maidstone.
	Over	Average	Under	Average	....	....	Over	Average; good	Under	Edward A. Bunyard, Allington, Maidstone.
	Under; good	Under; good	Under; good	Average; good	Under, good	....	Average; good	Under; good	Average	J. George Woodward, Barham Court, Teston, Maidstone.
	Over	Under	Under	....	....	....	Over	Average	....	Charles E. Shea, The Elms, Foots Cray.
	Under	Average	Average	Average; good	Average; good	Under; bad	Over; very good	Under	....	J. T. Shann, Betteshanger Park Gardens, Eastry, Deal.
	Under	Under	Average	Average	Under	....	Over; good	Over; good	Under	William Lewis, Iden Manor Gardens, Staplehurst.
	Average; good	Under; good	Under; good	Over; very good	Under; good	Under; good	Average; good	Over; very good	Under	J. G. Weston, Eastwell Park Gardens, Ashford.
MIDDLESEX	Average	Under	....	Average	....	....	Average	Under	....	W. Swan, Jamnagar House Gardens, Staines.
	Over; good	Under	Under	Average	Under	Under	Average	....	....	John Weathers, Park View, Isleworth
	Average	Average	Under	Over; good	Average; good	....	Average	Over; good	Under	H. Markham, Wrotham Park, Barnet.
	Over	Average	Under	Average	Average	Under	Over	Average	....	A. R. Allan, Hillingdon Court Gardens, Uxbridge.
	Average; good	Under; good	Under; bad	Under; good	Under; bad	Under; bad	Over; good	Average; good	Under	Arthur Bedford, Gunnersbury House Gardens, Acton, W.3.
	Average; very good	Under; good	Average; good	Average; good	....	Under	Over; very good	Over; very good	....	G. H. Head, Fulwell Park, Gardens, Twickenham,
SURREY	Under	Under	Under	Under	Under	Under	Over; very good	Under	Average; good	J. Collier, Gatton Park Gardens Reigate.
	Under; good	Under; good	Under; good	Under; good	Average; good	Under; good	Average; bad	Under; good	Average	James Lock, Oatlands Lodge Gardens, Weybridge.
	Over; good	Average; good	Average; good	Average; good	....	....	Over; good	Under; good	Average; good	James Watt, Mynthurst Gardens, Reigate.
	Average; good	Under; good	Under; good	Average; good	Under; good	....	Average; good	Average; good	Under	T. Guile, Grenehurst Park Gardens, nr. Dorking.
	Under; good	Under; good	Under; good	....	Average good	....	Over; good	Over; good	....	W. Auton, Pyrford Court Gardens Woking.
	Average; good	Over; good	Under; good	Over; good	Under; good	Under	Over; good	Average; good	Average	F. Jordan, Ford Manor Gardens. Lingfield.
	Average; good	Average; good	Under; bad	Good	Under; good	....	Over; very good	Under; good	Over; good	S. T. Wright, Royal Horticultural Gardens, Wisley, Ripley.
	Average; good	Under; good	Under; good	Average; good	Average; good	....	Over; good	Under; good	....	T. Smith, Coombe Court Gardens, Kingston-on-Thames.
	Average; good	Under; good	Under; good	Over; good	Average; good	....	Over; good	Over; good	Over; good	G. Hunt, Ashtead Park Gardens, Epsom.
	Average; very good	Average; good	Under; good	Over; very good	Average; good	Under	Over; very good	Average; good	Under	J. A. Kirkwood, Sutton Place, Gardens, Guildford.
SUSSEX	Over; very good	Average; good	Under; good	Over; good	Average; good	Under; bad	Over; good	Average; good	Average	Frederick C. Legge, Castle Gardens, Arundel.
	Under; good	Under; good	Under; good	Under	Under; good	Under	Average; very good	Under; good	Under	H. Cook, The Gardens, Glynde Place, Lewes.
	Average; very good	Under; good	Under; good	Average; good	Under; good	....	Under; good	Under; bad	Under; good	Ernest M. Bear, Magham Down, Hailsham.

CONDITION OF THE FRUIT CROPS—(*continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS	SMALL FRUITS.	STRAWBERRIES.	NUTS	NAME AND ADDRESS.
SUSSEX (Continued)	Over	Under	Average	Over	Average	....	Over	Average	....	Leon Squibbs, Stonehurst Gardens, Ardingly.
	Average; good	Average	Average	Average	Under; bad	Under; bad	Over; good	Average; very good	Average	Arthur Wilson, Eridge Castle Gardens, Tunbridge Wells.
	Over; good	Over; good	Under; very good	Average; very good	Average; good	Under; bad	Average; good	Under; very good	Under	Ernest Markham, Gravetye Manor Gardens, East Grinstead.
	Average; good	Average; good	Under; good	Average; good	Average; good	Average	Average; good	Average; good	Under	W. H. Smith, West Dean Park Gardens, Chichester.
	Over; good	Under	Over; good	Average	....	....	Average	Under	Average	Edwin Neal, Tilgate Gardens, Crawley.
	Average; very good	Under; very good	Under; good	Over; good	Average; very good	Under; very good	Over; very good	Average; very good	Average; good	J. W. Buckingham, Milland Place, Liphook.
	Average; good	Average; good	Under; bad	Average	Average; good	Under; bad	Average; very good	Average; very good	....	J. J. Thompson, Compton Place Gardens, Eastbourne.
WILTSHIRE	Over; very good	Under	Under; good	Average; good	Average; good	....	Average; very good	Under; good	Under; bad	C. E. Barter, Longleat Gardens, Warminster.
	Average; good	Average; very good	Average; good	Average; good	Average; good	Under	Over; very good	Under; bad	Under; bad	James Glasheen, The Manor Gardens, Ramsbury.
	Average	Under	Under	....	....	....	Under	Under	....	T. Sharp, Westbury.
	Over; very good	Under; good	Under; good	Average; good	Average; good	Under; good	Over; very good	Average; good	Under; good	T. Challis, Herbert Cottage, Wilton, nr. Salisbury.
7. England, N.W.										
CUMBERLAND	Under; good	Under; bad	Average	Average; good	Under; good	Under; good	Average; good	Average; very good	....	James Tait, Justicetown Gardens, Carlisle.
	Average	Under	....	....	....	....	....	Under	....	J. Gowan, Castle Gardens, Whitehaven.
LANCASHIRE	Average; good	Over; good	....	Under	....	....	Over; very good	Under; good	....	W. B. Upjohn, Hall Gardens, Worsley, Manchester.
	Under	Under	Average	Under	Average	Under	Over; good	....	Under	Richard F. Lambe, Witherslack Hall Gardens, Grange-over-Sands.
WESTMORLAND	Under; good	Under; bad	Under; good	Under; good	....	....	Under; good	Under; good	....	W. A. Miller, Underley Gardens, Kirkby Lonsdale.
	Average	Under	Average; good	Under	Average; good	....	Over; very good	Under	....	James Jeffrey, Lowther Castle, Penrith.
8. England, S.W.										
CORNWALL	Average; good	Average; good	Under	....	Average; good	....	Over; good	Under; good	....	Harry Williams, Tolvean, Redruth.
DEVONSHIRE	Over; very good	Average; good	Average; good	Average; good	Under; good	Under; good	Over; very good	Average; good	Average; good	E. E. Bristow, Castle Hill Gardens, South Molton.
	Over; very good	Under	Under	Under; bad	Under; good	....	Over; very good	Average; good	Average; good	Robert F. Fitt, Endsleigh Gardens, Milton Abbot, Tavistock.
	Average; good	Average; good	Average; good	Average; very good	Under; good	....	Average; very good	Under; bad	....	T. H. Bolton, Powderham Castle Gardens, nr. Exeter.
	Under	Average	Under	Under	Under	....	Average	Average	....	Gilbert Sleep, Hartland Abbey Gardens, Hartland.
	Average	Average	Under	Under	Under	Average	Average	Average	Average	P. C. M. Veitch, Royal Nurseries, Exeter.
	Under; very good	Average; good	Average; good	Average; very good	Average	Under	Average; very good	Under; bad	....	Wm. Lock, Eastcliffe Gardens, Teignmouth.
GLOUCESTERSHIRE	Average; good	Under	Under	Average	Average	Under	Average	Average	Under	Arthur Chapman, Westonbirt Gardens, Tetbury.
	Average; good	Under	Under	Average	Under	Under	Average	Average; good	Average	William Keen, Bowden Hall Gardens, nr. Gloucester.
	Average	Average	Under	Under	....	....	Average	Average	....	Wm. J. Jefferies, Cirencester.
	Over; good	Under; good	Over; good	Under	Average; good	Under	Over; good	Over; good	....	John Banting, Tortworth Gardens, Falfield.
	Average; good	Average; good	Under; good	Over; very good	Average; good	Average; good	Over; very good	Under; good	Over, very good	G. H. Hollingworth, Shire Hall, Gloucester.
	Average; very good	Over; good	Average; good	Under; good	Under; bad	....	Over; good	Average; good	Under; bad	J. Osmond, Ebrington Hall, Campden.
HEREFORDSHIRE	Over; very good	Over; very good	Average	Average	Average	Under	Over; very good	Under	Average	F. Roberts, Stoke Edith Park Gardens, Hereford.
	Under	Under	Under	....	....	....	Under; good	Under; bad	....	Dr. H. E. Durham, Dunilm, Hereford.
	Under; good	Average; good	Under	Under; bad	....	....	Average	Average; bad	Over	Thomas Spencer, Goodrich Court Gardens, Ross.
MONMOUTHSHIRE	Under	Under	Under	Under	Under	Under	Average	Average	Average	T. Coomber, The Hendre Gardens.
SOMERSET	Average	Under	Average	Average; good	Under	Under	Average; good	Under; bad	Average	John White, Forde Abbey Gardens, Chard.
	Average; good	Under; good	Under; good	Average; good	Under; good	....	Average; good	Average; bad	....	F. Olver, Summerhill Park Gardens, Bath.
	Average	Under	Under	Under	....	....	Average	Average	....	J. T. Rushton, Barons Down Gardens, Dulverton.
WORCESTERSHIRE	Average; good	Average; good	Average; good	Average; very good	Average; good	Under	Average; very good	Under; bad	....	Thos. Watkins, The Grange Gardens, Claines.
	Average; good	Under; good	Over; good	Over; very good	Average; good	Average; good	Over; good	Under; bad	Average; good	William Crump, Oakridge, Malvern Link.
	Over; good	Average; good	Under	Average	....	....	Over; good	Average; very good	Average	Ernest Avery, Finstall Park Gardens, Bromsgrove.
	Under; good	Average; good	Under; good	Average; good	....	Under; good	Over; good	Under; bad	....	James Udale, 7, Ombersley Road, Droitwich.
WALES.										
CARDIGANSHIRE	Over; very good	Over; very good	Over; good	Average; good	Under	....	Over; very good	Average; good	....	T. Hazeldine, Crosswood Gardens.
	Over	Over	Average	Average	....	....	Average	Average	....	W. Phillips, Derry Ormond Gardens, Llangybi.
CARNARVONSHIRE	Over; good	Over; good	Average; good	Average; good	Under	....	Over; good	Average; good	....	J. S. Higgins, Glynllivon Park Gardens, Llanwnda.
DENBIGHSHIRE	Average	Average	Average	Average	....	....	Average; good	Average; good	....	J. A. Jones, Chirk Castle Gardens, Chirk.
GLAMORGANSHIRE	Over; very good	Average; very good	Under; good	Under; bad	Under; good	....	Over; very good	Under; good	....	Arthur J. Cobb, Duffryn Gardens, near Cardiff.
	Average	Under	Under	Over; very good	Under	....	Over; very good	Over; very good	Under	C. T. Warmington, Penllergaer Gardens, Swansea.

CONDITION OF THE FRUIT CROPS—(*continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
PEMBROKESHIRE	Under; good	Under; good	Under	....	....	....	Average	Average	Under	W. B. Fisher, Stackpole Gardens, Pembroke.
	Average; good	Average; good	Under; bad	Average; good	Under; good	....	Over; good	Under; good	....	Thomas Hy. Roberts, Slebeck Park Gardens.
IRELAND:										
9. IRELAND, N.										
DOWN, HILLSBOROUGH DISTRICTS	Over	Over	Average	Under	Under	....	Average	Average	....	Thos. Bradshaw, Hillsborough, Co. Down.
CO. DOWN	Average; good	Average; good	Average; very good	Average; good	....	....	Over; very good	Over; very good	....	T. W. Bolas, Mount Stewart, Newtownards.
CO. LEITRIM	Average; good	Under; good	Average; good	Average; good	....	....	Over; very good	Average; very good	....	Duncan McGregor, Derrycarne Gardens, Dromod.
6. IRELAND, N.										
MAYO	Under; bad	Over; good	Under; bad	Under; bad	Average; good	....	Over; good	Average; good	Average; good	Richard Joyce, Demesne Westport.
MEATH...............	Over; very good	Under; bad	Over; good	Over; very good	Average; good	....	Over; good	Over; good	....	Michael McKeown, Julianstown, Drogheda.
MONAGHAN	Over; good	Over; good	Over	....	....	....	Over; good	Average; good	....	James Hepburn, Dartrey Gardens, Cootehill, Co. Cavan.
TYRONE	Over	Over; good	Average	Average	....	....	Over; good	Over; very good	....	Fred. W. Walker, Sion House Gardens, Sion Mills.
WEST MEATH	Over; very good	Under; good	Average; good	Average; good	....	Under	Over; very good	Over; very good	Under	Wm. Allan, Pakenham Hall Gardens, Castlepollard.
10. IRELAND, S.										
CORK	Over	Average	Over	Average	....	....	Over; very good	Under	....	Maurice Colbert, Aghern Gardens, Conna.
	Average; good	Average; good	Over; good	....	....	....	Average; good	Under; good	....	J. Dearnaby, 17, St. Patrick's Terrace, Magazine Road.
KILDARE	Over	Over	Average	Average	Under	Under	Over	Over	Under	Alexr. Black, Carton, Maynooth.
	Average; good	Average; good	Average; good	Average; good	Average; good	Average	Average; very good	Average; good	....	Frederick Streeter, Straffan House Gardens.
KING'S COUNTY	Under; good	Under; good	Under; good	Average; good	Under; good	....	Over; very good	Over; very good	Under; good	Edward Clarke, Claremount, Garry Castle, Banagher.
LIMERICK	Average; good	Average; good	Average; good	Under; bad	....	....	Over; good	Over; very good	....	Harry Nixon, Rockbarton, Kilmallock.
LONGFORD	Average	Average	Under	Under	Under	....	Average; good	Average; good	....	A. J. Campbell, Castle Forbes Gardens, Newtown Forbes.
QUEEN'S COUNTY	Over; very good	Under; good	Average; good	Average; good	....	....	Over; very good	Over; very good	....	G. McGlashan, Abbey Leix Gardens.
ROSCOMMON	Over; very good	Under; good	Average; good	Average; good	Under; bad	....	Over; good	Average; good	....	Joseph Reid, Frenchpark Gardens.
WATERFORD..........	Over; very good	Over; good	Over; good	Average	Average	Under	Over; very good	Over; very good	Average	D. Crombie, Curraghmore Gardens, Portlaw.
WICKLOW	Under; bad	Average; good	Under; bad	Under; bad	Average; good	Under; bad	Average; good	Under; bad	....	Walter Bailey, Glenart Gardens, Arklow.
CHANNEL ISLANDS:										
JERSEY	Average; good	Under; good	Under; bad	Under; bad	Under; bad	Under; bad	Average; good	Average; bad	....	Thomas Sharman, Imperial Nursery, St. Mark's Road, St. Heliers, Jersey.
ISLE OF MAN:										
DOUGLAS	Over; good	Average; good	Average; good	Average	....	....	Over; good	Average; good	....	James Inglis, Peel Road Nursery, Douglas.

SUMMARIES OF THE HARDY FRUIT CROPS

SCOTLAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records ..	50	48	50	51	24	21	49	49	8
Average	21	23	21	22	13	3	24	24	5
Over	13	1	13	2	2	—	15	13	—
Under	16	24	16	27	9	18	10	12	3

ENGLAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records ..	174	173	172	163	129	109	173	172	117
Average	84	74	51	102	66	10	75	72	60
Over	55	16	16	24	6	1	90	30	9
Under	35	83	105	37	57	98	8	70	48

WALES.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records ..	8	7	6	8	4	—	6	6	2
Average	3	3	2	6	—	—	2	3	—
Over	4	2	—	1	—	—	4	1	—
Under	1	2	4	1	4	—	—	2	2

IRELAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records ..	20	20	19	17	10	5	19	19	5
Average	7	8	10	11	5	1	5	7	2
Over	10	6	5	1	—	—	14	9	—
Under	3	6	4	5	5	4	—	3	3

CHANNEL ISLANDS.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records ..	1	1	1	1	1	1	1	1	—
Average	1	—	—	—	—	—	1	1	—
Over	—	—	—	—	—	—	—	—	—
Under	—	1	1	1	1	1	—	—	—

ISLE OF MAN.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records ..	1	1	1	1	—	—	—	1	1
Average	—	1	1	1	—	—	—	—	1
Over	1	—	—	—	—	—	—	1	—
Under	—	—	—	—	—	—	—	—	—

GRAND SUMMARY, 1919.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records ..	254	250	249	240	168	136	248	248	133
Average	116	109	85	141	84	14	107	107	68
Over	83	25	34	28	8	1	123	54	9
Under	55	116	130	71	76	121	18	87	56

SUMMARY OF 1918 FOR COMPARISON.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records ..	(234)	(229)	(227)	(219)	(158)	(150)	(234)	(232)	(122)
Average	22	5	21	64	77	49	153	125	54
Over	6	2	5	5	15	21	36	23	7
Under	206	222	201	150	66	80	45	84	61

APPOINTMENTS FOR AUGUST.

MONDAY, AUGUST 4.—
Abergavenny Flower Show (2 days). Hertford Flower Show (2 days).

TUESDAY, AUGUST 5.
Walsall Floral Fete (2 days).

MONDAY, AUGUST 11.—
United Hort. Ben and Prov. Soc. Com. meet.

TUESDAY, AUGUST 12.—
Royal Horticultural Society's Committee's Meeting. Lecture by Mr. James Hudson, at 3 p.m., on "Fruit Trees in Pots."

WEDNESDAY, AUGUST 13.—
Liverpool Horticultural Association's Show of Flowers and Vegetables, to be held in the Corn Market (2 days). Southampton Horticultural Society's Summer Show.

FRIDAY, AUGUST 15.—
Southend Fruit and Vegetable Show, to be held in the Chalkwell Park, Westcliff, (2 days).

THURSDAY, AUGUST 21.—
Aberdeen Horticultural Society's Exhibition. East Oxford Horticultural Society's Exhibition.

TUESDAY, AUGUST 26.—
Royal Horticultural Society's Committee Meeting. Lecture by Mr. H. Burns, at 3 p.m., on "Allotment Development in and around Leicester."

SATURDAY, AUGUST 30.—
Bridgend Horticultural Association's Flower Show. Southport Fruit and Vegetable Show.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich 62.19°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, July 30, 10 a.m.; Bar 30.2; temp. 59°. Weather—Dull.

The Fruit Crop. Following our practice of many years past, we publish with our first issue in August, reports from correspondents in various parts of Great Britain on the condition of the hardy fruit crops. The results will be read with great satisfaction, for at one time there appeared to be considerable doubt as to whether the fruit harvest this season would be much better than the miserable one of last year. It was known that some growers had excellent crops, and it was also known that the unfavourable season had militated against a prosperous fruit year in other places, where certain kinds of fruits are almost failures. In these circumstances, it is gratifying to learn that the fruit crops generally are equal to, or rather better than, the average. The season has been one of the most tantalising on record, for at its commencement there were prospects of abundant crops of all kinds. Fruit trees and bushes produced a profusion of blossom, and the flowers appeared to be strong and capable of setting satisfactorily. This wealth of strong blossom was doubtless due to the shortage of fruit in 1918, for the trees last summer were enabled to devote their whole energies to the formation of fruit buds, and were assisted by favourable weather in August and September. Prospects continued satisfactory until the majority of the trees were in bloom, and up to that point late frosts were not of sufficient severity to cause any appreciable damage. Late in April, when the crops might reasonably be considered safe, the weather changed entirely, and on the 27th and 28th of that month, one of the worst spring blizzards of recent years occurred, at a time when the majority of the fruit trees were in full flower. The wind blew from the north east, and cold winds prevailed for several days. It was expected at the time that such arctic conditions would destroy many of the embryo fruits, but there was the consolation that blossom, generally, was so abundant, that even if much was destroyed there would still remain plenty to provide good crops. Unfortunately, other troubles were ahead, and the blizzard was followed by one of the longest spring droughts on record. As the dry weather continued, the fruits commenced dropping, and in some cases the trees became entirely denuded of their crops from this cause. The hot, dry conditions greatly retarded growth, and insect pests found the conditions suitable to them, with the result that, in some parts, there were severe infestations of caterpillars and other enemies. Owing to the shortage of labour in most gardens during the past two or three years, it has been impossible to adopt the usual preventive measures of spraying and grease-banding fruit trees, but the seriousness of neglect in these matters has been brought home to the growers this as well as last season.

It will be seen from the "grand summary" that the only failure is the Apricot crop. Plums appear to be plentiful in some districts, and scarce in others; there is a slight deficiency of these fruits over the country generally, as the figures for average and over crops total less than those recording yields under the average. Plum trees were in full blossom at the time of the April blizzard, and its effect was in proportion to the amount of protection the trees received from the north and north-east. There are many who consider that the blizzard caused less harm to the Plum crop than the drought which followed it, for it is well known that the most critical time with all stone fruits is when the stones are forming, and that drought at that stage predisposes the fruits to turn yellow and drop from the trees. In the case of Apples, which may be regarded as the principal hardy fruit crop in this country, 83 of our correspondents record a yield of over the average, whilst 116 have average crops, and only 53 notify crops under a normal yield. Of Pears, which were such a miserable failure last season, out of total of 250 records, there are 25 over and 109 average crops, with 116 records of deficient crops. Several correspondents who have good crops generally, attribute success to their practice of mulching the trees in spring, and the fact that many have their best crops or trees worked on the free stock lends further point to those who argue that the Spring drought was chiefly responsible for failures. The Cherry crop was a good one and there are satisfactory numbers of Peaches and Nectarines, but, as stated above, Apricots are almost a complete failure, for there is only one record of an over the average crop, and fourteen of average yield, out of a total of 136 returns. As in most years, the records for small fruits are very satisfactory, and of a total of 248 returns, 230 show average or over average yields. In most enclosed gardens Gooseberries have fruited as freely as ever, but we know of cases where Gooseberry bushes in exposed fields bore practically no fruits owing to the effects of the April blizzard. The Strawberry crop has been most disappointing, for the plants were healthy and produced an abundance of vigorous flower trusses, but, owing to the drought, the fruits failed to swell and the crop was soon over. This is true also in a large measure of Raspberries and Loganberries. There appears to be a good crop of Nuts, and especially of Walnuts. Two remarkably fine clusters of Walnuts grown at Pett Place, Charing, Kent, are illustrated in Fig. 32. The gardener, Mr. J. Pitts, to whom we are indebted for the material from which our illustration was made, informs us that never before has he seen such a remarkable crop of Walnuts as this season. The two clusters he sent us were, he states, only typical of great numbers from the same tree.

New Wheats.—The new Wheats, Fenman a Yeoman, produced at Cambridge and distribut by the Food Production Department of the Bo of Agriculture, last season gave yields of 8 9 qr. per acre, and in two cases of 12 qr. per ac Yeoman is not equal to Red Fife for milling a baking, but this year's tests show that it sufficiently strong to produce a good quality lo without the addition of any imported Wheat.

The Ormskirk Potato Trials.—The summer spection of the Potato trials conducted by Board of Agriculture at Ormskirk, Lancashi will take place in the second week of Aug and Potato growers and others interested in subject are invited to inspect the trials August 14. The objects of the Ormskirk tri which have now been conducted by the Board Agriculture for a series of years, are to de mine which of the varieties already in comm and which new varieties possess immunity f Wart Disease, and to demonstrate the cropp qualities of immune varieties.

Trade with Belgium.—The Worshipful C pany of Gardeners has decided to approach British Government to modify, as speedily possible, the existing regulation requiring Br traders to obtain a special licence for each ticular parcel imported from any one Bel grower, which regulation operates as a se restraint on trade. The Committee has also cided to approach the United States Ambas in the endeavour to induce the Federal H cultural Board of the United States Depart of Agriculture to issue such an amendment Regulation 14 of the Rules and Regula Supplemental to Notice of Quarantine No (under authority conferred by the Plant Qua tine Act of August 20, 1912: 37 Stat., 315 will provide for special permits for import of Azaleas, Rhododendrons, Palms, Bays, A carias, Aspidistras and Orchids, from Belgiu the United States of America. The Court made a grant out of the Company's Charity towards the sum of £12,235 required for su ing reed mats for the Belgian horticultu donations received from the members for special purpose already amount to nearly £3

Destruction of Wasps.—The old method destruction involving the use of paraffin, sulp tar, etc., are effective though more trouble than the "cyanide" treatment which, in ful hands, is the most satisfactory. If abou eggspoonful of sodium (or potassium) cyanid placed just inside the entrance to the nest, wasps will be "gassed" either inside the or as they enter. The work may be done in daytime—an Elder stick hollowed out at one to form a sort of "spoon" being useful fo serting the poison into the nest. With ordi care there is no risk of being stung. The point to remember is that "cyanide" is a deadly poison, a very small dose being fat man. It should be labelled "POISON," be kept in a stoppered bottle under lock key; and it should be handled with the gr care. Sodium (or potassium) cyanide can be got from the local chemist, but for every chase the "poison book" must be signed.

Liquid Manure.—The urine of animals con nearly all the potash and a great deal of nitrogen which passes through their bodie contains only a small amount of the phosp the bulk of this being voided with the Further, it contains these important plant- not in solid form but in solution, ready fo immediate use of the plant. Moreover, the from manure kept in the ordinary way is, to fermentation and drainage, a very item. Liquid manure, however, by the simple appliances and by care, can be kept out losing much of its manurial value. average sample, undiluted, should contain .2 per cent. of nitrogen and .46 per cen potash, and 1,000 gal. are equal in value, ro speaking, to about 3 cwt. of kainit and 10 of sulphate of ammonia. According to the *Jo of the Board of Agriculture*, at pre-war rat value would be about 4s. 6d. per ton (224 g at present rates considerably more. Irish ex ments have proved that liquid manure, a at the rate of 16 tons per acre to hay land, rather better results than the same wei farmyard manure, or than 1 cwt. nitrate of 2 cwt. superphosphate, and 2 cwt. kainit. tilisers and feeding stuffs are still expensive,

very effort should be made to save money on the former by using the manurial residues of the latter to their fullest extent. The liquid manure should, therefore, certainly not be allowed to run to waste. This applies not only to the urine but to the drainage from dungsteads, yards, etc.; this, though not so valuable, should also be collected and run into the tank.

Nicotine for Spraying.—For some time past the British manufacturers of nicotine have agreed with the Government to limit the maximum price of nicotine for spraying to 16s. per lb., delivered in the case of lots of 100 lbs. or more: or free on rail for lots of less than 100 lbs. The manufacturers have now agreed to continue this arrangement for a further period of three months, to end on September 30th next. Fruit growers and others needing nicotine for spraying are advised by the Board of Agriculture to send in their orders as early as possible.

Smut Disease of Onions.—A disease of Onions known as Onion Smut, which has only been recorded in this country on rare occasions, has made its appearance in the North of England. Onion Smut, which is caused by the fungus Urocystis cepulae, is a well-known and serious disease in America, where the damage is often so great as to prevent the growing of Onions on ground which has become infected. The disease attacks the young plant and causes small dark spots and streaks to occur on the first leaves. The later leaves also show signs of disease in the form of long streaks. The streaks are at first covered by the skin of the Onion leaf; but presently the fungus bursts through its surface and appears as long black patches, from which myriads of dark powdery spores are scattered on the ground. The disease is not confined to the leaves but attacks the outer scales of the bulb, causing large fissures. The seriousness of Onion Smut is due not only to the immediate loss which it causes among plants, but also to the fact that the soil in which diseased plants are grown becomes infected by the spores, which retain their vitality for several years. Once the soil is infected Onion growing in it becomes well nigh or altogether impossible. To prevent the spread of the disease, all plants attacked by Onion Smut should be pulled up and burned at once.

Trade with Scilly Isles.—The question of the development of these islands for the purpose of securing a permanent steamboat service between the isles and the mainland has engaged the attention of the landed proprietor, the islanders and the Chamber of Horticulture for some time. Certain steps have been taken, and it has been mutually decided that the Secretary of the Chamber shall prepare an independent report on the present condition and future possibilities of the isles, for use among the various interests concerned.

Chamber of Horticulture.—A strong Technical Committee has been appointed by the Chamber of Horticulture to deal with items relating to disease, and generally undertake matters of research. An Association, entitled The Horticultural Technical Association, has been formed, comprising leading scientific men attached to the colleges and educational centres throughout the country, and is affiliated to the Chamber. From this Association will be drawn a sub-committee to work in conjunction with the Trade Committee and to secure the best commercial results for the horticultural industry. Any matters claiming the attention of these committees should be remitted in writing, addressed to the Technical Secretary, Chamber of Horticulture, 11, Adam Street, Adelphi, W.C.2. The Chamber is in touch with several stations which can deal with questions of disease requiring immediate attention, and will be assisted by the laboratories at Wisley, which are specially equipped for purposes of research.

A Double Yellow Marguerite.—Mr. Bedford, nurseryman of Cape Town, now in England, informs us that a plant of the popular double-flowered Marguerite Mrs. Sander, grown by a Dutch lady in South Africa, sported, and produced yellow flowers of the same style as Mrs. Sander. He has a moderate stock of the yellow form and endeavoured, but without success, to bring a plant with him to this country.

Seed Growing in Poland.—Now that Poland has obtained her independence, the large number of agricultural and horticultural seed growers, who formerly grew very large crops for German seed merchants, are anxious to establish direct trading relations with this country. As a measure of reconstruction the growers, numbering, we believe, over 900, have banded themselves into a syndicate called the United Agricultural Syndicate of Poland, and the leading directors have been on a short visit to England for the purpose of learning the needs of this country and instituting propaganda. Offices have been opened at 88, Kingsway, London, and the directors have appointed M. Mazgay, a Pole who has a thorough knowledge of horticulture and agriculture and also the advantage of some years' residence in Britain, to superintend the arrangement and proper execution of growing contracts and other matters. Thus the possibility opens up for British firms to obtain the seeds, which cannot be economically produced in this country, without the necessity for re-opening intercourse with German firms.

French Chrysanthemum Society.—The French Chrysanthemum Society, which has its headquarters at Lyons, has, like so many other such societies, suspended its activities during the war. At a meeting of the Executive, held on June 7, it was decided to hold a general meeting, and if possible a conference, in November, probably on the occasion of the Chrysanthemum Show to be held at Paris under the auspices of the French National Horticultural Society. Some sad losses have occurred in the ranks of the members, among which has to be reckoned the former president, Monsieur Max de la Rocheterie, who will be greatly missed. It is not yet known who will be elected to fill his place.

Fig. 32.—Fine clusters of walnuts; one originally carried fifteen fruits.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Phyllopertha horticola.—With reference to the note about this beetle (see p. 36, *Gard. Chron.* of July 19), it may interest Mr. Lees and others that this year, as most years, for a few weeks in June, the beetle was very common in this garden, in East Hampshire, on a rather dry hill-side, at about 325 feet altitude. It comes out of the ground when warm weather begins and commences to attack Roses, chiefly the "wild" ones and those with single flowers. It eats the petals and the stamens and prefers the blooms of Rosa spinosissima, R. altaica, R. rugosa, R. multiflora and the Austrian and Penzance Briars. It rarely attacks double Roses, though, if wet weather threatens, it takes refuge among their petals. It sometimes attacks Cotoneasters, occasionally Berberis, Lycium and the Tree Lupin. I have *never* found it attack Apples, Pears or Plums. I regularly collect the beetles and give them to the chickens, which enjoy them. It may be also noticed that a mowing machine with the box on will collect numbers of the pests as they emerge from the ground. *J. S. Gamble, Highfield, East Liss.*

The London Plane.—With reference to the article on the London Plane (see p. 47), the following remarks may be of interest: Previous to 1884, when an examination of several hundred trees was made by the late Mr. George Nicholson and myself, the London Plane was popularly, though erroneously, known as the Eastern species (Platanus orientalis). This examination, however, proved that the tree which is most common and survives best in the metropolis, was not the species but a distinct and well-marked variety known as the Maple-leaved Plane (P. orientalis acerifolia), about which I

then wrote: "It is not generally known that the so-called London Plane, which succeeds well along the Thames Embankment and in other parts of the Metropolis, is not the true Eastern Plane (Platanus orientalis), but a distinct and well-marked variety known as the Maple-leaved Plane (Platanus orientalis acerifolia). From the species it is readily dectected by the less deeply divided leaves, and from Platanus occidentalis (the Western Plane) by the several heads of fruit which are attached to each peduncle, those of the Western Plane being usually produced singly." Regarding the hybrid origin of the London Plane I am not satisfied, neither are others who have studied the tree, for the species is most variable under cultivation; and to say that the Western Plane (P. occidentalis) has not reached the flowering stage in this country is hardly supported by facts as an examination of the fine, healthy tree that is to be seen by the roadside at Westcombe Park, Blackheath, will reveal, and from which seedlings were raised at Greenwich over twenty years ago. Of the numerous varieties one of the most distinct is cuneata, a good specimen of which may be seen in Portman Square, planted by the Earl of Ducie, when he lived there. The giving of varietal names to the progeny of very variable trees such as the Elm, Poplar and Plane should be done cautiously and is generally to be deprecated unless in the case of well-marked and constant forms. Of the nine remarkable Plane trees in the London area one of the most interesting is that growing in the ancient and sadly confined churchyard of St. Dunstan's-in-the-East, which was recorded by Fairchild as 40 feet high in 1772. Here, hemmed in by tall buildings and in the deleterious atmosphere of Billingsgate fish market, this magnificent tree has attained to goodly proportions, the huge trunk, 50 feet in length, which contains fully 200 cubic feet of wood, girthing at 3 feet and 5 feet, 9 feet 1 inch, and 8 feet 11 inches respectively. The tree is clear of branches for a great height and of beautiful, cylindrical shape, with only a slight taper throughout its length, the girth at 25 feet being nearly as great as at a yard from the ground. The branch-spread is 75 feet, extending from the Church on one side to St. Dunstan's House on the other. The exact date of introduction of the Eastern Plane to this country is, unfortunately, not known, though it is recorded as the sixteenth century. Assuming that the St. Dunstan's tree was 20 years planted when 40 feet high (a fair average when situation and quality of soil are taken into account), as recorded by Fairchild, the date of planting would be about 1752. *A. D. Webster.*

The Snowy Fly (see p. 54).—This pest is making considerable headway despite the various measures taken for its destruction. I had a great deal of trouble with it about twenty years ago among greenhouse flowering plants; it was first introduced on some purchased plants of Bouvardias. Dipping in an insecticide, if persevered in, was successful in destroying the pests on individual plants, but in a large collection of miscellaneous subjects dipping was impracticable. Vaporising with the X. L. All Vaporiser was next tried. As stated on page 54, this brought down the perfect insects, but had no effect on the larvae and purpae under the scales. The house was vaporised every three days for some time, and perseverance was at last rewarded, but at a very heavy cost. I noticed that even when the mature flies were brought to the ground a great many of them were not dead, but revived unless hot water or paraffin emulsion was poured on them. Since the time to which I refer the pests have greatly increased, not only under glass but out of doors. *W. T.*

Failure of the Gooseberry Crop in Cumberland.—One must go back many years to find the record of such a meagre Gooseberry crop in the plain of Cumberland as this season. The failure is doubtless due to the severe night frost which followed the snowstorm on April 27 last, at a time when the bushes were in flower. Nicholson's *Dictionary of Gardening* states that the leaves and tender young fruits are very liable to destruction by late spring frosts; but I should imagine that the most critical period is when the bush is in full bloom, for should the stigmas of the flowers be then frozen, fertilisation by the pollen will be prevented and the flowers will dry instead of setting. The bushes here were full of flower and well in leaf, and showed no apparent injury directly after the frost. A good crop of berries was therefore anticipated but the majority of the flowers instead of setting gradually fell off, with the result that only ten pounds of Gooseberries have been obtained from twenty-four moderate-sized bushes—perhaps barely one-tenth of an average crop. The failure of a crop which one had come to regard as almost a certainty is little less than a disaster in these days of scarce and dear fruit when bottling for winter use has become a recognised practice. This garden is situated 100 feet above sea-level and about seven miles inland. Near the sea the Gooseberry crop is better, due most probably to the frost, already referred to, being less severe. In a garden in proximity to the Cumberland mountains and situated at 500 feet elevation there is, oddly, a fair quantity of Gooseberries. Here, probably owing to the altitude, the bushes were not sufficiently advanced in bloom to suffer much from the late frost. Failure of the Gooseberry through spring frosts at this height in Cumberland is not infrequent, but at lower situations it is quite unusual, and in a garden 200 feet above the sea, with which I have been familiar for some years, I have never known such a failure as that of the present season. Though Gooseberries vary considerably as regards their ripening season—we are all familiar with the Early Sulphur, yellow—I am unaware of much difference in their flowering periods. In the last mentioned garden there is a great variety of Gooseberries (though not any very modern sorts), yet all seem to have failed this year, suggesting that there is a little difference in the dates on which they came into bloom. On account of spring frost danger a selection of early and late flowering varieties, if obtainable, seems desirable. Perhaps some Gooseberry expert would enlighten me on this point. *J. P., Carlisle.*

SOCIETIES.

ROYAL HORTICULTURAL.

JULY 29.—In spite of weather so chilly as to suggest an October rather than a July day, and notwithstanding the holiday season has well commenced, there was a quite good exhibition and attendance at the meeting held in the London Scottish Drill Hall, Westminster, on the above date.

The Orchid Committee had a very short sitting and granted one Medal and one Award of Merit. The Fruit and Vegetable Committee awarded a First-class Certificate to a Gooseberry. The Floral Committee, which usually has the bulk of the work, granted one gold and sixteen other medals, one First-class Certificate and five Awards of Merit.

Sweet Peas, Astilbes, Roses and Pelargoniums were the principal flowers and plants shown, but no less interesting were the dry, home-grown bulbs of Tulips and Narcissi, for which special arrangements were made on this occasion.

Floral Committee.

Present: Messrs. H. B. May (in the chair), W. J. Bean, Sydney Morris, John Green, W. B. Cranfield, J. W. Barr, John Heal, J. F. McLeod, J. Jennings, A. Ireland, Jas. Hudson, H. J. Jones, John Dickson, J. W. Moorman, C. Dixon, Chas. E. Shea, W. P. Thomson, E. H. Jenkins, Herbert Cowley, Chas. E. Pearson, Thos. Stevenson and R. C. Notcutt.

New Plants.

FIRST-CLASS CERTIFICATE.

Pelargonium crispum variegatum.—An erect-growing variety of rather stiff habit, its growths densely clothed with crimped and crisped leaves that are light green and heavily margined with creamy white. Sometimes the variegation occurs in streaks and patches. The sturdiness of the plants, whether in small or large plants, bushes or standards, suggests that this Pelargonium will be found very useful as a house plant; its colouring and habit fit it for some forms of summer bedding; and, lastly, it has fragrant foliage. Shown by Hon. VICARY GIBBS (gr. Mr. E. Beckett), Aldenham House, Elstree.

AWARDS OF MERIT.

Gentiana lagodechiana.—A free-growing, late-flowering species, with flowering stems six or eight inches long, semi-procumbent, and carrying one to five flowers. The stems are well furnished with bright green, bluntly-based, heart-shaped leaves. The individual flowers have bright blue recurved lobes and a whitish interior to the wide tube, heavily speckled with brown. There are also a few bright brown spots at the base of each recurved lobe, and the spaces between the lobes are filled with a blue fringing. It is probable that G. lagodechiana is only a variety of G. septemfida, and as such it was illustrated in *Gard. Chron.*, Oct. 3, 1914, Fig. 92. Shown by Messrs. BAKERS, Wolverhampton.

Gentiana Freyniana.—This species is very like G. lagodechiana in the colouring and size of its flowers, but the spotting in the tube is purplish rather than brown. It is the stronger grower of the two, and the opposite, alternate leaves are lanceolate. The stems are dark and the flowers are clustered, 6—14 together, at the apex of the stout erect growths, which are six to ten inches long. Shown by Messrs. BAKERS.

Sweet Pea Market Pink.—A handsome, large-flowered, strong-growing variety after the style of the old Constance Oliver. The flowers are nicely waved, and the colour is rich pink with the cream ground showing through at the base of the standard and wings and on the keel. Shown by Messrs. IRELAND AND HITCHCOCK, Marks Tey.

Sweet Pea Mascott's White.—White Sweet Peas are numerous, but first-rate white varieties that will stand the test of production for market purposes are rare. In Mascott's White a really good white appears to have been found, as the flowers are of large size, good form and solid whiteness. Shown by Messrs. IRELAND AND HITCHCOCK.

Astilbe simplicifolia rosea.—A delightful little hardy plant eminently suitable for fairly moist places in the rock garden, or for the fringe of a bog garden. It has elegant little spikes of tiny pale rose-coloured flowers and it is only in respect of colour that it differs from the type. A very charming plant. Shown by Mr. J. C. ALLGROVE, Langley.

OTHER NOVELTIES.

Mr. E. MARSDEN JONES, Tilston, Malpas, showed Lathyrus Fairy Queen, a bright, blush pink form of L. latifolius; and L. Dolly North, an old-rose-coloured hybrid between L. rotundifolius and L. tuberosus, and one that continues flowering until very late in the season. A tiny yellow-flowered, dwarf and bushy shrub was shown by the Hon. VICARY GIBBS under the name of Jasminum urophyllum Wilsonii; it is free flowering and would be very effective as there were numerous flowers open at once.

GROUPS.

The exhibit of Sweet Peas put up by Messrs. ALEX. DICKSON AND SONS was the most beautiful display in the hall. Although some flowers showed the effects of bad weather, on the whole they were large, clean and bright. Particularly good were the large stands and vases of Daisybud, Royal Purple, Hawlmark Scarlet, Hawlmark Cream, Hawlmark Pink, Cherub, Mrs. Tom Jones and Elegance (Gold Medal).

Messrs. DOBBIE AND CO.'s group of Sweet Peas contained fine bunches of R. F. Felton, Hercules, Illuminator, Constance Hinton, New Marquis and Dobbie's Maroon, but the flowers of some other varieties had suffered a little from adverse weather (Silver-gilt Flora Medal). Some capitally grown Stocks, purple, rose, white, pink, cream and mauve varieties, were exhibited by Mrs. CAMPBELL, Upper Gatton Park, Reigate, and their fragrance was greatly appreciated. The same lady showed Sweet Peas in variety (Silver Banksian Medal).

The central feature of the exhibition was a large group of plants of Pelargonium crispum variegatum. The specimens were of various sizes, bushes and standards. The erect growth of this variety is very distinct, and coming into the dimly-lighted hall very many people thought the group was of Mignonette. As a pot plant

in the home or in the conservatory, for bedding, and possibly as a market plant, this Pelargonium should have a useful future, and Mr. BECKETT, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, who staged the exhibit, showed that this Pelargonium can be well grown in 48 and 32 sized pots (Silver Flora Medal). Tuberous-rooted Begonias were well shown by Messrs. BASTIN AND SON; the plants were greatly admired, but the flowers on boards, equally beautiful, were not in a proper setting (Silver Banksian Medal).

A very graceful and attractive exhibit of Astilbes was arranged by Mr. J. C. ALLGROVE, who had A. Arendsii Salmon Queen, A. A. Vesta, A. A. Ceres and A. Pink Pearl, with a foreground of the dainty little A. simplicifolia and a background of Spiraea gigantea rosea (Silver Flora Medal). Some rare and interesting plants were included in Mr. G. REUTHE's group of hardy subjects, and among those we noted Berberidopsis corallina, Rhododendron eximium, with its new growth; Orchis pyramidalis, Ononis fruticosus, Embothrium coccineum, and Platycodon Mariesii (Bronze Banksian Medal).

In Mr. L. R. RUSSELL's group of shrubs, the coloured Ivies, Japanese Maples and Erythrina crista-galli were the most conspicuous subjects (Bronze Banksian Medal). Geum Borissii and Poterium obtusum were well shown by Mr. W. WELLS, JUN. Mr. G. W. MILLER's contribution consisted chiefly of Phloxes, herbaceous Chrysanthemums and Astilbes (Bronze Flora Medal). Messrs. J. CHEAL AND SONS exhibited a selection of Star Dahlias and Rambler Roses (Bronze Banksian Medal).

Messrs. CARTER PAGE AND CO. set up a most effective group of Violas and Pansies, backed by bronze and gold foliage and a few stands of White Bedder, George Home, Pres. Carnot, and Southgate Gem Pentstemons. The Pansy and Viola blooms were very fresh and bright, and arranged in shallow pans, three pans of each variety; about three dozen varieties were shown and great interest was taken in them (Silver Banksian Medal). MAJOR CHURCHER, Alverstoke, showed a series of very pretty Gladioli, hybrids from G. primulinus; the soft fawn, apricot, cream and pink shades of colour seen in the flowers were greatly admired (Bronze Flora Medal).

Border Carnations were very finely shown by Mr. JAMES DOUGLAS, who put up wonderful flowers of Loyalty (deep apricot), Glamour (deep yellow), Albion (white, of very fine regular form), The Grey Douglas (deep heliotrope), and Lady Godiva (bright cerise pink); Bronze Flora Medal). Messrs. STUART LOW AND CO. had a bright exhibit of perpetual-flowering Carnations, but as the blooms arrived rather late, the display was not so neatly finished as is usual (Silver Banksian Medal). Messrs. ALLWOOD BROTHERS' neat exhibit of perpetual Carnations contained fine blooms of Mary Allwood, Eastern Maid, Wivelsfield White, May Day and Lady Meyer (Silver Banksian Medal).

The Rev. J. H. PEMBERTON showed Roses and had the creamy Prosperity and the single rose-pink Vanity in good condition (Bronze Flora Medal). Mr. T. P. EDWARDS was also an exhibitor of Roses, and again showed his new variety, Flaming Zep (Silver Banksian Medal).

Orchid Committee.

Present: Sir Harry J. Veitch (in the chair), Messrs. Jas. O'Brien (hon. secretary), W. Bolton, Arthur Dye, Frederick J. Hanbury, Walter Cobb, Chas. H. Curtis, J. Charlesworth, W. J. Kaye, Pantia Ralli, J. Wilson Potter, R. A. Rolfe and Stuart Low.

AWARD OF MERIT.

Cattleya illustris (*Acis* × *Maronii*), from Messrs. STUART LOW AND CO., Jarvisbrook, Sussex. A charming hybrid of fine form and firm substance, and delicately fragrant. The sepals and petals are bright Buttercup yellow, the colouring extending through to the backs of the segments. The lip strongly indicates Cattleya Iris (bicolor × Dowiana), having the short, yellow, side lobes firmly embracing the fleshy, white column and the well-defined median isthmus which is bright yellow in colour. The broadly-expanded front lobe of the lip is yellow, with a band of confluent crimson lines and a narrow, pale yellow margin. The cross, which was first raised by Messrs. Armstrong and Brown and flowered in 1915, is extremely variable, the present variety being one of the best which has yet appeared.

OTHER EXHIBITS.

Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), showed a noble specimen of Laelio-Cattleya Ivernia Gatton Park variety (L. C. callistoglossa × L. tenebrosa), with a spike of four large, rose-tinted flowers with claret-purple labellums; Zygopetalum Roeblingianum and two pretty specimens of Z. xanthinum (Promenaea citrina), with twenty to twenty-five pretty yellow flowers; also a good specimen of Odontoglossum Gatton Emperor, with dark violet-blotched flowers.

Messrs. STUART LOW AND CO., Jarvisbrook, Sussex, were awarded a Silver Flora Medal for a group containing a good selection of Cattleya Warscewiczii, C. Hardyana and C. Carmen, with good hybrid Odontoglossums and Odontiodas, which included a novelty in Odontioda Bridesmaid (Oda. Coronation × Odm. Pescatorei), a beautiful and interesting hybrid closely approaching O. Pescatorei in the formation of its flowers and with the same elegant habit. The broad sepals are white slightly tinged with rose colour and bearing a central band of claret colour. The petals are white with a short claret-coloured line in the centre; the lip, which is as broad as in O. Pescatorei, is white in front, the median part around the yellow crest being blotched with purple. Cypripedium Rothschildianum and the now rare C. Stonei were among the species shown, whilst an excellent selection of Dendrobiums gave variety in form and colour.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (chairman), Owen Thomas, W. Bates, E. Beckett, P. A. Tuckett, W. H. Divers, E. A. Bunyard, H. Markham, F. Jordan, J. C. Allgrove, A. R. Allan and Geo. F. Tinley.

FIRST-CLASS CERTIFICATE.

Gooseberry Howard's Lancer.—This large, green-fruiting variety is now fairly well known for its fine cropping capabilities and good flavour. It received an Award of Merit on August 13, 1901, when shown by Mr. G. Woodward, Barham Court Estate Gardens, and on Tuesday last it obtained the higher and unusual award of a F.C.C. In the opinion of very many experts this is the finest Gooseberry for general utility purposes in cultivation. Shown by the EARL OF STRAFFORD (gr. Mr. H. Markham), Wrotham Park, Barnet.

A form of Rubus biflorus named quinqueflorus, sent to the R.H.S. gardens, Wisley, by Col. F. Balfour, Stobo, Peeblesshire, was exhibited by the garden superintendent, Mr. S. T. WRIGHT. This variety is more ornamental than the type and continues to produce its orange-yellow, briskly flavoured fruits over so long a period as to be almost perpetual-fruiting. Messrs. H. CANNELL AND SONS showed a seedling Goose-

FIG. 33.—GOOSEBERRY HOWARD'S LANCER (MUCH REDUCED).
(See Awards by the Fruit and Vegetable Committee.)

berry named Ben Smith, with rough, hairy fruits; and a late fruiting, seedling Raspberry named Alcock, now on trial at Wisley.

DRY BULB SHOW.

There was a tremendous falling off this year as compared with last season in the number of exhibits of Dry Bulbs. This is a great pity, because the greater the competition the greater the interest, and the larger is the opportunity afforded of bringing bulb growing before the public as a British industry. The DONARD NURSERY Co., Newcastle, Co. Down, were awarded a Silver Flora Medal as first prize for a collection of twenty varieties of home-grown May-flowering Tulips; the bulbs were solid and of large size. Second prize, a Silver Banksian Medal, was awarded to Mr. GEORGE MONRO, JUN., Spalding, for slightly smaller but very clean bulbs.

Mr. GEORGE MONRO, JUN., was the only exhibitor of a collection of early-flowering Tulips, and we cannot better describe the bulbs than by stating several large Tulip growers observed that there was no need to go to Holland for "earlies" if bulbs like these can be grown at home. The bulbs of Washington, Pink Beauty, Rose Luisante, Duc de Parma, Bleu Céleste, Keizerskroon and Sir. Thos. Lipton were particularly fine.

The DONARD NURSERY Co. had things all their own way in the classes for Narcissus bulbs, securing a Silver Banksian Medal for 20 bulbs each of 20 varieties, and a similar award for 10 "cluster" bulbs of each of 15 varieties. In each case there were fine specimens of Lucifer, Mdme. de Graaff, Seagull, King Alfred, Golden Rose, and Monarch.

HORTICULTURAL CLUB.

Outing to Wisley Gardens.

JULY 25.—About three dozen members and their friends spent a very enjoyable day on the 25th ult., on the occasion of the Horticultural Club outing to the Royal Horticultural Society's gardens at Wisley. After lunch amid the delightful surroundings of the Hautboy Hotel, some of the party motored, and others walked, through the pleasant Surrey lanes to Wisley, where they were met by Mr. S. T. Wright, the superintendent. The extensive trials of Lettuces attracted a great deal of attention, but the hybrids and varieties of Rubus fruits received the closest attention of the pomologists present. The ladies of the party appeared to appreciate most the beauties of the rock garden, the bog garden at its foot, and the Water Lilies in the pond at the end of the herbaceous garden. The woodland, with its collection of hardy Ferns, its Lilies and abundance of Primulas, was a delight to everyone, but probably nothing came in for greater admiration than the splendid flowers of Nymphaea stellata. Mr. F. J. Chittenden joined the party early in the afternoon, and drew attention to the seedling Chinese trees and shrubs which are the discoveries made by recent explorers in China. Tea was provided in the hall of the laboratory by Mr. Chittenden, to whom, and to the Royal Horticultural Society, the thanks of the party were presented by Mr. G. F. Tinley, the hon. secretary of the Club. After an inspection of the laboratory and the contents of some of the glass houses, the party motored back to Horsley station and arrived in town soon after 8 p.m.

BRITISH GARDENERS' ASSOCIATION.

JULY 26.—A meeting of the Executive Committee was held on the 26th ult. Present: R. Greenfield (chairman), T. Winter (treasurer), C. Fletcher (vice-president), J. Young, F. Longmire, G. Hockney, T. H. Candler, J. R. Groundwell, A. G. Cann, V. H. Lucas and Cyril Harding (general secretary).

A letter was received from the East Sussex Market Gardeners' Association on the practice of selling produce from private gardens. It was decided to insist upon the minimum wage under the Corn Production Act being paid to all workers in private gardens where produce is sold and to take steps in every case brought to the notice of the Association to this effect.

The Secretary was instructed to endeavour to get into touch with the secretaries of all horticultural trade unions throughout the world with a view to international action in the interests of horticultural workers.

Owing to the present office accommodation being insufficient for the needs of the Association, it was decided to take over new offices at 1, Wellington Place, St. John's Wood.

It was decided to ask members to contribute one penny per issue towards the *British Gardener*. This will not cover the cost of production, but will help the finances of the Union considerably. The cost of production per month is now £40. The Committee have also decided to ask the British Co-operative Gardeners, Ltd., to consider the possibility of taking over the paper and running it as a weekly magazine for gardeners.

It was suggested that a banner and a bronze tablet in the new office, containing the names of members who had died during the war, would be the most appropriate form of war memorial.

The question of a new standard of wages was referred to the Emergency Committee, which was instructed to act immediately. It was agreed when the standard was drawn up to have a national circular printed for distribution among employers throughout the whole of the country.

LAW NOTE.

ESSEX WAGES BOARD PROSECUTION.

AN important case to nurserymen and market gardeners was heard at Saffron Walden recently, when Mr. Engelmann, nurseryman, of that town, appeared before the local magistrates to answer 24 summonses for failing to pay wages at a rate not less than the minimum fixed by the Essex Wages Board under the Corn Production Act, 1917.

Mr. R. Oliver, of the Board of Agriculture and Fisheries, appeared for the prosecution, and Mr. H. Du Park, K.C., was for the defence.

Mr. Oliver stated that when Major Whiskin, an inspector of the Board of Agriculture, called on defendant on June 7th and inspected his wages' book he found that two men were paid 35s. instead of the minimum of 42s. 6d. per week; that a boy of 17 was paid 20s. instead of 26s. per week; a boy of 16, 17s. instead of 22s.; one woman was paid 14s. 4d. instead of 19s.; another 13s. 10d. instead of 17s. 1d.; another 12s. instead of 18s. 6d.; one 15s. 8d. instead of 20s. 9d.; one 15s. instead of 18s. 6d.; and one 15s. 4d. instead of 20s. 3d. A girl was paid 11s. instead of 11s. 8d., and another girl 11s. 11d. instead of 14s. 6d. Mr. Oliver said that it was only right to say that 90 per cent. of the men in defendant's employ were paid the proper rate of wages.—Major Whiskin confirmed counsel's statement in evidence, and said the Board of Agriculture had now given instructions for prosecutions to take place in every case that came to his knowledge where the minimum rate of wages fixed by the Wages Board was not paid.

Defendant said he did not regard himself as a market gardener, but as a florist, and therefore he contended that the Order fixing the rate of wages for market gardeners did not apply to him. He sold flowers in the flower trade and only sent the surplus to market. The bulk of the proceeds of his business (90 per cent. of it) was derived from Carnations. He had been in business at Saffron Walden for 22 years. Before the war he employed male labour only, but over 70 of his men joined the Forces, and he was obliged to employ female labour. During the war his export trade stopped altogether and he had to grow vegetables and seeds to keep the business going. He had always paid his hands what they were worth. The two men in respect of whom he was summoned were both nearly 70, and were not fully able-bodied. He did not know the wages had been fixed for women and girls, and the boys, he contended, were learning a trade.

Mr. Oliver: For men who are getting into years exemptions from paying the minimum can be obtained.

The Mayor: I am aware of that, and I am also aware of the fact that when an employer applies for these exemptions he does not get them for months.

Defendant said he had some forms sent him to fill up, and as he did not understand them he asked for a representative of the Board of Agriculture to call on him and go through his wages' book, and these prosecutions were the outcome of it.

The Mayor said the Bench considered that Mr. Engelmann's business came within the definition of a market garden. In view of the somewhat severe manner in which the machinery of the Act was set in motion in this case, the Bench felt that justice would be met by the infliction of a nominal fine of 1s. in each case, and it was understood that defendant would pay the arrears due.

ANSWERS TO CORRESPONDENTS.

CARNATION: *W. J. L.* The variety is interesting as showing that the plant has probably sported, but the flowers are no improvement on those of existing varieties, and the plant does not appear to be worth perpetuating.

DISEASED TOMATO LEAVES: *C. and Sons.* Your Tomato leaves are attacked by the disease known as Tomato Leaf Mould (Cladosporium fulvum). For method of prevention see *Gard. Chron.* July 19, 1919, p. 46.

FIG FRUITS DROPPING: *A. K.* A fungus of the Botrytis group is responsible for the condition of your Figs. (See replies under "Hard and Shrivelled Figs" in *Gard. Chron.*, July 19, 1919, p. 46.)

INJURED PEACH LEAVES: *J. B. J.* The injury appears to be due to scorching or scalding, possibly by bright sunshine acting through beads of moisture, although we are inclined to think an over-strong spraying fluid has been used on the foliage.

MELON PLANTS WITHERED: The cause of the withering of your Melon plants is difficult to determine, but probably some cultural error is responsible for the trouble. For instance, permanent shading on the glass is not good for Melons, as it subdues the light too severely in the early morning, in the evening and during dull days. The mycelium of some undetermined fungus was present in the vessels at the base of the stem, but we are not certain that this is the real cause of the withering.

NAMES OF PLANTS: *W. B.* The dwarfer of the two grasses in Festuca ovina glauca, and the taller one Agrostis setacea.—*A. B. H.*: Shrub, Ephedra distachya; herbaceous plant Poterium sitchense.—*A. N.*: 1, Acanthus longifolius; 2, Clematis heracleaefolia; 3, Linum campanulatum; 4, Clematis coccinea var.; 5, Aralia racemosa; 6, Rhamnus californica; 7, insufficient for identification; 8, Aconitum orientale; 9, Platycodon grandiflorum; 10, Clematis integrifolia; 11, Thalictrum minus; 12, Crassula lycopodioides.—*J. C. Rayleigh*: Tacsonia Van Volxemii.—*Hortus*: Escallonia punctata.

NAMES OF FRUITS: *F. R.* Gooseberries—1, Whinham's Industry; 2 and 5, not identified, over-ripe; 3, Talfourd; 4, Champagne; 6, Keen's Seedling.

SCLEROTIUM DISEASE IN ONIONS: *H. G.* The disease is the Botrytis stage of Sclerotinia sclerotiorum. This disease is difficult to combat and badly diseased plants and bulbs should be collected and burned. Spraying with potassium sulphide may arrest the spread of the disease, while soot or quicklime should be sprinkled freely on the surface of the soil in which diseased plants have grown. The disease may attack plants of Chrysanthemum, Haricot Bean, Petunia, Potato, Zinnia, Dahlia, Cucumber, Swede, Turnip, Carrot and Beet, therefore every effort should be made to prevent its spread.

Communications Received.—R. W.—C. E. S.—A. W.—R. U. and Sons.—T. S L.—W. F. E.—W. S.—T.—E. C.—F. W. B.— E. H. M. and Co.—A. W.—F. J. R.—H. C. M.—E. H. B.—G. I. B.—F. S.—W. F. L.—W. M. W.

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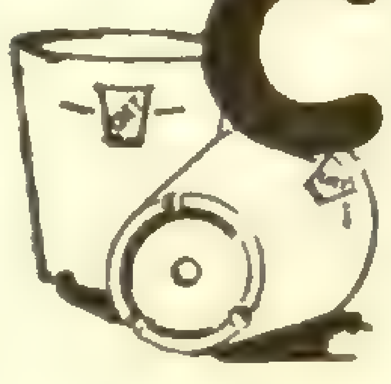

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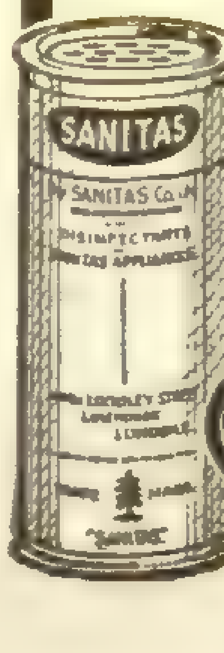

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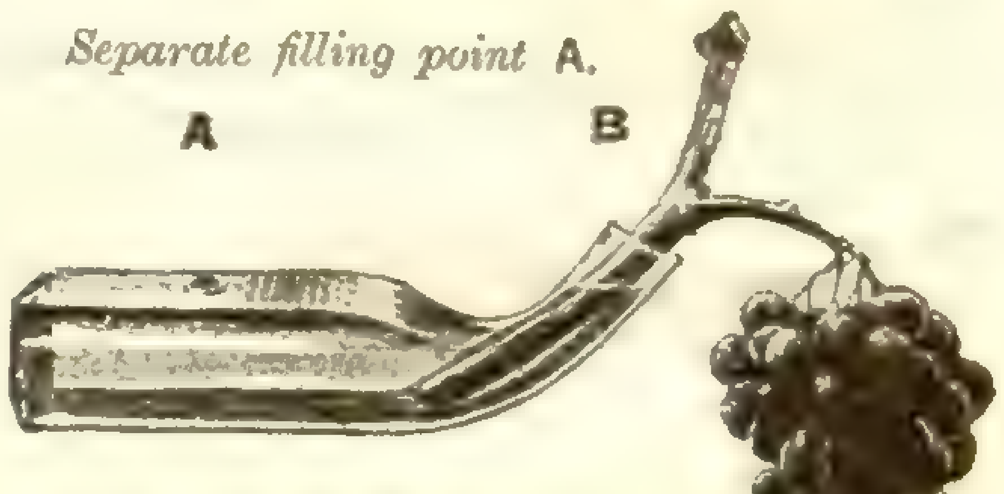

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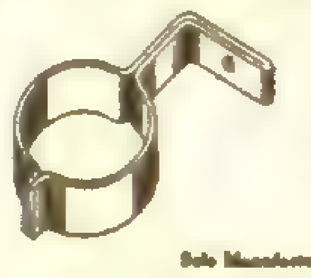

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MARKETS.

COVENT GARDEN, July 30.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Heliotropes 48's, per doz.	15 0–18 0
Asparagus plumosus	12 0–15 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
—Sprengeri ...	12 0–18 0	— Pink, 48's, per doz.	30 0–48 0
Aspidistra, green	48 0–72 0	Marguerites white	18 0–24 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Mignonette, 48's per doz. ...	18 0–21 0
Crassulas, red 48's per doz. ...	30 0–36 0	Palms, Kentia ...	18 0–24 0
		—— 60's ...	15 0–18 0
Fuchsias, 48's, per doz.	12 0–18 0	—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Achillea, per doz. bun.	4 0– 6 0	Orchids per doz.:	
		— Cattleyas ...	18 0–24 0
Alstroemeria, per doz. bun. ...	6 0– 8 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Asters, white, per doz. bun. ...	8 0–12 0	— white, per doz. bunches ...	15 0–18 0
Carnations, per doz. blooms, best American var.	2 0– 3 0	Roses, per dozen blooms—	
Coreopsis, per doz. bun.	2 6– 3 0	— Frau Karl Druschki ...	1 6– 2 6
		— Lady Hillingdon	1 0– 2 6
Cornflower, blue per doz. bun....	2 6– 3 0	— Liberty ...	1 6– 2 0
		— Melody ...	1 6– 2 6
Daisies, white, large, per doz. bun.	3 0– 6 0	— Mme. Abel Chatenay ...	1 6– 2 6
		—Mrs. J. Laing...	1 6– 2 6
		— Ophelia ...	3 0– 4 0
Gaillardia, per doz. bun.	4 0– 5 0	— Richmond, var.	1 6– 2 6
		— Sunburst ...	3 0– 4 0
		—White Crawford	2 0– 3 6
Gardenias, per box specials ...	8 0– 9 0	Scabious, per doz. bun.	6 0– 8 0
— ordinary ...	2 0– 3 0	Statice, mauve ...	8 0–12 0
Gladiolus, The Bride, per bun.	— —	— white... ...	8 0–12 0
—Brenchleyensis, per doz. spikes	5–0– 6 0	— latifolia, per doz. bun. ...	12 0–18
Gypsophila, per doz. bun. ...	6 0– 8 0	Sultan, white, per doz. bun. ...	6 0– 8 0
— paniculata, per doz. bunches ...	8 0– 9 0	— — mauve ...	6 0– 8 0
		Stephanotis, 72 pips	3 0– 3 6
Iceland Poppies, doz. bun. ...	2 0– 2 6	Sweet Peas, per doz. bun.—	
		— white	3 0– 5 0
Lapagerias, per doz. blooms ...	3 0– 4 0	— coloured ...	3 0– 5 0
		Stock, Dbl. White	8 0–12 0
Lavender, per doz. bun.	9 0–15 0	—Dbl. Pink ...	8 0–12 0
		—Dbl. Mauve ...	8 0–12 0
Lilium longiflorum, per bunch ...	10 0–12 0	—Dbl. Purple ...	8 0–12 0
		Violas, per doz. bun.	3 0– 4 0

REMARKS.—Blooms of Lilium longiflorum are again a very limited supply. In addition to these a few bunches of L. speciosum album and L. S. rubrum were offered last week. Orchids, including Cattleyas and Odontoglossums, appear to be unusually scarce just now, and several florists have been unable to procure the quantities they required during the past week. All other supplies are equal to the demand. Asters are increasing in quantity, and their prices are falling. There is also a plentiful supply of Statice sinuata and Statice latifolia is now on sale. There is a good supply of double white Gypsophila paniculata, which is very attractive for decorative purposes. The first arrival of Mitcham Lavender reached the market last week in excellent condition: only limited supplies are arriving at present.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	0 4– 0 6	New Turnips, per bunch	4 0– 6 0
—Scarlet ...	0 4– 0 9	Onions (Egyptian) per bag ...	12 0–16 0
—Broad, per bus.	3 0– 4 0	Peas, per bus. ...	5 0–10 0
Beetroot, per bus.	6 0–10 0	Parsley, per doz. bunches ...	8 0 —
Cabbage, per doz.	2 0– 3 0	Potatos, new, per cwt.	18 0–20 0
Carrots, New, per doz. buns. ...	1 6– 2 0	Radishes, per doz. bunches ...	1 0– 1 6
Cauliflowers, per doz.	3 0– 5 0	Spinach per bus.	5 0– 6 0
Cucumbers, per flat	16 0–24 0	Spring Onions, per doz. bunches ...	4 0– 6 0
Garlic, per lb. ...	0 6– 0 8	Tomatos, English, per doz. lbs. ...	8 0– 9 0
Greens, per bag	4 0– 5 0	Vegetable Marrows, each	0 4– 0 6
Herbs, per doz. bun.	4 0– 6 0	Watercress, per doz.	0 9– —
Lettuce Cabbage and Cos, per doz.	1 0– 1 2		
Mint, per doz. bun.	9 0–12 0		
Mushrooms, per lb.	2 6– 3 6		
Mustard and Cress, per doz. punnets	1 3– 1 6		

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d.
Apples (English) per ½ bus. ..	6 0– 8 0	Grapes, Canon Hall	4 0– 7 0
—Lord Suffield		—Muscats, per lb.	3 0– 5 0
—Early Julyan ..	5 0– 6 0	Melons, each ...	2 0– 6 0
-Ecklinville	6 0– 7 0	—Canteloupe ...	6 0–10 0
Grenadier ...	6 0– 7 0	Nectarines, per doz. ...	6 0–18 0
Aubergines; pr doz	6 0– 8 0	Nuts—	
Bananas... ...	30 0–45 0	— Brazils (new) per cwt.	110 0–115 0
English Peaches per doz. ...	6 0–18 0	Pines, each ...	3 0– 6 6
Black Currants — (English) ...	30 0–32 0	Plums (English) per ½ bus.	
Cherries (English) per strike 12lbs.	10 0–15 0	—Czars ..	16 0– 18 0
black. per ½ bus.	16 0–25 0	—Early Rivers ..	18 0– 21 0
— White	16 0–30 0	Plums (French) per ½ sieve ...	16 0–22 0
Gooseberries, per ½ bus, cooking	10 0–12 0	— Gages	10 0–22 0
— Dessert ...	12 0–16 0	Raspberries, per chip	4 0– 5 0
Grapes:—		Worthing Figs, per doz.	3 0–12 0
— Alicante ...	2 0– 4 0	Pears French Williams boxes ..	15 0– 17 0
—Blk Hamburgh, per lb. ...	2 0– 4 0		

REMARKS.—The general tone of business is brisk, with fruit in good demand; all fruits and vegetables continue in fair supply. Trade in English Plums (Czar and Early Rivers) has started, with every prospect of exceptional demand. There are increasing consignments of English Apples, most samples selling much below control price. Hothouse fruits are plentiful, and Peaches, Nectarines, Melons, Figs and Grapes are available. Black Currants are arriving in shorter supply. Cherries are almost finished; a few good samples of Caroons are available, but most other varieties show the effect of wet weather. There are large quantities of Tomatos at reasonable prices. Trade in Cucumbers continues firm, with little variation in price. All vegetables are more plentiful, and at much more reasonable prices than hitherto.

CATALOGUES RECEIVED.

R. WALLACE & Co., Kilnfield Nurseries, Colchester—Water Lilies.

STEWART & Co., 13, South St. Andrew Street, Edinburgh.—Bulbs for 1919.

LITTLE AND BALLANTYNE, Carlisle—Bulbs, 1919.

FOREIGN.

CONYERS, B., Fern, Jr.—Trees and Shrubs.

SCHEDULE RECEIVED.

Deal, Walmer and District Horticultural Society's Flower Show, to be held on Thursday, October 30, 1919, in the Parish Hall, Walmer.

GARDENING APPOINTMENT.

Mr. F. W. Ford, as gardener to Sir James HORLICK, Bt., Kidbrook Park, Forest Row, Sussex.

BACK NUMBERS OF
The Gardeners' Chronicle

From May, 1919, onwards the prices for back numbers of the "Gardeners' Chronicle" (if available) are as follows:—

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" " " " " " "	8d.
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Directory, Horticultural (see *Gardeners' Chronicle* Horticultural Directory).

English Flower Garden, The. An Illustrated Dictionary of the Plants Used, and Directions for their Culture and Arrangement. By W. Robinson. With numerous Illustrations. 16s.

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Flower Garden, The. By T. W. Sanders. The Formation and Management of a Garden and the Culture of Outdoor Flowers and Plants. 480 pages. 104 Illustrations. Third Edition. 8s. 6d.

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Fruit and Its Cultivation. By T. W. Sanders. 370 Pages. 64 full-page Plates. 7s.

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Fruit Growing, Profitable: for Cottagers and Small Holders of Land. By John Wright, V.M.H. A Gold Medal Essay, written for the Worshipful Company of Fruiterers. Illustrated. Tenth Edition. 1s. 3d.

Fruit Ranching in British Columbia. By J. T. Bealby. Illustrated. 5s.

Fruit Trees and Their Enemies. With Spraying Calendar. By Spencer Pickering, F.R.S. and Fred. V. Theobald. Cloth, 1s. 9d.

Fruit Trees, The Scientific and Profitable Culture of. From the French of M. Du Breuil. Fifth Edition, carefully Revised by George Glenny. With 187 Woodcuts. 3s 9d.

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SITUATIONS VACANT.

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PRIVATE.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal ***Authorities*** *and* ***returned*** *to the* ***Sender.***

MIDDLESEX AGRICULTURAL EDUCATION COMMITTEE.

THE COMMITTEE invite applications for the post of HORTICULTURAL INSTRUCTOR.

Applicants must have a sound Practical, as well as Scientific, Training in all ranches of Horticulture. The work will include Supervision of Small Holdings, Allotments, Experimental Plots, and General Advisory Work.

Applications should be sent to the undersigned, not later than AUGUST 16th, 1919.

B. S. GOTT,
Secretary, Education Committee.
Guildhall, Westminster,
London, S.W.1.

GULVAL (NEAR PENZANCE).

COUNTY COUNCIL FRUIT AND VEGETABLE PLOT.

APPLICATIONS are invited for the post of WORKING GARDENER to take charge of the above Plot. Good wages offered to a capable Gardener who has had experience of Fruit and Early Vegetable culture, and who is qualified to conduct experiments in Cauliflower and Broccoli Seeds and early varieties of Potatos.

Applications, stating age and experience, wages required and accompanied by copies of recent testimonials, should reach the undersigned on or before Tuesday, 19th August, 1919.

E. C. HARVEY, Clerk.
District Education Office, Penzance.

NORTHANTS REFORMATORY, TIFFIELD, TOWCESTER.

WANTED, a GARDENER, single man, not over 30 years of age, willing to train boys.—Apply, stating height, experience, if certificated and for further particulars, to the Superintendent.

E. GUILE, Shortgrove, Newport, Essex, begs to thank the applicants for the vacancy there; he is now suited.

WANTED, HEAD GARDENER, married, wife to do Laundry and Poultry and Caretake; week-end house at Cookham. Berkshire; small cottage; also wanted a good Second Gardener.—Apply by letter, Box No. 1747, c/o Messrs. R. F. White and Son, 33. Fleet Street, E.C.4.

GARDENER (HEAD WORKING) wanted (two kept) with knowledge of Cows and Poultry; only applications with first-class experience and references will be considered; small lodge available.—Mr. C. H. McPHERSON, Chewton Place, Keynsham, near Bristol.

WANTED, HEAD WORKING GARDENER; must be capable and experienced in Flowers, Fruit, Vegetables and Lawns; three under; cottage; no children. State age and wage, with experience and all particulars, to M. A., Grove Lodge, Muswell Hill, Middlesex, N.

HEAD WORKING GARDENER to lay out Grounds and supervise work of tubercular patients at Croydon Borough Sanatorium, North Cheam; wages 45s. weekly.—Apply, by letter, to the MEDICAL OFFICER OF HEALTH, Town Hall, Croydon, before August 14th

SINGLE MAN WANTED to take sole charge of Large ROCK GARDEN in Liverpool District; must have a thorough practical knowledge of this branch of work; comfortable position and good wages to man prepared to take enthusiastic interest in making garden successful. ALSO SINGLE MAN, to help in Pleasure Grounds, with knowledge of Hardy Plants.

BAKER'S, CODSALL, WOLVERHAMPTON.

WILL any gentleman recommend a really good Single-handed GARDENER—married—for small but artistic place in Sussex; used mostly at week-ends; one capable of being left in charge, and who will work conscientiously without constant supervision; wages £2 per week, cottage, light and coal.—Write to "GARDENER," c/o Abbott's, Eastcheap, London, E.C.

GARDENER (unmarried), SINGLE-HANDED, required; Vegetables and Flowers; small Greenhouse.—Reply, with copies of references, stating wages required, to SHARP, The Coppice, Lapworth, Warwickshire.

GARDENER (SINGLE-HANDED); thoroughly experienced In and Out; wife willing to help in house; comfortable cottage; for Bromley, Kent.—Apply, stating age, experience, and wages required, to P. B. C., 87, Albemarle Road, Beckenham.

GARDENER wanted, good SINGLE-HANDED; married (no children); wife to render part services in House as Cook; good three-room cottage; every convenience; established grounds, 1 acre; three in family, maid kept.—Apply, C. LORAM, Crowndale, Chorley Wood, Herts.

WANTED, WORKING GARDENER with experience of Lawns, Vegetables and Fruit Trees; no cottage.—Apply HOUGHTON BROWN, 1, Parkside Gardens, Wimbledon, S.W.

WANTED, SECOND GARDENER (Inside); good references; wages 35s. and bothy; duty paid, alternate weeks; 1 o'clock Sats.—Apply F. P. DICKSON, The Gardens, Yeaton Peverey, Shrewsbury.

WANTED, a good SECOND GARDENER, Inside and Out; state wages and qualifications. Apply JONES, The Gardens, Cogshall Hall, Northwich, Cheshire.

UNDER-GARDENER wanted. — Apply with copies of references to G. BAKER, The Lodge, The Brackens, Ascot.

UNDER-GARDENER required, near London. —Apply, stating age, whether married or single, with full particulars of previous places and knowledge of Gardening; also state wages required.—Address replies to UNDER-GARDENER, c/o Horncastles, 60, Cheapside, E.C.

WANTED, UNDER-GARDENER (young), Indoor, where several Gardeners are kept; live in bothy.—Apply, giving full particulars and wages required, to W. M. CHRISTY, Watergate, Emsworth, Hants.

WANTED, FOREMAN for Fruit and Plant Houses, also JOURNEYMAN; wages 40s. and 30s. respectively, with bothy, etc.—Apply, with particulars to W. H. BACON, Mote Park Gardens, Maidstone, Kent.

WANTED, JOURNEYMAN for Inside and Out (principally Inside); wages 35s., good bothy (with attendance).—Apply, Wood, Wallhouse, Torphichen, Linlithgowshire.

JOURNEYMAN wanted for Pleasure Ground, able to drive or willing to learn motor mower; duty, every fourth week, paid for. Wages 35s., bothy, milk and vegetables.—Apply, stating experience, C. JONES, Digswell Estate Office, Welwyn, Herts.

JOURNEYMAN.—Wanted, experienced man for Kitchen Garden or Pleasure Ground work; take turn duty; bothy.—Particulars with wages required, to HEAD GARDENER, Coombe Court, Kingston-on-Thames.

WANTED, JOURNEYMAN, experienced in Fruit and Plant culture, to take lead.—State particulars of experience and wages, with bothy, etc, to GARDENER, Woodhatch Gardens, Reigate, Surrey.

WANTED, two IMPROVERS and one boy for the Garden, Inside and Out; comfortable bothy, Sunday duty paid; a good opening for beginners.—Apply, with references and stating wages expected, to A. J., Box 19, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, reliable MAN for Fruit and Plant Houses.—State experience, wages, with copies of references, to J. LEICESTER, Boconnoc Gardens, Lostwithiel, Cornwall.

WANTED, active MAN for Pleasure Grounds. Wages 32s. 6d. weekly, bothy, etc.—Apply with particulars to W. HEWITT, "Ashlands," Billesdon, Leicestershire.

WANTED, YOUNG MAN for Kitchen Garden; also one for Lawn and Pleasure Grounds; also one to look after garden horse and to fill up time in Garden. Apply, stating particulars as to age, etc., and wages expected, with bothy.—G. F. HALLETT, Netherby Gardens, Carlisle.

WANTED, YOUNG MAN, chiefly for Garden. Apply, stating age, wages required, with bothy.—A. E. MUSK, Gardener, Broom Hall, Biggleswade, Beds.

WANTED, good, active YOUNG MAN as Under Gardener.—Apply, stating experience and wages required, to F. JOHNSON, Hiham Gardens, Winchelsea, Sussex.

WANTED, YOUNG MAN with experience in Kitchen Garden and Pleasure Grounds.—Apply, stating age, wages required, with bothy, A. E. MUSK, Gardener, Broom Hall, Biggleswade, Beds.

WANTED, LADY GARDENER, with some experience of Gardening Inside and Outside; wages 23s. 6d., bothy, milk and vegetables.—Apply with fullest particulars to ADDISON, Lyme Park, Disley, Cheshire.

LADY GARDENER, able to teach advanced Botany, etc., required next September in Ladies' Boarding School.—Apply, with full particulars, to MISS LAWRENCE and MISS SKEAT, West Heath, Ham Common, near Richmond, Surrey.

TRADE.

WANTED FOR SOUTH AFRICA.

A FIRST-CLASS PROPAGATOR of Roses and General Nursery Stock, and Raiser of Seedlings, not over 40 years of age; salary £30 per month. Opportunity for progressive advance.—Apply, SOUTH AFRICA, Box 20, 41, Wellington Street, Covent Garden, W.C.2.

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WANTED, competent Cucumber and Tomato GROWER; 54 hours summer, 48 hours winter. State wages, etc., A. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

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WORKING FOREMAN required for a small Fruit Farm; must have good previous experience.—Apply, stating fullest particulars, WRIGHT, York House, Colne, Hunts.

WORKING FOREMAN wanted for Landscape dept.; accustomed to supervision of labour, and able to work from plans.—State experience and wages required, CLIBRANS, Altrincham.

WANTED, two or three SINGLE YOUNG MEN for Tomatoes and Chrysanthemums; state age and wages expected.—G. BENNETT and SON, Hanwell, W.7.

WANTED FOR SOUTH AFRICA.

A HIGHLY-QUALIFIED SEEDSMAN, for Retail Shop, with a fair knowledge of Nursery Stock; £30 per month. Opportunity for progressive advance.—Apply, SOUTH AFRICA, Box 21, 41, Wellington Street, Covent Garden, W.C.2.

POSITION VACANT.—Wholesale seed firm; country; MANAGING CLERK, correspondence and general (not ledger) office; staff of 20; organising ability and trade experience essential.—Apply, with full particulars and references, S. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED FOR SOUTH AFRICA,

A LADYLIKE, pleasant-mannered, artistic and highly capable Florist, as head of Florist's Department; salary £16 per month. Opportunity for progressive advance.—Apply, SOUTH AFRICA, Box 22, 41, Wellington Street, Covent Garden, W.C.2.

YOUNG LADY FLORIST wanted as IMPROVER, to making up Floral Designs; Manchester District.—F. R., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, steady, reliable MAN as STOKER for Tubular Boilers, able to do repairs on General Market Nursery; good wages to right man.—Apply, The St. George's Nursery Co., Harlington, Middlesex.

WANTED, SINGLE MAN for Painting, Glazing, and General Repairs; also Single man for Poultry, Pigs, and Market Garden; must have experience.—Particulars and references, to N. F., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, a competent HANDY MAN for Nursery; used to boiler and pipe fitting, carpentering, bricklaying, painting and glazing, etc.; permanent position to suitable man.—Apply, stating experience, with references and wages required, to W. H. PAGE, Tangley Nurseries, Hampton, Middlesex.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

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SIR ALAN BAGOT can with the utmost confidence recommend his Head Gardener, W. GIBSON. Thoroughly experienced in every branch of gardening; including Carnations, Early and Late Forcing, Forestry, etc.; at liberty when suited. For further particulars apply to SIR ALAN BAGOT or W. GIBSON, The Gardens, Levens Hall, Milnthorpe.

MR. INGLIS JONES can with confidence highly recommend his late General Foreman as HEAD GARDENER to any Lady or Gentleman in want of a thorough reliable and competent man in all branches; experience gained in large establishments; excellent references; demobilised; married; when suited.—L. SAYE, Priory Street, Corsham, Wilts.

C. R. DELA SALLI, Esq., highly recommends his late HEAD GARDENER where several are kept; life experience gained in good establishments; last post six years previous to enlistment; age 42; married, no family.—T. PROWTING, Oakdene, Orlando Drive, Carlton, Nottingham.

LADY LILFORD wishes to most highly recommend a first-rate HEAD GARDENER, leaving present situation through death; thorough knowledge of Orchids, Carnations, Alpines, Flowering Shrubs, Daffodils, and all branches of Gardening; very active and hard working.—Apply, L. H. DYER, 9, Fore Street, Plympton St Maurice, Devon; or to The LADY LILFORD, Lilford Hall, Barnwell, Peterborough.

HON. MRS. NEELD wishes to highly recommend a good GARDENER as HEAD of three or four; age 38.—Apply to G. ROCKETT, The Lodge, Twatley, Malmesbury.

MR. T. CRADDUCK, Middleton Park Gardens, Bicester, Oxon, wishes to recommend his late General Foreman as HEAD GARDENER to any Gentleman requiring the services of a first-class Fruit and Vegetable grower; life experience; age 35; married, no children; demobilised, 3½ years Army.—Apply, W. T. CHATTERLEY, The Green, Snitterfield, Stratford-on-Avon.

GARDENER (HEAD).—B. C. Forder, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establishment; life experience in all branches; 10 years as Head; good manager and economical; age 39; married (one girl, 13 years); excellent references; Army discharged.—Full particulars, The Gardens, Whatcombe House, Blandford, Dorset.

HEAD GARDENER. — Mr. Hall, Bostock Gardens, Middlewich, very highly recommends real good man as above, where several men are employed.—Full particulars from above on application.

HEAD GARDENER.—The Hon. A. Mulholland highly recommends A. MORRIS as a first-class man, skilled in all branches of Gardening, and thoroughly fitted to meet requirements of good establishment. Estate, Woods, Bees, etc. Age 55.—44, Fairclose Road, Beccles.

MR. EARP, Gardener to the Marquis Camden, Bayham Abbey, Lamberhurst, Kent, wishes to recommend THOMAS BOTTING to lady or gentleman requiring a good Working HEAD GARDENER; life experience, Inside and Out; married; age 29.—Apply, T. BOTTING, c/o Mrs. Hoath, Hordcombe Green, near Tunbridge Wells, Kent.

GENTLEMAN recommends GARDENER, Head of one or two, leaving for no fault; demobilised; married (one child).—LONGHURST, Oat Hall, Staplefield, Sussex.

TO any Lady or Gentleman requiring a reliable first-class HEAD GARDENER. We are now in a position to recommend several really good men, and shall be pleased to answer any enquiries respecting same.—WM. HUBANK & SON, Nurserymen, Market Drayton.

HEAD GARDENER (just demobilised, R.A.S.C), married, age 35, requires re-engagement; keen, energetic, and thoroughly experienced in all branches, Inside and Out, including Vines, Peaches, Stove and Greenhouse, Vegetables, etc. Head previous to serving. Would undertake large garden for pleasure or profit.—SMALL, c/o Rivers and Sons, Sawbridgeworth.

GARDENER (HEAD), demobilised, seeks re-engagement; life experience all branches; good references; married; seven years last situation as Head.—Apply, C. W. CAPP, Clarence Cottage, Boston Spa, Yorks.

GARDENER (HEAD or good SINGLE-HANDED); life experience good establishments; married (no family); age 32; just discharged.—BROOKER, Coffee Hall, Five Ash Down, Uckfield, Sussex.

GARDENER (HEAD), thoroughly experienced, excellent references from good gardens; for nine years Head; one girl (13); disengaged when suited; age 40.—SLOGROVE, Rockshaw Road, Merstham, Surrey.

HEAD GARDENER OR GARDENER-BAILIFF (Working). — E. D. MENZIES, late Temporary Head Gardener to Lord Clinton, Bicton, Devon, is open to engagement as above; thoroughly experienced in first-class Gardening, gained in good gardens; Forestry, Land, Stock, Roots, Cereals, Dairy, Poultry and General Estate Management; holds good testimonials as to abilities and character.—Mascall's Cottages, Ewhurst, Surrey.

HEAD GARDENER, 25 years' practical experience, desires management of large Gardens, running same on business lines; thorough experience in growing large quantities of Fruits Inside and Out, also Flowers and Vegetables; good organiser; excellent references for abilities and integrity; age 40; married; abstainer.—State terms, STEDMAN, Dwygyfylchi, Penmaenmawr, N. Wales.

MR. BAYFORD, Davenham Gardens, Malvern, highly recommends Gardener, Head Working, where three or four are kept; or very good Second; life experience; married; age 29; demobilised.

A. G. SOAMES, Esq., Sheffield Park, Uckfield, highly recommends W. Edworthy as Head Working Gardener, for over 8 years Head Gardener here prior to joining Army; 7 years previous reference; age 44; married, 2 children.—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

REVD. R. F. RUMSEY highly recommends his late Gardener (demobilised) as Head Working; life experience all branches; intensive culture; stock; age 41, married, two children, 13 and 10.—PHILLIPS, 75, Wolverton Road, Stony Stratford, Bucks.

LORD ASHCOMBE, Denbies, Dorking, highly recommends G. ALLAN as Head Working GARDENER; life experience in all branches; excellent references gained in first-class establishments; disengaged when required.

SIR ROBERT McALPINE, Bart., wishes to highly recommend A. EVERITT as GARDENER (Head Working) where four or more are kept; life experience in all branches of Gardening, Inside and Out; age 45; married (no family).—Address, A. EVERITT, 3, Claremont Villas, Hare Lane, Claygate.

GARDENER (HEAD WORKING, or good SINGLE-HANDED); life experience, Inside and Out; six years Head; aged 35; married; personal references.—TURNER, The Elms, Holmwood, Dorking.

GARDENER (HEAD WORKING); life experience, good establishments, Inside and Out; 14 years Head; excellent references; married; age 46.—SWAINE, 6, Gate Cottages, Chorley Wood, Herts.

HEAD WORKING GARDENER; has held first-rate appointments; good references; particulars from HERD BROS., Nurseries, Penrith.

GARDENER (HEAD WORKING), demobilised, seeks situation where others are kept; 25 years experience in all branches; married, age 41; disengaged.—KYME, Ravenswood, Alderley Edge, Cheshire.

GARDENER (HEAD WORKING), where two or more are kept, or would take good Single-Handed; life experience, Inside and Out; married (no family); age 39; excellent references.—A. J. SMITH, The Gardens, Greenfields, Horley, Surrey.

GARDENER (HEAD WORKING) thoroughly experienced all branches, Inside and Outside, where three or more kept; married; excellent references; age 43.—WORMAN, 12, Lochaber Road, Lee, S.E.13.

GARDENER (HEAD WORKING), experienced all branches, Inside and Out; Flowers, Fruit, Vegetables; good references; married; western counties preferred.—D. C., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) requires situation, good establishment; life experience in all branches; five years as Head; aged 54 years; married, two children; excellent references; recently demobilised.—A. F. JENNER, 8, St. John's Road, Ely, Cambs.

GARDENER (HEAD WORKING), thoroughly experienced, all branches; highest references; age 30; married when suited.—E. G. DAY, Queen Anne's Gardens, Caversham, Reading

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GARDENER (HEAD WORKING), 31 years' experience in all branches, 17 years' London experience; first-class references; age 44; married (2 children); North London preferred.—WILLIAMS, 4, Prince Arthur Mews, Church Lane, Hampstead, N.W.3.

GARDENER (HEAD WORKING), demobilised, seeks post where several are kept; life experience; good manager; last post 3 years 8 months Head to the Hon. Carr and Lady Mary Glynn; excellent references; married, no family; age 36.—A. MORPHETT, Wootton, nr. Ashbourne, Derbyshire.

GARDENER (HEAD WORKING); life experience Inside and Out; married; age 44; highest references.—HAYNES, Walcot Hall Gardens, Stamford, Northants.

GARDENER (HEAD WORKING) where two or more are kept; life experience; excellent references; age 29; married, no family; demobilised.—A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING), where one or two others are kept; over eight years' previous Head; age 42; married, one child; demobilised.—WHEELER, Glengarriff, Queen's Road, Crowborough, Sussex.

GARDENER (HEAD WORKING) seeks situation; life experience all branches of Gardening; age 42; son age 17, with 3 years' experience; desires post under; please state terms.—Apply to GARDENER, Park Gardens, Hungerford, Berks.

GARDENER (HEAD WORKING) where others are kept; 20 years' experience, Inside and Out; good married (one child); wife useful; disengaged; references.—F. DRAGE, Ambury Cottage, Huntingdon.

GARDENER (HEAD WORKING).—Mrs. Charles Long, 38, Lowndes Square, S.W., can very highly recommend her late Gardener, T. HIRST, life experience with Flowers, Fruit and Vegetables; left through country house being given up. No family; disengaged. —169, Osmaston Road, Derby.

WANTED, situation as Head Working Gardener, or good Single Handed, by industrious man; highest characters for work; abstainer.—G. MILLS, 29, Woodland Terrace, Aberbeeg, Monmouthshire.

GARDENER (HEAD WORKING), where three or more are kept; life experience in all branches, Inside and Out; highest references; at liberty.—F. MAY, Hollydale, Keston, Kent.

GARDENER (HEAD WORKING); thoroughly experienced; well recommended; eight years Head, last place; disengaged through reductions; age 41; married (one child).—FRENCH, Whitehanger, Haslemere, Surrey.

GARDENER (HEAD WORKING); married; age 35; 4-6 under; life experience, including Inside work, Kitchen and Pleasure Gardens; Carnations a speciality; well recommended in upkeep of Gardens; energetic and good manager.—E. ODDY, 39, Calvert Road, High Barnet, Herts.

GENTLEMAN can thoroughly recommend his Gardener, Single-handed or with help; life experience in all branches; trustworthy and willing; married; age 36; demobilised.—TYLER, Hay Lane, Kingsbury, N.W.9.

GARDENER (SINGLE-HANDED or with help); life experience; good reference; age 60.—BARRIE, 32, Birkbeck Place, West Dulwich, S.E.21.

GOOD SINGLE-HANDED GARDENER requires situation; 12 years' experience; married, one child; good references.—KENT, Woodcote Villas, St. James' Road, Sevenoaks, Kent.

GARDENER (SINGLE-HANDED or with help); life experience Inside and Out; age 40; single; good references; near London preferred.—G. W., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

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UNDER-GARDENER seeks situation in Kitchen Garden or Pleasure Grounds; some experience; state wages. Write, G. OWEN, Caynham, nr. Ludlow, Salop.

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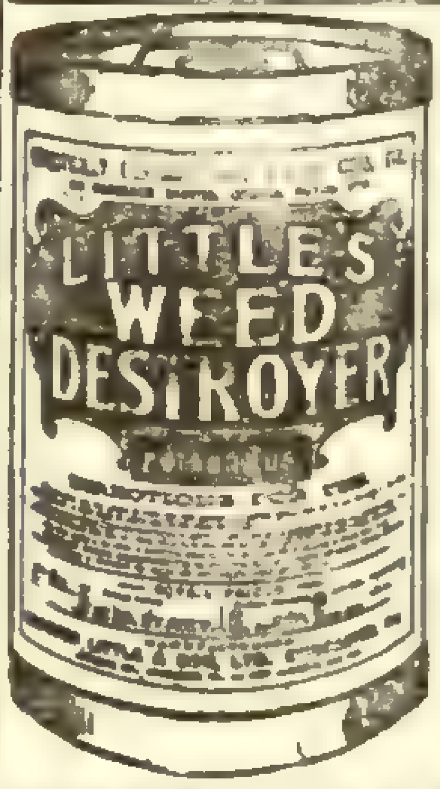

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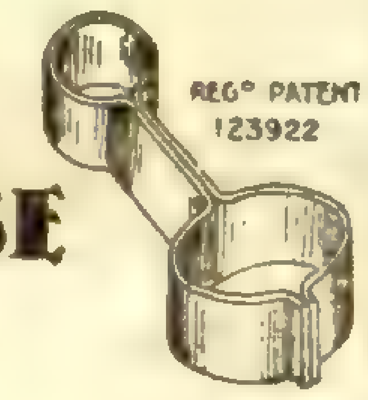

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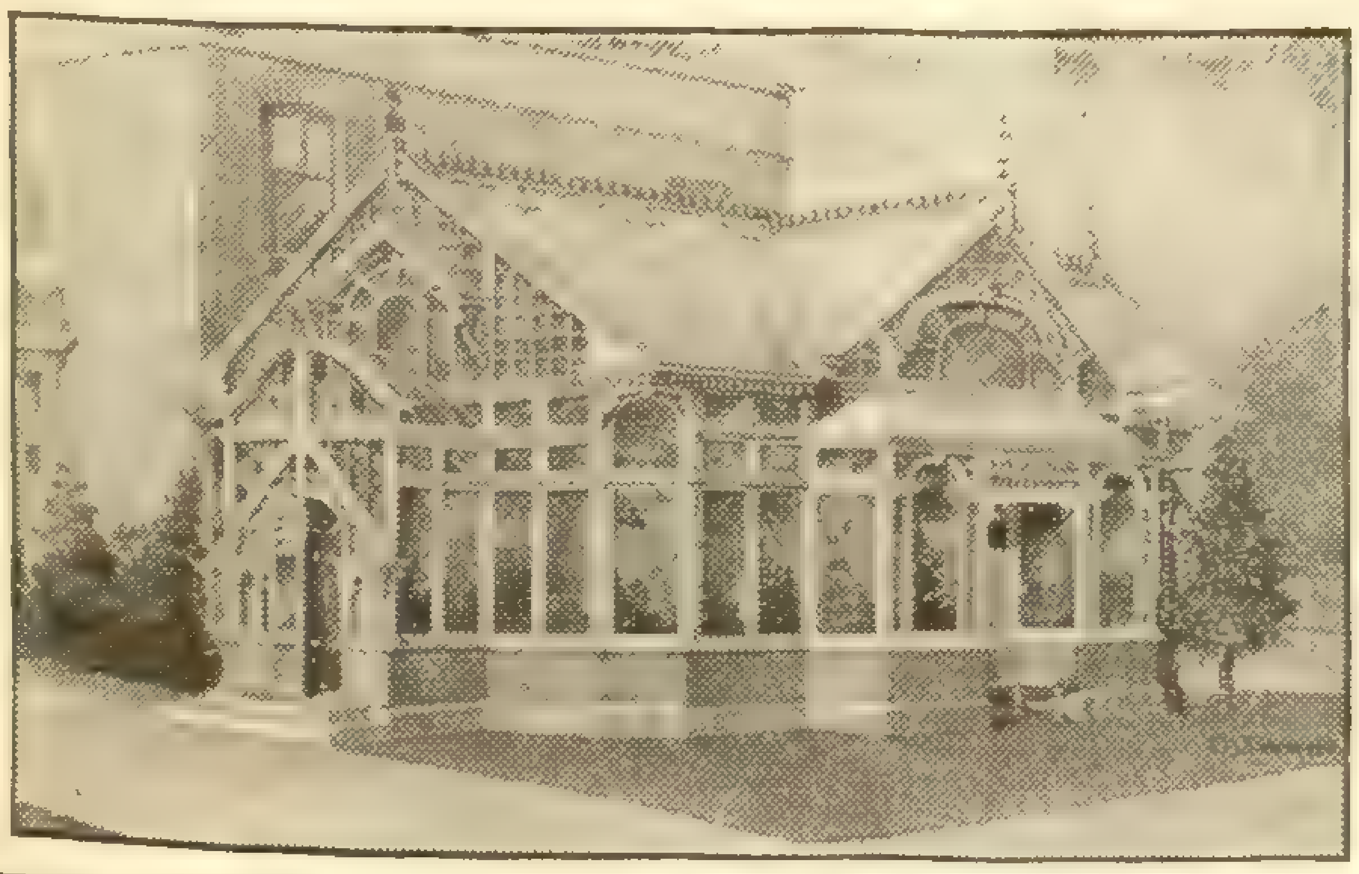

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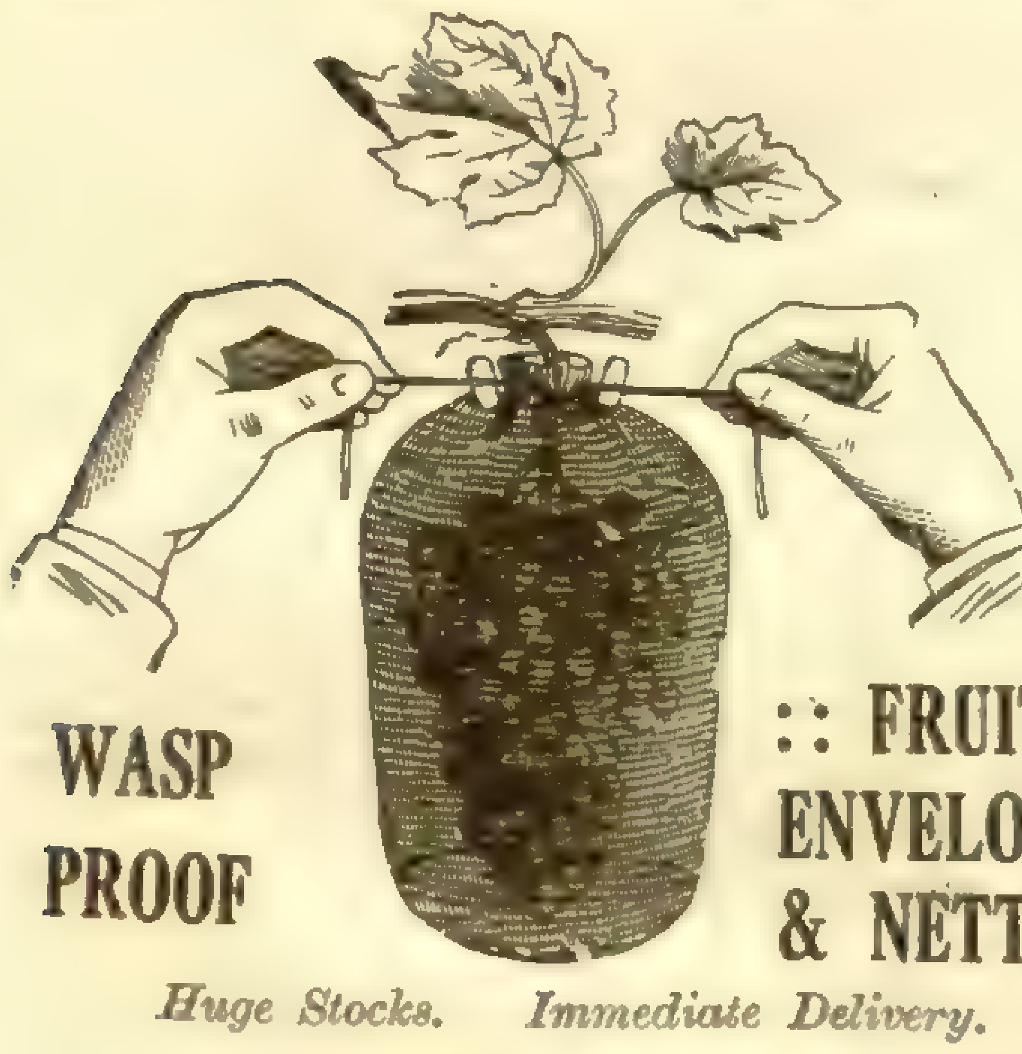

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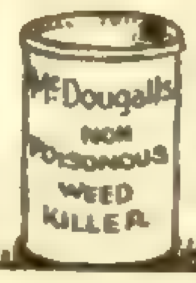

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THE

Gardeners' Chronicle

No. 1702.—*SATURDAY, AUGUST* 9, 1919.

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.*

No. 4.—Hpimaw Hill and Pass.

HPIMAW HILL, except for a few chines where copse and woodland linger, is entirely cleared, and is a huge, steep, high down, completely clothed in Bracken, up which, in mile-long sweeps forth and back and round about it, the carefully graded mule road winds to its end at the fort on the summit, leaving, as international law demands, only a rough track to accomplish the rest of the climb, another eight miles or so, up to the Boundary Stone of China, by the neck of the pass. And, hardly have we begun the long ascent than our first Primula appears. This is a fine species of the denticulata group, which thenceforth accompanies us all the way up to the fort, and even higher, on to open stretches up towards the pass, so profusely abounding that its violet heads shroud the hill-folds in a haze of blue, and a little later its seed-heads stand up above the unfolding croziers of the Bracken, in multitudes like Scabiosa Succisa in August. For it loves the dry (as far as any place in this region *can* be dry!) hillsides, where a month or two later there will be nothing but a surge of Bracken—a useful hint to anyone who may have brackened slopes (with the ground bare of everything else) whereon to sow this Primula broadcast. I do not identify it with Forrest's P. alta, its nearest neighbour, down at Tengyueh; it does not inhabit "moist pasture-land," its rosette is not small by comparison with the flowering scape, and its powder is white, not "luteo-farinose." In any case, it is a very good addition to this early flowering group; its heyday is in April, and the seed is ripe by the first week of May.†

For the rest, Hpimaw Hill at present is sere and bare, with only the wreckage of Nomocharis or Lilium to tell of glories to come. Near the fort, below the saddle, occurs an outcrop ridge of limestone. But this is too low and dry to yield Primulas; its only novelties are an Abelioid shrublet and a small, graceful, yellow Jasmine; while over the rim of the neck, in a forested fold, the quaint little brown and white beaked blooms of Cypripedium arietinum abound in the deep shade of the copse. Behind the fort itself the forest closes once more on the hill, and occupies it behind, rise above rise, almost to the pass. Three Magnolias (and a giant Camellia) adorn the scene: one, an enormous evergreen tree, with cream-coloured, waxy flowers of an intense fragrance; the second, a smaller tree, like a glorified M. glauca, flowering so profusely, either with the old leaves or before the new ones, that all the forest slopes at this height are peppered with its snowy masses; the third occurs higher up still, at 9-9,500 feet. A paradox: for this is either Magnolia Campbellii itself, or a new twin—not an "ugly" tree, by any means, and in its gigantic blooms by far the most glorious of its race. But here the prevailing tone is shell-pink, not rose; rose is the rarest of its forms (and rather an anaemic, aniline "rose" at that), while by far the most beautiful are the

Fig. 34.—primula sp.; farrer's no. 823.

pure whites, in size, indeed, equivalent to those mythical ones of Ballymoloney, which Auralia Margaretta declared as big as "tay-kettles." And how shall it be but that this form, at all events, will stand our climate? Nor, considering how high we are here, and amid what wet and what cold, can I refrain from saying the same about the innumerable Coelogynes and Dendrobiums that, deficient down below, here, in this summerless, cool, wet region, pad and festoon every other tree in the woodland. Just so, in similar conditions, I am convinced they ought to have a trial at home.

I am already struck, too, with the great preponderance of Indian types, even here, close on the border of China, over Chinese ones. Didissandra, in hot rocks, whether igneous or calcareous, is the one well-known Chinese plant I have hailed as an old friend; but the Iris, the Magnolia, a Buddleia suggesting B. Colvillei, Damnacanthus, Callixene, all link on this flora with the Indian; and there is a huge tree-Rhododendron that should surely be close to R. arboreum. For the rest, other beautiful Rhododendrons are already in bloom, in different regions of the forest. Close above Hpimaw itself, in the woodland, there are the red-lacquer-trunked species, with pink, fragrant flowers, that I first set eyes on, and also a small straggling tree with bunches of white bells, marked at the base with a stain and splashed frecklings of richest crimson. A little higher and another tree appears, with heads of 5-lobed blossoms, rather waxy, of the richest and most lucent carmine-scarlet* (see Fig. 35). With this, occurs the bullatum cousin, and a pink form of the blood-blotched white. Higher yet you come into the arboreum zone with many a species not yet in bloom, and one, a quinquefolium, apparently over. On the tree trunks waves a little, sulphur-coloured epiphyte, and here the tree-Rhododendrons vie in size with the gigantic, dark, old Hemlock Spruces that have developed spreading heads like Cedars, and arms all furry with brown moss and awave with lichens. Here Magnolia Campbellii begins, and a magnificent Viburnum, a small tree, dense with huge flattish domes of white along its flattened boughs. In the shady moss-banks an Ophiopogon makes sheets of grassy green, and an Oxalis, like a magnified O. Acetosella, lights up the gloom with its white snow-drops.

Higher still, and the path climbs more open ground, with Lilies and Smilacina and Aroids coming up. A Daphne like D. indica gives another link with India, and a Clematis like C. montana is in bud, while a wedding-scented Illicium is passing over. In more open places a little Puschkinioid "Squill" is very pretty on the copse banks, mimicking a Primula with its blue heads of blossom that often vary to white. There is also a Corydalis promising, and the many-rayed Paris that I remember in China. And by now we are in the uppermost zone of Bamboo and Rhododendron brake, nearing the pass. Here, only to speak of those in bloom in April, there is a big-leaf just coming out, with foliage brilliantly rust-coloured below, and large domes of rather dull creamy-white; and then another, with crowded heads of seven-lobed, crimson flowers: and then a third, another russet-felted one, already, even on the pass, at 10,050 ft., unfolding well-built heads of intensely brilliant crimson-scarlet. Altogether there is no lack of beauty in the present, or of promise for the future.

But the most beautiful thing of all is the Primula† (see Fig. 36), that suddenly occupies the path-sides and opener glades of Bamboo and Rhododendron on the last mile along the hillside to the dip of the actual pass, luxuriating in pure, damp leaf-mould, and driving one wild with its blue loveliness. For you are to imagine a fat, powdered [root?] stock like any Leek, and then the glossy or dusty foliage of a Sowthistle, surmounted by great, voluminous heads like a Polyanthus, but of a bright lavender blue with a golden eye. This is certainly not P. taraxacoides, nor, I believe, P. sonchifolia; but to this very interesting group it assuredly belongs. And, deprecating the accusation of enthusiasm, I will try to write coldly of it, and state merely that I have never seen a less unprepossessing Primula. Whether Kingdon Ward arrives to join me, or whether Forrest's Chinese collectors repeat their visitation over the pass that so appalled me on April 14, nothing can strip me of the rapture of having first seen that incomparable plant on April 11—to say nothing of, already, some twice the number of Rhododendrons (in bloom only) that fell to my lot during the whole of 1914-5. *Reginald Farrer.*

[Mr. Farrer sends a photograph of a new species of Primula which he numbers 823 (see Fig. 34), but there may have been an error in numbering, as the illustration suggests P. sp. F. 842. Eds.]

* The previous articles by Mr. Farrer were published in our issues for June 21, June 28, and July 12.
† P. species. F. 842.

* Rhodo. sp. F. 812.
† P. sp. F. 824.

ORCHID NOTES AND GLEANINGS.

TWIN-FLOWERED LYCASTE DEPPEI.

A TWO-FLOWERED inflorescence of this profuse-flowering species is sent by Miss Laurie, of Stanstead Abbotts, Ware. We have recorded a similar occurrence in the species before, and frequently in the case of Lycaste Skinneri, some plants of which, when specially well grown, habitually produce two flowers on the stem. Examination of the upper part of the spike, with the sheath rolled back, frequently discloses a rudimentary bud, which, however, is rarely matured, as the production of the normal flower is usually a sufficient effort for the plant. In the instance now recorded the first flower is slightly pressed back, the second bloom proceeding directly on a short stem by the side of it, thus bringing the flower on a level with the first. A suggestion of fasciation is visible on the upper part of the stem from which the flowers proceed.

ODONTIODA METEOR.

A SPRAY of a very distinct hybrid between Odontoglossum Edwardii and Odontioda Vuylstekeae (Odm. Pescatorei × Cochlioda Noezliana) sent by Messrs. Stuart Low and Co., Jarvisbrook, Sussex, with whom it has now flowered, represents it as one of the darkest and brightest in colour of any of its class. In the intensely dark, ruby red of its flowers it progresses from the smaller-flowered Odontioda Devossiana (Odm. Edwardii × Cochlioda Noezliana). The introduction of Odm. Pescatorei in the production of Oda. Meteor has resulted in increasing the size and shape of the flower, while retaining the ruby red tint instead of the purple or claret colouring of most of the hybrids of Odm. Edwardii. The flowers are equal to those of Odm. Thompsonianum in size, but with broader sepals and petals.

TREES AND SHRUBS.

THE AMERICAN AND CHINESE TULIP TREES.

A SHORT time ago there was some discussion in this Journal (see *Gard. Chron.*, Vol. LXV., pp. 128, 144) regarding the differences between the American Tulip Tree (Liriodendron tulipifera, L.) and the Chinese (L. chinense, Sargent). I have lately had occasion to make a study of these two trees, and have discovered a difference in the leaves, which, so far as my observations go, appears to be quite constant. In L. chinense the under surface of the leaves is constantly covered with very numerous papillae, a feature absent from the American L. tulipifera. These papillae, when examined with a low power of the microscope (although visible, they are not very evident through a hand lens), appear as single, slender, narrowly club-shaped cells protruding from the epidermis, and they are probably covered, as in many Rhododendrons, with a thin layer of wax which imparts to the lower surface the glaucous bloom-like appearance characteristic of the Chinese tree remarked upon by Mr. Bean. The protruded apex of the midrib of the leaves of L. tulipifera seems to be a fairly good distinguishing feature, as pointed out by Mr. Vicary Gibbs (*Gard. Chron.*, 1919, p. 144), but it is not of much use unless both species are at hand for comparison. There is, too, as shown by Mr. Bean, a difference in the lobing of the leaves, although variations on the same tree may be found which nearly link up this difference. If, however, normal leaves of the two species be compared, they can, as a rule, be distinguished by their shape.

Papillae, as distinct from ordinary clothing hairs, have been much used by recent authors for discriminating species or groups of species. Schneider, in his critical work on trees and shrubs (*Ill. Handb. der Laubholzkunde*), has relied on them very much, and they are a valuable feature, especially in those shrubs and trees the flowers and leaves of which are not contemporaneous. I have found them very useful in the case of Berberis and Cotoneaster, and when Rhododendron is thoroughly classified they will no doubt prove of great value in the grouping of species. The function of papillae as a rule appears to be the checking of excessive transpiration by maintaining a film of moist air in contact with the epidermal cells and stomata. At least, this seems to be their function in Rhododendron. In writing of Rhododendron I may mention a remarkable case in which the papillae have almost wholly disappeared in cultivation under certain conditions. In wild specimens of Rhododendron ciliicalyx, the lower surface of the leaves is constantly covered with a dense film of papillae; but in the cultivated examples of this species in the Himalayan House at Kew they have almost entirely disappeared. That this is a change due to the environment seems certain, for R. ciliicalyx grows on the dry, wind-swept gorges of Western Yünnan, at an altitude of about 7,000 ft., where changes of climate both in regard to heat and cold are probably nearly as common and probably much more severe than in our own country, which is saying a great deal considering the samples of weather we have had this season. R. ciliicalyx has cast off its papillae in the more or less equable, humid atmosphere of the Kew Himalayan House, where they were no longer needed. *J. Hutchinson.*

FIG. 35.—RHODODENDRON SP.; FARRER'S NO. 812 (see p. 75).

NEW OR NOTEWORTHY PLANTS.

A NEW LILY.

A SPECIMEN of an interesting Lily grown from seed collected by Mr. Farrer has been received at Kew from Major F. C. Stern. Investigation has led to the conclusion that it belongs to an undescribed species and it seems appropriate to name it Lilium Farreri,* after the introducer of the seed. The species belongs to the Martagon group, and is allied to Lilium Duchartrei, Franchet, a species figured in the *Botanical Magazine*, tab. 8072. It is also allied to L. polyphyllum, Don, a Himalayan species, which is figured in Elwes' *A Monograph of the Genus Lilium*, tab. XLVIII., and in *Illus. Hortic.* XXXII., p. 123, but differs in the size and shape of the flower and especially in the length of the tubular portion of the perianth. It is probable that L. polyphyllum, Don, is limited to the central Himalayan regions for the plants from China referred to this species are, so far as I have seen, distinctly L. Duchartrei, while the Afghanistan specimens have all small flowers and narrow leaves and possibly belong to a species which has not yet been described.

Lilium Farreri is especially characterised by the tufts of white hairs at the nodes, by its linear-lanceolate cauline leaves which are dispersed equally throughout a great part of the stem, its one-flowered or else umbellate inflorescence, and its relatively small flowers whose revolute perianth segments are white with dark purple spots and in the lower part form a green tube less than half an inch in length. The flowers have a very strong and pleasant odour. *W. B. Turrill, B.Sc.*

[*Lilium (Martagon) Farreri, Turrill (Liliaceae-Tulipeae); L. Duchartrei, Franchet, affinis sed floribus minoribus solitariis vel in umbella aggregatis, perianthii segmentis revolutis interne viridibus praecipue distinguitur.

Caulis erectus, usque ad 8 dm. altus, rigidus, viridis, inferne cellularum bullatarum lineis longitudinalibus praeditus, in foliorum et bractearum axillis pilis albis floccoso-barbatus, alioqui glaber. Folia caulina numerosa, per caulis longitudinem dispersa, lineari-oblanceolata, apice acuta, basi gradatim angustata, 8.5 cm. longa, 1 cm. lata, nervis principalibus 3-5, pagina utraque glabra, margine cellularum bullatarum lineis instructa. Flores solitarii vel 6 in umbella laxa aggregati, odorissimi; bracteae

(folia florifera) verticillatae, anguste elliptico-lanceolatae, apice acutae, basi gradatim angustatae, circiter 2.5 cm. longae et 7 mm. latae, glabrae; pedicelli 7.5 cm. usque ad 15 cm. longi, bracteolarum basi albo-floccosi alioqui glabri; bracteola solitaria in pedicelli medio posita, bracteis similis sed minor et angustior. Perianthii segmenta revoluta, lanceolata, exteriora apice acuta, interiora obtusa, 5.5 cm. longa, 1.1 cm. lata, alba, a basi usque ad medium maculis atro-purpureis instructa, inferne tubum viridem circiter 1 cm. longum formantia, apice pilosula, pagina superiore inferne sulco nectarifero lineis duabus papillosis praedito, caeteroque glabra. Stamina gynoecio leviter breviora, filamentis subulatis inferne complanatis circiter 3.3 cm. longis extrorsum curvatis, glabris, antheris 8-10 mm. longis, fulvis. Ovarium cylindricum, 1.4 cm. altum, 3 mm. diametro, longitudinaliter sulcatum, glabrum, viride; stylus superne gradatim incrassatus, extrorsum curvatus, fere 3 cm. longus, glaber, viridis.]

NOTICES OF BOOKS.

Past Masters of Garden Craft.

So recently as a score of years ago, purchasers or would-be lessees of a plot of forest on the Lower Amazon framed their estimate of value by the number of fruit trees; eventually all other trees were removed, and the fruit-growing estate became established; and such would seem to have been the first stage in fruit culture in pre-historic times. Fruit would be followed by the culture of legumens and vegetables until ploughing inventions permitted the production of cereals which need greater areas of cultivation, as our learned commentator* opines.

It would appear that the flower garden was always the later institution, and it was introduced into ancient Greece from intercourse with Persia and Egypt, and only began to flourish as the Athenians became more and more luxurious; whilst the Spartans still held out against such frivolities. The use of flowers at first was limited to garlands in connection with sacrificial rites, later, in luxurious Rome, a main feature of banquets consisted in the wreathing of the guests before any food appeared, and a reminiscence of this practice may perhaps be found in the bouquets which are sometimes placed with each cover. The earlier portion of the treatise deals with authors ranging through Homer, Aristotle, Dioscorides, Pliny and many others, and will form a useful work of reference from its very wideness, but even with this extensive literature one only gets small and scattered glimpses of the flowers and vegetables that were in vogue in past times. The Rose, the Lily and the Violet seem to have been especial favourites, though were we to continue the old mode of appreciation of the Rose, our juries at shows would consist of chartered accountants and chemists versed in the arts of making synthetic perfumes, for the then criteria were the number of petals and the quality of perfume; many of our modern "Highly Commended" or "Gold Medal" varieties would veritably fade away under such an inquisition! Curiously, perhaps, though Anemones and Adonis are both mentioned on the same page, the connection mentioned in The Golden Bough (Frazer) which gives a death blow to the "vulgar and common error" that the Anemone has anything to do with a "Windflower," has escaped attention. Columella recommends the small-holder to grow vegetables for his own use and to sell such flowers as he might raise. Among the Greeks the use and cultivation of vegetables must have been considerable to have aroused the sarcasms of Aristophon and Antiphanes (circa 350 B.C.), that the Greeks were "eaters of leaves," and "whoso ate vegetables and onions was no better than a caterpillar," and later Nicander (B.C. 182), in the fragments that remain of his works, mentions Turnip, Radish, Horseradish, Mustard seeds, Marrows, Finnochio, Parsnip, Smyrnium (Celery-like), Endive, Lettuce, Brassicas of sorts, Beans and Cress.

* L'Horticulture antique et le Poëme de Columelle (De Re rustica livre X). Thèse accepté pour le Doctorat de l'Université de Paris par Lizzie B. Marshall, M.A.Vict. Hachette et Cie., Paris, 1918.

Though Xenophon (400 B.C.) had announced that agriculture had the advantage over other occupations, in that it did not require a long training, and could be readily taken up by a man of parts, later on, the Romans thought more of horticultural education, for at the fall of Carthage they caused the work of Mago, the Carthaginian expert, to be translated into Latin. The discussion as to whether Virgil was inspired to write his Georgics in order to attract war veterans to the cultivation of the soil may arouse some doubt whether a twentieth century singer is now needed to bring many of the demobilised on to the land far from city and cinema. Following on the footsteps of Virgil, Columella wrote to guide the gardener with much detail and precision, and especially to help the owner of a small plot that he might reduce his daily bill for food by growing it himself; it is explained that, at the time, such enormous Cabbages and Asparagus, of which three sticks weighed a pound, were sold, the prices were quite beyond the pocket of the "mere people." Columella's tenth book on rural life is in verse, and is supplemented by the eleventh in prose and gives detail in sowing, planting, etc., and when and how to do so. Eleven kinds of flowers are dealt with, probably perhaps limited to those for which there was the best market, as he advises their sale; they include the Lily, Hyacinth (red, white and blue), Violet, Marigold and Rose. The vegetables, together with herbs, number 63, and include the Onion, Leek, Garlic, Brassicas, Inula, Cress, Fennel, Celery, Smyrnium, Cucumber, Marrow, Asparagus, Beet, Spinach, Sorrel, Orache, Beans, Artichokes, and Poppy. No fewer than 15 varieties of Brassica are mentioned, amongst which we find, besides the ordinary Cabbage, the Pompeian or Cauliflower, tender to cold, the Arician or Chou-rave (Kohl Rabi) and the Sabine with crinkled leaf suggesting our "Savoy." Several sorts of Lettuce are noted, but our authoress has not distinguished between the "Cos" and the "cabbage," perhaps an impossibility.

In discussing the meaning of "cereale papaver," seeing the high import value of Poppy seeds as a food, and the extended use made of them, for instance, in Viennese confectionery, the present writer would cast aside any suggestion that the allusion was to "Poppies in the corn." In dealing with the Artichoke, the curious remark is made that whereas the Greeks and Romans ate the receptacle of the flowers, the modern occidental eats the "fond" and the tender part of the leaves; except for the possible intention of "chards," there would appear but little antithesis. Another peculiar point is the rendering of *favilla* as *soot* (suie); the use of wood ashes is probably an old piece of knowledge. Smith's Dictionary notes that Columella mentions forcing houses for raising Grapes and Melons.

Whilst this pleasant insight into the work of Columella inspires a desire to study the original, it also suggests the question, "When our public school boys were occupied in digging up their football fields for growing vegetables, did their masters require them to read Columella?" Indeed, they might yet do so, and go on with the digging too! *H. E. Durham.*

FIG. 36.—PRIMULA SP.; FARRER'S NO. 824 (see p. 75).

THE ROSARY.

TRIAL OF NEW ROSES AT BAGATELLE.

WE learn from M. J. C. N. Forestier that twenty new varieties of Roses were sent to Bagatelle for trial in 1918—twelve from England, four from New Orleans and four from Lyons. M. Pernet-Ducher, who won the Gold Medal for his variety Jean C. N. Forestier, also showed another Rose, Mrs. Farmer. Jean C. N. Forestier is a vigorous, spreading bush. The flower-bud is of graceful shape, and is a bright rose pink, lightly tinted with yellow. The opened flower is semi-double and of delicate shape, the colour being a blend of pale pink and soft yellow. It is perfumed like a Tea Rose. The First-class Certificate was awarded to Argyll, shown by Messrs. Dobbie and Co., a large white Rose

raised from Caroline Testout and Marquise de Sinety. First-class Certificates were also awarded to Mme. Raymond Chevalier Appert, from Guillot, a hybrid Tea Rose, very floriferous, with a long, handsomely shaped bud, the flower of which is brilliant red; and Kitchener of Khartoum, an improved Red Letter Day, with similarly brilliant colouring, but semi-double, with large petals. This was sent by Messrs. Alex. Dickson and Sons. Messrs. Laxton Bros. sent five new varieties, but they suffered so severely on the journey that it will not be possible to determine their merits until the following season. The variety "A. E." appeared to be floriferous.

The jury took advantage of their visit to examine the new varieties sent in the spring of the present year, among which appeared Irish Afterglow, sent by Messrs. Alex. Dickson and Sons. It was not, however, the formal appraisement, which will take place next June. Three new varieties had been sent by Messrs. Howard and Smith, of Los Angeles, California, and appeared to have stood the journey well.

Fig. 37.—H.T. rose Col. Oswald Fitzgerald.

ROSE COL. OSWALD FITZGERALD.

This handsome crimson-scarlet Hybrid Tea Rose (see Fig. 37), has been exhibited in fine condition this year by its raisers Messrs. Alex. Dickson and Sons. Those who saw the basket of this variety at the National Rose Society's Show at Norwich in July last, could not fail to admire the beauty of form and colour presented by the numerous blooms. It is a strong growing Rose and has dark-hued foliage. At the N.R.S. exhibition held at Regent's Park on July 4, 1918, a Gold Medal was granted in favour of this fragrant variety.

HARDY FLOWER BORDER.

ERIGERON AURANTIACUS.

Those of us who have been growing hardy flowers long enough to remember the first appearance of Erigeron aurantiacus will recollect the pleasure it gave us as having flowers so distinct in colour from those of the other Erigerons we were accustomed to see. We admired, also, its dwarf habit, and appreciated its suitability for the rock garden as well as for the front of the border. This little plant, also known as the Orange Daisy, grows about six inches high, has neat small leaves, and little flowers of a good orange colour. Always easy to grow, I found, however, that it does not like a prolonged period of drought when on a dry soil. In a dry position it is liable to shrivel unless water is applied to the roots. A still more potent enemy, however, is the slug, which, especially in autumn, delights to crop the crowns of E. aurantiacus, of which it seems as fond as of Aster alpinus. Subject to these reservations, E. aurantiacus is a good plant in every way. It is satisfactorily raised from seeds, and there is no difficulty in securing a number of plants from a packet of seeds purchased in early spring and sown under glass. In more recent years, under the name of E. aurantiacus hybridus, a strain has been offered which produces plants about twice the height of E. aurantiacus, giving rather larger flowers of several shades of colour. The question arises, did not a similar cross result in the production of the fine Erigeron called Asa Gray? *S. Arnott.*

The Week's Work.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Newly Budded Fruit Trees.—Trees that were budded last month should be examined and, where necessary, have the tying material loosened. This should always be done in the case of newly budded stocks after the buds have been inserted a month, or the sap will be checked, the bark restricted, and the stem swollen irregularly. Budding should be continued as certain trees are best budded in August, but only experience can teach what is the most suitable time. The principal thing is to have the shoots sufficiently ripened.

Strawberries.—As soon as Strawberry layers are rooted they should be removed from the beds and placed on a path until the pots are filled with roots, when they should be planted permanently. The sooner this is done now the better. Fresh ground should always be selected for Strawberry beds, and it is good practice to discard a certain number of old plants each year and replant young ones. I find the best method is to retain the plants for three seasons; they will crop longer, but much depends on the soil. Choose a moist situation with a good depth of soil that has been well manured for a previous crop. I find the best results are obtained when Strawberries are allowed a space of 3 feet between the rows and one foot between the individual plants, every other plant being removed after the first year. By this method an extra number of choice fruits are obtained and ground is utilised which would otherwise be wasted. In planting Strawberries attention should be given to varieties that suit the district, as certain sorts do well in one district but not in others. Varieties that succeed best in these gardens are Royal Sovereign, King George, The Earl, Utility, and Givon's Late Prolific. The Admiral, The Duke and the Queen are other good sorts. Kentish Favourite, The President and Sir Joseph Paxton will not succeed here, yet a few miles away they do extraordinarily well. After planting, the runners should be well watered, and care should be taken not to plant them too deeply. The crown should be just above ground after the plant has been made firm in the soil.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Pilumna.—This small group of dwarf-growing epiphytes is nearly allied to Trichopilia, with which some authorities unite it, but in gardens the species are still best known as Pilumnas. The species P. nobilis and P. fragrans are charming plants for autumn blooming and worthy of a place in every collection, as their fragrant flowers are freely produced. Pilumnas grow best in a cool house, and should be treated as pot plants. They thrive in the usual mixture of Osmunda or A.1. fibre and Sphagnum-moss, with the drainage kept open, and in good order. The roots need ample supplies of water during their season of active growth, but when growth is mature sufficient moisture only is needed to keep the pseudo-bulbs plump and the roots in a healthy condition.

Coelogyne cristata.—Large potts or pans of this species and its varieties need abundance of water at the roots until the pseudo-bulbs have completed their growth. The plants will be all the better if they are grown well up to the roof-glass, and where they will enjoy a free circulation of air about them, thus ensuring good, hard pseudo-bulbs. There is still time to put untidy plants in order by

adding fresh compost and tying in the straying pseudo-bulbs, but the work should not be delayed long. Established, well-rooted specimens may, from now onward until the pseudo-bulbs are completed, be watered twice weekly with weak liquid manure from the farmyard. Plants newly potted this year need clear water only, and watering must not be overdone as the new material is very retentive of moisture, and too much moisture would make the soil sour.

Hot Water System.—Advantage should be taken of the fine weather to examine the heating apparatus, and put the same in good working order for the winter. Leaky joints should be made good, and valves and taps examined to see that they are working smoothly. Old and worn boilers should be replaced with new ones while the weather is favourable for such work being done without much risk or injury to the plants. When old boilers break down it nearly always happens during severe weather in winter.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Leeks.—Late sown Leeks will do well if planted one foot apart and 6 inches deep.

Cabbage.—During the present week, sow the main crop of spring Cabbages. Especial pains should be taken in the preparation of the seed bed. Make the soil fine, adding mortar rubble and leaf-mould if the ground is of a heavy nature, with burnt garden refuse for a surface dressing. Where gall weevils attack the members of the Brassica tribe, apply a dressing of basic slag to the soil when it is dug. After the above operations are carried out, provide a fine surface and sow the seeds in drills made 14 inches apart and one inch in depth. If the soil is dry, soak the drills previous to sowing the seed. Net the seed bed to prevent birds doing damage to the seeds and seedlings.

Onions.—As the second early Potatos are dug, the ground they occupied may be prepared for sowing the main batch of autumn Onions. The soil will require very little preparation beyond simply levelling and rolling it firm. When this has been done, burnt garden refuse should be scattered over the surface. Draw drills 15 inches apart and sow the seed one inch deep. Onions of the Italian type, such as White Emperor and White Leviathan, are excellent for present sowing, also Lemon Rocca and Giant Red Rocca.

Winter Onions.—Where Onions are required for pulling green during early spring, a sowing should be made now. Varieties for use as green, "spring" or "bunch" Onions may be selected from both spring and autumn types. Sow in drills drawn 14 inches apart and 1 inch in depth.

French Beans.—To maintain a supply of French Beans well into the autumn, make a sowing in heated pits. The Beans may be planted on an exhausted Cucumber bed; the surface should be forked evenly and made somewhat firm. Sow the seeds singly at 4 inches apart, in rows 16 inches asunder. Thin the seedlings to one foot apart. Expose the plants fully to the weather on all favourable occasions, and only place the lights in position when cold or rough weather threatens. Canadian Wonder and Superlative are two first-rate sorts for planting in this manner.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Herbaceous Paeonies.—Encourage plants of Herbaceous Paeonies to produce strong crowns for the production of large flowers next year, by supplying the roots with plenty of water and liquid manure.

Violas and Pansies.—The propagation of Viola and Pansy plants for flowering next spring and summer should be completed as soon as possible. There should be ample young shoots springing from the old plants; if these are pulled off carefully when about two inches long, dibbled a few inches apart in a well-prepared border surfaced with sand, and the soil made firm, roots should develop quickly. Sprinkle the beds each afternoon on bright days with clear water, and keep the surface soil free from weeds. Large plants may be increased by divisions, planting small tufts 4 inches apart in well prepared soil. The old flowering growths should be cut off.

Bulbs.—The present time is suitable to decide what bulbs will be required for next spring. A list should be prepared and forwarded to the nurseryman. Varieties of Hyacinth are numerous and excellent for furnishing beds, but care should be taken to arrange the colours to harmonise. These remarks apply also to Tulips, especially the May-flowering varieties.

Myosotis.—Young plants of Forget-me-nots still in the seedbeds need attention. Lift them carefully and transplant them in well prepared beds facing north or west. These flowers are very showy in spring, and should be planted about 6 inches apart. Sprinkle them with clear water on frequent occasions, using a fine rose can, and continue to do so till they are well established. Subsequent treatment consists in keeping the soil free from weeds.

Roses.—Certain varieties of Roses may be increased from cuttings made of the half matured shoots. The cuttings should be inserted in a sandy compost under handlights placed in a somewhat shady position. Keep the cuttings well supplied with water, and shade them from bright sunshine.

Yew Hedges.—If, owing to pressure of other work, Yew Hedges have been neglected, clip them as soon as possible. Do not cut them too closely, and see that the tops are trimmed to an even height.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Pot Vines.—Vines growing in pots may be transferred to a sheltered position outdoors, where they will receive the benefit of full sunshine to mature the canes. The pots should be plunged or otherwise protected from drying winds and bright sunshine. It is desirable to preserve the principal leaves in a healthy condition for as long as possible, and to this end the plants will require to be watered carefully until the foliage ripens and falls. Keep red spider in check by a free use of the syringe. The lateral growths may be reduced gradually to divert the whole energy of the Vine into the main buds. If the Vines are required for planting in a newly-built vinery, and the borders inside are made in readiness, it will be an advantage to plant them at once rather than defer the work until the spring. Except in special circumstances, it is advisable to plant in outside borders only when the Vines are dormant. It is not too late for inarching young Vines in mid-season and late-houses, if a young cane has been allowed to extend for this purpose. The union will be more secure if the scion and stock are tongued, and the work will be the more satisfactory if the wood is in a green state.

The Orchard House.—Apples, Pears and the later varieties of stone fruits should be making rapid progress, and the trees will require constant attention. The soil and roots of trees in pots dry very quickly during bright weather; it is therefore very important that they do not lack supplies of water and liquid manure. To make room for further rich top-dressings, zinc collars fitted round the top of the pots are very useful. The trees should receive a thorough syringing daily, preferably somewhat late in the afternoon, as a cool, moist atmosphere throughout the night is desirable, but syringing should be discontinued before the ripening stage is reached. The colour of Apples is greatly improved by standing the trees in the open air in full sun during the final ripening period, but every precaution must be taken against damage by strong winds and birds. The fruits should be fully exposed to sun-heat by removing any foliage which unduly shades them. The orchard house should be freely ventilated both day and night in mild weather.

Melons.—Provided the Melon house admits plenty of light, and there is ample fire heat available, it is not too late to plant Melons for the latest crop. The bed of fermenting material and the soil should be prepared carefully. For this late crop the soil should consist of three-quarters turfy loam and one quarter decayed manure, with a liberal amount of wood-ash and old plaster rubble added. When planted, keep the house close, and, if necessary, shade the glass lightly for a few days. Maintain a moist atmosphere. After the plants have been well watered, apply moisture at the roots with extra care, until the latter grow freely in the compost. The plants should be encouraged with a high day temperature, but in the evening allow the temperature to fall to 65° or 70°, and it should then remain steady during the night. With the shortening days the plants should carry only a light crop; two, or, at the most, three, fruits to each plant will be ample.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Chrysanthemum.—All Chrysanthemums should now be in the pots in which they will flower and standing outdoors. Circumstances determine the position they occupy, but a good position is a single row along the side of a walk, where they can be easily attended to for watering and regulating the growths. Stand the pots on slates or tiles and, if the pots are exposed to strong sunshine, boards placed in front of them will keep the roots cool and save labour in watering. Where a piece of ground can be devoted to Chrysanthemums in pots, cover it with coal ash to make it worm-proof. Line out the rows; insert a strong stake at each end and stretch wire along the tops of the posts. If the stake of each plant is secured to this wire there will be no damage during wind. The chosen position should, however, be sheltered from strong winds, but fully exposed to sunshine. During hot weather careful attention must be given to watering, especially when the roots have reached the sides of the pots. Provided the potting soil is neither too retentive nor too enriched with manure, weak liquid manure, preferably from the cowshed, should be given frequently, so that growth and foliage may continue strong and healthy. In hot, dry weather, the plants should be well syringed in the afternoon or evening. If green or black fly attack the points of the shoots, dust them with tobacco powder.

Schizanthus.—The grandiflora hybrids are of easy culture and indispensable for a floral display in spring. Seeds may be sown now in 6-inch pots, filled with a good compost of loam and leaf-mould and thoroughly soaked before sowing the seed. Sow only a few seeds in each pot and place the pots in a cool place. After germination takes place keep the plants in a cool, airy house.

Tying and Disbudding.—The most serviceable plants are those grown for decorative purposes, *i.e.*, bush specimens with six or more shoots. The growth should be tied out, and divested of all unnecessary side growths so that sufficient light and air may be admitted to ripen the wood and enable it to produce flower buds. Disbudding should be done according to the number and size of the blooms required. Small plants grown in 5-inch pots are useful for decorative purposes in winter and for this purpose the large flowered varieties are most suitable. Cuttings may be inserted now, in small pots, placed in heat and shaded until roots are formed. When well rooted, pot them firmly in a good compost, in 5-inch pots, and when these pots are filled with roots, afford liquid manure.

EDITORIAL NOTICE.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, AUGUST 11.—
United Hort. Ben and Prov. Soc. Com. meet.

TUESDAY, AUGUST 12.—
Royal Horticultural Society's Committee's Meeting. Lecture by Mr. James Hudson, at 3 p.m., on "Fruit Trees in Pots."

WEDNESDAY, AUGUST 13.—
Liverpool Horticultural Association's Show of Flowers and Vegetables, to be held in the Corn Market (2 days). Southampton Horticultural Society's Summer Show.

FRIDAY, AUGUST 15.—
Southend Fruit and Vegetable Show, to be held in the Chalkwell Park, Westcliff, (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich 62.4°.

ACTUAL TEMPERATURE :—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Aug. 6, 10 a.m.; Bar 30.2; temp. 67°. Weather—Bright.

Vegetables for Winter and Spring Use. Although the weather has recently been more favourable for the growth of leaf and stem vegetables, the long spell of drought from which our gardens suffered in the spring is likely to betray its effects in a relative shortage of vegetables in the winter and spring. This probable shortage may be aggravated by a poor Potato crop, and this for the reasons that planting was in many cases delayed and that the acreage under Potatos will probably show a large reduction from that of last year. It is, therefore, important that every effort should be made to prevent shortage by utilising all available ground for the sowing and planting of vegetable crops which will be available for use in the winter and spring.

Gardeners generally will need no reminder of the value of this practice, but allotment holders, many of whom have been bitterly disappointed by the partial failure of their crops, and yet more by the inability, owing to inclement weather, of preparing their ground until late in the year, should take note of the fact that useful supplies of vegetables may be obtained by sowing even so late in the season as the present time.

The pamphlet issued by the Royal Horticultural Society on the subject of late summer-sown crops contains useful information with respect to the crops and varieties which are likely to give good results, and we hope that the Society will add to the valuable work which it did during the war by securing the widest possible dissemination of the information contained in the leaflet.

Beside the plants of the Cabbage tribe—Cabbages, Kale, etc. which are valuable for winter food, and in addition to Leeks and in private gardens Celery—Turnip, garden Swedes, and particularly Beet, are valuable as winter yielding food crops, and the last group may be sown now with the certainty of fair crops.

It is hard to understand why Leeks are not more largely grown in the South. They are among the most nutritious of vegetables, and when properly cooked they are also among the best The Leek also has this merit, that it helps to bring heavy sticky soil into better condition. The network of roots which it forms appears to aid in the disintegration of the soil, and to make it more workable.

Another vegetable which should be grown more frequently in gardens is Good King Henry, and although we have had no experience of sowing it late in the summer, we see no reason why if the late summer and autumn are favourable to growth a good supply of the inflorescence —the part used for food purposes—should not be obtained in early spring, when green vegetables are always scarce. We hope that gardeners and others who have made a special practice of growing late summer sown crops will do all that they can to encourage this method of augmenting food production by those who still think that seed time and harvest are synonymous with spring and autumn.

Speedy Fruit Picking.—The daily Press records that Mrs. Mayhew of Hickling, Norfolk, has set up a record by gathering 18½ stones of Black Currants in 10½ hours.

A Society's Outing.—On the 14th ult. the members of the Brighton, Hove and Sussex Horticultural and Food Production Society visited the gardens at Eridge Castle on the occasion of the Society's annual outing. The party, thirty in number, left Brighton by the 9.22 train for Tunbridge Wells, and on arrival spent a pleasant two hours wandering over the famous Common and through the town. Luncheon was served at the Swan Hotel, Mr. F. Woollard (Chairman of the Society) being in the chair. The party then took train to Eridge to inspect the gardens, five acres in extent, under the guidance of Mr. Arthur Wilson, gardener to Lord Henry Nevill. The orchards with their heavily-laden trees, the masses of scarlet fruit on the Currant bushes, and the magnificent Raspberries—surpassing in size anything that the majority of the visitors had ever seen—were viewed with the keenest interest, and the kitchen garden had secrets of its own to reveal. Mr. Wilson was the kindest of guides, with information always ready in reply to the innumerable questions with which he was plied, and the tour was thoroughly enjoyed by all present. On leaving the Castle, tea at the Gun Hotel brought the day's proceedings to a close.

The Brent Valley Bird Sanctuary.—The Brent Valley Bird Sanctuary of the Selborne Society has been established for sixteen years, and apart from the experimental work which has resulted in the sending of nesting boxes all over the country and to different parts of the world, much pleasure has been given to very numerous visitors of all classes. The Committee has, until recently, been able to keep things going on the profits obtained from the sale of nesting boxes, together with occasional donations, but it is now found necessary to make an appeal for direct contributions. These may be sent to the chairman, Mr. Wilfred Mark Webb, at "The Hermitage," W.7., together with orders for nesting boxes.

Apple Aphides.—The disease of Apples, commonly known as Aphis, Dolphin or Blue Bug Blight, is at times a source of serious loss to fruitgrowers. It is caused by one or more of eight different kinds of plant lice or aphides, but by far the greatest damage is due to four only. Those are (1) the Blue Bug or Rosy Apple Aphis; (2) the Green Apple Aphis; (3) the Oat Apple Aphis; and (4) the Woolly Aphis or American Blight. The first three of these aphides are dealt with in Leaflet No. 330, which has just been issued by the Board of Agriculture. After pointing out the characteristic nature of the damage done by each of the aphides, the leaflet traces briefly their life histories, and finally suggests treatment for destroying the pests. The only satisfactory method is to use a suitable spray, and recommendations are given as to the best times to apply the sprays and how to make them. Copies of the leaflet can be obtained free of charge and post free on application to the Board, 3, St. James's Square, London, S.W.1.

National Dahlia Society.—The National Dahlia Society will hold its annual Exhibition on Tuesday, September 9, in conjunction with the fortnightly meeting of the Royal Horticultural Society, in the London Scottish Drill Hall, Buckingham Gate, Westminster. The Gold "Dean Memorial" Medal, presented by Messrs. Jas. Stredwick and Son, is offered for nine varieties of Cactus Dahlias, distinct, in the Amateurs' section.

The Royal Commission on Agriculture.—The adjourned meeting of the Royal Commission on Agriculture was held at the Surveyors' Institution, Westminster, on Wednesday, the 30th ult. Sir William Peat (Chairman) presided, and there was a full attendance of Commissioners with the exception of Dr. C. M. Douglas, C.B., who was detained in Scotland. The chairman stated that, as desired at the previous meeting, he had taken steps to ascertain the interpretation attached by the Government to the terms of reference, more particularly with regard to the addition of the words "and hours of employment." He read a letter from the Board of Agriculture indicating generally that it was not the intention of the Government to extend the inquiry to cover hours of employment except so far as they exercise an economic effect on the cost of production; and that the reference had been purposely limited in the first instance so as to exclude wider questions, such as security of tenure and land nationalisation, and to make it possible to obtain an early report on the economic question. For that reason the personnel of the Commission had not included representatives of the landowners, but an equal number of representatives of farmers and labourers. If, as might prove desirable, wider issues were to be investigated, this investigation should be undertaken by a separate Royal Commission specially constituted for the purpose. The following resolutions were passed :—(1) The addition of the words "and hours of employment" is not to be taken to mean that the Royal Commission is expected to consider hours of employment, except in relation to the costs of production, and that the Commission will not consider what the hours of employment should be or make any recommendation thereon. (2) That the Commission agrees to consider the subject of security of tenure in relation to the costs of production and to the general economic prospects of the farming industry. The Commission then decided upon the general scheme of investigation to be followed and appointed a sub-committee to consider methods of obtaining the information required.

Tenure of Allotments.—In reply to inquiries and with a view to prevent any misconception, the Board of Agriculture explains that the Land Settlement Bill does not affect materially the question of the tenure of allotments taken under the Defence of the Realm Regulations. That question is regulated by the Defence of the Realm (Acquisition of Land) Act, under which the Board have power to retain possession for two years after the end of the war of any allotments of which possession was taken under the Regulation. The Board has already expressed its intention to use the right to retain possession in all cases except those where it is satisfied that the land is required at once for

building or where the compensation for retaining possession would be out of all proportion to any value to the Nation of the food produced on the land. The position with respect to allotments in the London Parks and in open spaces like Epping Forest is somewhat different. The Board of Agriculture did not take possession of the land in these cases; the land was appropriated temporarily for allotments by the local authorities, who were already its owners or occupiers. Accordingly, no question arises in these cases of any intervention by the Board to retain possession. But a provision has been inserted in the Land Settlement Bill under which the local authorities may continue to use this land for allotments for two years from the end of the war. The responsibility of deciding whether the allotments shall be allowed to remain for that period rests not with the Board, but with the local authorities who are the best judges presumably of the local situation and requirements. Neither in the Land Settlement Bill, nor in the Defence of the Realm (Acquisition of Land) Act is there anything which gives the Board of Agriculture any power to control the tenure of allotments supplied by private agreement between landlords and tenants. In the event, however, of an owner in such a case giving allotment holders notice to quit, it will be open to the local authority after the Land Settlement Bill comes into operation to make a compulsory order for the hiring of the land for allotments. The period of notice to be given to an allotment holder depends on the terms of the agreement under which the land is held; and these terms, of course, vary. But in the case of allotments taken under the Defence of the Realm Regulations the Board of Agriculture issued a circular lately calling the attention of local authorities to the desirability of giving as long notice as possible to allotment holders.

Asimina triloba.—Said to have been introduced by Peter Collinson in 1736, this curious shrub (see Fig. 38) has never been very commonly grown in this country. It is more often seen in Continental gardens, where the greater summer heat enables it to attain larger dimensions than it does with us, and to ripen its remarkable fruits. The species is a native of the South and South-Eastern United States, and is said by Sargent to be very common in the valley of the Mississippi, forming, in some places, thickets many acres in extent. It is deciduous, the leaves being 4 ins. to 8 ins. long and 1½ ins. to 4 ins. wide, broadest towards the pointed apex. The flowers are solitary, and develop in June from the wood made the previous year, each about 2 ins. across when fully expanded. The specific name is based on the calyx, which is three-lobed, the lobes ovate, and, like the short, thick flower-stalk, covered with thick down. The petals are in two rows of three each (the inner ones much the smaller), and of a dark, dull, vinous purple. The fruit, occasionally seen abroad but rarely in this country, is shaped like a small thick sausage, although its surface is more uneven, 3 ins. or 4 ins. long and 1 in. to 1½ in. in diameter, brown-black when ripe, filled with a juicy, sweet and edible flesh and many seeds. The unusual character of this shrub, its fine foliage, and its curious flowers, render it an interesting feature in gardens. Its spreading habit demands for it plenty of space, and it does best as an isolated plant. Probably the finest specimen in this country is, or was, at Claremont, 15 ft. high and much more in diameter. In a wild state, it is frequently a tree 30 ft. and upwards high. Although it belongs to the Custard-Apple family (Anonaceae), an almost purely tropical family, it is quite hardy in this country and thrives well in rich loamy soil.

New Works on Botany and Agriculture.—Messrs. Hodder and Stoughton have in the press "The New Teaching Series," which claims to be an entirely new departure in text books for school and private use. The volumes in hand include: *Applied Botany*, by G. S. M. Ellis, and *Chemistry and Bacteriology of Agriculture*, by E. J. Holmyard. It is claimed that in both books scientific theory is brought into close relationship to its practical applications.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

The Snowy Fly (see pp. 54, 72).—The cheapest and probably the most effectual means of ridding glass houses of the Snowy Fly is by repeated light fumigations with hydrocyanic acid gas. This method has been given over and over again in your columns. Particularly so some 8-10 years ago, following an article on

Fig. 38.—Asimina triloba.

cyaniding, by Mr. Dobson, Pontefract. It is perhaps superfluous to mention that hydrocyanic acid gas should be smelt very cautiously, but it is a curious fact that about one person in four is unable to detect the odour of this substance. *Fred W. Jeffery, Abbey Hill, Argyllshire.*

Privet Trees (see pp. 39, 56).—The Privets mentioned by your correspondent Jonathan Fiona (see page 56), are certainly very ornamental, but in my opinion the best of all, regarded from a floral point of view, is the Chinese Privet (Ligustrum sinense). Mr. Bean regards it as the best and most ornamental of deciduous Privets, but though referred to as deciduous, this Privet will in a sheltered spot, and during mild winters, retain many of its leaves. It will attain a height of 15 to 20 feet, and though it may assume the dimensions of a small tree, it is usually shrub-like in habit. The white flowers, disposed in numerous panicles, are borne in great profusion, usually in the month of July. So freely are the small, blackish berries borne that they form a noticeable feature later in the year. The Chinese Privet was introduced by Fortune nearly 70 years ago, but it remained comparatively unknown for a long time. A dwarf variety, known as nanum, is smaller in all its parts and well suited for gardens where the type would be too large. A very pretty Privet, quite distinct from the others in habit, is Ligustrum Quihoui, that does not produce its panicles of white blossoms until the autumn months. Like the preceding, this species is a native of China. *T.*

——I thank Mr. Jonathan Fiona (see p. 56) for his suggestion, but my Privet tree is a true Ligustrum vulgare. The flowers and leaves are identically the same as those of L. vulgare. There are three others, a few yards

distant. The tree has 4 trunks, 3-4 ins. diameter, and at least 30 ft. high. They were probably abandoned stumps when the shrubbery was made instead of a Privet hedge. *G. Henslow.*

The Doubling of the Stock.—I was interested in the account which Miss Saunders gave at the first meeting of the Genetical Society (see pp. 44-45) of her researches in the genetics of Stocks. In Mid and East Lothian large quantities of seed of what is called the East Lothian Stock are saved annually by a number of small growers. Some of the old enthusiasts have evolved remarkably fine strains of this beautiful plant, and doubling is a factor which they control with the greatest ease. For several years I have studied the methods of several of the most successful growers, and their, and also my own, experiences do not at all agree with those of Miss Saunders. It is a fact that seed can be saved—and has been saved for nearly half a century—that will yield at least 90 per cent. of plants producing double flowers, and this high percentage is ensured by a very simple method. Modern scientific research cannot ensure any method of producing a higher percentage of plants that will bear double flowers. Miss Saunders stated that the percentage of doubles could be raised from an average of about 57 per cent. to one of 90 per cent., or even higher if the more vigorous individuals were chosen at the time of pricking out. This is not necessary under the Lothian methods, nor yet is it the experience in the district; in fact the reverse is actually the case. To my mind, the East Lothian Stock is the finest of all the Stocks and its soul-refreshing fragrance is unrivalled. The skilled, old growers east of the city of Edinburgh can easily save seed, as I have said, that will produce at least 90 per cent. of double-flowered plants. Has Miss Saunders made herself acquainted with the procedure of these florists? It is a fact that *any* plant having single flowers is amenable to the production of doubles after it has attained a certain age. That is the position in regard to East Lothian Stocks, whatever it may be so far as the others are concerned. *George M. Taylor, Edinburgh.*

The London Plane.—In Mr. Beans' enumeration of the varieties of the London Plane (see p. 47), no mention is made of a variety which I have noted in Battersea Park, that has a distinct, semi-pendulous habit quite different to any Platanus I have seen elsewhere. There are several specimens and apparently they have reached their maximum height, which is approximately thirty feet. The branching system is extraordinary in that it is somewhat on dichotomous lines. I cannot think the trees are "freaks," or that their habit has been induced by pruning (stopping). *Puisne.*

Publications Received.—***Flower Show Fixtures for 1919.*** Published by Austin & McAslan. ***An A.B.C. of Common Birds.*** London: The Royal Society for the Protection of Birds. Price 6d. ***The Coal Industry: Dangers of Nationalisation.*** By Harold Cox. London: Longmans, Green & Co. Price 6d. ***The Living Cycads.*** By Charles Joseph Chamberlain. Chicago: The University of Chicago Press. Price $1.50 net. ***The School Gardener.*** By J. Norris. London: Cassell & Co., Ltd. ***Bulletin of Peony News.*** Edited by A. P. Saunders, Clinton, New York, and published by the American Peony Society. ***The Grain Bug.*** By D. J. Caffrey and George W. Barber. Bulletin No. 779. Washington, D.C.: United States Department of Agriculture. Price 5 cents. ***Notes from the Botanical School of Trinity College, Dublin.*** No. 1, Vol. III. Dublin: The University Press. ***Contributions to the Reconstruction of Horticultural Education.*** Published by the Horticultural Education Association, with a foreword by Dr. F. W. Keeble, C.B.E., F.R.S. Price 1s. ***Hybrid Perennial Sunflowers.*** By T. D. A. Cockerell. Reprinted for private circulation from ***The Botanical Gazette,*** Vol. LXVII., No. 3, March 1919. ***The Girasole or Jerusalem Artichoke.*** By T. D. A. Cockerell. Reprinted from ***The Monthly Bulletin,*** Vol. VIII., No. 5, May 1919. ***Quarterly Journal of Forestry,*** Vol. XIII., No. 3, July 1919. London: Laughton & Co., Ltd. Price 2s.

PELARGONIUM CRISPUM VARIEGATUM.

THE specimen of Perlargonium crispum variegatum illustrated in Fig. 39 is one selected from the large group of this sweetly scented plant exhibited by the Hon. Vicary Gibbs (gr. Mr. Edwin Beckett) on the 29th ult. at the fortnightly meeting of the Royal Horticultural Society. The Floral Committee on that occasion gave the variety a First Class Certificate, and the Award may bring the claims of the once popular scented-leaved plants to public notice again. The scented-leaved Pelargonium was formerly much prized as an indoor plant for growing in conservatories and greenhouses, and extensive use was also made of the numerous species and varieties for summer bedding. At Aldenham, the plants are still largely grown for the latter purpose and visitors to those famous gardens cannot fail to be impressed with the splendid examples in the large beds and borders adjacent to the residence. The divergencies in habit, size of flower, shape of leaf, and other characters, are as wide as the variation of scent in the foliage, so that a mixed group provides great variety of interest. In some, such as in the plant illustrated, the scent is very pleasing, whilst in others it is pungent and in some cases distinctly unpleasant.

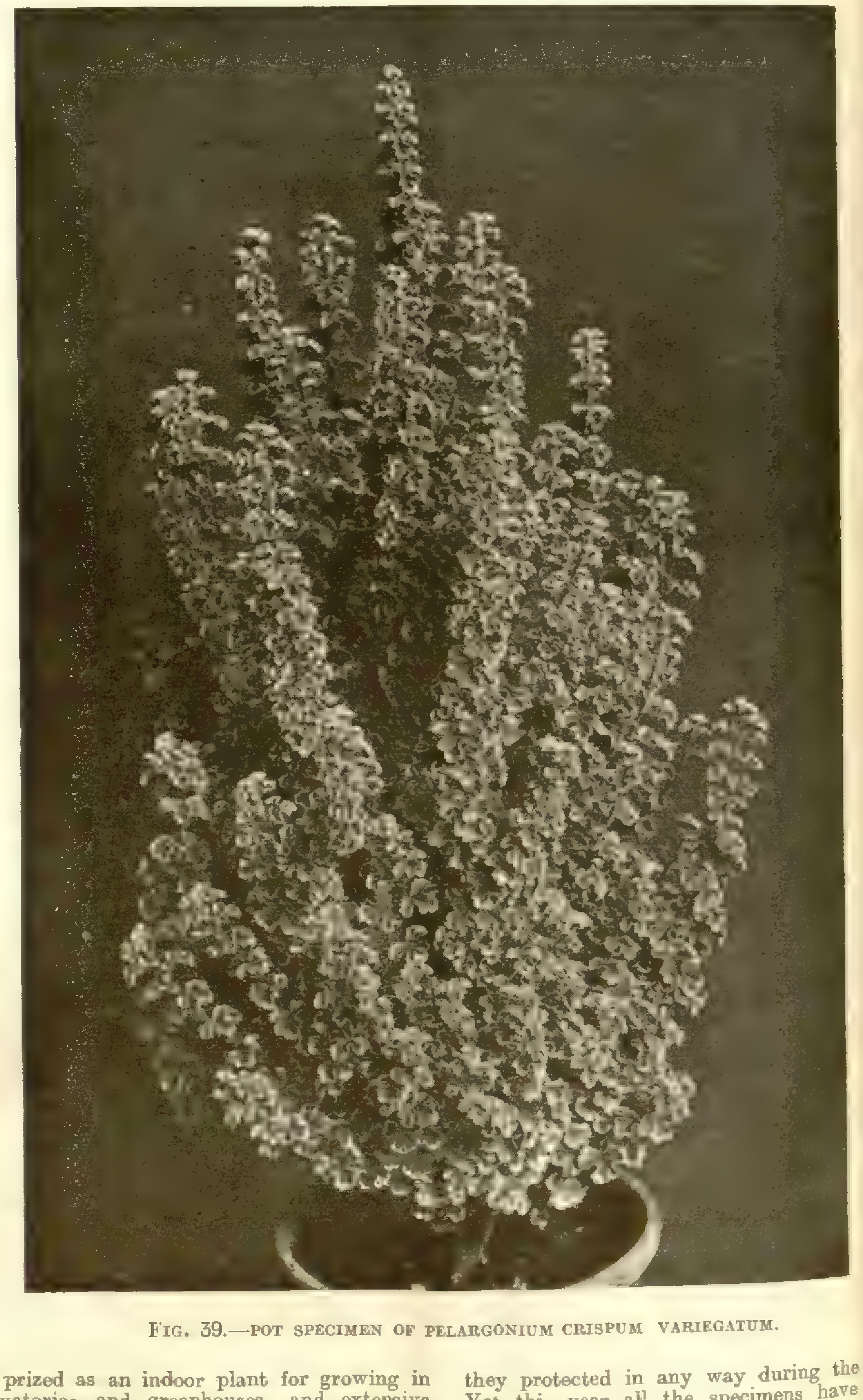

FIG. 39.—POT SPECIMEN OF PELARGONIUM CRISPUM VARIEGATUM.

CONFESSIONS OF A NOVICE.

THE reputation for tenderness which prevents that most beautiful flowering shrub Abutilon vitifolium from being more generally grown may perhaps be well founded, but nevertheless I, with the temerity of a novice, was persuaded a few years ago to risk disappointment and to plant three or four specimens in different parts of the garden. Beyond taking care to give none of them a north exposure and to place them with their backs to other shrubs, no further consideration was given them. Nor were they protected in any way during the winter. Yet this year all the specimens have been a wonderful sight, with masses of lavender blue flowers opening successively over a long season. A comparison of the floriferousness of these specimens seems to indicate that they do best where they get the morning sun and receive some shelter from trees during the hottest time of the day. For by far the best of my specimens, all of which are 8 or 9 ft. high, is the one which faces due east and grows near by tall trees, which screen it somewhat at mid-day. On the other hand, the colour of the flowers is certainly deeper and more approaching cerulean blue in a specimen which is growing in partial shade. I notice that the former specimen

is forming fruits in plenty, and that the fruits appear to contain good seed. I have been given to understand that seedlings of this "blue vine-leaved Abutilon" are very variable with respect to shade of flower colour, so I propose, if the seeds germinate, to raise a batch in the hope of a novice of a later generation being able to enjoy the sight of a shrub with true Cambridge blue flowers.

My trouble now is to know how the shrub should be pruned, and I shall be glad of advice on this subject. The stems tend to get leggy, although the direction of the leaves and the fact that they are borne on shoots of differing lengths, prevents the shrub from looking unshapely. Nevertheless, I see enough of buds breaking low down, and am perplexed as to whether I should not have been ruthless and cut back the longer branches to resting buds, in order to encourage the formation of new shoots. I hesitated, however, to do this for fear that these supplementary shoots, even if they did appear, would not have time to develop leaves and ripen their wood in time for flower-production next year: and if they did not, pruning would have been unavailing, for they, shedding some of their leaves in the autumn, would in the following year have become as leggy as the shoots they displaced. Therefore, I have left the plants alone, but cannot refrain from this tribute to their wonderful beauty.

The lawn, which it may be remembered was sacrificed in order that the ground beneath might do its bit of war food production, has now been re-established. For a long time the grass hovered between life and death, with a strong leaning to the latter. The seed could not be sown until late. Came the drought, and the green spears of tender grass turned brown. Then weeds sprung up in such numbers and variety as to make any but a hardened student of science a convert to a belief in spontaneous generation: carpets of seedling Plantain, remnants of the war Potatos, Sorrel, with its forked runners, Swedes which should have been lifted, Groundsel, and a host of unnamable things grew, so that the lawn rivalled the dismal state of Shelley's garden after the lady with gentle mind had ceased to tend it. Yet thanks to a well-timed and combined attack by weeding after the rain and by a good dressing of sulphate of ammonia the situation of the lawn is well in hand. The grass has grown, and its green now charms the eye. Undoubtedly it was the sulphate of ammonia which saved the situation, and I recommend anyone in like case with me who, with rueful eye, regards the honourable weediness of his newly-sown lawn, to apply a dressing of sulphate of ammonia while the soil still has plenty of moisture in it. Of course, there is nothing new or original in this advice, but it is none the worse for that. *A. N.*

THE MARKET FRUIT GARDEN.

JULY was the third month in succession with less than an average rainfall. I recorded rain on twelve days, but all were light showers, so that the total amounted to only 1.44 in. Fortunately dull weather followed the showers that upset the Peace celebrations, so that the light rainfall was able to exert its full influence. Fruit trees undoubtedly received much benefit, and prospects have improved in consequence. There is at least an average crop of Apples, and the fruit is beautifully clean, its freedom from scab being quite remarkable. Some of the earliest varieties are rather small, but later kinds now look like swelling to a good size. Plums also are of good quality, but both these and Apples are quite a fortnight late. Usually, I am marketing Apples freely by the middle of July, but this year only a few were picked on July 24, and Early River's Plums were not started until the last day of the month. Drought and cold nights no doubt account for this backwardness.

PRICES FOR EARLY FRUIT.

Supplies of Apples and Plums in the markets show clearly that the crops are much better than they were in 1918, though Plums are by no means plentiful. Last year I sold some Early River's at 46s. per half-bushel of 28 lb. The highest price received this year was 17s., which is, of course, still very good. Last season I made 35s. per half-bushel of 20 lb. for the earliest of the Beauty of Bath Apples. Now they are controlled, and the grower may not receive more than 10s. 5d. per half-bushel (58s. 4d. per cwt.); but it is doubtful if they would have gone higher in any case. Only the very best dessert Apples reach the control price, and most varieties are well below it. The present control is probably illegal, as the order really refers only to the 1918 crop; but it is anticipated that the new order that is daily expected will be on the same lines. This is a pity, as a flat rate for all varieties is obviously ridiculous. There is really no reason why Apples should be controlled at all this year. The crop is quite heavy enough to ensure plenty of cheap fruit for those who want it, and it is unfair that growers who go to the trouble and expense of producing something extra good should not reap the reward they deserve. Choice Cox's Orange Pippins, for instance, which are usually boxed in small lots, are a sheer luxury, and ought not to come under the control. For most varieties, however, the price is a good one, and few will be lucky enough to reach it.

RUNNING OFF IN BLACK CURRANTS.

If the markets are now proving that Apples are fairly plentiful, a few weeks ago they showed that the Black Currant crop was extremely short. Running off, generally attributed to the drought, was the chief reason. This trouble is certainly aggravated by dry conditions, but on a recent visit to the Wye College Fruit Experiment Station I learned something about the primary cause that was quite new to me. There it has been found that all our varieties of Black Currants can be divided into four types: Baldwin, Goliath or Victoria, Boskoop, and French (of which Seabrook's Black is an example). Of these the Boskoop varieties run off worst, and the reason is found in the fact that the bloom has the pistil considerably longer than the anthers. This makes the transference of pollen more difficult, and many blooms therefore miss being fertilised. That this is the true cause of running off has been proved by artificial pollination of parts of bushes, the result being a perfect set of fruit. The trouble is less seen in a showery season because, probably, a drop of moisture might carry the pollen from anthers to pistil. At this experiment station the French type runs off almost as badly as the Boskoop, but I believe that in many places the former gives a much better account of itself. Certainly with me Seabrook's Black, which is of the French type, does not run off anything like so seriously as Boskoop's Giant, if it does at all. At the above station, by far the heaviest crops are carried by Baldwin, which never suffers from running off; but most growers have discarded this variety on account of its liability to bud mite—in fact, it is hardly obtainable now. The best mite-resisters are found in the French type, one characteristic of which is its compact, pink buds, with scales tightly packed, which are thought to restrict the movements of the mites.

VALUABLE EXPERIMENTAL WORK.

Growers who have the opportunity should not miss seeing this experiment station, which is situated at East Malling, Kent. I was fortunate enough to make one of a party of Sussex growers conducted there by Mr. Goaring, County Council horticultural instructor for East Sussex; and the unanimous opinion was that the work being done by Mr. R. G. Hutton and his assistants will be of incalculable value to commercial horticulturists. The work on selecting and propagating Paradise stocks has already been made familiar to *Gardeners' Chronicle* readers. This is the chief item at present, as little could be done in experimental fruit-culture until the stocks were standardised; but there are other interesting trials in progress. The collection of seedling Black Currants contains some most promising varieties, and the trials of different systems of pruning several commercial varieties of Apples must yield valuable lessons after a few years.

DRY SPRAYING.

Most growers would like to believe in dry spraying, or dusting, if it can be proved to be as effective as the ordinary liquid spraying, because it means lighter work, and therefore economy. There is no heavy carting of water and mixing of solutions, and the powder is light and easily handled. At present I know of only one powder insecticide that is on the market, and I have been making a few small tests with this. The most successful result was against Aphis avenae on some newly-planted Apple trees. This species attacks the young shoots, and is quite exposed and readily killed. The powder therefore had an easy task, and it is not surprising that it succeeded in killing most of the insects. I do not doubt that it kills all the Apple aphides of any species that it touches; but then so will a good liquid wash. The claim that a powder has superior penetrating powers is open to doubt. To test this I tried the powder on some young trees on which the leaves were tightly curled by Aphis mali. It did not reach them any better than a liquid spray would have done, which means not enough to be of any value. I tried the powder also against American blight, which it is said to cure, but without more than partial success. Whether caterpillars would be killed I cannot say, as there were none left to deal with when the powder was received; but as it depends for its insecticidal value, I believe, on pyridene, which in liquid form will not kill caterpillars, I doubt if the powder would be any more successful. Probably it would be useful against aphides of all kinds where they are exposed, just as wet spraying is, but there its value to fruit-growers seems to end. There is no reason, however, why better powders and more efficient machines for applying them should not be invented. It will be a good thing if experiments are made with this object, for there are undoubtedly attractions about the system. I found the powder very light to carry in a knapsack machine, and it went so far that one charge sufficed for an acre or more. This means a great saving of work as compared with the frequent recharging necessary when wet spraying with a knapsack. But I should want a better machine if there were much work to be done. With this one the proper dusting of a four-year-old Apple tree occupied not less than five minutes, and the pump did not work at all comfortably.

WINTER SPRAYING RESULTS.

A good many fruit-growers cling to their faith in fungicides applied whilst the trees are dormant, although mycologists nowadays do not encourage us to expect much benefit from this treatment. Last winter I tried for the first time a combination of caustic soda and sulphate of copper on a block of Cox's Orange Pippin trees which are generally very badly attacked by scab, and were becoming seriously affected by American blight. The caustic soda has certainly done very much to clear the American blight, but it is impossible to say whether the fungicide did any good, as this year there is scarcely any scab to be found on any Apples in my plantations, sprayed or not. Certainly this block of Cox's looks nicely clean and healthy, the fruit being quite sound: but then so are Cox's on unsprayed trees elsewhere on the farm. Still, this block has been so hopeless in recent years that I am inclined to credit the sulphate of copper with having done some good. At any rate, I shall be encouraged to try it again.

Another trial was with strong lime-sulphur wash on some Czar Plums that were very badly attacked by brown rot in 1918. Here I feel more certain that good resulted. These trees show hardly any of the disease now, and the leaves look dark green and flourishing. Other trees of the same variety that were not sprayed show a lot of dead spurs and leaves due to brown rot. In both cases last year's diseased wood was cut out in pruning as far as possible. Winter spraying with lime-sulphur is by no means a novelty on this farm, as it has been done for years; but this block of Czars offered an unusually favourable opportunity to test its value against brown rot. *Market Grower.*

MONREITH IN MID-JULY.

A VISIT to Sir Herbert Maxwell's garden at Monreith, Wigtownshire, is always extremely interesting at whatever season it is made. I had the pleasure of visiting Monreith in the middle of July, and, as on former occasions, found many things of beauty and special charm. The climate is a favourable one, although the garden is more wind-swept than some others in the same favoured shire, and consequently many plants are grown which cannot be attempted further inland, even more to the south. This note would fill many columns were I to attempt to instance all that interested me, so I will restrict my remarks to plants of special value and beauty.

One of the most striking things at Monreith is a magnificent plant of Buddleia Colvillei on the wall beside the library. It is of great size, probably thirty feet high or little less, and in July had a host of its glorious rose or rose-pink flowers. At Monreith there does not seem to be the same difficulty as in some places in ripening the growths of the former year, which produce the flowers. Abutilon vitifolium has been established at Monreith for many years, and in the borders a specimen some twelve feet or more in height was giving a profusion of its charming lavender-coloured flowers. On a sunny wall, also, A. megapotamicum flourishes, and is specially prized for the length of time over which it produces its showy red and yellow flowers. Not so successful, however, is Abelia floribunda, which lives, but does not justify its specific name, at Monreith.

A striking success has been achieved with Tricuspidaria lanceolata, and several good plants have been laden with the fine crimson flowers; this shrub is now being planted in suitable places in the woods.

One of the most remarkable plants in the garden in point of size, though not a rare subject, is a huge specimen of Genista virgata, fifteen feet or so high and of great circumference. It was bearing a multitude of flowers and presented a mass of yellow. This plant had to be cut back to prevent it from encroaching on other subjects immediately behind. Illicium religiosum is an uncommon plant to find in Scottish gardens in flower; and a feature in a short time will be the lovely Eucryphia cordifolia, for at the time of my visit it was well in bud, also its charming congener, E. pinnatifida, perhaps a little less beautiful but still of great charm. Two of the best of the hardier Escallonias were giving a wealth of bloom. There were E. langleyensis and E. Philippiana. The former has made huge bushes, and gives a great abundance of its red blooms annually on lovely arching sprays. Leptospermum scoparium has flourished for years, and is lavish of its pretty white flowers; L. Nichollii, though smaller, has come to flowering size, and gives a number of crimson blooms. One other, probably L. ericoides, is charming with its graceful bushy habit and numerous white flowers. An interesting and beautiful feature is the collection of Cisti, or Rock Roses, of which there is a good representation of the more hardy species and hybrids. C. purpureus, C. crispus, C. recognitus (a hybrid C. Loretii), C. ladaniferus, C. laurifolius, C. salvifolius, C. corbariensis, C. formosus, etc., grow well, and are the envy of many in less favoured districts. The various Olearias are a study in themselves, as they are represented by a great many species and varieties. Of O. macrodonta there are big specimens; and others now of large size are O. semidentata, O. stellulata, O. nummularifolia, O. Haastii, O. ilicifolia, an unknown one of much beauty, with large white flowers, and others not of flowering size.

I was too late to see the fine collection of Rhododendrons in flower; few were in bloom except the small-flowered R. micranthum, white, and the American Swamp Honeysuckle, R. viscosum. Hardy Fuchsias were noticed in plenty, the plants making large and beautiful bushes. Roses abound, from such species as R. Moyesii—a favourite at Monreith—to the newer hybrid Teas, and all the older Roses on the terrace at the garden front were masses of flower. Brief mention may be made of some of the border and rock plants classed as "herbaceous." Veronicas, Senecios, Phlomis, Kalmias, and many more were in bloom.

Irises are favourites with Sir Herbert Maxwell. I noticed a new species from Tibet; while I. chrysographes was in flower, with many English, Spanish and other Irises. Many species of Lilium flourish at Monreith. I just missed L. regale, which Sir Herbert considers one of the finest of all Lilies, but L. monadelphum, of which there are several varieties, including a magnificent pure yellow one, L. pardalinum, L. superbum, L. giganteum, and many others were in bloom. The dry season does not seem to have suited L. giganteum, which is dwarfed, but the weather does not appear to have affected L. Martagon. Mention may be made of the white form of L. Martagon, of which many plants of high beauty have been raised from seeds at Monreith. Most of the seedlings come true, but a proportion have finer flowers than others, and some pleasing shades between the white and the purple of the type have been observed. The white Martagon Lily is simply exquisite at Monreith. Paeonias are largely grown, and P. lutea was in bloom. It hides its flowers badly, and this is a serious defect which will be difficult to overcome.

Primulas thrive, and are numerously grown. Of those in bloom still I may mention P. helodoxa—a grand grower, P. Poissonii, P. japonica, P. pulverulenta, P. Beesiana, P. Bulleyana, and hybrids of good quality, one of much beauty, which appeared at the base of the wall garden, having some resemblance to P. Beesiana and P. Poissonii, but unlike either species. The exquisite Thalictrum dipterocarpum and the better-known but far different T. aquilegifolium, were in flower; a number of stately Delphiniums of the best modern types, together with D. Brunonianum, or a close ally of it; Rodgersias, included, in full flower, the finest of the family, R. tabulaeformis, which, by the way, shields with its umbrella-like foliage a colony of Primula rosea. Other plants of interest were Kniphofia caulescens, Erigeron macranthus and others, Lychnis Flos-Jovis, L. chalcedonica, L. Bungeana, and one or two more; Sidalcea candida and S. Listeri; and Campanulas in profusion, with fine forms of C. persicifolia abounding everywhere. White Foxgloves of a specially good strain vied with Verbascums in tall stature, and many more border flowers showed admirably against a background of shrubs and trees and in their setting of the soft greenery of the turf.

There is no rock garden at Monreith, but there is no need of one, as the wall garden allows of the plants which cannot be satisfied in the borders having congenial surroundings on the retaining walls of the terraces. Here were seen hosts of good plants, and even the detail of those in bloom would more than exhaust my space. Specially fine were the dwarf Hypericums. H. reptans is represented by two of the finest plants I have ever seen, of uncommon proportions and laden with flowers; H. Coris was also good, and H. fragile had attained to great size. Dianthuses abounded, from D. alpinus, D. callizonus and other less common ones, to D. deltoides, and many good single forms of D. plumarius and D. caesius, with a variety of hybrids. Moltkia petraea gave masses of fine blue; a great sheet of Spiraea decumbens was charming with its wealth of creamy flowers; Erinus alpinus had become a pretty weed; Gentiana acaulis had just gone out of bloom; Onosma taurica still drooped its Almond-scented tubular flowers; Campanula G. F. Wilson, C. collina, and some others were as charming as ever, as were enormous masses of Alyssum spinosum, though the flowers were over. Androsace sarmentosa, A. lanuginosa and others showed the grace of these plants; big plants of Ramondia were noticed; the lingering flowers of Saxifrages of almost every class; Dryas octopetala, and dwarf Geraniums, such as G. sanguineum lancastriense, vied with the numerous species in the borders; and Meconopsis latifolia was growing in the wall with a multitude of other plants. The whole collection is full of charm, and all the plants are admirably grown. *S. Arnott.*

NOTES FROM IRELAND.

THERE is a revival of interest in flower shows, and the exhibition of the Terenure and District Horticultural Society, which by accident clashed with Peace Day, was held in Bushy Park, Terenure, the Irish home of Sir Frederick Shaw, Bart., D.S.O., on the outskirts of the city, on the 19th ult. There were well over 600 entries from 180 distinct exhibitors, and the weather was ideal.

The show of the Dundrum Society, on the 2[illegible] ult., in the Carnegie Hall, although on a moderate scale, disclosed the best Sweet Peas seen here this season. Some three miles from the city, Dundrum is a good gardening centre and gardens such as those of Roebuck Castle, where the close-shaven lawns of pre-war days are still milit[illegible] with big battalions of Onions and other food crops, planning is not only in progress to restore the old order of things, but even to improve on it.

It was at Roebuck Castle, Dundrum, famous in the annals of Irish horticulture, the seat of Mr. Francis V. Westby, D.L., the sight of the season was seen on Dundrum's show day, in long blazing lines composed of many hundreds of Pentstemon Southgate Gem, all suitably backed and bordered, which here live out from year to year. But mildew has infested the big breadths of Onions in these gardens

So, too, at Montrose, Donnybrook, also on the southern side of Dublin, and of which the north side seems as yet fairly free, and it is the worst case of Onion mildew yet met with. Here the crop of Ailsa Craig, big in two senses, with Giant Rocca, seem the most affected. In both places referred to spraying has been resorted to.

In no case as yet, and it is worth noting, has Onion mildew seriously affected the Onion crop in the freshly broken pasture soil of allotment gardens, and plotholders have generally and commendably shared their affection for Potatos and Cabbage generously with the Onion. Up to Peace Day no evidence of Potato blight has appeared around Dublin, but as a matter of fact the county generally escapes late blight disease sufficiently to make plotholders lax in adopting preventive measures. *K., Dublin.*

SOCIETIES.

MANCHESTER.

JULY 24, 25 AND 26.—After a lapse of five years the Royal Botanical and Horticultural Society of Manchester resumed its work, and organised a Victory Flower Show, which was held under canvas in Platt Fields, Rusholme, by the kind permission of the Manchester Corporation.

The Schedule contained 33 classes, and generous prizes were offered. Although the classes were sparsely filled, there were grand non-competitive contributions which helped to make an exhibition of high merit.

Plants (open classes).

The class for a group of miscellaneous plants, in or out of bloom, arranged for effect, to occupy a space not exceeding 300 square feet, for which prizes of £25, £15, and £10 were offered, brought out three contestants. Mr. JAMES CYPHER, Cheltenham, proved the victor with an artistic combination that sustained his high pre-war reputation; a spacious arch carried a well-grown Palm, which was supported by Crotons, ferns, etc., the base being furnished with greenery in various forms, brightened by Crotons, Dracaenas, Odontoglossums, Masdevallias and Cattleyas. Mr. W. A. HOLMES, Westfield Nurseries, Chesterfield, was second with a bright group, in which Crotons and Ixoras were a feature; Mr. W. J. GARNER, Altrincham, took the remaining award.

For six plants in or out of bloom, Mr. CYPHER led with Clerodendron Balfourii, Kentia Forsteriana, K. Belmoreana, Croton Queen Victoria, and C. Warrenii.

Cut Flowers (open classes).

Mrs. John Nixon, Alderley Edge, won the place of honour for the best decorated table with a charming artistic combination. Mr. W. J. Garner, with Carnations, and Mr. J. S. Procter, Park Gate, Altrincham, with Sweet Peas, were placed as named. The best display of Carnations came from Mr. C. H. Taudevin, Willaston, and secured the Society's Gold Medal; it was a delightful arrangement, in which Snowstorm, Triumph, Enchantress, Rosette and Robin Clover were fine examples—an Award of Merit was awarded the last-named.

For a display of Sweet Peas, Messrs. Herd Bros., Penrith, were worthily awarded the Society's Gold Medal. For twenty-five vases of Sweet Peas (amateurs) Mr. Tom Jones, Bryn Penylan, N. Wales, won first prize with an excellent stand of fresh, bright flowers, Edrom Beauty, Mrs. G. W. Bishop, Constance, and Melba being especially good; Mr. S. S. Rigg, Motley Banks, Bowdon, second. For twelve varieties of Sweet Peas, Mr. T. Jones again led followed by Mr. C. Burgess, Lower Peover, and Mr. J. S. Procter.

Roses (Nurserymen).

At Manchester the Queen of flowers is usually shown well, and this occasion was no exception, the classes being well filled and the flowers of good average quality.

For 72 blooms Messrs. Hugh Dickson, Ltd., Belfast, were a splendid first with blooms of good size and excellent in colour and substance, the most notable being J. G. Glassford, G. Dickson, Sir James Chard, and Gorgeous. Messrs. D. Prior and Son were second, and Messrs. Alex. Dickson and Sons third.

Messrs. Alex. Dickson and Sons took the lead for 48 blooms, with fine flowers of G. Dickson, Juliet and Candeur; Messrs. Hugh Dickson and Messrs. D. Prior and Son followed as named. For 36 blooms the same order was observed, and for 24 blooms, distinct, Messrs. Hugh Dickson and Messrs. D. Prior and Son were placed as named, and continued in the same order for 18 distinct blooms.

Roses (Amateurs).

In this section Mr. Tom Park, Bedale, and Mr. Gulliver Spreight, Market Harborough, were first and second in the two leading classes. For 18 Tea or Noisette Roses, Mr. Tom Park was the only exhibitor, and he had even, fair-sized blooms. For 12 white or yellow Roses Mr. E. Berry, Meltham, Huddersfield, won with Frau K. Druschki, and for 12 crimson blooms Mr. Gulliver Spreight scored with Gloire de Chédane Guinoisseau, and Mr. Berry second with George Dickson. Messrs. A. G. Hogg, Dunham, Altrincham, had the best 24 district Roses, and Mr. Archibald, Buxton, Handforth, the best 12 and best 6 varieties.

Non Competitive.

Gold Medals:—Messrs. Alex. Dickson and Sons set up an imposing array of Sweet Peas that surpassed anything yet shown in the district; it consisted of seventy vases arranged on black velvet. The blooms generally were of fine substance and superb colour: and the varieties included Hawlmark Pink, Ravenswing, Hawlmark Maroon, Daisybud, Brocade and Elegance. Messrs. Sutton and Sons set up one of their fine displays of fruit, flowers and vegetables: Melons were very fine, and Antirrhinums and Sweet Peas very beautiful. Messrs. Allwood Bros. triumphed with Carnations, tastefully arranged. Messrs. John Waterer, Sons and Crisp contributed a pleasing collection of Conifers and evergreens, including standard plants of Retinosporas and Acers. Messrs. Stuart Low and Co. contributed a collection of Orchids, in which Laelias, Cattleya Hardyana and Renanthera Imschootiana were well shown; a small collection of Carnations was also included. Messrs. S. Broadhead and Son had a well-arranged rockery, in which alpines were suitably planted, with a background of Pines.

Silver Gilt Medals:—Messrs. Bakers had a fine group of herbaceous and border flowers, including Astilbe Venus, Gentians and Delphiniums.

Silver Medal:—Messrs. Caldwell and Sons showed border flowers and cut Roses.

Mr. P. Weathers was responsible for the arrangements, and the thanks of the exhibitors were tendered to him at the opening of the exhibition by the Lord Mayor.

MIDLAND CARNATION AND PICOTEE.

July 25 and 26.—The above is one of the few Societies which has held an annual show without a break during the war, and the 29th exhibition was held at the Birmingham Botanical Gardens on these dates. Although smaller than usual, it was a good and representative show, many flowers of exceptional merit being staged. Several exhibitors of former years were unable to compete, but many of them visited the show. All growers of the Border Carnation, from the old-fashioned florists' type who sees unlimited beauty in the dressed flowers standing on neat circular paper white collars staged on boards, to the novice who has never won a first prize for those flowers at a Carnation show, are well provided for at Birmingham. The bulk of the exhibitors were local people, although two came from Scotland, and one from Southampton. With the addition of classes for white-ground Fancy Carnations, for which prizes were kindly provided by Professor Burstall, the schedule was the same as in 1918. The gold medal offered for the best vase of Carnations in the show was won by Mr. C. H. Herbert, who has done good work in raising many beautiful varieties of Perpetual-flowering Pinks, his flowers of Bombardier being exceedingly beautiful. The Silver Challenge Cup presented by Mr. W. Waters Butler to the most successful exhibitor in certain classes, was retained by last year's winner, Mr. T. M. Tranter, Messrs. A. R. Brown, Ltd., being runners up for the second time. The weather was fine, but dull and the attendance of visitors was a record. At the close of the show flowers were sold for the benefit of the Royal Horticultural Society's War Relief Fund.

Flowers in Vases (Open).

Flowers of very good quality were to be seen in the 49 entries included in the first ten classes which called for three blooms of each variety. The Silver Challenge Cup referred to above was won by Mr. T. M. Tranter, Blossomfield, Solihull, who secured four 1st, five 2nd, and one 3rd prize. Mr. Tranter's 1st prize exhibits were in classes for: (a) buff, yellow, orange or terra cotta self, with choice specimens of Primrose Dame; (b) maroon, purple or heliotrope self, with The Grey Douglas, a deep heliotrope flower of exquisite form and beauty; (c) yellow-ground Fancy, suffused type, with bold, richly coloured examples of Hercules; and (d) yellow ground Fancy (Linkman type) with Lord Steyne. In the last named class Mr. H. Woolman, Shirley, was placed 2nd with Melton Prior. The same exhibitor took the lead in a class for yellow ground Picotees with medium-sized, well-formed examples of Dago. Mr. Tranter was 2nd with Her Majesty, and Mr. J. Smith, Darvel, Ayrshire, was 3rd with F. W. Goodfellow.

Messrs. A. R. Brown, Ltd., had the best set of selfs in Mrs. R. Percy Smith, a flower of lovely colour; 2nd Mr. T. M. Tranter, also with Mrs. R. Percy Smith; 3rd Mr. J. Smith, with Rosetta.

Messrs. A. R. Brown, Ltd., also won the 1st prize for white selfs, showing Prairie Belle in beautifully fresh condition; 2nd Mr. C. H. Herbert with Furthest North; 3rd Mr. J. Smith, with Bellfield White. The last named exhibitor showed the best trio of scarlet, red, or cherry selfs. His flowers of Fujiyama were large, substantial, and richly coloured; Mr. Tranter was placed 2nd with the same variety; 3rd Messrs. A. R. Brown, Ltd., with General French.

The leading vase of white-ground Fancies was shown by Mr. J. Smith, whose specimens of Daisy Walker were much admired. Mr. H. Woolman was 2nd with the Nizam, and Mr. Tranter 3rd with Fair Ellen.

Of the six contestants in the class for white-ground Picotees, Mr. C. H. Herbert, Acocks Green, won 1st prize with Radiant, a flower of good size, form, and purity; 2nd Mr. T. M. Tranter, with Ganymede; 3rd Mr. H. Woolman, also with Ganymede.

Messrs. A. R. Brown, Ltd., were placed 2nd in classes for selfs, with Imperia, and in another for yellow ground Fancy Carnations, with Lieutenant Shackleton, in good condition. Mr. C. H. Herbert showed large handsome flowers of Gordon Douglas, in a class for a maroon, purple, or heliotrope self.

The Invisible Card Class.

Two entries were made in a class in which cards supporting the flowers were admissible but must not be visible; 1st Messrs. A. R. Brown, Ltd., who had splendid blooms of Helga, Hercules, Eclipse, Dr. Wilkinson, and W. L. Hodgkinson; 2nd Mr. J. Smith, whose best flowers were Fujiyama, F. W. Goodfellow, and Onward.

First Division (Open).

In the following seven classes, three blooms of each variety were required. There were three entries in the class for nine vases, dissimilar; not fewer than three vases each of selfs and yellow-ground Fancies, two of yellow-ground Picotees, and one of a white ground Fancy or white-ground Picotee; 1st Mr. C. H. Herbert, with a grand lot of flowers, in which Bombardier, Skirmisher, F. W. Goodfellow, Gordon Douglas, Mona and Purity were of outstanding merit; 2nd Messrs. A. R. Brown, Ltd., who had handsome specimens of Lieutenant Shackleton, Dr. Wilkinson, Bookham White and Professor Burstall; 3rd Mr. H. Woolman.

In a class for three vases of selfs, Mr. Herbert was again to the fore, followed by Messrs. A. R. Brown, Ltd., and Mr. R. G. Rudd, of King's Heath. For three vases of yellow-ground Fancies, Messrs. A. R. Brown, Ltd., excelled with Hercules, Becky Sharp, and Linkman; 2nd Mr. C. H. Herbert, who had splendid blooms of Richard Holding. For three vases of white-ground Fancies Messrs. A. R. Brown won the 1st prize with Fair Ellen, Jenny Stone (extra good) and Daisy Walker. The same exhibitors were also awarded 1st prize for three vases of yellow-ground Picotees, showing Eclipse, Professor Burstall and Santa Claus, in first rate condition. The best exhibit of white-ground Picotees was staged by Mr. C. H. Herbert, who had Silas Osbaldiston, Ganymede and Mrs. Hammond; 2nd Messrs. A. R. Brown, Ltd.

Single Blooms on Stands.

In the following six classes, Mr. C. H. Herbert was awarded four 1st prizes, and one 2nd, and it is questionable if a better stand of a dozen Flake or Bizarre Carnations has been seen at Birmingham, than he showed on the present occasion. It is also worthy of note that six of the twelve varieties exhibited were of his raising. The two 1st prizes in the remaining classes were won by Messrs. A. R. Brown, Ltd., whose stand of twelve self Carnations was uncommonly good. They showed Tubal, Prairie Belle, Wyatt, Titan, John Knox, Effie Deans, Irma, Marshal Foch, Rosy Morn, The King, Clare Ellison, and Imperia; 2nd Mr. C. H. Herbert, whose best flowers were Gordon Douglas, Purity, The King, Furthest North, Grey Douglas and Daffodil; 3rd Mr. R. G. Rudd. The other 1st prize secured by Messrs. A. R. Brown, Ltd., was in a new class for twelve white-ground Fancy Carnations, in which the following stood out prominently: Betty, Jenny Stone, The Nizam, Elsie Scott, Rhoda and Lord Kitchener; 2nd Mr. R. G. Rudd.

Twelve Fancy Carnations.—1st Mr. C. H. Herbert, with beautiful flowers of Bombardier, Cyclops, Skirmisher, Hercules, Lord Steyne, Pasquin, Becky Sharp and Queen Eleanor; 2nd Messrs. A. R. Brown, Ltd., who had choice specimens of Hercules, Gallant, Lieutenant Shackleton, and Arthur Maxted; 3rd Mr. R. G. Rudd.

Twelve Yellow-ground Picotees.—1st Mr. C. H. Herbert, in which W. L. Hodgkinson, Cheam, Romance, Eclipse, Mrs. J. J. Keen, Professor Burstall, and Togo were well shown: 2nd Messrs. A. R. Brown, Ltd., who had

excellent flowers of F. W. Goodfellow, W. L. Hodgkinson, Eclipse, Forward, and Her Majesty; 3rd Mr. R. G. RUDD.

Twelve White-ground Picotees.—1st Mr. C. H. HERBERT, with Ganymede, Favourite, Mrs. W. H. Twist, Radiant, Mrs. Gorton, Fortrose, and Mrs. Openshaw, as his best flowers; 2nd Messrs. A. R. BROWN, LTD., whose flowers of Mrs. W. H. Twist, Osprey, and Fortrose, were very handsome.

Twelve Bizarre or Flake Carnations.—1st Mr. C. H. HERBERT, for a stand of beautifully shaped, stout petalled, well coloured specimens of Spendthrift, Oril, Sportsman, Gordon Lewis, Master Fred, Admiral Curzon, Peter Pan, George Rudd, Cleopatra, Biddy, Falcon, and Meteor; 2nd Messrs. A. R. BROWN, LTD., who showed George Morland, Black Diamond, Meteor, Master Fred, and Sportsman in extra good condition.

AMATEURS' CLASSES.

Flowers Shown in Vases.

Mr. J. SMITH, Darvel, Ayrshire, won six 1st and two 2nd prizes in the nine classes included in this section viz.: (a) six vases dissimilar, two each of selfs, Fancies and yellow-ground Picotees with refined flowers of Lieutenant Shackleton, The King (extra good), Onward, Centurion, Bellfield White, and Eclipse; (b) Vase of selfs, with Fujiyama; (c) Vase of yellow-ground Fancies, showing exquisite blooms of Lieutenant Shackleton; (d) Vase of white-ground Fancies, with Daisy Walker; (e) Vase of yellow-ground Picotees, with Onward; and (f) two vases of Fancies showing handsome flowers of John Ridd sport, Lieutenant Shackleton, Arthur Maxted, Gallant, John Ridd and Linkman. The best two vases of yellow-ground Picotees came from Mr. S. HYSLOP, Langholm, Mr. J. SMITH was 2nd, and Mr. E. KENWRIGHT 3rd. Professor Burstall showed the best vase of white-ground Picotees—Clytie, a sweetly pretty flower. Professor BURSTALL also won 2nd prizes in classes for: (1) Selfs; and (2) Yellow-ground Picotees. The winning pair of vases of Selfs each containing three varieties were shown by Mr. W. H. BAILEY, Erdington, who was also placed 2nd in classes for: (1) Two vases of Fancies; (2) White-ground Fancies; and (3) Yellow-ground Fancies.

Flowers Shown on Stands.

Mr. J. J. KEEN, of Southampton, was very successful in this section. He was awarded 1st prizes for: (1) Six white-ground Fancy Carnations, dissimilar, showing The Bride, Fair Ellen, and Betty, in particularly good condition; (2) Six Fancy Carnations, dissimilar, with splendid blooms of Mona, Becky Sharp, Melba, Lord Steyne, Skirmisher, and Edenside; (3) Six yellow-ground Picotees, dissimilar, with splendid F. W. Goodfellow, W. L. Hodgkinson, Mrs. Gottwaltz, Corona, and Cheam; and (4) Six Bizarre or Flake Carnations.

Mr. W. H. BAILEY, Erdington, led in the class for six self Carnations, dissimilar, 2nd Mr. J. SMITH; 3rd Professor BURSTALL. Mr. E. Kenwright, Smethwick, won 1st prize in a class for six white-ground Picotees, dissimilar. He had exquisite flowers of Radiant, Fair Maiden, Edmund Shorthouse, Lavinia, Carrie Goodfellow, and Mrs. Sharp; 2nd Professor BURSTALL.

Special Awards.

The gold medal offered to the most successful exhibitor in the First Division was won by Mr. C. H. HERBERT, and a similar award in the Second Division went to Mr. J. SMITH. The W. Waters Butler Silver Medal offered in the Third Division was won by Mr. A. DAVIS, and the "Carnation" Brown Silver Medal offered to the most successful exhibitor in the novice classes by Mr. A. WILLEY.

Premier Flowers (Dressed).

Bizarre Carnation.—Spendthrift, exhibited by Mr. C. H. HERBERT.

Flake Carnation.—Cleopatra, exhibited by Mr. C. H. HERBERT.

Heavy-edged White-ground Picotee.—Radiant, exhibited by Mr. E. KENWRIGHT.

Light or Wire-edged White-ground Picotee.—Fair Maiden, exhibited by Mr. E. KENWRIGHT.

Heavy-edged Yellow-ground Picotee.—F. W. Goodfellow, exhibited by Messrs. A. R. BROWN, Ltd.

Light-edged Yellow-ground Picotee.—Eclipse, exhibited by Mr. J. J. KEEN.

Fancy Carnation.—Lord Steyne, exhibited by Mr. C. H. HERBERT.

Self Carnation.—Marshal Foch, exhibited by Messrs. A. R. BROWN, Ltd.

White-ground Fancy Carnation.—The Bride, exhibited by Mr. J. J. KEEN.

Premier Flowers in Vases.

Self Carnation.—The King, exhibited by Mr. JAMES SMITH.

Fancy Carnation.—Pasquin, exhibited by Mr. S. HYSLOP.

Yellow-ground Picotee.—Eclipse, exhibited by Messrs. A. R. BROWN, Ltd.

White-ground Picotee.—Radiant, exhibited by Mr. C. H. HERBERT.

White-ground Fancy Carnation.—Jenny Stone, exhibited by Messrs. A. R. BROWN, Ltd.

ROYAL SCOTTISH ARBORICULTURAL.

(Aberdeen Branch.)

Sir JOHN R. GLADSTONE, Bart., of Fasque, Kincardineshire, who for many years has taken the keenest practical interest in the development of forestry on his extensive estates, invited the members of the above branch to visit the Glendye portion of his estates on Saturday, July 26. Nearly one hundred accepted the invitation, including Mr. A. F. Irvine of Drum, Drum Castle, president of the branch; Sir Thomas Burnett, Bart., of Leys, Crathes Castle; Sir John Fleming, of Dalmuinzie, Aberdeenshire; Mr. Gammell of Countesswells, Aberdeenshire; Mr. Robert Galloway, S.S.C., Edinburgh, the secretary of the parent Society in Edinburgh; and Mr. John Michie, M.V.O., late factor to H.M. the King at Balmoral Castle. Sir John, who had with him Mr. James Fraser, factor, and Mr. Neil McGregor, head forester on the Fasque estates, met the party at the rendezvous—Templeton. The visitors were first taken to the woods recently visited by the members of the Interim Forest Authority. These included Sawmill Wood at an elevation of 500 feet above sea level, with 170 Spruce trees per acre of the age of 66 years, having an average volume of 6,115 cubic feet quarter girth under bark measurement; the Heathery Wood of Scots Pine, 75 years of age and 235 per acre at a similar height, with 3,390 cubic feet measurement; the Blackhillock Wood of 22 years old Japanese Larch, at 700 feet elevation, with 1,540 trees per acre, of an average volume of 920 cubic feet quarter girth measurement; and the Bridge Wood of 26-year-old Douglas Firs, at an elevation of 540 feet, showing 248 trees per acre of a volume of 2,935 cubic feet quarter girth measurement. It was easily realised by the company how very interesting these woods must have proved to the members of the Interim Forest Authority, and how very valuable the information they collated must ultimately become. Great interest was also taken in the possibilities foreshadowed in Sir John's schemes of afforestation and re-afforestation on mountain side and moorland where the ground is unsuitable for cultivation, or even satisfactory grazing, especially around the mountain named Clochnaben. Demonstrations were shown on sample plots on tracts of the more elevated ground of Clochnaben that not only would Scots Pine and Larch flourish, but also Japanese Larch, Douglas Fir and Sitka Spruce.

In a short address at the Bridge Wood, Sir John told the company that his late father, Sir Thomas Gladstone, Bart. (a brother of the great statesman, William Ewart Gladstone), had been inclined to have the Scots Pine composing the wood cut down, because they were not making satisfactory progress, but he (Sir John) prevailed upon him to leave the wood, and had underplanted it with Douglas Fir and other species. The result was the older trees became invigorated, received a fresh impetus to growth, and were now of massive size, and seemed to be putting on a satisfactory annual increment. The Douglas Fir planted through the wood in 1898 had also done remarkably well, one group of which measurements had been kept putting on an annual increment of 230 cubic feet during the last five years, while the average increment since the formation of the plantation had been 113 cubic feet per annum. With home prices at 10d. to 11d. per cubic foot, one can easily realise how very satisfactory and profitable must be the result.

Some quaint and interesting information was given by Sir John at the luncheon, at which Mr. Irvine proposed his health. Quoting from a written account in his possession, Sir John told his hearers that the Sawmill Wood was planted between November, 1857, and November, 1858. The area was 342 acres, planted with Larch and Scots Fir, at five feet apart, at a cost of £1 per acre, when wages were 13s. per week, with 9d. to 10d. per day to the boys who held the plants. Some surprise and occasionally a little amusement was caused when Sir John, still quoting from the document, told among other items that 1,600 Larch posts surmounting a turf dyke round the wood cost only 12s. per 100, and 209 chains of drain pipes only 1s. 6d. per chain. Seedling trees, one to two years old, cost only from 2s. to 4s. per 100, a very great difference from the prices now prevailing.

After luncheon the party proceeded to the Bogarn and Smithy woods, where the Douglas Fir appeared uncommonly well. Some particularly fine Larch at the Kennels Wood, with straight, branchless boles of some forty feet, were greatly admired. The estate nursery, with its well-trimmed Fir, Beech and other close sheltering hedges, was an enjoyable feature. Here Mr. McGregor, the head forester, pointed out that, in addition to the usual seedlings for afforestation purposes, he has been experimenting successfully with Japanese Larch from Glendye seed collected last year, there being a good braird of healthy-looking plants; while seed beds of American Larch, Black Walnut, American Oak, Beech, and other trees for shelter and underplanting are also thriving, though in certain cases the recent excessive drought has undoubtedly done harm—principally to beds of Pinus Banksiana. In the Arboretum, finely sheltered in a hollow by the banks of the River Dye, many magnificent specimens of the more uncommon conifers were seen, including the Spanish Pinus Pinsapo, Pinus Cembra, Abies Veitchii, several varieties of Silver Firs, Lawson's Cypress, Douglas Fir and Sequoia gigantea.

A meeting of the Branch was then held, when Mr. Irvine of Drum, the president, warmly thanked Sir John Gladstone for the great kindness he had shown the members that day, and for the very valuable and instructive information they had received.

TRADE NOTES.

THE ever increasing transport difficulties which result in so much vexation to the horticultural trade have for some time past occupied the attention of the Chamber of Horticulture. To meet the difficulty the Council decided that one member from each of the Chamber's various sections should be invited to serve on a Transport Committee, and this Committee has now been formed, and proposes to work in harmony with the committees of other associations, including the wholesalers and retailers, with the view of taking a vigorous stand against anomalies in the transport of fruit, vegetables, flowers, plants, bulbs, etc. It is important to provide definite evidence regarding difficulties, and the protest of the Committee will be much strengthened if chapter and verse relating to any irregularities suffered by members of the horticultural industry can be sent directed "Secretary, Transport Committee," addressed as above.

The Chamber has laid down a policy with reference to the activities of the Agricultural Organisation Society, and particularly in regard

to Government funds being allocated in such a way that they are, to all intents and purposes, made use of to foster a wholesale trade body to the detriment of the ordinary trader. If any effective protest is to be undertaken by the Chamber, facts bearing out the above opinions should be sent to the Secretary of the Chamber, at the earliest possible moment.

In the matter of the protection of the interests of raisers in new varieties, the Council decided to appoint a representative committee, consisting of two members from each section of the Chamber. This committee has been formed, and met on Thursday, August 7, at 2.30 p.m.. for the purpose of fully considering the whole situation with a view to arriving at some scheme for securing to the raiser the remuneration to which his toil and attention equitably entitle him.

AT a meeting of the Agricultural Wages Board. held at 80, Pall Mall, London, S.W.1, on Thursday, July 24, Sir Ailwyn Fellowes presiding, Major Astor, Parliamentary Secretary of the Ministry of Health, attended for the purpose of explaining the policy of the Government in regard to housing, and to invite the Board to consider its possible bearing on the valuation of cottages occupied by farm workers in part payment of wages. After some discussion, the Board referred the question to the Committee on Cottages for their consideration and report.

On a report, presented by Sir Henry Rew, from the Committee on Allowances, with regard to recommendations from certain District Wages Committees as to the value allowed for board and lodging in part payment of minimum rates of wages, the Board decided to approve determinations of the Cornwall, Northamptonshire and Gloucestershire District Wages Committees for increases in the values of board and lodging for male workers in their areas.

The Board considered reports from District Wages Committees on a draft Notice of Proposal to carry into effect the Board's decision arrived at on March 1, that the number of hours per week in respect of which the minimum rates are payable should be reduced in "summer" from 54 to 50, and resolved that the Notice of Proposal be now issued. In view of representations from the Cheshire District Wages Committee, it was agreed to defer the application of this Proposal to Cheshire pending consultation with the Committee and with representatives of the Employers' and Workers' Organisations in the county.

The Board also decided to give Notice of their Proposal to vary the minimum rates of wages for all classes of male workers of 18 years of age and over in Cumberland and Westmorland.

Before Orders can be made giving effect to any of the Proposals referred to above, a month must elapse from the date on which the respective Notices of Proposal are published, during which period any objections to the Proposals may be lodged with the Wages Board.

MR. C. ENGELMANN, Carnation specialist, of Saffron Walden, has provided the staff of his nurseries with a well-appointed Club, to which they may resort for recreation in their leisure hours, and on Wednesday, July 23, Mr. and Mrs. Englemann entertained the entire staff to supper and an enjoyable entertainment to inaugurate and open the club. The company numbered over 80, many of whom had been serving in His Majesty's forces, and these were cordially welcomed to the scene of their more congenial vocation. Mr. Engelmann's generosity is the outcome of a realisation that the progress of a large business depends upon the comfort and contentment of the staff and close relationship between employer and employed. The worker, he said, must have pleasure, recreation and rest as well as work, and much depends upon the facilities for obtaining these in a wholesome atmosphere. In providing this club for the benefit of the nursery staff, Mr. Engelmann wished to show his appreciation of good service, and pointed out that prosperity in any business is a matter of mutual benefit to both proprietor and staff.

AN important step taken at the Wages Board's meeting on July 24, is the carrying into effect of the notification contained in the Notice of Proposal, dated April 1, dealing with a general revision of the minimum rates for adult male workers, that a Notice of Proposal would be issued to reduce as from the first Monday in October, 1919, the weekly number of hours on which the minimum wage is based in the summer period from 54 to 50.

THE many friends of Mr. Will Tayler, proprietor of the Osborn Fruit Nursery, Hampton, will learn with regret that, owing to failing health, he is compelled to relinquish his nursery business and is offering the same for sale by private treaty. Osborn nursery has a reputation for high quality fruit trees, and the stock includes some exceptionally fine trained Peaches and Nectarines. The goodwill includes about 2,000 addresses of recent customers in all parts of the kingdom.

Those contemplating the export of seeds to the United States of America should note that "Seeds of fruit, forest, ornamental and shade trees, seeds of deciduous and evergreen ornamental shrubs and seeds of hardy perennial plants" are only allowed entry into the States provided a permit has been obtained by the importer from Washington. Further, the consignments must be accompanied by a certificate from the Board of Agriculture and Fisheries. Similar regulations govern the importation into the United States of America of Lily bulbs, Lily-of-the-Valley, Narcissus, Hyacinths, Tulips, and Crocuses. None of the above may be sent by post. Permits are not required to send field, vegetable, or flower seeds (other than seeds of hardy perennial plants) into the United States. The entry of these by post is allowed.

CROPS AND STOCK ON THE HOME FARM.

CABBAGE.

DURING the last few years Cabbage for culinary use have constituted an important farm crop in the neighbourhood of towns, and with good results. As an example, a neighbour of mine sold, early in June, a standing crop of the varieties Wheeler's Imperial and Flower of Spring, and the five acres sold at £50 per acre. The greengrocer who bought them cut the heads as required.

No one will object that such a crop is unremunerative, and the example goes to prove that farmers can adapt themselves to varied circumstances to the advantage of the community. It is a well known fact that town dwellers do not obtain all the supplies of green vegetables they desire. After such a crop, Turnips for autumn use can be grown, and in this way the land will be thoroughly cropped.

Now is the time to prepare for the Cabbage crop. A field that has been cropped with early Potatos, Trifolium, sheep-fed Rye, or Winter Barley, or that has been summer fallowed for cleaning purposes should be ploughed to a good depth after adding a liberal dressing of farmyard or town manure. If obnoxious weeds are present, the land should be cleaned and the manure added at the last ploughing. If animal manure is scarce, superphosphate of lime, dissolved bone compound, or guano sown evenly over the surface at the rate of 4 cwt. per acre will suffice, with $\frac{1}{2}$ cwt. of sulphate of ammonia per acre sown on each of two occasions when the plants are growing freely in the spring. The first fortnight in August is early enough for sowing Cabbage seeds. Drill the seeds, as this method affords a better opportunity of freeing the plants from weeds and accelerating growth by frequently stirring the soil. In addition to the varieties named, Harbinger is perhaps the earliest of all, but does not grow so large, and where bulk is preferred is not so suitable as the others. Sutton's April, Offenham, and Mein's No. 1 are also desirable varieties.

ASSISTING THE APPLE CROP.

There appears to be an average crop of Apples in farm orchards. In some instances trees are heavily laden, and in the case of young trees some assistance is needed to enable the fruits to swell to a desirable size and permit the trees to make sufficient growth for next season's crop. As a rule, orchards attached to farms are not well managed. This is not to be wondered at, because as a rule farmers have little or no horticultural knowledge. But there is no good reason why a well-managed orchard should not be attached to every farm of any size. The orchard itself, when in grass, can be made most useful in which to turn out calves, pigs and sheep, and is ideal for poultry. If a farmer is advised to have an orchard planted in grass he invariably makes the fatal mistake of allowing the grass to grow closely around the trees during the first season after the planting. This is against the welfare of the trees, as all horticulturists know. The farmer, in his ignorance, does not know why his newly-planted trees do not make good progress, and comes to the conclusion that "Apple trees will not do well in my orchard," and very often he "gives it up" and neglects the trees.

Where an orchard is to be used for fruit and cattle, standard trees are the most suitable form to plant. Trees of this type will require more time to come into regular bearing than bushes, but when they attain size they yield more heavily than bushes and provide useful shelter and shade for the animals. When the autumn approaches I hope to refer again to this phase of farm management. At the present I am more concerned with assisting the trees to satisfactorily carry their present crop and also to lay a foundation for future growth. Trees up to twenty years of age should have a space six feet in diameter around the stem, free from grass, and this should be heavily mulched with half-decayed farmyard manure. The mulching will feed the roots, through the medium of rain, and also arrest the evaporation of moisture. Trees of this age, or less, that are making excessive growth should be summer pruned to enable the sun and air to mature the wood and help in the formation of fruit spurs.

A well-managed standard Apple tree should have all its main branches trained as cordons, fruiting from the base to the tip. At this time of the year the surplus shoots can be removed entirely, not leaving them three inches long, as is customary in the ordinary course of summer pruning, for fear they may make secondary growth. Do not in any case remove the leading shoot on any branch, even if it appears to be unduly long; such shoots are better dealt with at the winter pruning.

Where possible, all orchard trees carrying heavy crops of fruit should receive liberal applications of liquid manure, at a little distance from the stem, to reach the fibrous or feeding roots.

YEOMAN WHEAT.

Yeoman Wheat is the newest variety Professor Biffen has raised on Mendelian lines, and is likely to take a high place among British grown Wheats. I am very pleased, indeed, with the present appearance of our plot of eight acres which I am growing this year, as a trial, on very stiff soil. I advise all farmers who are interested in Wheat production to watch this Wheat this season. The straw is stout, not tall, the leaves carry an extraordinary "bloom," and the deep colouring betokens vigour in filling out the ears, which are square, robust and distinctly promising. This Wheat is said to yield heavily and the grain possesses much "strength," and, as far as English Wheat can be, it is an ideal miller's Wheat. *E. Molyneux, Swanmore Farm, Bishops Waltham, Hants.*

SCHEDULE RECEIVED.

Southend-on-Sea Food Production Society.—Exhibition to be held in the Chalkwell Park, Westcliff, in aid of the local War Memorial Fund, on Friday and Saturday, August 15th and 16th. The schedule includes ninety classes, and a gold medal is offered for the best group of cut Roses.

MARKETS.

COVENT GARDEN, August 6.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Heliotropes 48's, per doz.	15 0–18 0
Asparagus plumosus	12 0–15 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
—Sprengeri ...	12 0–18 0	— Pink, 48's, per doz.	30 0–48 0
Aspidistra, green	48 0–72 0	Marguerites white	18 0–24 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Mignonette, 48's per doz. ...	18 0–21 0
Crassulas, red 48's per doz. ...	30 0–36 0	Palms, Kentia ...	18 0–24 0
Fuchsias, 48's, per doz.	12 0–18 0	—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Achillea, per doz. bun.	4 0– 6 0	Orchids per doz.:	
Alstroemeria, per doz. bun. ...	6 0– 8 0	— Cattleyas ...	18 0–24 0
Asters, white, per doz. bun. ...	5 0– 8 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Carnations, per doz. blooms, best American var.	1 6– 2 6	— white, per doz. bunches ...	15 0–18 0
Coreopsis, per doz. bun.	1 6– 2 6	Roses, per dozen blooms—	
Cornflower, blue per doz. bun....	2 6– 3 0	— Frau Karl Druschki ...	1 6– 2 6
Daisies, white, large, per doz. bun.	3 0– 6 0	— Lady Hillingdon	1 0– 2 6
Gaillardia, per doz. bun.	2 6– 3 0	— Liberty ...	1 6– 2 0
Gardenias, per box specials ...	8 0– 9 0	— Melody ...	1 6– 2 6
— ordinary ...	2 0– 3 0	— Mme. Abel Chatenay ...	1 6– 2 6
Gladiolus, The Bride, per bun.	— —	—Mrs. J. Laing...	1 6– 2 6
—Brenchleyensis, per doz. spikes	5 0– 6 0	— Ophelia ...	3 0– 4 0
Gypsophila, per doz. bun. ...	5 0– 6 0	— Richmond, var.	1 6– 2 6
— paniculata, per doz. bunches ...	6 0– 8 0	— Sunburst ...	3 0– 4 0
Iceland Poppies, doz. bun. ...	2 0– 2 6	—White Crawford	2 0– 3 6
Lapagerias, per doz. blooms ...	4 0– 4 6	Scabious, per doz. bun.	6 0– 8 0
Lavender, per doz. bun.	9 0–15 0	Statice, mauve ...	6 0– 8 0
Lilium longiflorum, per bunch ...	10 0–12 0	— white... ...	6 0– 8 0
—speciosum album per bunch ...	6 0– 7 0	— latifolia, per doz. bun. ...	12 0–18
—rubrum per bun.	5 0– 6 0	Sultan, white, per doz. bun. ...	6 0– 8 0
		— — mauve ...	6 0– 8 0
		Stephanotis, 72 pips	3 0– 3 6
		Sweet Peas, per doz. bun.—	
		— white	2 6– 4 0
		— coloured ...	2 6– 4 0
		Stock, Dbl. White	8 0–12 0
		—Dbl. Pink ...	8 0–12 0
		—Dbl. Mauve ...	8 0–12 0
		—Dbl. Purple ...	8 0–12 0
		Violas, per doz. bun.	3 0– 4 0

REMARKS.—Asters, mostly white, are increasing in quantity daily, and their prices are lower. There are bunches of pink Asters, but the quality is poor. Best Roses are perhaps a trifle below requirements, but there are plenty of second-rate blooms. Supplies of Lilium longiflorum scarcely meet the requirements, and prices fluctuate. L. speciosum album and L. s. rubrum are offered in limited quantities, but they appear sufficient for the demand at the present prices. Carnations are arriving in excellent condition, and sufficient to satisfy demands. Sweet Peas are an abundant supply. Chrysanthemums, the first of the season, white disbudded blooms, were offered for sale this morning, in good condition. There are also a few bunches of Roi des Blancs and Horace Martin. Other flowers in large supply include Achillea, Coreopsis, Gailliardia, White Daisies, Iceland Poppies, Sweet Sultan, Statice (mauve and white), Gypsophila paniculata, and its double form.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	0 4– 0 6	New Turnips, per bunch	5 0– 6 0
—Scarlet ...	0 3– 0 4	Onions (Egyptian) per bag ...	12 0–16 0
—Broad, per bus.	3 0– 4 0	—Valencia ...	20 0–24 0
Beetroot, per bus.	6 0–10 0	Peas, per bus. ...	8 0–12 0
Cabbage, per doz.	1 0– 1 6	Parsley, per doz. bunches ...	3 0– 6 0
Carrots, New, per doz. buns. ...	1 6– 2 0	Potatos, new, per cwt.	10 0–12 0
Cauliflowers, per doz.	3 0– 5 0	Radishes, per doz. bunches ...	1 0– 1 6
Cucumbers, per flat	24 0–30 0	Spinach per bus.	5 0– 6 0
Garlic, per lb. ...	0 6– 0 8	Spring Onions, per doz. bunches ...	4 0– 6 0
Herbs, per doz. bun.	4 0– 6 0	Tomatos, English, per doz. lbs. ...	6 0– 7 0
Lettuce Cabbage and Cos, per doz.	1 0– 1 3	Vegetable Marrows, each	0 4– 0 6
Mint, per doz. bun.	9 0–12 0	Watercress, per doz	0 9– —
Mushrooms, per lb.	2 6– 3 6		
Mustard and Cress, per doz. punnets	1 3– 1		

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)		Grapes, Canon Hall	4 0– 7 0
—Beauty of Bath per ½ bus. ..	7 0–10 0	—Muscats, per lb.	2 6– 5 0
—Quarrenden ..	7 0–10 0	Melons, each ...	2 0– 6 0
—Lord Suffield ..	3 0– 5 0	—Canteloupe ...	6 0–10 0
—Keswick ..	2 6– 3 6	Nectarines, per doz. ...	6 0–18 0
—Ecklinville	3 0– 4 0	Nuts—	
Grenadier ...	3 0– 4 0	— Brazils (new) per cwt.	110 0–115 0
Aubergines; pr doz	6 0– 8 0	Pines, each ...	2 6– 6 6
Bananas... ...	30 0–45 0	Plums (English) per ½ bus.	
English Peaches per doz. ...	6 0–18 0	—Czars ..	12 0– 15 0
Black Currants — (English) ...	30 0–32 0	—Early Rivers ..	12 0– 15 0
Cherries (English) per strike 12lbs.	10 0–15 0	Plums (French Royals) per ½ sieve ...	17 0–18 0
black. per ½ bus.	16 0–25 0	— Gages	23 0–26 0
— White	16 0–30 0	Worthing Figs, per doz.	3 0– 6 0
Gooseberries, per ½ bus, cooking	10 0–12 0	Pears French Williams boxes 48's ..	10 0– 12 0
— Dessert ...	12 0–16 0	—Bon Chretien ½ sieves ...	21 0– 22 0
Grapes:—			
— Alicante ...	2 0– 3 6		
—Blk Hamburgh,	1 9– 4 0		

REMARKS.—Almost all market produce was in heavy supply during the past week, and prices for most subjects have shown a tendency to drop. Tomatoes in particular, at the time of writing, are considerably cheaper, Hothouse Fruits are also obtainable at lower rates than have been ruling hitherto. English Apples are increasing in quantity, with cooking varieties at a comparatively low figure, and even good samples of Beauty of Bath and Quarrendens are selling below control prices. Plums (Czars and Early Rivers') are available in fairly good supply, meeting a demand which is materially affected by the fact that Spanish Plums and Gages are arriving in a wasty condition, owing to undue delay in transit. Black Currants are finishing, with a few dry samples coming to hand. Cherries are in shorter supply. Boxes of French Williams Bon Chretien Pears are now on offer. The Potato trade has been noticeably slow, and prices accordingly lower. Peas have recovered, and are now firmer in price. All Green vegetables are in heavy supply at lower prices. Cucumbers, owing to short supply and firm demand, are slightly dearer.

THE WEATHER.

THE WEATHER IN SCOTLAND.

Persistent drought has been the outstanding feature of the weather during July. Rain fell on but three days, and as these showers were succeeded by drying winds, the soil derived little benefit from them. A total of 0.58 inches resulted from the three rain days to which that of the 18th yielded the largest quota of 0.34 inches. Of sunshine we had the large total of 247.2 hours, an average of eight hours per day and a percentage of 47.3. The brightest day was the 25th with 14.2 hours; there was only one entirely sunless day. With a highest of 30.23 inches on the 24th and a lowest of 29.58 inches on the the 19th, the barometer mean was 30.03. The highest maximum temperature of 78° was recorded for the 10th and the lowest minimum of 37° for the 8th and 13th, an absolute range of 41°. For the 7th we had the lowest maximum of 58° and for the 23rd the highest minimum of 54°. The means for maximum and minimum were 67° and 46° respectively, giving a mean temperature for the month of 56.5° and a mean range of 21°. As would be expected for such a dry month, the relative humidity of the air was low—viz., 77 per cent. On the grass the mean minimum temperature was 41°, the lowest of 29° being recorded on the 13th. There was one night of ground frost; at one foot deep the soil temperature rose with slight fluctuations from 56° to 59°. The prevailing winds were from the south and north. Apart from the drought, the month's weather presented no exceptional feature.—*James Malloch, Director of Studies, Training College Gardens, Kirkton of Mains, near Dundee.*

ANSWERS TO CORRESPONDENTS.

GARDENER'S NOTICE: *J. A. S. T.* If your employer has definitely refused to take you back later, you need not wait until it is announced on what day the European War is to be deemed to have come to an end by law. We consider you have a good claim to damages for breach of contract.

GRUB IN LOGANBERRY FRUITS: *E. L.* The grubs in the Loganberry fruits are those of the Raspberry and Loganberry Beetle (Byturus tomentosus). The pest is sometimes very serious in Raspberry and Loganberry plantations, epecially in the eastern counties, and, so far, no remedy has been found for it. The hibernating beetles emerge from the ground in May and are often to be found in Apple blossoms before the Loganberry or Raspberry flowers are ready. As soon as they begin to open, the beetles enter them, and after pairing, lay their eggs there. The resulting grub bores into the receptacle, usually in its wanderings damaging the skin of the fruit and causing it to be visited by flies, owing to the exposed pulp, and rendering it liable to desiccation. Egg laying goes on over a period of several weeks, so that all stages may be found by the middle of July. Finally, the grubs enter the ground, pupate, and remain there during the winter. Although there is no remedy known, there is now definite evidence that cultivation of the ground (i.e., working it thoroughly all round the plant and in the alleys) to a depth of at least three inches, in August and again in early May, does a great deal to check the pest.

INJURED TOMATO LEAVES. *A. G.* No trace of fungus disease could be found on the leaves. The whole plant, including roots, is necessary for the purpose of determining the cause of the trouble.

INSECT FOR NAMING: *W. F. E.* The insect is Sirex gigas, a wood Wasp. The specimen is a female, and the large sting-like organ is the ovipositor, used to lay eggs in the wood of trees. It does not sting, and is quite harmless.

NAMES OF PLANTS: *T. S. Lewendon.* Nicandra physaloides (Apple of Sodom).—*R. W.* 1, Stachys lanata; 2, Cotoneaster Simonsii; 3, Skimmia Laureola; 4, Prunus Padus; 5, Polygonum affine (syn. P. Brunonis); 6, Alchemilla conjuncta; 7, Lonicera involucrata; 8, Spiraea canescens; 9, Nepeta Mussinii; 10, Thymus Serpyllum album; 11, Santolina Chamaecyparis (Lavender Cotton); 12, withered; 13, Erythraea Centaurium; 14, Spiraea discolor.—*Torbay*: Mandeville suaveolens.—*H. S.* 1, Spiraea japonica var; 2, S.j. var rubra; 3, Cistus laurifolius; 4, Juniperus tamariscifolia; 5, Cassinia fulvida; 7, Potentilla fruticosa; 8, Polygonum baldschuanicum; 9, Piptanthus nepalensis; 10, Garrya elliptica; 11, Thuya dolabrata var. variegata. *W. S.* 1, Muehlenbeckia adpressa; 2, Paliurus australis (Christ's Thorn).

OVERHANGING TREE FROM NEIGHBOUR'S GARDEN: *W. K.* Unless the tree overhangs your garden, you have no remedy. If any of the branches overhang your garden, you should ask your neighbour to cut them down, and if he declines to do so you can cut them yourself, but you must take care not to cut back beyond your fence. If you cannot do this without going on your neighbour's land, you should give him notice of your desire to enter for that purpose. The branches will remain his property.

PLANTING FIVE ACRES WITH QUICK-GROWING FOREST TREES: *A. G. K.* With regard to your query as to tree planting, if the situation is not unduly exposed, you could plant 2,72[illegible] trees to the acre, but if the position is a high lying one, 4,840 to the acre. One of each of the four kinds of trees you name might be planted, or some of each kind, in clumps. If the soil is suitable for Oak trees, these should be placed all over the ground, at a distance of about 20 feet apart. For sheltered, low lying ground, the plants used should be three years old, but only two years old in the case of land that is exposed. Trees from the north are the best, if required for upland planting. The annual cost of the plantation should not be great, and will include replacing dead trees and cutting down rough-growing weeds; this would probably be 25s. per acre. The cost of the trees will vary with the size, but should be about 40s. per hundred; pitting will cost about 3s. per hundred holes, and planting, about the same, but much will depend upon the wages paid in the district.

SCLEROTIA IN TOMATO PLANTS: *T. B.* Small black sclerotia of some unknown fungus were present on the surface of the roots. The disease is being met with frequently and is under investigation. Affected plants should be destroyed and fresh soil used.

Communications Received.—E. N. B.—F. S.—[illegible] S.—T. J. H.—R. W. E.—M. Y.—F. W. B.—S. [illegible] L. W.—J. M.—Sir E. L.—B. H.—A. H. L.—J. [illegible] H. J. E.—A. N.—Rev. H. F.—L. C. E.—E. [illegible] M. F. W.—H. R. D.—W. T.—R. V. and Son—B. and [illegible] —F. B.—H. A. S.—A. O.

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Probably not one in a hundred. Yet the subject of Date-growing is one which has interest for all, and especial interest for those who are intending to take up fruit-growing in a tropical or sub-tropical colony. They should at once procure and read the excellent work by Mr. Paul Popenoe,

DATE GROWING IN THE OLD WORLD AND THE NEW

in which they will find every sort of information necessary to the Date cultivator. The price is 9/6 post free, and it can be obtained from

GARDENERS' CHRONICLE, LTD., 41, Wellington St., London, W.C.2.

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Twenty words (or three lines including headline) **3s.**, *and* **6d.** *for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office,* **6d.**

PRIVATE.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

GULVAL (NEAR PENZANCE).

COUNTY COUNCIL FRUIT AND VEGETABLE PLOT.

APPLICATIONS are invited for the post of WORKING GARDENER to take charge of the above Plot. Good wages offered to a capable Gardener who has had experience of Fruit and Early Vegetable culture, and who is qualified to conduct experiments in Cauliflower and Broccoli Seeds and early varieties of Potatos.

Applications, stating age and experience, wages required and accompanied by copies of recent testimonials, should reach the undersigned on or before Tuesday, 19th August, 1919.

E. C. HARVEY, Clerk.

District Education Office, Penzance.

SOMERSET AGRICULTURAL INSTRUCTION COMMITTEE.

APPOINTMENT OF HORTICULTURAL INSTRUCTOR.

THE ABOVE COMMITTEE invite applications for the appointment of Horticultural Instructor.

Applicants must have a sound knowledge of Gardening and Orchard Culture, both from a scientific and practical point of view, and must possess some powers of organisation. Preference will be given to an applicant who has been on Military Service.

Salary up to £300 per annum, according to experience and qualifications.

Applications stating age and full particulars of experience, accompanied by copies of three recent testimonials, to be delivered not later than September 5th, 1919, to

THE COUNTY ORGANISER,
5, Graham Road,
Weston-super-Mare.

MIDDLESEX

AGRICULTURAL EDUCATION COMMITTEE.

THE COMMITTEE INVITE applications for the post of Horticultural Instructor; salary £400 per annum.

Applicants must have a sound practical, as well as scientific training in all branches of Horticulture. The work will include supervision of smallholdings, allotments, experimental plots and general Advisory work.

Applications should be sent to the undersigned not later than August 16, 1919.

B. S. GOTT,
Secretary, Education Committee.

Guildhall, Westminster, S.W.1.

WANTED, an experienced HEAD WORKING GARDENER, Inside and Out; married; wages 35s. a week with good cottage; must have some experience in oil engine and making acetylene gas.—Lady EMILY VAN DE WEYER, Hungerford Park, Hungerford, Berks.

GARDENER (HEAD WORKING) wanted (two kept) with knowledge of Cows and Poultry; only applications with first-class experience and references will be considered; small lodge available.—Mr. C. H. McPHERSON, Chewton Place, Keynsham, near Bristol.

HEAD WORKING GARDENER to lay out Grounds and supervise work of tubercular patients at Croydon Borough Sanatorium, North Cheam; wages 45s. weekly.—Apply, by letter, to the MEDICAL OFFICER OF HEALTH, Town Hall, Croydon, before August 14th

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GARDENER wanted, September, HEAD WORKING, experienced; to take charge Greenhouses, Flower and Kitchen Garden; good grower of Grapes, Cucumber, Tomato and various greenhouse flowers; highest references required; state wages.—KING, Abbeydale, Coggeshall.

WANTED, in Hampshire, middle September, experienced Single-handed GARDENER, aged 35 to 40, married; Fruit, Flowers and Vegetables; small quantity glass.—State wages and experience to M. C., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER WANTED (SINGLE-HANDED), married (without children); wife to do laundry work and assist generally; poultry kept; good living accommodation.—Address reply, GARDENER, 3, Popes Head Alley, Cornhill, E.C.3.

GARDENER (SINGLE-HANDED); thoroughly experienced, little glass; wife willing to help in laundry and house when required; wages 35s. per week, with good cottage.—Apply, JAMES S. FAIR, Estate Offices, Lytham, Lancashire.

SINGLE MAN WANTED to take sole charge of Large ROCK GARDEN in Liverpool District; must have a thorough practical knowledge of this branch of work; comfortable position and good wages to man prepared to take enthusiastic interest in making garden successful. ALSO SINGLE MAN, to help in Pleasure Grounds, with knowledge of Hardy Plants.

BAKER'S, CODSALL, WOLVERHAMPTON.

WANTED at once, experienced GARDENER for Outside work; also 2 Garden Labourers; no bothy.—Please state wages required, to W. GUTTRIDGE, The Gardens, Moray Lodge, Campden Hill, London, 8

GARDENER (SECOND), Inside and Out; good reference; wages £2.—C. T., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, SECOND GARDENER, principally Inside; state wages with bothy, milk, vegetables; references.—N. DAVEY, Wrexham Park, Slough, Bucks.

WANTED, SECOND GARDENER, chiefly Outside, duty alternate weeks; three kept; wages 45s.—Apply, stating age and experience, to J. CHAMBERS, The Gardens, Leigh Holme, Streatham, S.W.16.

WANTED, UNDER-GARDENER (young), Indoor, where several Gardeners are kept; live in bothy.—Apply, giving full particulars and wages required, to HEAD GARDENER, Watergate, Emsworth, Hants.

WANTED, UNDER-GARDENER for Kitchen Garden and Pleasure Grounds.—Apply, stating age, experience and wages, with bothy, milk and vegetables. — MARSHALL, The Cottage, Leomansley, Wood, Lichfield.

WANTED, UNDER-GARDENER (single) for Outside work; hours 7 to 5, 1 o'clock Saturdays; 35s., vegetables, and bothy.—Apply, FAULKNER, Shawford Place Gardens, Shawford, Hants.

WANTED. JOURNEYMAN for Inside and Outside; some experience; live in bothy; wages 35s.—References to ESTATE OFFICE, Hornby Castle, Lancaster.

WANTED, JOURNEYMAN for Inside, also one for Kitchen Gardens; 35s. weekly, bothy, etc., with attendance; duty 6s. extra.—Send particulars to R. G. PRINGLE, Hall Place Gardens, Tonbridge, Kent.

WANTED, JOURNEYMAN for general Pleasure Ground work, to take duty; highest references essential; good wages, bothy, milk and Vegetables; extra for duty; 1 o'clock Saturday.—HEAD GARDENER, Nostell Priory, Wakefield.

JOURNEYMEN.—Wanted, two experienced MEN for Kitchen Garden and Pleasure Grounds; wages £2 per week.—Apply, stating age and experience to G. BROWN, Aston Hall Gardens, Derby.

WANTED, JOURNEYMAN for Inside and Out (principally Inside); wages 35s., good bothy (with attendance). — Apply, WOOD, Wallhouse, Torphichen, Linlithgowshire.

WANTED, YOUTH for Greenhouses, 16 upwards; strong and willing; good wages given with bothy, to start with; half-day Saturday.—ALLEN, Normanby Park, Sounthorpe.

WANTED, strong YOUNG MAN, chiefly for Lawns, Herbaceous and Pleasure Grounds; 30s. per week, bothy, milk, vegetables, 5s. duty.—T. HERBERT, Tilstone Lodge Gardens, Tarporley, Cheshire.

WANTED, two YOUNG MEN to live in bothy; one for Pleasure Grounds, the other General Outside work; wages 30s. per week of 48 hours.—Full particulars, experience, age, reference, to WATSON, Gardener, Kingswood Warren, Tadworth, Surrey.

SMART LAD wanted for bothy work and work in gardens.—State age and wages required, to GEO. KENT, Brocket Gardens, Hatfield, Herts.

WANTED.—Lady offers good home, with every comfort, to a lady who is fond of, and has a knowledge of, gardening; half-hour from London; near station, village, church; Protestant; good references.—GENTLEWOMAN, Address C., Post Office, Burnham, Bucks.

TRADE.

PROPAGATOR AND GROWER wanted, to take entire charge of a Choice Collection of Shrubs, Rhododendrons, etc.; single man preferred, owing to house shortage.—Apply, stating experience, wages, etc., to DONARD NURSERY CO., Newcastle, Co. Down.

NURSERY PACKING SHED FOREMAN. — Wanted Head Packer, accustomed to checking off orders; must have sound general knowledge of trade.—State age, previous experience, and wages required, with copies of testimonials, etc., to DANIELS BROS., Ltd., Norwich.

SEED TRADE.—Wanted, experienced, capable counter hands for Garden Seed Department.—Apply, with references, particulars of experience, and wages required, to TOOGOOD and SONS, The King's Seedsmen, Southampton.

WANTED at once, smart ASSISTANT SHOPMAN, used to order and counter trade.—State wages required and full particulars, F. C. EDWARDS & SON, Seedsmen, Leeds.

POSITION VACANT.—Wholesale seed firm; country; MANAGING CLERK, correspondence and general (not ledger) office; staff of 20; organising ability and trade experience essential.—Apply, with full particulars and references, S. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

YOUNG LADY FLORIST wanted as IMPROVER, to making up Floral Designs; Manchester District.—F. R., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

FLORIST (lady), used to high-class trade; must be a good designer and saleswoman; wanted for northern town, commencing salary £156.—Apply with full particulars, references, etc., in confidence, D. L., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FLORIST'S ASSISTANT; must be good saleswoman.—Apply, S. F., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

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Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

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LADY LILFORD wishes to most highly recommend a first-rate HEAD GARDENER, leaving present situation through death; thorough knowledge of Orchids, Carnations, Alpines, Flowering Shrubs, Daffodils, and all branches of Gardening; very active and hard working.—Apply, L. H. DYER, 9, Fore Street, Plympton St Maurice, Devon; or to The LADY LILFORD, Lilford Hall, Barnwell, Peterborough.

MR. T. CRADDUCK, Middleton Park Gardens, Bicester, Oxon, wishes to recommend his late General Foreman as HEAD GARDENER to any Gentleman requiring the services of a first-class Fruit and Vegetable grower; life experience; age 35; married, no children; demobilised, 3½ years Army.—Apply, W. T. CHATTERLEY, The Green, Snitterfield, Stratford-on-Avon.

C. R. DELLA SALLE, Esq., highly recommends his late HEAD GARDENER, where several are kept; life experience gained in good establishments; last post six years previous to enlistment; age 42; married (no family).—T. PROWTING, "Oakdene," Orlando Drive, Carlton, Notts.

SIR J. R. G. COTTERELL, Bart., wishes to highly recommend his late HEAD GARDENER as a first-class man in all branches; thoroughly experienced in Fruit, Vegetables, Carnations, early and late forcing, etc.—A. PARSONS, Byford, Hereford.

MRS. HOLBECK highly recommends her HEAD GARDENER where several are kept; life experience; 10 years here; married (four children); Southern counties preferred.—G. GILBERT, Farnborough, Banbury.

JOHN S. DUGDALE, Esq., K.C., 29, Eaton Sq., London, S.W.1, can very highly recommend his HEAD GARDENER. who has been with him 12 years; first-class Gardener, excellent Organiser and Manager; 19 years' Head; 31 years' experience in large first-class establishments; age 45; married (no family).—Blyth Hall, Coleshill, Warwickshire.

W. M. DEAN, Esq., Greenways, Sunningdale, can with confidence recommend his late HEAD GARDENER, W. ANSELL; 21 years' experience in all branches; seven years' Head Working; demobilised; married; no family.—Apply, W. ANSELL, c/o Mr. WHITE, The Nurseries, Windlesham, Surrey.

HEAD GARDENER. — Hon. A MULHOLLAND highly recommends A. MORRIS as a first-class man in all branches of gardening, and thoroughly fitted to meet requirements of good establishments; highest references from previous employers; estate, woods etc.; age 55.—44, Fairclose Road, Beccles.

HEAD GARDENER.—I can highly recommend good all-round man as above; life experience, Inside and Out; age 44; married (two girls, age 13 and 14).—Further particulars with pleasure from EDWARD J. PARSONS, F.R.H.S., Seed Merchant, Worcester; or write F. MAPP, 61, Lansdowne Road, Worcester.

GARDENER (HEAD), where others are kept, seeks situation for September; good references; life experience; age 40; married; cottage.—F. E. DAWES, The Lodge, Parkfield, Dorridge, Birmingham.

HEAD GARDENER (demobilised), married man (one child), seeks appointment; qualified and well recommended for charge of good private establishment.—Wages, etc., to E. W., c.o. Mr. T. Lewis, 45, Uxbridge Road, Hanwell, W.7.

GARDENER (HEAD). — B. C. FORDER, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establisnment; life experience in all branches; ten years as Head; good manager and economical; age 39; married (one child, 13 years); excellent references; Army discharged. — Full particulars, The Gardens, Whatcombe House, Blandford, Dorset.

HEAD GARDENER. — Mr. Hall, Bostock Gardens, Middlewich, very highly recommends real good man as above, where several men are employed.—Full particulars from above on application.

HEAD GARDENER OR GARDENER-BAILIFF (Working). — E. D. MENZIES, late Temporary Head Gardener to Lord Clinton, Bicton, Devon, is open to engagement as above; thoroughly experienced in first-class Gardening, gained in good gardens; Forestry, Land, Stock, Roots, Cereals, Dairy, Poultry and General Estate Management; holds good testimonials as to abilities and character.—Mascall's Cottages, Ewhurst, Surrey.

GARDENER (HEAD of two or good SINGLE-HANDED) seeks situation; experience under Glass and Outside; married (no family); good references.—HOOPER, Grange Cottages, Binfield, Bracknell, Berks.

GARDENER (HEAD) seeks re-engagement where several are kept; life experience; age 40; married; highly recommended.—H. T., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD) seeks situation; thoroughly experienced in all branches, including Orchids; married when suited.—Apply, A. CHAN[...], "The Rest," Tilford, Farnham, Surrey.

GARDENER (HEAD) where two or more are kept; life experience both Inside and Out; good reference; married; age 43.—SMITH, 25, Park Road, Park Lane, Waltham Cross.

HEAD GARDENER seeks re-engagement; skilled in all branches, and especially in Alpines, Hardy Plants and Fruits; familiar with the making of new gardens and remodelling; can control any number of men; five years' Head of well-known gardens; first-class references; age 37.—ADVANCE, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER seeks situation as HEAD of one or two, or good SINGLE-HANDED; age 3[...]; abstainer; married when suited; North country preferred.—R. GROOM, 5, Wim Road, Clive, nr. Grinshill, Shrewsbury.

MR. BAYFORD, Davenham Gardens, Malvern, highly recommends Gardener, Head Working, where three or four are kept; or very good Second; life experience; married; age 29; demobilised.

SIR ROBERT McALPINE, Bart, wishes to highly recommend A. EVERETT as HEAD WORKING GARDENER where four or more are kept; life experience in all branches of Gardening, Inside and Out; age 45; married (no family).—A. EVERETT, 3, Claremont Villas, Hare Lane, Claygate.

S. H. FAIR, Esq., strongly recommends [...] HOOPER as HEAD WORKING GARDENER where four or more are kept; age 36; 20 years' practical experience, Inside and Out; married; no family; leaving for demobilised soldier. — The Gardens, Willoughby House, near Rugby.

MR. HARMON, Gardener to the Earl of Denbigh, Newnham Paddox, Lutterworth, highly recommends J. HAYNES as good HEAD WORKING GARDENER; fully qualified, Inside and Out; married; excellent references; bees.—For particulars apply above.

A. G. SOAMES, Esq., Sheffield Park, Uckfield, highly recommends W. Edworthy as HEAD WORKING GARDENER, for over 8 years Head Gardener here prior to joining Army; 7 years' previous reference; age 44; married, 2 children.—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

MR. MILLS, Gardener to Lord Howard of Glossop, very highly recommends A. E. CREED to Lady of Gentleman requiring a good GARDENER (HEAD WORKING); life experience, Inside and Out; married (two children).—A. E. CREED, The Gardens, Glossop Hall, Derbyshire.

HEAD WORKING GARDENER.—A. Nayl[...] Smith, Esq., Holy Street Manor, Chagford, Devon, most highly recommends H. G. SMITH; life experience in all branches; age 41; married (one child); demobilised.—SMITH. Voewood Lodge, Malden. Surrey.

GARDENER (HEAD WORKING) seeks situation where several are kept; life experience; can manage electric light plant; also stock if required; leaving through estate being sold; disengaged end September; age 44; married.—C. OSMAN, Sandle Manor, Fordingbridge, Hants.

GARDENER (HEAD WORKING), thoroughly experienced in Fruit, Flowers and Vegetables; excellent references for abilities and integrity; age 4[...]; present situation 23 years; leaving through no fault.—F. BUTCHER, Amwell Terrace, London Road, Ware, Herts.

GARDENER (HEAD WORKING) seeks situation where three or more are kept; practical experience in the requirements of good establishments; Inside and Out; age 33; married; no family; well recommended.—WALKER, The Gardens, Lesbury, Northumberland.

GARDENER (HEAD WORKING), 42, demobilised, life experience in all branches, desires situation where several are kept; first-class references and can be well recommended by previous employers; married.—R. MASON, Doddington, Sittingbourne. Kent.

GARDENER (HEAD WORKING); life experience; excellent references; married (no family); age 30; demobilised.—A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING); life experience, Inside and Out; 2 years in last place, previous to serving with the colours; age 43 years.—W. L., 9a, Trentham Street, Southfields, S.W.18.

GARDENER (HEAD WORKING), demobilised, seeks post where several are kept; 3 years, 8 months HEAD to the Hon Carr and Lady Mary Glyn; excellent references; married (no family); age 36.—A. MORPHETT, Wootton, Nr. Ashbourne, Derbyshire.

GARDENER (HEAD WORKING) where four or more are kept; highly qualified to produce first-class fruit and vegetables for a large establishment; life experience in all branches.—Please state wages, etc., "Work," Box 10, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) where two or more are kept; 11 years' experience; age 30; married (no children); demobilised.—FORD, No. 3, Apley Farm Cottages, Shifnal, Salop.

GARDENER (HEAD WORKING) thoroughly experienced all branches; highest references; age 39; married when suited.—E. G. DAY, Queen Anne's Gardens, Caversham, Reading.

GARDENER (HEAD WORKING) 31 years' experience in all branches, 17 years' London experience; first-class references; age 44; married (2 children); North London preferred.—WILLIAMS, 4, Prince Arthur Mews, Church Lane, Hampstead, N.W.3.

GARDENER (HEAD WORKING 3-4); life experience; good references; age 30; one girl; demobilised.—BRAMBLEY, 66, Foley Road, St. John's Worcester.

GARDENER (HEAD WORKING) where one or two others are kept; over eight years' previous Head; age 42; married (one child); demobilised.—WHEELER, Glengarriff, Queen's Road, Crowborough, Sussex.

GARDENER (HEAD WORKING); 20 years' experience all branches, Inside and Out; married (one child); disengaged; wife useful; excellent references; age 30.—F. DRAGE, Ambury Cottage, Huntingdon.

GARDENER (HEAD WORKING) where others are kept; 20 years' thorough practical experience, Inside and Out; five years as Head; age 37; married (no family).—A. D., c/o 43, Shaftesbury Road, Watford, Herts.

GARDENER (HEAD WORKING); thoroughly experienced in all branches; excellent recommendations from first-class establishments; recently demobilised; married; age 32.—WILKS, Ashcroft, The Green, Southgate, London, N.14.

GARDENER (HEAD WORKING or good SINGLE-HANDED with help); 20 years' experience Inside and Out; wife willing to help in house; no children; age 38 years; demobilised; A1. Please state wages, with cottage.—E. LANG, 24, Johnson Street, Notting Hill Gate, London, W.

GARDENER (HEAD WORKING); life experience, good establishments, Inside and Out; 14 years Head; excellent references; married; age 40.—SWAINE, 6, Gate Cottages, Chorley Wood, Herts.

GARDENER (HEAD WORKING) requires situation, good establishment; life experience in all branches; five years as Head; aged 34 years; married, two children; excellent references; recently demobilised. —A. F. JENNER, 8, St. John's Road, Ely, Cambs.

GARDENER (HEAD WORKING).—Mrs. Charles Long, 38, Lowndes Square, S.W., can very highly recommend her late Gardener, T. HIRST, life experience with Flowers, Fruit and Vegetables; left through country house being given up. No family; disengaged. —169, Osmaston Road, Derby.

WANTED, situation as Head Working Gardener, or good Single Handed, by industrious man; highest characters for work; abstainer.—G. MILLS, 29, Woodland Terrace, Aberbeeg, Monmouthshire.

THE REV. A. L. ROYDS highly recommends his GARDENER as SINGLE-HANDED or with help; discharged soldier; no family; age 39; thoroughly experienced; Inside and Out.—JEFFREY, Brereton Rectory, Sandbach, Cheshire.

GENTLEMAN, with confidence, wishes to recomend his GARDENER, H. HUMPHREYS, as good SINGLE-HANDED or with help; life experience; good references; age 34; married (one child); present situation 7 years.—The Cottage, Fawke House, Sevenoaks.

GARDENER seeks situation; Single-handed preferred; thoroughly understands Vegetables and Outside Fruits and Poultry; good ref.—Address, W. PARKER, 63, Hurley Road, Kennington, S.E.

GARDENER, experienced Fruit, Flowers, Vegetables; preference given to comfortable place, with cottage, coal, than high wages; respectable, reliable.—For further particulars apply, H. H., 8, Lancaster Place, S. Hampstead.

GARDENER, age 36, seeks situation, chiefly Outside work; 16 years' experience, Inside and Out; good references; demobilised; single.—E. SLOSS, 4, Foots Cottages, The Hyde, N.W.

GARDENER; life experience Vines, Peaches Carnations, etc., all Outside work; Head Working, first-class Single-handed, or second of several; age 44; wife assist in house if required (good cook); well recommended; cottage required.—HALL, Grangehyrst, South Norwood.

UNDER-GARDENER seeks situation in Kitchen Garden or Pleasure Grounds; some experience; state wages. Write, G. OWEN, Caynham, nr. Ludlow, Salop.

UNDER GARDENER seeks situation; experienced Inside and Out; good references; age 28; married, two children).—J. BROOKER, 43, Albert St., Tunbridge Wells.

FOREMAN or SECOND (Inside) seeks engagement in good establishment; Fruit and Plants; age 29; state wages.—L. BOSWELL, Beacon View, Pound Bank, Gt. Malvern.

FOREMAN (Outside or Kitchen Garden only); excellent references; disengaged; age 37; two girls, age 9 and 11.—P. CHAPLIN, Scotland Green, Henley-on-Thames.

FOREMAN; life experience, good establishment; good references; just demobilised; age 32; married (no family).—BROOKER, Five Ash Down, Uckfield, Sussex.

ADVERTISERS desire situation together in good establishment, under glass; FOREMAN or LEADING HAND and FIRST JOURNEYMAN respectively; excellent references; ages 25 and 23; both single; northern counties preferred; ex-service men.—For particulars, apply HART, Great Budworth, Northwich, Cheshire.

JOURNEYMAN seeks situation, Kitchen Garden, and Pleasure Grounds; 7 years' experience; age 29; good references; South Coast preferred.—R. GIDDEN, 5, Dupont Road, Rayne's Park, Wimbledon, S.W.

JOURNEYMAN (FIRST INSIDE); age 26; 8 years experience in good establishments; Decorating and General Greenhouse work; excellent references; demobilised.—E. F. GOOD, 2, Castle Street, Cirencester, Glos.

JOURNEYMAN (20) seeks situation in large private garden; Inside; good experience with Fruit and Flowers under glass; bothy; great interest taken in decorating.—L. P., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

JOURNEYMAN (Inside or Inside and Out); 25; single; 5½ years' experience in good establishments; just demobilised; good references; bothy preferred.—S LANGHAM, Freefolk, Whitchurch, Hants.

LADY GARDENER, two years' course Swanley Horticultural College, one on market garden; nine years' practical experience, Inside and Out; will give services months August and September in return for board and lodging and out-of-pocket expenses.—B. E. L., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER (gentlewoman) requires post; trained; many years' experience, all branches; good references.—MISS BOWEN, 22, Willoughby Road, Hampstead, N.W.3.

EDUCATED WOMAN GARDENER desires post, Cheshire or Northern counties preferred; 3½ years' practical experience in first-class establishments and nursery; Inside and Out; Fruit, Flowers, Vegetables; good references.—C. W., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

ENGINEER-ELECTRICIAN; country house preferred; steam, gas, or oil engines, pumps, etc.; excellent references; married; 55/- and cottage. B., 32, Gladstone Road, Watford.

ODD MAN for country house; age 43; married; excellent references; previous experience.—F., 16, Frogmore Crescent, Hemel Hempstead, Herts.

TRADE.

WORKING MANAGER or FOREMAN requires situation in Market Nursery; 30 years' experience in Tomatoes, Cucumbers, Grapes, Mushrooms, Chrysanthemums and Bedding Stuff; good references; married.—F. W., Brooklands Nursery, Central Park Road, Laindon, Essex.

WORKING MANAGER or FOREMAN desires situation; 25 years' experience in Roses, Shrubs, Conifers, etc.; married; age 42.—F. NEVE, 4, Dudley Road, Tunbridge Wells.

MANAGER or FOREMAN GROWER; life experience in Cucumbers, Tomatos, Roses, Chrysanthemums, bedding plants and cut flowers.—T. C. SKEGGS, No. 1, Strafford Villas, Hadley, Barnet.

FOREMAN and GROWER; all produce required Market and shop sale; Softwood Stuff, Pot Plants, Cut Flowers, Fruit, etc.; routine Forcing, Propagating and all branches; good references.—Ivy Cottage, Leighs, Chelmsford.

FOREMAN or GROWER; 18 years' experience Grapes, Tomatos, Cucumbers, Chrysanths and general nursery produce; age 32; married. State wages. —E. CARTWRIGHT, 1, Elm Road, Gillingham, Kent.

KNIFESMAN in Fruit or Roses; 12 years experience; married.—Apply, stating wages, cottage or rooms, to G. YARRUN, 295, Ordnance Road, Enfield Lock.

IN PROGRESSIVE NURSERY.—Situation required by advertiser; married; age 35; good experience of Herbaceous, Alpines, Cut Flowers, Roses, Fruit Trees, etc.; trade and large private establishments; keenly interested also in Landscape; house obtainable essential. — A. C., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

WANTED by a young man, age 17, situation in Nursery; 2 years' experience; wages not so much an object so long as something can be learned.—R. LETTS, Semer Lodge, Ipswich.

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TO SEED AND NURSERYMEN. — Young married man who has gained experience as COUNTER HAND with leading firms in the Seed, Bulb and sundries dept., practical and keenly interested in Horticulture, seeks permanent situation in warehouse, preference where he could assist with work which will bring him in connection with the cultivation of vegetables, Flowers, Bulbs, etc. London suburbs or southern counties.—Write, giving details in first letter of post offered to F. C., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

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BOOKKEEPER, experienced in all office routine; 22 years in Nursery offices.—T. C., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

NOTICE TO HEAD GARDENERS

Revision Forms for the "Gardeners' Chronicle" **HORTICULTURAL DIRECTORY** have been posted to Head Gardeners in every county in England, Scotland, Wales, and Ireland. In order to facilitate the early publication of the Revised Edition for 1920, gardeners are asked to return the forms, with the necessary corrections, **AS SOON AS POSSIBLE.** It is only by the hearty co-operation of all gardeners that this section of the **DIRECTORY** can be made perfect.

Any Head Gardener who has **FAILED TO RECEIVE A FORM** should send a penny postcard to

The Editor, Horticultural Directory,
41, Wellington St., Strand, London, W.C.2,

or fill in the form below.

N.B.—*Postage on the FORMS, whether in an OPEN envelope or merely folded, is ONE HALF-PENNY.*

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Name of Employer's PLACE ....

Name of Employer ....

Name of Head Gardener ....

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County ....

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Please send copy (copies) of the HORTICULTURAL DIRECTORY AND YEAR BOOK FOR 1920* *I enclose remittance* £ s. *d. in payment.*

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AT THE NATIONAL POTATO EXHIBITION, BIRMINGHAM—Bingley Hall, Nov. 12th to 15th.

COLLECTION of 12 dishes of named immune varieties:—

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White Roman Hyacinths.

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BURNT ASH ROAD NURSERIES, LEE, S.E.,
beg to announce that their
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MESSRS. PROTHEROE & MORRIS will sell the above by auction on the premises
ON TUESDAY, SEPTEMBER 9th, 1919.
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FLORIST'S and FRUITERER'S business, close to sea front; lovely shop and house; only wants seeing; illness sole reason for leaving; low figure.—Apply E. S., Box 22, 41 Wellington Street, Covent Garden, W.C.2.

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LYTHAM (Lancs.).

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SEPT. 4th, 5th, 6th, 1919.

270 classes for Plants, Flowers, Fruits, Vegetables. Professional and amateur classes, good cash prizes. Entries close Aug. 25th. Schedules free from W. WARD, Lorne Street, Lytham.

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Schedules from—J. TOMLINSON, 96, Poulton Road, Southport.

Southport Allotment Holders and Garden Cultivators' Association
FIRST SHOW OF VEGETABLES, FRUIT AND FLOWERS,
30th AUGUST, 1919.
6 Open Classes. Big Prize Money.

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Thursday, August 28th, 1919.
FINEST SHOW IN THE MIDLANDS.
Fruit, Flowers, Plants, Vegetables, Bread, Honey, Butter, Needlework, Dogs, Poultry, Pigeons, Rabbits and Cavies, &c.
PRIZES £1,000.
H.M. Coldstream Band.
Entries close for Live Stock, August 19th; Dead Stock, August 21st.
Schedules, particulars, &c., F. W. WESTERN, General Secretary, Sandy, Beds.

NOTICES.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W.14.

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BRITISH CORRESPONDENCE SCHOOL OF HORTICULTURE, PENNINGTONS, 254, Oxford Road, Manchester.—Complete courses for R.H.S. Senior, Junior Teachers', and National Diploma of Horticultural Examinations. Fees moderate.—Write, SECRETARY.

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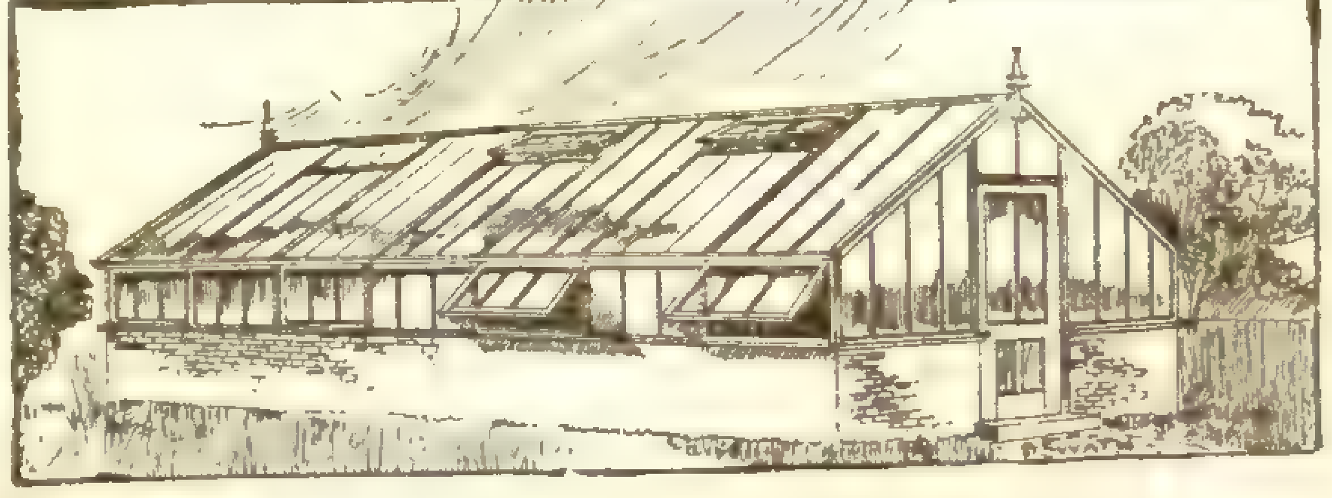

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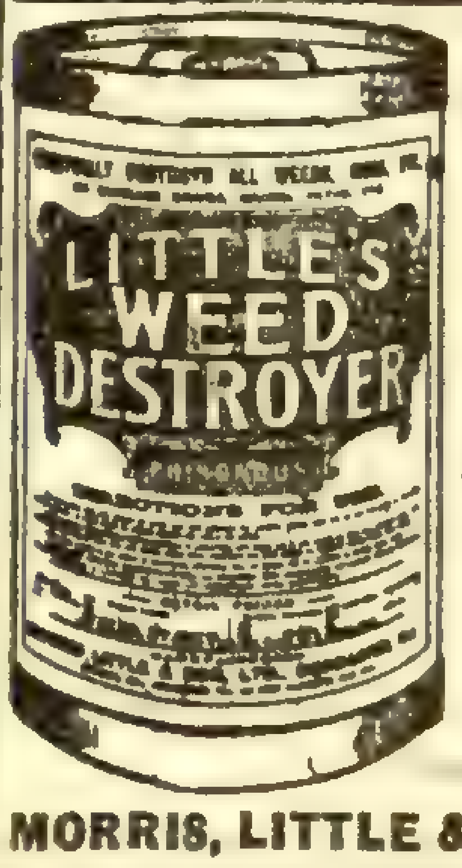

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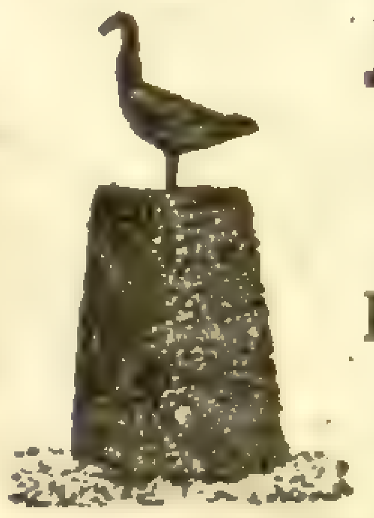

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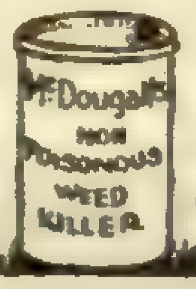

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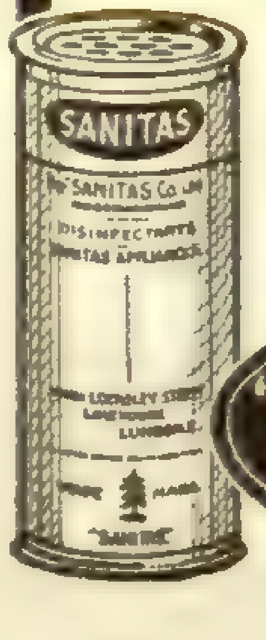

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TULIPS AND THEIR WAYS.

To the casual observer the whole interest of Tulips seems to lie in the colour of the flower, and it is only when one has grown a number of the species for several years and planted and lifted them with one's own hands that each kind or species begins to have an individuality of its own. The cultivation of the wild species of Tulip is not to be entered upon rashly, nor inadvisedly, nor by the gardener who wishes to obtain results with the minimum of trouble, for although a group of bulbs may continue to flourish for a number of years in some particularly favourable spot, sooner or later the spring will come when the leaves will be spotted and damaged and the bulbs weakened, if not entirely destroyed. The truth seems to be that Tulips come to us from regions which have a sudden and complete transition from the snow of winter to the warmth of summer, and that in our climate they are only too apt to appear above the surface during some mild period in early spring and then to have their foliage blasted by a return of wintry conditions. Under these circumstances disease finds easy victims in the leaves and, if the bulbs themselves are not actually killed that season, the spores of the disease lie dormant in the remains of the stem and in the bases of the old leaves in readiness to attack the young growths in the following spring.

The grower of Tulip species must be prepared, then, to lift all his bulbs every year and to keep them in some dry and airy place until the following November. As soon as the recently-lifted bulbs are quite dry, the old skins should be cleaned off, and it will not be long before it is seen that these old skins do harbour the spores of fungous disease. Replanting should take place in November, but it is worth remembering that, if by any chance some bulbs remain unplanted, they are not necessarily rendered worthless, for a very fair proportion of them will form fresh bulbs as they lie in the bulb shed and be ready to flower in the following season just as if they had not spent a whole year and a half out of the ground. I have more than once tried this experiment, and just recently I have been cleaning some bulbs that have remained unplanted since this time last year. What exactly happens inside the bulb I do not know, but a greenish yellow shoot grows out in autumn to the length of an inch or two and then subsequently withers away. The roots push out for an eighth of an inch and then they, too, wither away. Then at this time of year two or three loose outer skins

Fig. 40.—A tulip that has flowered and produced a "dropper."

can be peeled off the bulb, revealing the new shining skin of the sound bulb within.

One of the difficulties of lifting the bulbs of Tulip species is that many of them have surprising powers of locomotion. Some leave a trail by which they can be followed to their retreat, but in others the connecting link withers rapidly away, and then there is no means of knowing in what direction to look for the new bulb. In my experience, small bulbs of T. ingens are the worst offenders in this way, for their outer skin is so thin and delicate that the connection between the new and the old bulb soon withers completely away. In T. Kaufmanniana and T. Greigii, on the other hand, the outer skin is so thick that the new bulb always has a long projecting neck and, as it always drops perpendicularly below the old bulb, it is comparatively easy to find, even though one has often to dig down to a depth of 12 or 15 inches to get to it. If my memory is correct, Mrs. Arber, in a paper on Tulip droppers, argued that these could not occur in the case of flowering bulbs, but though they are undoubtedly much more frequent with seedling and small non-flowering bulbs, yet, as in the example illustrated in Fig. 40, they are not unknown even in the case of bulbs that produce a stem and a flower. Some small Tulip seedlings are capable of producing two droppers each larger than themselves, as well as several offsets, though why they prefer to dissipate their energies in this way, instead of building up one good flowering bulb, it is hard to say (See Fig. 41.)

It may be worth recording here that T. Batalinii, T. linifolia, T. Tubergeniana and T. Kolpakowskiana all produce droppers when in the seedling stage, before they come to flowering size, but fortunately the connection between the old and the new bulb is so tough that it can easily be followed up until the latter is reached. On the contrary, T. Ostrowskiana seems content to form its new bulb in the position occupied by its predecessor.

All the species mentioned so far confine themselves to sending their droppers down vertically into the ground, but there are others in which the bulb-forming stolon wanders off in any direction not far below the surface, and I recently lifted some specimens of T. saxatilis in which the stolon was quite a foot in length. When it is remembered that the stolon and the bulb, which forms at the end of it, apparently derive all their nourishment from the old bulb, it is difficult to see why they should wander in this way and often end by forming the new bulb in a hard, dry path instead of in the comparatively good and softer soil in which the parent bulb was planted. T. primulina is almost as bad an offender as T. saxatilis. In a way it is worse, for the connection soon perishes, but fortunately the new bulbs are not formed at such a distance from their parents.

Of other species, either T. praecox or the so-called montana is an incorrigible offender, I must endeavour next year to discover which is the culprit by planting these two in different parts of my garden. Hitherto, I have always planted them close together, because the soft, woolly coats of their bulbs seem to show that they are closely related. The result is that, when I have lifted them, I have invariably found scattered about not far below the surface a certain number of small bulbs, about as large as marbles, with no visible means of support I am inclined to think they must be T. montana and not T. praecox, but it is possible that both offend alike.

Evidence seems to accumulate that in the wild state Tulips increase by seeds, and not by offsets. This is only what we should expect when we remember the masses of leaves that we sometimes see in our gardens where a Tulip bulb has been left in the ground and has given rise in a year or two to so many offsets that none can attain to flowering size. The chances are that all these offsets will die eventually without flowering and leave no seedlings behind to perpetuate their race. On the other hand, I have more than once peeled off six or eight old skins from wild Tulip bulbs which had apparently grown in the same position for as

many years without producing a single offset. Moreover, I have cultivated bulbs of I. Greigii, I. Micheliana, I. ingens and I. Tubergeniana for at least ten or twelve years, without obtaining any increase by offsets. The only method of obtaining a stock of these species apart from fresh importations, which the Bolsheviks look like preventing for some time to come, is therefore by seeds, and this is a slow and laborious process, for it takes at least four, and usually six or seven, years to obtain a flowering Tulip from seed. Last year, however, an accident suggested a speedier method, and one that I mean to try. When lifting a seedling bulb of a garden Tulip I was unlucky enough to spear it with the fork, and cut off the upper third or half. I dusted the wounded surface with sulphur and, as the lower part of the bulb seemed sound at planting time, I planted it in order to see what the result would be. To my surprise it produced no fewer than five leaves, and, when it was lifted recently, it appeared as in the accompanying sketch (see Fig. 42). By this time next year there will, I hope, be several bulbs of flowering size, all produced by this one injured bulb.

Various Tulips have peculiarities which it is at present impossible to explain, but which are so peculiar that it would seem that they must be due to some local conditions in the natural habitat of the species. For instance, why should the flowers of the Algerian T. primulina remain closed on the hottest, cloudless morning when all the other species are flaunting their petals wide open in the sun? Then, when the others are beginning to close again, why does it suddenly open between two and three o'clock and remain open till five or six p.m. when all the others have long been tightly closed again? Is the Algerian sun too fierce for it at midday, or what is the explanation?

Or, again, why does the bud of T. Ostrowskiana tend to lie horizontally along the surface of the ground until the growing stem lifts it up into the position shown in Fig. 43. It is not mere limpness that allows the bud to droop like this, for the stem is stiff and rigid, and does not raise the bud erect until it is ready to open. We are reminded, perhaps, of the flowers of the Crown Imperials, which grow up erect among their tuft of leaves and then hang down as they change from green to red or yellow, to be followed by seed vessels which once more stand erect. That Tulips and Fritillaries are closely allied is suggested by the similarity of their seeds, and it is curious, too, to notice that the segment of the flowers of both are often hairy or ciliate at the tip, a fact which does not allow us to attach much weight to the presence or apparent absence of this character in determining a species of Tulip. The number and length of the hairs differ on the different segments of the same flower, and probably on segments of the flower of the same bulb in different seasons.

Another stem-movement, for which there seems no apparent reason, is to be found in T. dasystemon. As soon as the flower fades, the stem bends over and directs the top of the ovary to the ground, but, strange to say, it becomes stiffly erect a day or two later. *W. R. Dykes, Charterhouse, Godalming.*

(*To be concluded.*)

THE ROSARY.

SOME AUGUST NOTES.

NELLIE PARKER, as shown by the raiser, Mr. Hugh Dickson, seemed destined to take its place as an exhibition Rose, and doubtless it will be used to some extent for that purpose, at least as a Rose for the front row of the box, but like Renée Wilmart Urban and some others it may, I think, prove to have a wider rôle and also make a very useful variety for garden and vase decoration. My plants were only put into the ground last autumn and therefore are not yet well established, but they have given me a number of flowers of very beautiful form, scarcely larger than those of Mme. Abel Chatenay and very suitable for indoor decoration. The spring drought of this year was not favourable to newly-planted Roses, but Nellie Parker has made a fair amount of growth and must be hardy, for the shoots were not much affected by the frost and snows of the late winter and spring, which proved unusually fatal in the Rose garden. The colour of the flowers is cream, with a pale orange or yellow centre, the tint of which varies with the weather, and sometimes has a shade of blush in it. Those who are in search of beauty of form in the Rose should certainly try Nellie Parker as a decorative plant.

Of the new crimson varieties, those that have pleased me most are C. V. Howarth and W. C. Gaunt. Both are of a good colour and promise well if they prove to be free enough in flowering. The shape of the flower is satisfactory, the foliage good and the plant fairly free from mildew. I have chosen these two out of about a dozen crimsons that I have tried for the first time this year. A good crimson Rose with perfume, that will generally produce flowers of beautiful form, is much to be desired. By a good crimson, I mean one that will not "blue" during sunshine. Richmond, Edward Mawley and most crimson varieties, with the exception of Red

FIG. 41.—AN UNFLOWERED SEEDLING TULIP WITH SEVERAL OFF-SETS AND TWO "DROPPERS" LARGER THAN ITSELF.
(See p 89.)

Letter Day, suffer more or less from this defect. It is a great point in favour of Paul's Scarlet Climber that the colour is apparently quite fast. This Rose has, unfortunately, only one flowering period, but it is quite a long one; the trusses open gradually, with the result that the flowering period extends over some six weeks. I was at first inclined to think that the lack of autumnal flowering would make this Rose inferior to Gruss an Teplitz, but the colour is so bright and attractive and the flowering lasts so long that I have come to modify this view very considerably. We want both varieties, but for different purposes.

A Rose that has proved very pleasing in my garden this summer is Lilian Moore. This has a well-formed flower with a deep, orange-yellow centre, paler at the edges, and sometimes large enough for an exhibition box, but I think it likely that it will more frequently be used for decorative purposes.

Noblesse has given me a large number of very beautiful flowers for a newly planted Rose. The plant has good dark foliage and carries the flower well. Like Gorgeous, it has a great range of colour in its tints, with the result that seldom two flowers are alike. The growth is not so free as that of Gorgeous, in fact it is some stumpy, and if this is its usual character it may require rather formal treatment in the garden. The colouring has all sorts of shades of salmon, peach and apricot, on a base or groundwork of cream, and is very attractive, being much more delicate and refined than that of Gorgeous, which, fine Rose as it is, has sometimes a rather coarse and dissipated appearance even before the flower opens.

The variety Miss Willmott is another very refined flower, sometimes reminding one of Mrs. Foley Hobbs, and perhaps a thought too rounded for an absolutely perfect form, yet, withal, to be deemed worthy of respect. The flower is more of a canary-cream than the ivory ground colour of Mrs. Foley Hobbs, but it is not a "head hanger" like that bashful lady. So far the plants have been rather dwarf in habit and the amount of growth has been similar to that of Noblesse. One wants to see them a second year to be satisfied as to the habit of growth.

A much stronger grower and very beautiful flower is C. E. Shea. This is a finely-formed flower of a delicate pink, and I incline to regard it rather as a fuller Dorothy Page Roberts. If I am right it will not be long before it takes a prominent place among bedding Roses.

Many of my new arrivals flowered and looked well in the early part of the season but have not been very noticeable since then, so they find no place in these notes, for fear it may indicate that they are not free enough in flowering. Mme. Caristie Martel, however, should be perhaps excepted, as it is flowering well a second time. It is a creamy-yellow variety with a deeper centre perhaps, belonging to the series represented by the pleasing Souvenir de Gustave Prat, and seems quite worth growing as a decorative flower. *White Rose.*

TREES AND SHRUBS.

SPIRAEA JAPONICA.

OF the Spiraeas that flower as a rule after midsummer S. japonica is one of the best, while it is also remarkable for having given rise to many distinct varieties. Better known in many gardens as Spiraea callosa, this species forms a freely branched shrub, from 3 feet to 6 feet in height. The flowers, which are borne in flattened corymbs terminating the shoots of the current season, are of a bright rosy-red colour. The crimson tinge of the young leaves is another attractive feature. The varieties include alba, a dwarf compact plant with pure white blossoms, often produced late in the autumn; Bumalda, also a dwarf plant, though rather less dense than alba. In colour the flowers are carmine pink. This variety has given rise to a very showy kind, known as Anthony Waterer, which is a counterpart of the other, except that the flowers are of a brilliant carmine-crimson tint. The leaves of both are sometimes variegated. The variety glabrata is a stronger grower than the typical S. japonica, with much larger and broader leaves.

THE DOUBLE PINK BRAMBLE.

The plant sometimes known as Rubus bellidiflorus is now generally recognised as a variety of Rubus ulmifolius. In the wild garden or woodland this Bramble forms a remarkably showy feature during July and August, and it produces a succession of its attractive blossoms over a considerable period. The name bellidiflorus is derived from the resemblance the individual flowers bear to those of a very double Daisy. The narrow petals are closely packed together. A large specimen rambling over a few sticks forms a very attractive feature when in bloom. So great is the wealth of blossom that at a little distance it would not by the uninitiated be taken for a Bramble. Close inspection, however, reveals the old familiar features. There is also a double-flowered Bramble with white blossoms suitable for growing in similar conditions to the last named. This is Rubus thyrsoideus flore pleno. *W. T.*

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante pp. 64-70.)

1. SCOTLAND, E.

ABERDEENSHIRE.—Cherries were almost an entire failure in consequence of a period of cold, wet weather when the trees were in flower. Black Currants also were a failure, the bushes having been attacked badly by the mite. Every Black Currant bush has been grubbed up and burned. *John McKinnon, Haddo House Gardens.*

BERWICKSHIRE.—Cherries set very freely, but owing to continued drought the fruits dropped at an immature stage. Red Currants and Black Currants were also harmed by the drought. Gooseberries were almost a failure owing to American Gooseberry mildew. We have burned many bushes of varieties most susceptible to the disease, which spreads very quickly. *Peter Smith, Duns Castle Gardens, Duns.*

—— Cherry and Plum blossom was very plentiful. We had 3 deg. of frost on the morning of April 27, and snow fell nearly all that day. There were 5 degrees of frost on the 28th of that month, and it snowed and hailed most of that day. Some of the fruit trees were in full blossom at the time, and the crops were badly damaged. Gooseberries on the outside of the bushes also suffered from the same cause. *William Clayton, Milne Graden Gardens, Coldstream.*

EAST LOTHIAN.—Blossom on fruit trees was sparse, and the temperature during the whole flowering period, low. No bees were observed, but last year's experience and this show that bees are not essential to the setting of fruit. A few varieties of Pears have good crops, and also of Apples, as was the case last year. In some gardens there are no Apricots, and scarcely any Gooseberries or Black Currants. Early Strawberries were fine, but others poor. American Gooseberry mildew is reported to have spread at a great rate. Gishurst's Compound, lime sulphur, and carbolic soap are all efficient fungicides, but lime sulphur is destructive to the foliage of some varieties. *R. P. Brotherston, Tyninghame Gardens.*

FORFARSHIRE.—The fruit crops are very promising, although suffering a good deal for want of rain in some parts. Raspberries in particular, after such a cold and backward spring, are doing exceptionally well, and they only require sufficient moisture to swell the berries to ensure a good crop. American Gooseberry mildew is still very prevalent amongst our Gooseberry bushes. *Andrew McAndie, Ruthven House Gardens.*

—— The fruit crops have, on the whole, done remarkably well considering the late season and hard spring of 1919. Most fruits are swelling well, notwithstanding the long period of dry weather, practically no rain having fallen since the middle of May. The caterpillar plague gets worse every year, and it is a pity that the Board of Agriculture does not take the matter in hand on the same principle as it does American Gooseberry mildew. The caterpillar of the Tortrix moth seems to be the worst pest, as it is so difficult to get at. These gardens are practically free from Gooseberry mildew, although it was very bad three seasons ago. I think hard pruning is the cause of the mildew spreading, as it seems to be more prevalent on the young, growing shoots. I prune very little, and find that the disease does not attack the bushes very readily; a good dressing of lime over the roots in winter seems to do a lot of good. *J. B. Peffers, Panmure House Gardens, Carnoustie.*

KINCARDINESHIRE.—We had a very late spring, and the fruit buds were late in expanding. There was a very promising show of blossom, but dry weather for two months and more is responsible for the fruits setting poorly. The rainfall registered here in May and June was 0.63 in. and 0.91 in. respectively. A very severe northerly gale with a very low temperature swept over this district on June 29 and 30, damaging both fruit and bushes to a large extent. *W. Thomson, Urie House Gardens, Stonehaven.*

LINLITHGOWSHIRE.—On the whole the fruit crops in the district are extremely disappointing. Gooseberries promised well, but the crop is poor; Red and Black Currants were abundant crops. *John Highgate, Hopetown Gardens, South Queensferry.*

MIDLOTHIAN.—All fruit trees, and particularly Apples, developed a large quantity of blossom, but the fruit crops are very disappointing, which is attributable to a severe snowstorm and frost in the middle of April. *James Whytock, Dalkeith Gardens, Dalkeith.*

PEEBLES.—The fruit crops, with the exception of Cherries and Gooseberries, are good. The latter gave good promise at the flowering period, but the severe snowstorm experienced on April 27 and 28, followed by 14 degrees frost, brought most of the young fruits to the ground. Black Currant bushes carried large crops, but the fruits were small in consequence of the prolonged drought. Plums on walls are carrying the heaviest crops in my experience, much thinning being necessary. From one tree of Denniston's Superb I have taken 2,400 fruits, all of these being well developed. Trees of Kirke's Seedling, Transparent Gage, and Victoria are equally heavily cropped. A feature of the season has been the almost entire absence of insect pests. This is perhaps one good result of the storm already referred to. *John Finnie, Stobo Castle Gardens, Stobo.*

FIG. 42.—CLUSTERS OF SMALL TULIP BULBS RESULTING FROM AN INJURY TO THE PARENT BULB. (See p. 89.)

PERTHSHIRE.—Fruits of all kinds presented a splendid appearance in the early summer, but, owing to the long spell of dry weather—no rain since May to present date (July 15)—the crops are not good. Black Currants dropped their fruit badly, and Raspberries (of which there are thousands of acres in this district) are a small crop in general, yet in the spring they had the appearance of being a record crop. Gooseberries have been badly affected by American mildew this season. In some of the mining districts and where iron works and oil works are situated, the bushes do not appear to be affected with this disease. *Chas. Crighton, Jordanstone Gardens, Meigle.*

—— Trees of Apple, Plum and Peach set full crops, but Sweet Cherries, which blossomed quite as well, failed to set a crop. Morello Cherries, however, set abundantly, and the fruits are swelling freely. Gooseberries, Raspberries and Currants gave fair crops of good quality. Strawberries flowered profusely, but the berries failed to develop satisfactorily through the drought, and where watering was not resorted to they were a complete failure. Rainfall in these gardens from May 18 till the time of writing, July 7, has been .25 in., with the result that pests have been troublesome, even when a sequence of spraying has been practised. The soil is a rather heavy, cool loam, resting on clay. *Malcolm Macnaughton, Scone Palace Gardens.*

—— We experienced extraordinary weather in Perthshire this season. Cold, wintry weather prevailed up to May 1, followed by a month of beautiful summer weather—indeed, we had no spring, so to speak. June from the 8th was the most stormy and cold June I ever experienced. We had no rain from June 6 to July 4, and then only one of an hour's duration, and none since. Crops are suffering badly and many crops of Potatos are lying flat in the drills. Apples, Pears and Plums on wall trees are heavy crops of good-sized fruits, but on trees in the open these fruits are very poor; Cherries and Apricots are under the average yield. Gooseberries, Black Currants, Red Currants and Strawberries were heavy crops, but Strawberries suffered from the long drought. Raspberries were a very heavy crop, but they were badly attacked by the Raspberry weevil on farms. We had Gooseberry Mildew. *Henry H. Cook, Drummond Castle Gardens, Crieff.*

6. SCOTLAND, W.

ARGYLLSHIRE.—This season has been a remarkable one for fruit growing. The severe cold weather experienced in the early part of the year caused the trees to bloom later than usual. There was an abundant amount of blossom, and the trees gave every promise of having bountiful crops, but at this most critical period a very low temperature prevailed, accompanied by a hard east wind; the consequence was the flowers did not set well, and Apples and Pears are light crops. Plum and Cherry trees on walls, which were protected by fish nets, are good average crops. Raspberries and Black Currants were very plentiful; Gooseberries and Red Currants very scarce. Strawberries were good, in size and quality. The soil is a light, porous one, and soon suffers from continued drought. Insect pests have been very prevalent, and when not vigorously combated cause great damage to the foliage. *Geo. Haig, Barcaldine Gardens, Ledaig.*

BUTESHIRE.—Owing to a sequence of east winds in the early season, and one of the coldest Junes on record, most fruits are very late. Plums and Pears suffered in the flowering period from cold winds, with the consequence that there is a shortage of these crops. We did not suffer from the drought experienced in many parts of the country during May and June; we had moisture in plenty, but the weather was very cold. *John J. Davidson, Ardencraig, Rothesay.*

DUMBARTONSHIRE.—Apples have not fulfilled the good promise they gave in the spring, though we have an average crop. Peaches and Nectarines are not much grown in the open, but indoors we have splendid crops of these fruits. Strawberries, Gooseberries and Currants were all plentiful. *John Brown, Cairndhu, Helensburgh.*

DUMFRIESSHIRE.—The fruit crops are moderately good. Strawberries and Gooseberries were not plentiful, but Raspberries, Black and Red Currants were abundant. Of 50 varieties of Apples, ten have large, clean crops; some nine or ten varieties have only a few fruits. Caterpillars were troublesome on Apple trees in early summer. One or two applications of lime dusted on the trees destroyed the pests, and the lime did the foliage no harm. *John Urquhart, Hoddam Castle Gardens, Ecclefechan.*

LANARKSHIRE.—Caterpillars have been very prevalent in different districts of this county, especially on Apples and Gooseberries. The trees in these gardens are not much affected, as I spray freely with lime and sulphur wash,

which can be made quite cleaply—2 lb. Gishurst Compound, 1 st. sulphur, 1 cwt. shell lime, boiled well together in a boiler for about two hours, stirring well to mix thoroughly; spray when cold, diluted with water. I find this one of the best specifics for use in the fruit garden. *Hector Fraser, Drumpellier Gardens, Coatbridge.*

(To be continued.)

ORCHID NOTES AND GLEANINGS.

CATTLEYA HARDYANA ALBA.

THREE spikes of a magnificent type of Cattleya Hardyana alba are sent us by Mr. John C. Cowan, manager to Messrs. Hassall and Co., Southgate, London, N., each from a different seed-pod, with variation in the parentage, and yet they are exactly alike and the small batches from which they were taken show practically no variation. The flowers are seven to eight inches across, the sepals and petals pure white, and the broad, finely displayed labellums deep violet-purple with patches of yellow on a white ground on each side, as seen in C. Warscewiczii. In the three combinations, the pure white-petalled C. Warscewiczii Frau Melanie Beyrodt was a parent, bearing the seed in one case and being used as the pollen parent in another, both with C. Dowiana aurea. The third example was from C. W. Frau Melanie Beyrodt crossed with typical C. Dowiana.

CATTLEYA JUDAH.

MR. COWAN also sends two spikes of the handsome cross between C. Lord Rothschild (Gaskelliana × Dowiana aurea) and C. Hardyana (Warscewiczii × Dowiana aurea), exhibiting a different phase in colour variation, one having large, rosy-mauve flowers with purplish-crimson lip having gold lines running from the base to the yellow disc in the centre, and resembling a very fine C. Hardyana, while the other has pure white sepals and petals and large purplish rose lip with numerous gold lines from the base to the centre. These two novelties were from plants raised from the same seed-pod. Both are very beautiful but totally dissimilar in appearance. It is as difficult to account for the great variation in this case as for the similarity in the other cases cited.

CATTLEYA ILLUSTRIS.

THE charming Cattleya, illustrated in Fig. 44, from the cross between C. Acis (Dowiana × Maronii) and C. Iridescens (bicolor × Eldorado) for which Messrs. Stuart, Low and Co., Jarvisbrook, Sussex, received an Award of Merit at the meeting of the Royal Horticultural Society, July 29, represents one of the best of the section to which it belongs. The yellow-flowered class, although not so rare now as formerly, is still a favourite section, and varieties such as the one illustrated, with clear yellow tone, which is not mere surface colour but suffuses the whole substance of the sepals and petals, are much sought for. The flowers are bright buttercup-yellow with a band of confluent crimson lines inside the narrow yellow margin, the base being slightly darker yellow than the petals. The cross, which contains Dowiana twice, bicolor, Eldorado, and velutina is very interesting, because in the variety illustrated and others previously flowered, notwithstanding the preponderance of C. Dowiana aurea in its composition, the form of that species shows but little, while the narrow isthmus of the lip of C. bicolor and C. velutina, with the short side lobes of the former and its fleshy white column, is distinctly traced. The cross was first flowered by Messrs. Armstrong and Brown, in 1915, and was obtained by following up their C. Acis. But in the batch then flowered two distinct sets were disclosed, one being of the form to which C. Illustris belongs and the other having much more of the shape of C. Dowiana. The same peculiarity has been seen in C. iridescens and C. Sibyl, raised by Messrs. Hassall and Co., both forms of which were illustrated together in *Gard. Chron.*, August 21, 1915, Fig. 39.

The Week's Work.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Flowering Trees and Shrubs.—Keep the soil in which flowering trees and shrubs are growing free from weeds, and especially round those planted last autumn. Examine the stakes and make good any ties likely to break in stormy weather.

Violets.—Keep the Violet plants free from runners and the beds clear of weeds. Hoe the soil at intervals, syringe the foliage to destroy red spider, and feed the roots, especially in the case of plants growing in light soils.

FIG. 43.—TULIPA OSTROWSKIANA, WITH THE BUD CURVING DOWNWARDS BEFORE FLOWERING.
(See p. 89.)

Bedding Plants.—Make preparations for the propagation of an ample number of young plants for next year's bedding. The compost for potting should consist of a mixture of sweet loam, leaf-mould and sand. Let the pots or boxes be well drained and cover the drainage with decayed leaves or moss and a little rough material. Fill the pots to within one inch of the top, and surface with sand. The soil should be made moderately firm. Pelargonium cuttings should be dibbled in about two inches apart, and care must be taken not to injure the soft tissue when making them firm with the dibber; a safer way is to press the soil round the cuttings with the fingers. Water the soil through a rose to settle the sand about the cuttings, and place the boxes or pots on boards, slates or ashes in an open position fully exposed to the sun. The cuttings should be sprinkled with clear water in the afternoons of bright, sunny days.

Propagating Other Flowers.—Cuttings of Heliotrope, Ageratum, Salvia, Verbena and similar flowers root best either in cold frames or handlights. Prepare a suitable number of 6-inch pots by cleansing them, and making provision for drainage, then fill them to within one inch of the rim with soil similar to that recommended above. The cuttings should be of young wood about two inches in length, and several should be dibbled in each pot. Water the soil to settle the sand, and stand the pots near the glass. Keep the frames closed and shaded from direct sunshine. With a gentle spraying daily the cuttings should root freely.

Pentstemon.—In order to maintain a stock of healthy flowering plants of Pentstemons, a fresh batch should be raised annually. Insert sturdy cuttings in frames during the present month. In preparing the frames for the reception of the cuttings, place a good layer of half-decayed leaves or manure over the bottom and make the material firm. Spread a layer of sandy soil about 3 inches in depth over the leaves, or manure, and insert the cuttings two inches apart. Flowerless shoots make the best cuttings. Keep the frames somewhat close and shaded in bright weather until roots develop.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cool Orchids.—The various members, both species and hybrids, of the genus Odontoglossum and the hybrid family of Odontioda are the principal occupants of the cool house. These two sections of Orchids include many charming plants of graceful appearance when in bloom, and valuable for spring and early summer display, consequently the various members are in the first rank as exhibition Orchids. The late summer and early autumn is generally regarded as the best season for attending to the roots of these plants; the longer and cooler nights and moist atmospheric conditions then prevailing afford conditions favourable for their re-establishment. Repotting is a most important detail, for much depends upon how it is carried out, although no hard and fast rule can be laid down as to when this operation should be performed. Wherever it is possible, the best time is, undoubtedly, after that period of inactivity which usually follows flowering, when the plants show signs of again starting into growth. They may be shifted, if they have previously occupied small pots, without disturbing the roots much, but the compost in which large specimens have been grown is apt to get sour; in that case it is best to shake away the old potting material from the roots. As regards the kind of potting material used, the soil best suited for these plants is a compost similar to that recently advised in these columns for Miltonias, and the potting should be done in a similar manner. It is essential that the pots be well drained to ensure a free passage for water, and in no case should the plants be over-potted. Plants needing transference to larger pots without involving much disturbance of the ball should, if convenient, be placed by themselves afterwards, as they need special treatment in watering, for not having disturbed the roots much they will naturally need more moisture than those that have been shaken out. A surface watering with a fine rose-can will often suffice for plants that have been disturbed much, but in the case of those shifted to larger pots intact it would not be so helpful, as the lower and most active roots would not obtain any benefit therefrom. Careful shading will be needed so long as the

weather is bright, placing weak and badly-rooted plants in the shadiest place, while those with plenty of roots and any that do not need repotting may receive the most light. O. Cervantesii O. Oerstedii, O. Rossii, and other dwarf-habited kinds grow best when suspended from the roof rafters, while the larger growing members of the family are best arranged on the stages. The house best suited for the cultivation of these Orchids is that in which the burning heat of summer can be easily tempered. The night temperature in summer should be about 55° to 60°; in the daytime, with sun, it may rise to 70° or 80° and sometimes higher, but the nearer it can be kept to an equable temperature the better the plants will thrive. Proper atmospheric conditions are of primary importance; judicious damping of the bare surfaces in the house, and constant attention to ventilation are important details to observe. Should thrips infest the plants, their presence, in most instances, indicate a dry atmosphere or excessively high temperature, or perhaps both combined. If the insects are troublesome, they may be destroyed by dipping the plants in an insecticide, but in doing this avoid wetting the rooting material. Afterwards place the plants on their sides to allow the insecticide to drain away, and thus prevent it running down amongst the roots.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Muscat of Alexandria Vines.—The grapes on Muscat Vines that were started early will be rapidly maturing, and to assist the berries to develop a rich colour, air should be admitted by both the front and top ventilators. A little warmth from the hot-water pipes may be afforded at night time. When the sun's rays have left the roof of the house, the amount of air should be reduced, increasing the amount in the morning before the temperature rises much from sun-heat. The side growths should be stopped on frequent occasions. If it is desirable to accelerate the ripening process, leaves which shade the more forward bunches may be tied back and a sheet of tissue paper fastened securely over the bunch. The skins of White Grapes are clearer and freer from blemish when the colouring stage is allowed to proceed without undue haste. The bunches should be occasionally examined and all shanked, and small, seedless berries removed. If the leaves are attacked by red spider, syringe them carefully with rain-water, taking care not to direct water on the bunches. A slower but more effectual method is to wipe the leaves with a sponge dipped in clear water. The borders, paths and other bare spaces should be damped frequently during the hottest part of the day.

Tomatos.—Tomato plants raised from seed sown recently should be potted singly as soon as they can conveniently be handled, and kept close until established, when they may be placed on a shelf near to the roof-glass in a cool house or pit. If the plants are drawn owing to crowding in the seed-pans, the stems should be buried up to the seed-leaf in the course of potting. To afford a constant supply of Tomato fruits throughout the winter more seed may now be sown, and the plants grown slowly in cool conditions, this being preferable to sowing later in heat, for cool-grown, sturdy plants come into fruit quicker than those unduly hastened. Cuttings may be rooted for winter fruiting if such a course is considered necessary, but seedlings are usually the more fruitful. Plants in full bearing should receive periodical surface-dressings of soil and be further assisted by weak liquid manure or a suitable artificial fertiliser.

Plums.—Where the outdoor crop of Plums is a good one, it will not be so necessary to retard the later varieties as would be the case in localities where the outdoor crop is scanty. Keep the shoots closely pinched, and stop leading growths inclining to grossness. The fruits of such varieties as develop high colour should be fully exposed to the sunlight. Certain varieties with thin skins will crack if there is an excess of atmospheric moisture when the fruits are ripening; a sudden rise of temperature with a moisture-laden atmosphere will cause the fruits to crack wholesale. A mulching of half-rotted cow manure will save labour in watering, and benefit the trees.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Winter Cucumbers.—To be successful with a full crop of winter Cucumbers, strong plants should be secured by October. Seeds should soon be sown singly in small 60-sized pots, using equal parts fine loam and leaf-mould for potting soil. Germinate the seeds in a temperature ranging from 65° to 70°. Later, transfer the seedlings to 48-sized pots, ultimately planting them in well-prepared beds consisting of equal parts of long stable manure and leaves. Place hillocks of coarse loam, leaf-soil and mortar rubble to receive the plants when they possess three or four strong leaves. The house should be previously washed with soft, soapy water.

Leeks.—The early sown Leeks grown for exhibition purposes should have reached the desired length, consequently the collars should be cut or drawn away and the blanched portion completely surrounded with fine soil. On no account, however, should the soil be placed higher than the "crown" of the plant, as this would discolour the Leek, and check growth. To prevent the soil splashing up into the centre, or heart, of the plant, place a mulch of short, strawy manure on the soil when earthing up is completed. During dry weather supply the roots of the Leeks with clear water and liquid manure alternately. To enable the liquid to reach the roots, make a hole with a small iron bar, as deep as necessary, one foot from the plants and in a slanting position.

Celery.—Early sown Celery intended for exhibition purposes is growing freely. I find it an advantage to remove the paper bands half way through the blanching process. This tends to ease those plants that are very vigorous, and it allows an opportunity to search for slugs. Give the stems a dusting of soot, then tie the plants up again with brown paper, and add an extra 5-inch band of paper. Complete the final banding ten days before the show date. Supply the roots with water whenever needed, and occasionally with liquid manure. Whenever the Celery maggot appears, pick off the affected parts of the leaves and burn them.

Turnips.—Thin Turnip seedlings when quite small to promote the quick, sturdy growth that is so essential to the production of good roots during the autumn. If the Turnip flea-beetle is troublesome a slight dusting of black sulphur or flowers-of-sulphur will prove a good preventive.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Freesia.—If required for flowering at Christmas, Freesia corms should be purchased and potted at once. Corms that flowered last winter, and are sufficiently developed and matured for flowering again, should be shaken from the old soil and potted, placing the largest corms together. Pots 5 inches or 6 inches in diameter are suitable, and the compost should consist of loam, leaf-mould and sharp sand. After potting, stand the pots in a cold frame and afford shade from bright sunshine until growth appears, when the plants should be placed near the roof glass, exposed to the light, and kept in a cool and airy position. Afford water carefully until the pots are well filled with roots.

Pelargonium.—Plants of show and regal Pelargoniums standing in the open, ripening their growths, should be pruned to within 2 inches of the old wood; place them in a frame or on a shelf in a cool, airy greenhouse, and syringe them daily. As soon as fresh growth has been made, shake the soil from the roots, repot in small pots, using fibrous loam mixed with a little fertiliser. If the soil is moist, very little water will be needed until fresh roots are made. After potting, continue to syringe the plants daily in fine weather, and use an insecticide occasionally to keep greenfly in check. Cuttings may be made from the prunings, and they will readily root if placed close to the sides of well-drained pots filled with light, sandy soil.

Calceolaria Clibranii.—As plants of this Calceolaria pass out of flower select a few of the best for flowering another year. Cut back the others and place them in a cold frame, where they may be shaded and sprayed overhead occasionally, but given much less water at the roots. When sufficient new growth has been made, take the necessary cuttings and insert them in well-drained boxes filled with sandy soil; place them in a cool, damp frame and shade them from bright sunshine. The plants to be kept for another year, after making fresh growth, should be repotted in pots of larger size, in a mixture of turfy loam, leaf-mould and a little plant fertiliser. Place them in a cold frame or cool, airy house.

Tuberous-rooted Plants.—Begonias and Gloxinias passing out of flower should be kept in a light, airy house and watered just sufficiently to prevent extreme dryness at the roots until the foliage turns yellow and dies off naturally. Neglect at this period is often responsible for subsequent failure.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Wall Trees.—Trees trained against walls need considerable attention, and especially Peaches. All branches should be secured firmly in position, especially where the shoots are nailed, as often with the weight of the crop the wind displaces them, and they are liable to get broken. Young growths should be trained in; at the same time Peaches and Nectarines should be tied, and in doing this expose the fruit to the sunlight as much as possible.

Raspberries.—After the crop is gathered the old canes should be removed forthwith. The new shoots will receive the benefit of increased sunlight that will assist in ripening the wood, and thus ensure conditions that will favour a good crop the following year. Also, by removing the old wood, the energies of the roots will be concentrated into the young canes. When the shoots of the current season have grown sufficiently long, they should be stopped; this will strengthen the shoots and assist the buds to become strong and plump. The stopping should not be done too early, or it may have a tendency to cause the main buds to start into growth, and this would result in more harm than good. After the plantations are cleared of weeds and rubbish, the soil should, if the weather is dry, be well soaked with clear water.

Plums.—Where choice Plums are required the trees should be supplied with plenty of liquid stimulants, such as manure water, or fed with a concentrated fertiliser, and afterwards well watered. The fruit should be protected from birds and wasps. Nets will exclude the former; the latter and bluebottles may be kept out by hexagon netting or some thin material fixed in position, but to secure highly coloured fruits the shade should be as light in texture as possible.

Gathering Fruits.—Certain of the early Apples are ripening. The fruits of Irish Peach, Beauty of Bath and similar varieties should be left on the trees till they are practically ripe, and used at once, for if kept any great length of time they are apt to become pithy and dry. The fruit should be examined on frequent occasions to see if it is ripe; if it drops into the hand with a slight pull it is ready for gathering. Early Pears, such as Doyenné d'Eté and Jargonelle, require similar attention.

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APPOINTMENT FOR THE ENSUING WEEK.

THURSDAY, AUGUST 21.—
Aberdeen Horticultural Society's Exhibition (3 days).

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich 62.29.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, Aug. 13,* 10 a.m.; Bar 30.2; temp. 76°. Weather—Bright.

The Forestry Bill.

There is general agreement that extensive planting of forest trees for timber-yielding purposes must be undertaken on a large scale if the area denuded of timber trees during the war is to be replaced, and if home supplies are to be increased to an extent sufficient in an emergency to enable this country to carry on.

The method whereby re-afforestation is to be conducted has, however, been the subject of considerable dispute. The disputants differ with respect to the nature of the authority, *i.e.*, whether, as contemplated in the Bill, there shall be one authority—a body of Commisioners for the United Kingdom—or whether the three Boards of Agriculture shall each and severally be responsible for forestry work in their respective areas.

We are so accustomed to see devolution of duties and to believe that devolution is a sure method of achieving success, that the proposal to treat a national problem nationally comes as a shock to those who hold to the devolution idea. But it can scarcely be denied that when the problem of afforestation is looked at as a whole, a centralised authority is better than a series of independent and decentralised authorities. We have the latter method in operation already in the case of fisheries, for although the seas are one the authorities which control the harvest of the seas are several.

It is when we consider the experimental side of forestry that the need for a single authority is most apparent. Schools of forestry for educational and research purposes will have to be established, and it is greatly to the advantage of the nation that these schools of research and instruction should form a unit. For truth to tell, the demand on the scientific and technical ability which the present time is making, cannot be met. There are not enough men of adequate training and ability to fill the posts which are being and ought to be set up. It is too often forgotten that the war has cut off something like a decade's supply of experts. Many young and promising men have been killed, a yet younger generation has had its energies directed into other channels, and is in large measure lost to research. Other men again, having shown their abilities, have received and accepted offers of employment in commerce and industry. Hence, although the mean pre-war standard of remuneration of teachers and investigators is showing marked improvement, there is not enough first class ability in sight to meet the needs of reconstruction and advance. It becomes, therefore, necessary so to organise such departments as that of Forestry as to secure the most economical use of the ability available, and this, in our opinion, may best be done by establishing one authority for the United Kingdom. By this means teaching and research and experimentation may be so planned as to prevent overlapping, and to secure that the things needed to be done are done. The Bill makes another innovation which we welcome. The Commissioners, five in number, which it is proposed to appoint, will have put at their disposal the sum of 3½ million pounds, which it is proposed to spend in the next five years. They will, of course, have to give an account of their stewardship, but they will not be subjected to control with respect to expenditure by another department. In theory and in a broad way Treasury control is not only excellent but also essential, but in practice it may lead to long delays and much discouragement, and though delay even is better than rashness where National peace work is concerned, it does not seem statesmanlike that having chosen men for their capacity to do a certain piece of work, and having put at their disposal—in theory—a sum of money for doing it, they should not be allowed to make a start until their detailed plans had been scrutinised and sanctioned.

The need for systematic and scientific planting is shown by the statement in the Reconstruction Report of the Forestry Sub-Committee appointed by the Ministry of Reconstruction, that the annual yield for the 3,000,000 acres under woods in the United Kingdom, was only 45,000,000 cubic feet, or about one third of what it should have been under correct sylvicultural treatment.

The first duties of the Commission, if and when it is set up, will be to secure the replanting of the wide areas from which trees were felled during the war, and this should not in general prove difficult, for land-owners are probably more alive than any other section of the community to the importance of replanting, and second to provide means of thorough practical training in forestry. The Commissioners have here a great opportunity of encouraging the formation of a service of men who shall not only possess scientific knowledge in one or more of the many branches of science essential to forestry, but also, and at the same time, a sound knowledge of the practice of forestry. It is in no small measure due to the divorce between practice and science that discoveries of economic importance make but slow headway in this country.

The King and the Potato Industry.—The Commercial Division of the Board of Agriculture has arranged an exhibit at the British Scientific Products' Exhibition in the Central Hall, Westminster, demonstrating: (1) The effect of Wart Disease on the production of Potatos; (2) Immune varieties of Potatos; and (3) The Breeding of Seedling Potatos. Last week dishes of exhibition tubers of first early varieties immune to wart disease—Snowdrop, Arran Rose, Edzell Blue, America, Witch Hill and Dargill Early—were staged; and the exhibit attracted much attention. The King and Queen visited the exhibition and were especially interested in the Potato section, His Majesty remarking that the exhibit had an educative value, and should be visited by all interested in agriculture.

Appointment at Wisley.—The Council of the Royal Horticultural Society has appointed Capt. H. J. Page as research chemist and head of the chemical department of the Research Station of the Royal Horticultural Society at Wisley, Surrey, on his release from military service. Capt. Page is an Exhibition research scholar of University College, London, and was formerly on the staff there.

New Superintendent of Bournemouth Public Parks.—The Corporation of Bournemouth has appointed Mr. Arthur J. Cobb superintendent of the public parks and pleasure grounds of Bournemouth, in succession to Mr. T. Stevenson, who is retiring. Mr. Cobb has for the past twelve years been gardener to Mr. Reginald Cory at Duffryn, near Cardiff, and those who have visited these famous Welsh gardens are aware of Mr. Cobb's great skill as a cultivator. The Dahlia has been made a special feature at Duffryn, and to Mr. Cory and his capable gardener is due much of the revival of interest in this once popular garden flower. Readers will join with us in congratulating Mr. Cobb on his selection from a list of 130 applicants.

Land Sales on the Arlingham Estate.—At the sale of part of Sir George Holford's Arlingham estate on the 9th inst., seven out of eight large farms were bought by their respective tenants. The two finest farms each realised £6,400, while another was sold for £6,200, and a fourth for £5,300. There was a large attendance of well-known agriculturists and the sale aroused considerable enthusiasm.

Sandy Flower Show.—We note with interest that this old flower show will be held this year as usual, the date being fixed for the 28th inst. The Jubilee Year Schedule, issued by this enterprising society includes classes for plants, flowers, floral devices, vegetables, fruit, needlework, butter, honey, eggs, dogs, cats, poultry, pigeons, rabbits, and cavies. The show will be held in the park of Sandye Place, by kind permission of Mrs. Graves.

French Seed Merchants' Association.—La Chambre Syndicale des Marchands-Grainiers Français has made the following appointments:—President, Mr. F. Cayeux; Vice-Presidents, M.M. André Simon, Raty, A. Rivoire; General Secretary, M. E. Laumonnier; Treasurer, M. E. Thiebaut.

British-grown Phormium Fibre.—That the New Zealand Flax (Phormium tenax) can be cultivated out of doors in many parts of the British Isles is well known to the majority of our readers, but that the plant may be grown here as a commercial proposition, for its fibre, has only been demonstrated recently. The *Kew Bulletin*, No. 4, makes it clear that success is practically certain in the favoured districts of South-West Ireland, South-West Scotland and, possibly, in the South of England. Fibre from Phormium grown on Lord Ventry's estate at Kerry, and tested at Belfast, proved nearly as good as the "good-fair" Phormium fibre imported from New Zealand and valued in July, 1914, at £32 per ton. It appears that Phormium fibre is chiefly valuable for the manufacture of binder twine and high-grade cord and string, but the long, broad Phormium leaves have also a value as paper-making material. In suitable districts, and under proper management, there

a good reason to believe that the cultivation of Phormium tenax, for fibre, will prove a profitable undertaking.

Flower Seed Cultivation in America. — In a paper read before the American Seed Trade Association Convention, at Chicago, on June 24, Mr. C. Cropp, of Vaughan's Seed Store, stated that until war came American seedsmen regarded Europe as their main source of supply of most flower seeds, but when the war reduced the European supply American growers set to work to meet the demand. Mr. Cropp has made careful enquiries and concludes there are, approximately, 3,600 acres devoted to flower seed production in the United States, and "it looks as if nearly all the imported varieties can easily, and most likely profitably, be raised here. For the finer seeds, such as Cineraria, Calceolaria, Begonia, Gloxinia and several others of a like nature, as well as the finer and rarer perennials, we will have to depend on Europe for several years to come. But that is not due to the fact that it cannot be done here, but we simply have not come to it yet." Mr. Cropp compiled a list of no fewer than 54 kinds and varieties of flower seeds and the acreage devoted to each. From this list we extract the more important subjects:—Sweet Peas, 1,503 acres; Tropaeolum (Nasturtium), 905 acres; Alyssum, 716 acres: Asters, 272 acres; Candytuft, 47 acres; Centaurea, 23¼ acres; Dianthus, 30½ acres; Eschscholzia, 20¼ acres; Annual Larkspur, 19½ acres; Marigold, 19⅛ acres; Mignonette, 49½ acres; Phlox, 29½ acres; Poppy, 29½ acres; Salvia splendens, 27 acres; Stocks, 23 acres; Verbena, 31¾ acres, and Zinnia, 60 acres. Mr. Cropp's conclusion is that when American-grown flower seeds have been properly harvested their vitality has been in many cases far superior to that of imported seed of the same variety. This is not entirely due to the superior skill of the grower, but to the more favourable weather prevailing at harvest time.

Village Clubs Association.—At a general committee meeting of the Village Clubs Association, held at 80, Pall Mall, S.W.1, Sir Henry Rew, K.C.B. (in the chair) reported that the Association had made a definite advance, and that its organisation is being rapidly developed. An arrangement had been reached with the National Federation of Woman's Institutes, to ensure co-operation between the two organisations; and consultations between the Village Clubs Association and the Soldiers' Club Association had taken place, with a view to promoting mutual activities. At the suggestion of the Village Clubs Association, the County Council Association have circularised the County Educational Authorities, suggesting that village halls might be used for the purposes of Continuation Schools. The secretaries of 342 village clubs and institutes are being communicated with, and a circular showing the benefits of affiliation with the Association is being issued. Club furniture, billiard tables, club necessaries, games and sporting equipment can now be supplied at considerably reduced prices to affiliated clubs. Arrangements are also being made for lectures with lantern slides on subjects of popular interest. Useful pamphlets dealing with the aims and objects of the Association have been printed, and copies can be had on application to the Organising Secretary, Village Clubs Association, 4, Whitehall Place, S.W.1. The subjects dealt with include: "Draft Rules for Village Clubs," "Educational Facilities," "How to start a Club," and "Building Plans."

The Improvement of Freesias.—An interesting article on progress in breeding Freesias, contributed by Mr. Walter van Fleet, is contained in the *Journal of the International Garden Club*, III., 2 June, 1919. Mr. van Fleet points out that until about 1816 the only species in cultivation was F. refracta, which was characterised by a rather tortuous, horizontal flower scape bearing five or more blooms with bulging corolla lobes of lurid greenish colour, with a pronounced orange blotch. At the end of 40 years florists had succeeded in producing a greatly improved flower which was nearly pure white, with a deep yellow blotch. This form, known as Freesia refracta alba, became the usual garden variety, but was followed in the early years of this century by the pure white form Purity, sent out by Mr. Rudolph Fischer, then of Long Island. Another advance was made, which Max Leichtlin discovered in an Italian nursery, the variety known as F. Leichtlinii, a strong growing plant with well-shaped blooms, of colour verging from sulphur to deep yellow, with deep orange blotch. From this form Mr. Herbert Chapman produced the golden-yellow variety known as F. Chapmanii. Hybridisation between F. Leichtlinii × F. Armstrongii, the new pink-flowered species, and the original garden Freesia has led to the production of plants with apricot, and even flaming orange flowers. F. Armstrongii, the species from Natal, came into commerce about 1905, and

Fig. 44.—Cattleya illustris; sepals and petals bright buttercup yellow, lip with crimson marking.
(See p. 92.)

though lacking in fragrance, proved of great value to the hybridist, and by its use Freesias with an extraordinary range of flower colour—copper, red, pink, rosy purple, and even violet blue have been produced. Doubling is also beginning to appear, also departures from the normal stature in the direction of dwarfness and gigantism, and in the form of the corolla. In short, the Freesia is now embarked on that voyage of discovery which all good garden flowers enjoy when once they have consented to depart from the stay-at-home pattern which Nature imposed upon them.

White Fly and its Eradication.—Greenhouse White Fly (Aleyrodes vapiriridrum) is a very serious pest in glasshouses, attacking practically every kind of plant. During summer it may spread from the glasshouses to adjacent plants out of doors. The adult insects are tiny white "flies" sometimes known as "Snow Flies." The females lay eggs on the leaves of the plants and in 11 to 14 days these eggs produce minute, louse-like young which wander about for two to four days, then settle down on the undersides of the leaves sucking their sap and becoming rather like small, transparent scale insects. The scale-like stage (including a resting stage) occupies from 50 to 130 days, according to the temperature; and at the end of the period the adult White Fly appears and the cycle begins again. During the young stages the pest secretes much "honey-dew," which clogs up the leaves and usually becomes affected with a black "mould," thus adding to the damage due to the loss of sap. Owing to the fact that the insect is protected by a waxy secretion, spraying has proved of little service. Fumigation with hydrocyanic acid gas is undoubtedly the best remedy; failing this, repeated fumigations with nicotine or Pyrethrum preparations. Sulphur vaporisers are reported to have been successful at times, but the evidence is not conclusive. When fumigation is impossible and spraying only can be employed, continual applications of soap solution (good potash soft soap 1 lb. and water 10 gallons) and paraffin emulsion may be tried.

Apple Aphides.—The Board of Agriculture has just issued a new leaflet (No. 330) on "Apple Aphides," being an abridged edition of an article by Mr. F. V. Theobald, published in the *Journal of the Board of Agriculture* for April, 1919. The so-called "Aphis" or "Blue Bug" Blight, which attacks Apples, and to a minor extent Pears, is in some years one of the worst pests fruit growers and gardeners have to contend with in this country. Of the eight species of aphides recorded as attacking the Apple in Great Britain only four are of general importance. These are: (1) the Blue Bug or Rosy Apple Aphis; (2) the Green Apple Aphis; (3) the Oat Apple Aphis, and (4) the Woolly Aphis or American Blight. This leaflet deals only with the first three, which are leaf, blossom, shoot or fruit feeders. In this respect they are unlike the Woolly Aphis, which usually feeds on the wood and roots, although in very bad attacks it may spread to the leaves and fruit. By far the greatest amount of harm is done by the Rosy Aphis, but in some years and in certain localities the Green Apple Aphis and the Oat Apple Aphis cause considerable damage. Apple Aphides may be controlled by spraying, but too frequently this treatment proves ineffective owing to the fact that it has been carried out too late. The most injurious species—the Rosy Aphis—causes such curling of the leaves that the pests are quite protected, and spraying under these conditions is to all intents and purposes a waste of insecticide. Effective spraying can, however, be carried out: (1) By using limewash early in the season when the eggs are about to hatch. The normal time to apply this wash is when the leaf-buds are swelling and about to burst, but many growers continue the treatment with good results to within a week or so of the opening of the blossom. The effect of the wash is to prevent some of the eggs from hatching and to kill newly-hatched aphides or so hamper their movements that they are unable to establish themselves. In limewashing, the whole tree must be covered. (2) By using a contact insecticide (such as nicotine and soap or pyridene and soap) during the period between the opening of the leaf-buds and the bursting of the bloom. Where there is no curling of the leaves, this spray may also be applied soon after the petals have fallen from the blossom. In using all contact insecticides the application must be very thorough, so that the insecticide penetrates into the half expanded buds and reaches every insect. The nozzle used should give a rather coarse and powerful spray. (3) By using a contact insecticide, such as paraffin emulsion, from the middle to the end of October, when the leaves are falling. The aphides are then laying the winter eggs and can be killed by a thorough application of the cheapest aphis wash available. At that period there is no danger to be anticipated from "burning" the foliage with a strong paraffin emulsion.

Euphrasia officinalis.—In their description (in *British Flora*) of the genus Euphrasia, Bentham and Hooker, with their usual caution, observe that there is probably but one species of the genus in the northern hemisphere. A recent analysis of the Norwegian forms of Euphrasia officinalis made by Mr. E. Jorgensen* shows that some forms appear to be mere fluctuating variants of no organic stability, others more permanent, are to be regarded as mutants, and others again are probably hybrids.

Lilium sulphurem in the Madras Botanic Gardens.—In the report† of the Government gardens and parks in the Nilgiris, an interesting reference is made to the success which has attended the cultivation of Lilium sulphureum, introduced from the Shan hills. The Lily grows to nine feet in height and bears sulphur yellow trumpets nearly one foot long. The plant produces bulbils, which are being used for purposes of propagation. Trials are being made to ascertain whether the Lily will prove hardy in the Botanic Gardens.

* Bergens Museums Aarbok, 1916-17. Five species, with numerous sub-species, forms and sub-forms, are to be recognised, all belonging to the sub-genus Eueuphrasia Wettst.

† G. O. No. 1253, June, 1919. Government of Madras Revenue (Special) Department.

THE BUFF TIP MOTH, PYGAERA (PHALERA) BUCEPHALA.

The caterpillar of this moth is usually found on the Elm, Lime or Hazel, but also occurs on Willow, Oak, Birch, Beech, Alder and Sycamore. Indeed, it is in no way particular as to its choice of food, and is thus sometimes found on the Rose. The whitish eggs are laid in batches on the under side of leaves of the host plant selected. Each egg has a central dark spot. The young caterpillars have the habit of feeding in colonies during August and September, and it is an amusing sight to watch the methodical way in which, with their heads all pointing in one direction, they will eat up leaf after leaf. They resemble nothing so much as a gang of workmen digging ground by "piece work" in the strenuous and efficient way in which they devour the foliage. When the higher portion of a branch is cleared they all migrate to another, and there perform the same operation.

It is interesting but perhaps rather hopeless to speculate as to exactly how these co-ordinated movements are carried out. It is difficult to see what advantages the caterpillar secures by feeding in company unless it possibly be the fact that when not feeding they crowd together in a solid bunch on one of the twigs with the

FIG. 45.—THE BUFF TIP MOTH (PYGAERA BUCEPHALA), SHOWING THE PERFECT INSECT, EGGS, CATERPILLAR AND PUPA.

extremities protruding, appearing very like a leaf which has been eaten, and so securing the caterpillars from the undesired attentions of enemies. When nearly full fed, the caterpillars separate, and at this stage are often met with, as they have a habit, often unfortunate to themselves, of crossing frequented paths. They are then very striking in appearance, being yellowish green in ground colour, with a well defined rather broad, dorsal, black stripe, which is, however, interrupted at each segment by an orange stripe, going transversely across the body. There are also three lateral, narrower, greyish lines interrupted in the same manner, so that the general appearance is of dark lines crossed by orange stripes with yellowish green ground colour showing in between. The whole body is downy from a covering of whitish hairs.

The pupae are shining, dark purplish-red, and are generally placed close to the roots of a tree, but not in any cocoon. In this position they lie all the winter.

The moth appears in May, June and July, and is a striking object, measuring, as it does, about 60 mm. (nearly 2½ inches) across the expanded wings. The forewings are violet-grey in colour, with a well defined buff spot about the size of a threepenny bit at the apex of the wing. It is this that gives the English name to the moth. The hind wings are yellow-whitish in colour, and in no way remarkable. Though so conspicuous with outstretched wings, the moth is by no means so when at rest. Then the wings are folded close down to the body, the buff spots come together, and the whole insect has a very slick-like appearance.

Owing to the habit of feeding in company, it is an easy pest to deal with on the Rose, whether by hand picking or by spraying with lead arsenate. *A. H. Lees.*

LETTERS FROM SOLDIER GARDENERS.

A FLOWER SHOW IN THE EAST.

The East is a land of dreams.

We used to dream about it as children when we spent Sunday afternoons poring over the pictures in the big Family Bible.

And gradually we forgot those dreams in the years of action and every-day prosody . . . till miracles happened, and we woke one morning to behold a dream city shining with soft light and colour under a turquoise sky. And then we lived among dream scenery—dream mountains, dream sunsets, dream people—until we became so used to it that we accepted it as our real existence and began to have dreams of green England, of snowy sheets and feather pillows, of cool, shady Oak woods, of Roses clustering over thatched roofs, of child voices we know.

I should scarcely believe that the afternoon I have just lived through was other than a dream, were it not for the practical evidence of a neatly printed catalogue which lies before me as I write. There is nothing in the least dreamy about it. The cover is inscribed "Agricultural Show, Macedonia, Catalogue of Entries and Programme of Show, 27th July, 1918." The flysheet discloses the names of the judges and the hon. secretary on one side, and on the other the programme is clearly set forth, albeit in that weird incomprehensible time which officialdom persists in, but which ordinary mortals are obliged to mentally translate into ordinary time before it conveys anything to their uneducated minds.

The catalogue comprises about forty classes and sub-classes, commencing with "Class 1, Best six exhibits any variety (fruit or vegetable) grown in any garden in area," and concluding with "Class 26 (g), Best Improvised Chaff Cutting Machine."

The show was held (as flower shows have from time immemorial been held) in a level, newly mown field, with a haystack in the corner, built by one Gadd, of the Romney Marsh, trimly built, too, in spite of the fact that "It baint loike good marsh hay, it baint. T'be full o' plaguey thorns an' most outlandish thistles as 'never did see till a'come t'this 'ere Macedonia."

When we arrived there was already such a crowd that it was by the purest good fortune I succeeded in obtaining the last catalogue. And in spite of the fact that it was an uniformed crowd, a khaki crowd, it was the same sort of crowd that is attracted by any flower show. There were the exhibitors, exalted or chastened, according to circumstances, showing their friends their own treasured exhibits and explaining what they would have shown if such and such things had not happened. There were serious folk who patiently inspected every exhibit, possibly under the mistaken impression that they had paid for admission and must get their full value. There were critics who declaimed to little circles upon the whys and wherefores of the awards.

My friend and I did the tents thoroughly. With some past experience and a good deal of inside knowledge culled from our enthusiastic messmate, we were able to understand how it was that the Blue Division garden, with its fine irrigation resources, could show large, shapely, clear skinned, shallow-eyed Potatos.

It was easy to see, in the root sections which gardeners had grasped that fundamental principle of successful horticulture—deep digging. I have been assured that none of the Parsnips or Carrots were "crowbar" products, and the four best exhibits in each class were models of what utility tap roots should be.

Beets, as was to be expected, were prominent, but some of the larger exhibits showed pronounced forking and decided lack of colour. The same may be said of Swedes, which were, in general, rather below the standard, while

MR. ARTHUR W. COBB, NEW SUPERINTENDENT OF BOURNEMOUTH PUBLIC PARKS. (See p. 94.)

white Turnips, though of good quality, were poorly represented.

There were not many Onions, and what there were did not belong to the varieties which are usually seen at home shows.

Cabbages were not numerous, and were, in fact, impossible achievements for any gardener without good irrigation. It amazed me to see any entries for the Cauliflower class, but there were three, and although we should have laughed them to scorn at the poorest village show at home, the prizes they won were well earned here.

Several competitors made desperate attempts to put something on the large expanse of table reserved for Lettuces and Radishes. All honour to them, but with the temperature verging on 100 degrees for nearly two months and not a drop of rain, even such results as appeared were almost past hoping for.

Having experienced myself the amazing manner in which Pease blossom develops into pods, and the rapidity with which such pods become over fit for eating, it did not surprise me that out of the six entries in the class for Peas, only two were actually staged—it was almost pure luck to get them just right. My friend carried off the first prize, not because his Peas were the better, but because the other exhibitor had only staged twelve pods instead of the fifteen stipulated.

There were six classes devoted to the Gourd family, and in this department Macedonia showed that she requires little coaxing. The first prize green Marrow was a handsome specimen which must have been little short of thirty pounds in weight, and the second prize was awarded for an elegant, striped specimen of perfect oval form. There was some confusion in the two classes for water and sweet Melons, but there was no fault to find with the awards, which went to most attractive-looking fruit. Cucumbers were the only poor examples in this section. The air is much too dry for these vegetables out here, and they turn yellow long before they have attained anything like a maximum growth.

Tomatos were the great feature of the show. Given a fairly adequate water supply, these fruits are the most easily grown and remunerative crop in the country. There were 32 entries, and they were almost all staged. The judging must have been difficult, but the prizes were undoubtedly won by the best all-round exhibits.

A cup was offered for the best collection. It was an excellent idea, for while it is possible for anyone to specialise on a variety, it requires a good all-round gardener to stage a good collection. Scarcely more than half the entries were staged, and the professionals had things almost entirely to themselves, for the amateurs made the mistake of shewing such as Aubergines and Melons, and the winner carried off the cup simply by concentration. He showed Parsnips, Carrots, Leeks, Cabbage, Tomatos and a Marrow, and in each case the produce was better than in the separate classes.

One missed, of course, the artistic features of homeland shows, the table decorations, greenhouse collections, and cottagers' pot plants, and it was too late in the season for the wild flower class to prove a prominent feature. There were a few classes devoted to honey, poultry, and eggs, but as was to be expected, they did not attract a large number of entries. The last seven classes were devoted to improvised garden and field implements. There was nothing extraordinarily striking about most of these, and the general consensus of opinion was that the best exhibits could not honestly be described as "improvisations." After all, the resources of the workshops accompanying a modern army are such that garden tools of the most approved types present no difficulty whatever.

According to statements made from time to time by various people who should know, there are about nine hundred and ninety-nine things which are done better in civilian life than in the army. I discovered at this function one thing which the army can do very much better than any civic body. That is the presentation of prizes. One recalls the confusion, the solecisms, the awkwardness of a home show with amusement after seeing the dignified yet simple ceremony at this present function.

A little table under the fluttering flag. At a decorous distance in front of it, the prizewinners in one long, level rank. On the left a cluster of officers of all sorts. A tiny knot which seemed to be a flutter of white skirts and a green parasol. And well behind the table the heterogeneous mass of rank and file, soberly interested, subduedly curious. As we waited for the coming of the great ones, we scanned the line of prizewinners. All sorts they were. Infantrymen, Artillerymen, R.A.M.C., R.E., M.T.

Simplicity, brevity and dignity marked the prize-giving. A little speech from the general, the names called, the smart approach, salute, presentation, salute, retire. *Herbert Mace.*

VEGETABLES.

THE CULTIVATION, COMPOSITION AND DISEASES OF THE POTATO.

A few months ago, under the above title, the Board of Agriculture and Fisheries issued as a supplement to their Journal a volume embracing 116 pages, packed full of information regarding the present-day Potato.* The contents are:—Potato Growing—The Food Value of the Potato Crop—Potato Diseases (A. D. Cotton); The Causes of Decay in Potato

* The Potato Supplement to the Journal of the Board of Agriculture, 6d., post free from the Board of Agriculture and Fisheries, 3, St. James's Square, London, S.W.1.

Clamps, with Special Reference to the Season 1918 (A. D. Cotton and H. V. Taylor, M.B.E.); Practical Hints on Potato Spraying; Report on the Potato Spraying Trials, 1918 (F. T. Brooks, M.A.); Ormskirk Potato Trials, Annual Report, 1918 (John Snell, M.B.E., B.Sc.); Potatos: Local Immune Variety Trials, Report for Season 1918 (John Snell, M.B.E., B.Sc.); Wart Diseases of Potatos Order, 1918, and Inspection of Immune Crops.

The first two articles are anonymous. The one on Potato growing is splendid—written by one who knows field culture thoroughly. The names of the writers of the other articles inspire every confidence among Potato experts. In view of last winter's experience and consequent unsatisfactory growths obtained in many cases, Messrs. Cotton and Taylor's article is worthy of the closest study. I am convinced that very many of our troubles with seed Potatos arise from careless clamping.

No problem associated with Potato culture to-day is more important than that of Wart disease, and the Board of Agriculture does well to give it such prominence in the volume under consideration—48 pages are devoted to it. For many years Mr. John Snell, on behalf of the Board, has been working at this subject in a most determined way at Ormskirk. New arrangements have been made by Dr. F. W. Keeble whereby Mr. Snell will in future devote his whole time to the work. This arrangement has, in view of the great national importance of the work, not been made a day too soon. I trust it will enable Mr. Snell to undertake trials other than in respect of immunity to wart disease in varieties. I trust it will enable him to arrange large trials in good, well-manured, well-cultivated infected land, to demonstrate the cropping qualities of the immune varieties as nothing would so readily remove all prejudice against them and lead to their adoption in non-infected areas, which will presently become a matter of necessity. A very important step has been taken in the direction of giving the public information as to the synonymity of varieties, and if for no other reason the volume is of great interest to traders who are always seeking information on this point, but not from traders alone would I bespeak an interest in this wonderful sixpenny volume, but from all who are interested in and would like to see the great industry of Potato growing flourish. *W. Cuthbertson, Duddingston, Midlothian.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Scented-Leaved Pelargoniums.—As an old cultivator, who has seen the rise and decline in popularity of many classes of plants, I was extremely pleased to see the illustration of the variegated-leaved form of Pelargonium crispum in Fig. 39 (see p. 82), and to learn that the plant was awarded a First-class Certificate by the Floral Committee of the Royal Horticultural Society on the 29th ult. It is questionable if such an honour has been bestowed on a Pelargonium since the days when these certificates were far more readily granted than they are now, and for one to be so honoured for its foliage alone it is, I believe, necessary to go back to the days of the tri-colors and bronzes. Time was when fragrant-leaved Pelargoniums were represented in most gardens, and collections were stocked by many dealers. Now it is difficult to obtain more than a few varieties, though occasionally a stray one may be picked up in some old-fashioned garden. In by-gone days the plants were much grown to supply cut sprays for nosegays, when these consisted of an informal bunch of flowers and attractive foliage. Although, as mentioned on p. 82, the scent of the foliage of a few varieties is distinctly unpleasant, yet there are many with remarkably pleasing fragrance. A singular feature is the way in which some mimic in fragrance plants to which they are in no way related. Thus Pelargonium crispum has, when roughly handled, a strong Citron-like scent, while the curious, large, woolly-leaved P. tomentosum smells exactly like Peppermint. In some the Nutmeg-scent is very noticeable. That these fragrant-leaved Pelargoniums will become once more as popular as of old is quite within the bounds of possibility. Meanwhile, gardeners are greatly indebted to the Hon. Vicary Gibbs, who has such a complete collection, and to his gardener, Mr. Edwin Beckett, who grows the plants so well. Before leaving the subject, there is one more Pelargonium with fragrant foliage that well merits a note. This is the old Unique, which used to be represented by three or four distinct forms. This kind has a loose, rambling habit of growth, and was at one time grown as trained specimens. It is also very effective as a wall or pillar plant in the greenhouse. The flowers are larger than those of most of the others and very showy. Apart from the old Unique, which has Lilac-coloured blossoms, there are Conspicua (bright magenta), Mrs. Kingsbury (magenta crimson), Rollisson's Unique (violet crimson, the best), and Scarlet Unique (soft scarlet). *W. T.*

Abutilon vitifolium.—The remarks of *A. N.* on Abutilon vitifolium are interesting. This most beautiful shrub is more hardy and less fastidious than is generally believed. There are plants in this district upwards of 15 ft. in height, in a moderately open space, and growing in very heavy soil. I sowed seed from these plants in 1915, and planted the seedlings in 1916, just before joining the Army. I returned here in March of this year from India, and was pleasantly surprised to find that the plants were about 6 ft. tall. They are growing in stiff, clayey soil, and this year were covered with beautiful mauve flowers. I believe the winter of 1916-17 was very severe, but with the exception of one, my plants do not appear to have suffered. I have seedlings just above the soil from this year's seed, sown three weeks ago. Some of these I intend planting near water. I feel sure Abutilon vitifolium will do well with its "toes" in water. *F. J. R., South Stoneham Gardens, Swaythling, Southampton.*

The Late Harry Rabjohn (see p. 99).—It was with the deepest regret that I learned of the death of this promising young gardener at Twickel Castle Gardens, Delden, Holland. Few men had a greater love for gardening than Mr. Rabjohn, and the gardens at Twickel were maintained at a high state of efficiency in all departments. He specially excelled in vegetable culture, including salads, Sweet Peas and flower gardening generally. The Twickel gardens are famed for their fine Orange trees. Part of his career was spent in South Africa, and on his return he took up an appointment with Messrs. Wills and Segar, at Kensington, afterwards going to Welbeck Abbey as decorator. He went to Holland some seven years or more ago. During his stay at the Cape, he studied and collected the native flora and interested himself particularly in the genus Stapelia, of which he had a fine collection of dried specimens. *Ernest Beckett, Fota Gardens, Queenstown.*

Publications Received.—***The Flower and the Bee; Plant Life and Pollination.*** By John H. Lovell. London: Constable & Co., Ltd. Price 10/6 net. ***A Study of Compsilura concinnata, an imported Tachinid Parasite of the Gipsy Moth and the Brown-tail Moth.*** By Julian J. Culver. Bulletin No. 766. Washington: United States Department of Agriculture. ***The Rice Moth.*** By F. H. Chittenden. Bulletin No. 783. Washington: United States Department of Agriculture. ***Horticultural Resources.*** By Sir Frederick Moore, M.A. Dublin: The Royal Dublin Society. Price 6d. ***Structure of the Maize Ear as Indicated in Zea-Euchlaena Hybrids.*** By C. N. Collins. Washington: Reprinted from the Journal of Agricultural Research, June 16, 1916. ***Dairy Farming under Small Holding Conditions.*** Board of Agriculture and Fisheries Guides to Smallholders. Price 2d. post free.

SOCIETIES.

ROYAL HORTICULTURAL.

AUGUST 12.—With the holiday season in fu swing and London panting for breath under heat wave, a large meeting was not expect at Westminster on the above date. Howeve the exhibition was a fairly good one, but t attendance was meagre. During the aftern Mr. Jas. Hudson gave a lecture on "Fruit Tre in Pots."

Floral Committee.

Present: Messrs. H. B. May (in the chai John Green, G. Reuthe, John Heal, J. W Moorman, Geo. Harrow, C. R. Fielder, Turner, J. Jones, C. Dixon, John Dicks E. F. Hazleton, W. D. Thomson, Jas. Huds Chas. S. Pearson, E. H. Jenkins, W. J. Be J. T. Bennett-Poë, H. Cowley and Wm. How

AWARD OF MERIT.

Gladiolus Mrs. Swainson.—A pleasing varie that shows the influence of G. primulinus in t hooding of the upper segment. The flowers a of large size, with broad outer segments t are of a clear cream colour, and three smal inner segments of a light sulphur yellow sha Some of the flowers showed a few streaks pink. Shown by Messrs. J. KELWAY AND S

GROUPS.

Gladioli were a prominent and charmi feature of the meeting. Messrs. J. KELW AND SON were the chief exhibitors, and t presented a fine selection of their Lang-p hybrids; of these, F. W. Sanders, apricot, w red streaking; Golden Girl, clear, soft yello Ghost, cream-coloured; and A. J. Mac salmon-pink and yellow, were very attracti The same firm showed a collection of larger-flowered varieties in a wide range colouring (Silver-Gilt Banksian Medal).

MAJOR CHURCHER, Alverstoke, Hants, had very interesting exhibit of Gladioli that inclu new varieties from numerous raisers. A Tiplady, a light, flame-coloured G. primuli hybrid, was very pretty; Senator Volland, of the "blue" varieties, of light shade, with broadly expanded flowers; Peach B deep rose-pink, with red blotch; and Prosper light rich pink, were a few of the best. Ma Churcher placed alphabetical lists of the varie in front of the group, showing the height each and the times of flowering during present and past two years (Silver Flora Med

Messrs. J. J. GRULLEMANS AND SONS, Li Holland, put up a large exhibit of Gladioli, flowers mostly arranged in bowls of a vari though occasionally there were combinati such as G. primulinus with Bleu Céleste. some cases the effect was rather spoiled by use of light Maple foliage among the bases the spikes, but where yellow and dark Japa Maple foliage was used with suitable colour above, the effect was fine. Considering long journey and the very hot weather, flowers had travelled well. Maiden's Bl Violet de Parma, Kitty Grullemans, Ora King (orange pink), Sunrise, and Golden D were some of the most attractive varieties the forty bowls and vases staged among Pa of various sizes (Silver-Gilt Banksian Med The variety named M. Johan Spoor, shown this firm, is a clear canary-yellow, and is in esting because the expanded flowers are b almost in a single row, instead of in a do row, as is usual.

The Rev. J. H. PEMBERTON'S group of R included good vases of Pax, Vanity (a rose-pink Musk variety), Franceosa, Joan, sperity and Callisto (Silver Banksian Med Messrs. J. CHEAL AND SONS showed ram Roses and a small collection of Phloxes, the latter had suffered from the heat (Si Banksian Medal).

Messrs. ALLWOOD BROTHERS had a small very pretty exhibit of perpetual-flowering ca tions and a selection of varieties of their hy Pinks—Dianthus Allwoodii—(Silver Bank Medal). Messrs. H. B. MAY AND SON tributed a selection of Ferns, chiefly plu

varieties of Nephrolepis, with dwarf Antirrhinums in pots and standard Lantanas (Silver Flora Medal).

Mr. Maurice Prichard, who has not exhibited at Westminster lately, showed some very fine spikes of Gladioli, some Delphiniums, the bold Senecio sibirica, Poterium obtusatum, a few Montbretias, Crinum Powellii, C.P. alba, and the bright blue Agapanthus Mooreanus (Silver Banksian Medal). Mr. G. Reuthe showed Eucryphia piennatifida in good form, Viburnum Sargentii, Buddleia variabilis magnifica, Hydrangea Romneya Coulterii and other very interesting hardy plants (Silver Banksian Medal).

Mr. W. Wells, jnr., exhibited Delphiniums, and included in his display such fine varieties as King of the Delphiniums, Mrs. Creighton, Persimmon, Lamartin, Mrs. H. Kayes, and Robt. Cox (Silver Banksian Medal). The elegant Dicrama pendula was very finely shown by Mr. C. Scrase Dickens, Horsham, who put up seven vases of graceful, yard-long spikes, carrying large numbers of the pendant, heliotrope coloured flowers (Bronze Flora Medal).

Orchid Committee.

Present: Sir Harry J. Veitch (in the chair), Messrs. Jas. O'Brien (hon. secretary), William Bolton, Arthur Dye, Fred. Sander, Frederick J. Hanbury, Charles H. Curtis, J. Charlesworth, Pantia Ralli, and R. A. Rolfe.

Messrs. Hassall and Co., Southgate, were awarded a Silver Flora Medal for an effective group, the main feature in which was a selection of their beautiful type of Cattleya Hardyana alba (see p. 91). Arranged with them were C. Naidia exquisita, which gained an Award of Merit in 1917; two examples of the pretty C. Sibyl, representing both types of this hybrid, one having the elongated lip showing C. bicolor, and the other the C. Dowiana shape; C. Judah, with cream-coloured sepals and petals, C. Mulleri, pure white; and a selection of Cypripediums. A novelty was seen in Laelio-Cattleya Muriel (C. Kienastiana × L. C. callistoglossa), a good flower with light, rosy-mauve sepals and petals and large, crimped purple lip, with yellow lines at the base.

Messrs. Stuart Low and Co., Jarvisbrook, Sussex, showed the new Odontioda Black Prince (Odontoglossum Queen Alexandra × Odontioda Charlesworthii), one of the largest and darkest in colour of Odontiodas. In form, the flower showed much of Odm. Harryanum, which, with Odm. triumphans, produced Odm. Queen Alexandra, but none of the markings of any of its Odontoglossum parents. The sepals and petals are wholly purplish chocolate. The broad lip is densely spotted with rose in front, the white ground showing between the spots, and a purple zone surrounds the yellow crest. The plant bore a spike of six flowers.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (in the chair), W. Pope, W. Bates, Geo. F. Tinley, Owen Thomas, H. Markham, John Harrison, A. R. Allan, F. Perkins, W. H. Divers, G. P. Berry, W. Wilks, E. A. Bunyard and Ed. Harriss.

Messrs. S. Bunyard and Co. exhibited a small but interesting group of early fruits, in which Rev. W. Wilks, Gladstone, Beauty of Bath, Early Transparent, Irish Peach, Maidstone Favourite and Lord Suffield Apples, Beurré Gifford, Jargonelle, Doyenne d'Eté, and Clapp's Favourite Pears, Oullin's Golden Gage, Red Myrobalan, Early Orleans, Czar, and Heron Plum were the principal varieties (Silver Knightian Medal).

Mr. Cheal sent an Onion with four bulbs on the stem—this was sent to the Scientific Committee. Cucumber Cynosure, from Mr. S. Mortimer, a cross between Delicacy and Tender and True, was greatly admired for its symmetry, and is to be tried at Wisley.

COTTAGE FLOWER SHOW AT SPETCHLEY.

In perfect weather and amidst the ideal surroundings of Spetchley, a cottage garden flower show was held for the first time in the annals of the village, on Thursday, the 7th inst. The exhibition was opened by Lord and Lady Coventry.

The fruit and flower exhibits were exceedingly good, and testified to the impetus given to gardening in the district by the encouraging influence of Mr. Berkeley.

In judging the gardens and allotments previous to the show, Mr. S. T. Wright, the Royal Horticultural Society's representative, was most favourably impressed by the care and judgment displayed in the cropping and management of fruit, flower, and vegetable gardens, and also in the general appearance of the gardens and allotments.

The advantages offered by the Worcester County Council had evidently been much appreciated by Spetchley folk, judging from the excellent display of dairy produce staged. Miss Pritchard's admirable demonstrations to a Spetchley audience on cheesemaking, during the past year, had resulted in a most creditable series of Derby and Small Holder's cheeses. In the farm produce class an exceptionally interesting exhibit was that put up by Mrs. Dorrell.

Another feature of the show was the Educational Section, consisting of a separate tent in which a series of exhibits were arranged and explained by experts in special subjects bearing on horticulture.

Bottled fruits and vegetables were ably shown, under the auspices of the Board of Agriculture, by Mrs. Ware.

A fine exhibit of insect and other garden friends and foes were shown by Mr. Stewart for the Royal Horticultural Society.

The subject of "Birds and their Food" was dealt with by Miss Hibbert-Ware. This exhibit consisted of stuffed specimens of birds, accompanied by their crop or gizzard contents at the moment of death.

A cuckoo, for instance, was shown to have made its last meal of fifty-eight caterpillars, a little owl of nine bettles, and a robin and blue tit displayed a purely insectivorous diet. The birds of doubtful repute were not only shown with their food, but also a diagram in colour marking the result of the most recent investigations of the Board of Agriculture, for the species in question. In this way the kestrel, barn owl, blue tit and jackdaw were shown to be beneficial, whilst the jay, wood-pigeon and bullfinch must remain on the unfriendly list.

Sports commenced at 4 o'clock, under the auspices of Capt. Hoskins and Mr. R. G. Berkeley, and were carried on with much spirit until 6 o'clock, when Mrs. Berkeley distributed the prizes to the successful competitors. Whilst the sports were being held the rival attractions of the Spetchley Gardens and the music on the lake and old English dances on the lawn attracted a large audience.

The gardens were a revelation to the many who visited them, for there were no traces of war difficulties, and the borders were gay with rare plants of every kind—luxurious and flourishing.

Lilium regale was especially beautiful, and the bushy Ceratostigma Willmottiana, covered with its Gentian-blue flowers—both amongst the novelties of recent introduction—with the magnificent Hydrangea Sargentii, made a fine show.

Obituary.

W. H. Rabjohn.—It is with deep regret we learn from Mrs. W. H. Rabjohn of the death of her husband, at Twickel Castle Gardens, Delden, Holland. Mr. Rabjohn, who was only thirty-nine years of age, died on July 29 after a long and painful illness. For the past eight years and three months he was gardener to Baron Heeckeren, at Twickel Castle, and during that time he made a delightful English garden there, which was visited by people from all parts of Holland on account of its beauty and interest. Mr. Rabjohn contributed on several occasions to this journal. During his stay in the country of his adoption he made many friends, especially amongst those interested in horticulture. Mr. Rabjohn was the eldest son of Mr. G. E. Rabjohn, gardener at Birling Manor, near Maidstone. He was buried on August 1, in Delden Cemetery, the service being conducted by an English clergyman, the Rev. Irwin Brown, of Rotterdam. Much sympathy will be extended to his widow who is left with a daughter only five years of age.

Prof. Ernst Haeckel.—Born at Jena and educated at Merseburg, Ernst Haeckel subsequently studied botany at Jena under Schleiden, and medicine at Würzburg and Berlin. After practising as a physician for several years, he devoted his attention entirely to zoology, and became full professor at the Zoological Institute at Jena in 1865, where he remained for the rest of his life. He was a clever anatomist and artist, and one of the first of German scientists to become a convert to Darwinism; indeed, he went far ahead of Darwin on similar lines of thought, but with far less caution. Prof. Haeckel's statements were not always accepted by the more precise British scientists, but even so, he would have occupied a higher place in the memory of the British people, but for his unquenchable hostility to this country. He denied atrocities in Belgium, and defended everything carried out by German militarism.

TRADE NOTES.

Peace was celebrated by Messrs. E. Webb and Sons, Ltd., The Royal Seed Establishment, Stourbridge, on Friday, August 1, when the members of the staff and their wives were invited by the Managing Director, Major W. Harcourt Webb and Mrs. Webb to a garden party at their residence, "Spring Grove," Bewdley, Worcestershire. Employees, numbering about 300, were conveyed to Bewdley in motor char-a-bancs. The pleasure grounds and gardens were inspected, bowling, fishing competitions and other sports were provided, for which liberal prizes (including a pedigree Berkshire pig) were offered by Major and Mrs. Webb, whilst some enjoyed boating on the Severn and dancing on the lawn. The party was entertained to lunch and tea in a decorated marquee. During the proceedings Major Webb presented the Military Medal to Corporal Thompson, an employee, which was awarded for bravery at the crossing of the Piave. In thanking those present for their loyal co-operation during the war, Major Webb announced that each member of the staff would receive an extra two weeks' wages as a "peace gift."

CROPS AND STOCK ON THE HOME FARM.

Harvest Operations.

In southern counties the cutting of Wheat and Oats is general, the recent hot, dry weather having ripened the crops quickly. The straw stands erect and is quite easy to cut, therefore, with a continuance of the present fine weather, the harvest period will be a short one. I think many farmers will be surprised at the extent of their crops as compared with the promise of some weeks ago. Wheat is the crop of the year, although I do not anticipate it will be an average one in bulk; but I consider the quality of the grain will be satisfactory. Too many farmers allow their Wheat to become over ripe before cutting; the consequence is the grain is not so "strong" as it would be if it were cut earlier. The grain may become larger when fully developed on the plant, and have a plump appearance, but it lacks that bright red hue which denotes "strength"—the all-important point from the miller's point of view.

Oats should be fully developed before cutting or they lack weight and colour, which, especially in the case of the black varieties, is important. There is a risk, however, in allowing Oats to stand too long after full development, as the top corn on each ear is liable to "brit" or shake out during the process of cutting.

Barley should be thoroughly ripe before it is cut, as the grain does not shake out as in Oats. When the straw is ripe the ears droop in the manner known as "goose neck," and the corn is then quite hard and is in a fit condition for harvesting. If cut before natural ripening has taken place, the corn shrivels and loses the plump appearance, which is important in samples for malting purposes. Large plump grains, with a slightly wrinkled skin and of a pleasing light grey or brown hue, are the most in demand.

The carting of corn needs some discrimination. Wheat, with thoroughly ripened straw free from weeds or Clover leaves, can be stacked within one week of cutting, with safety, or be thrashed from the field, thus saving the building of a rick. Where it is put into a rick, it is wise to thatch it in at once. Oats require a longer period in the field after cutting, even if there are no weeds in the straw. Oats require more time because the sappy straw joints would encourage heating when bulked together in a rick. Three weeks is a fair time to allow Oats to stay in the shock after being cut.

Barley may be carted the same day as cut if the corn is ripe and the straw clean, though this is not practiced during fine weather. Some farmers gather up Wheat and Oats when slight showers are falling, and this practice does not prove injurious if the corn is to stay in the rick until March or later, as by that time all superfluous moisture will have passed away. In the case of the early thrashing of Wheat for seed, the straw should be thoroughly dry before it is carted.

Winter Oats.

With such an absence of rain since March as the southern counties have experienced, spring-sown Oats have suffered, but Winter Oats have been a success.

The advantages of winter over spring sown Oats are many. First, they ripen a fortnight earlier and thus enable harvest to be commenced at an earlier date. When Oats run short the earlier ripening winter varieties fill the gap and, lastly, Charlock does not so seriously affect the crop as it does spring-sown Oats. Charlock, in some districts where steps are not taken to arrest its growth by spraying and thus preventing the formation of seed pods, quite cripples the growth of the Oat plant and reduces the crop by quite one-half.

September is the best month in which to sow Winter Oats, at the rate of three bushels per acre of either the black or the grey variety. The latter is perhaps the most popular, as the crop is not so liable to be "laid," the straw being stiffer. Choose a clean Wheat stubble if the Wheat crop was successful, as the soil, if well prepared for the latter, will carry another straw crop without the addition of manure. Should no such site be available, select a field free from Couch, and previously to sowing the Oats apply a dressing of 3 cwt. of superphosphate per acre. The "working" required for the Oats will thoroughly mix the superphosphate with the soil. When ploughing stubble thoroughly bury the straw by the aid of the skim coulter affixed to the plough; follow with the harrow and sow the seed broadcast or in drills. The advantage of early September sowing is that the plant obtains a firm roothold before frosts prevail. *E. Molyneux, Swanmore Farm, Bishop's Waltham.*

Prices of Corn.

The Board of Agriculture and Fisheries have made the necessary arrangements for giving effect to the Government guarantee in respect of the Wheat, Barley, Oats and Rye crops of 1919.

The scheme for giving effect to the guarantee is based on the principles of Part I. of the Corn Production Act, 1917, which provides that claims will be payable on the basis of the acreage of corn grown, if the average prices of the crops during the seven months September, 1919, to March, 1920, are less than the guaranteed prices.

The average prices of the various crops are not ascertainable until the end of March, 1920, and until then it cannot be known whether any payments will become payable under the guarantee, or if they do, what the difference between the average prices and the guaranteed prices will be.

It is consequently necessary that claims should be made in advance, so that the corn acreage in respect of which they are made may be properly checked. For this purpose the Board have appointed Corn Claims Inspectors throughout England and Wales to verify during the present summer the acreages on which corn is produced. An inspector will in due course call upon every farmer growing corn, and will check the acreages entered by him in his annual return. The inspector will at the same time give each farmer a form of claim, to be filled up by the farmer. If the inspector is satisfied that the acreage claimed for is correct and that the land has not been negligently cultivated he will countersign the claim and send it to the Board, where it will be filed until April, 1920.

If the inspector is of opinion that there has been negligent cultivation of the land he will refer the claims to the County Agricultural Committee, who will appoint an assessor to visit the farm and report as to the amount which should be allowed.

The inspector will give every farmer due notice of the date when he intends to visit the holding, and every facility must be given for inspection.

After his claim has been certified, no further action on the part of the farmer will be necessary. Should the average price of any sort of corn be less than the price guaranteed, payment of the amount due will be made by the Board during April and May, 1920.

ANSWERS TO CORRESPONDENTS.

Black Spots on Carnation Stems: *J. S.* The black spots are evidence of an attack by Macrosporium nobile. Cut out and burn all stems upon which blackish spots are found, and spray the plants with a solution of sulphide of potassium to arrest the spread of the disease. It will also very greatly help to check the progress of the disease if badly affected leaves are removed and burnt. With regard to the colour of the water used for watering the plants, this may be due to rust in the pipes. Each day when the tap is first turned on the discoloured water should be rejected; use only water that has been one day in the tanks.

Cyclamen: *D. S.* It is not too late to pot young Cyclamens, but the work should be done without delay, and the plants encouraged to grow freely and make ample roots before the cold weather commences.

Deformed Sweet Pea Flowers: *H. K.* You do not state the condition of the plants, but judging from the deformed flowers, we believe they are suffering from streak disease, for which there is no remedy at this late season of the year.

Digging Light, Chalky Soil: *D S.* To increase the humus content of the soil, it may be desirable to at once sow some crop that could be used as green manure, to be dug in in early spring. Mustard, Vetches, or some cheap, dwarf Pea would be suitable crops for this purpose. Accumulate manure and vegetable refuse of all kinds during the winter, and add these when the ground is to be dug. Double dig the ground if it is sufficiently deep to permit of this being done.

Diseased Tomato: *C. P.*: The leaves reached us in such a dried and shrivelled condition that a determination of the cause of the disease was out of the question.

Eelworm in Melon Roots: *F. B.* The collapse of the Melon plants is due to a very bad attack of eelworm in the roots. Nothing can be done to improve the condition of plants so severely attacked. Root out and burn the plants, and scorch or deeply bury the soil; thoroughly cleanse every portion of the house and, if possible, do not use the structure for either Melons or Cucumbers for some time to come. For subsequent Melon crops choose soil from a new source or sterilise the local supplies before use.

Evergreeh Hedges: *D. S.* Evergreen hedges should receive their final trimming for the season as soon as possible. In the case of large-leaved plants, the trimming should be done with secateurs and not with shears.

Fig Fruits Turning Yellow: *E. M. I.* In the absence of specimens, it is impossible to determine the cause of the loss of fruits. The fact that the fruits turn yellow before dropping suggests lack of moisture at the roots or a much larger crop than the tree is able to perfect. Thinning and watering would be the best remedies.

"Flat" of Cucumbers: *T. G.* The basket used for marketing Cucumbers, termed a flat, may contain 24, 30, 36, or 42 Cucumbers, according to the size of the fruits. It usually contains 36 Cucumbers.

Fruit and Flower Grower's Employer's Wages: *J. P.* From your statement, we judge that you would be liable to pay the new rate of wages under the Agricultural Wages Board Act. Communicate with the Agricultural Wages Board, 80, Pall Mall, S.W.1.

Greengage Leaves Scorched: *A. C. O.* No trace of fungous disease could be found on the leaves, therefore we conclude the trouble is due to climatic conditions or the fumes from a factory.

Greengage Plum in a Cool House: *C. M. L.* A Greengage Plum would grow successfully and fruit in a cool Peach house, but a Jefferson Plum would fruit more freely. Remove the old soil and substitute fresh loam, using one part old lime rubble to three parts loam.

Gumming in Peach Trees: *E. N. B.* Peach trees are liable to gumming when the bark has been injured during the growing season, and more especially in the case of trees making gross growth. The gumming will stop when the tree has completed its season's growth. Cut out all affected parts below the wounds, and rootprune the tree next month, incorporating plenty of old lime rubble with the compost, which will check gross growth and prevent the tree from gumming next season.

Lawn Tennis Court: *W. F. S.* During the month of September, and after sufficient rain has fallen to thoroughly moisten the lawn, lift the turf over the depressions and add sufficient soil to bring the sward to the general level when relaid. The grass should also be removed from the "bumpy parts," and the soil beneath removed sufficiently to reduce this portion to the general level. A tennis court should not be rolled during wet weather.

Names of Fruits: *W. W.* We will do our best to name the Apples, Pears and Plums, provided you send well-developed, characteristic, but not over ripe specimens, carefully packed. Two or three specimens of each, if available, should be sent.

Names of Plants: *C. A. B.* Jacobinia magnifica carnea.—*W. H.* Senecio clivorum.

Rust on Tomato Leaves: *H. H. G.* The brown patches on the Tomato leaves are due to the presence of Cladosporium fulvum, a fungous disease all too common among Tomato plants. Spraying with a weak solution of sulphide of potassium will keep the disease in check if used sufficiently early in the season, but it is far better to spray the plants while they are quite young and subsequently spray at short intervals and thus prevent the disease from attacking the plants.

Communications Received.—J. S. G.—T. J. H.—C. E. C. Miss W. B.—A. W.—Novice.—G. N.—F. J. F.—C. E. S.—I. B. D.—C. C. H.—O. F. F.—T. C. S.—T. M.—W. B. J. B. S.—H. P.—B. and W.—E. M. U.—T. C. P. and Co.—H. S. F.—J. W. H.—D. F.—F. R.—C. P. and Co.—E. B.—A. K.—E. F.—P. A.—E. H. M.

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London, W.C.

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Twenty words (or three lines including headline) 3s., and 6d. for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office, 6d.

PRIVATE.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

CITY OF NORWICH.

PARKS AND ALLOTMENTS SUPERINTENDENT.

APPLICATIONS are invited for the post of PARKS AND ALLOTMENTS SUPERINTENDENT. The duties of the selected candidate will be as follows:—

(a) The general organisation and management of all matters in connection with the Parks, Gardens and Playgrounds, Small Holdings, Allotments, Public Open Spaces, Open-Air Bathing Places and Street Trees, under the control of the Corporation, including Mousehold Heath.

(b) The general supervision of the Foremen Gardeners in the various Parks, who will themselves be responsible for the details of the work in their respective Parks.

(c) To supervise and arrange for the letting of the Corporation Allotments and to be responsible for the collection of the rents.

(d) To act as Inspecting Officer under the several Orders issued by the Board of Agriculture and Fisheries dealing with the destruction of Agricultural and Gardening Insects and Pests.

(e) Generally to carry out the work of the Department under the instructions of the Committee and to be responsible to the City Accountant in all monetary matters.

The salary will be £300, rising (subject to satisfactory service) by annual increments of £10 to a maximum of £350 per annum, with an allowance for travelling in the City.

The appointment to be terminable by 3 months' notice on either side.

The selected candidate will be required to undertake to ride a motor-cycle.

Applications, stating age and experience, and marked "Parks and Allotments Superintendent," and accompanied by copies of not more than three recent testimonials, should reach the undersigned not later than Wednesday, the 27th August.

ARNOLD H. MILLER,
Town Clerk.

Guildhall, Norwich,
7th August, 1919.

SOMERSET AGRICULTURAL INSTRUCTION COMMITTEE.

APPOINTMENT OF HORTICULTURAL INSTRUCTOR.

THE ABOVE COMMITTEE invite applications for the appointment of Horticultural Instructor.

Applicants must have a sound knowledge of Gardening and Orchard Culture, both from a scientific and practical point of view, and must possess some powers of organisation. Preference will be given to an applicant who has been on Military Service.

Salary up to £300 per annum, according to experience and qualifications.

Applications stating age and full particulars of experience, accompanied by copies of three recent testimonials, to be delivered not later than September 5th, 1919, to

THE COUNTY ORGANISER,
5, Graham Road,
Weston-super-Mare.

COUNTY MENTAL HOSPITAL,
CHEDDLETON, LEEK, STAFFS.

GARDENERS required to act as Attendants; must have served in Army or Navy; wages 38s. 6d. per week and uniform, plus 20s. war bonus.—Applications to the MEDICAL SUPERINTENDENT.

BERKS AND BUCKS
JOINT SANATORIUM COMMITTEE.

HORTICULTURAL INSTRUCTORSHIP.

HORTICULTURAL INSTRUCTOR required for training tuberculous ex-soldiers and civilians in a County Sanatorium Colony. Must be able to teach all branches of Horticulture, both theoretically and practically. Training or experience at a Horticultural College would be a recommendation, also service during the war in any branch of His Majesty's Forces. Salary £250 per annum. Applicants should write, giving full personal particulars and details of experience, together with copies of recent testimonials, by the morning of Saturday, September 6th, to the SUPERINTENDENT, Berks and Bucks Joint Sanatorium, Peppard Common, Oxon.

CROYDON MENTAL HOSPITAL,
UPPER WARLINGHAM, SURREY.

WORKING FARM FOREMAN wanted, who must have practical experience with cattle and other livestock, also the growing of crops and vegetables of all kinds. Age not to exceed 40 years. Wages £3 per week, with house and vegetables.—Apply to Medical Superintendent not later than August 31st, stating age, experience and enclosing copies of two recent testimonials and photograph.

HEAD GARDENER required; must be thoroughly efficient in all branches and experienced in the control of men; first-rate references essential.—Apply, M. R., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

HEAD GARDENER required for large Convalescent Home in North Wales.—Reply, stating age, experience and wages required, W. S. A., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER wanted, September, HEAD WORKING, experienced; to take charge Greenhouses, Flower and Kitchen Garden; good grower of Grapes, Cucumber, Tomato and various greenhouse flowers; highest references required; state wages.—KING, Abbeydale, Coggeshall.

HEAD WORKING GARDENER wanted; small family or none; not over 45 years of age; Under-gardener and boys kept; small greenhouse and stove; five-roomed house and garden; wage 35s.—Apply, STANLEY WATSON, Park View, Towcester, Northants.

WANTED, SINGLE-HANDED GARDENER; small place; no glass; 35s. week, cottage, coal, vegetables; wife to caretake in winter (extra wages). Surrey Hills.—F. P., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, MAN and WIFE, husband capable of Single-handed Gardener with knowledge of Outside Fruit, small Grape House; wife to act as Cook-General; house parlour maid kept; cottage adjoining house; board inclusive.—Apply, with full particulars and wages, etc., to A. WORDSWORTH, 48, Aldrington Road, Streatham Park, S.W.

WANTED, an experienced WORKING GARDENER.—Apply by letter, stating age, experience and salary to H. W. TAYLOR, The Lawn, Melbourn, Cambs.; preference given to one with good private personal reference.

WANTED, WORKING GARDENER at the National Nautical School, Portishead; one used to Institution work and able to control boys preferred. Salary £2 per week, with house, fire, light and water provided.—Apply to Capt. J. S. WILDE, R. N. Nautical School Portishead.

GARDENER required (SINGLE-HANDED), with good general knowledge; married (without children); good living accommodation; wife to assist in the house.—Address reply, GARDENER, 10, High Holborn, W.C.1.

WANTED an experienced Gardener, used to Indoors and Out, including Lawns.—State age and wage required to C. T. COOPER, Burghley House, Middlebrough Road, Coventry.

WANTED, a married man as SECOND GARDENER; must understand Carnations, Melons, Fruit Trees and General Garden Work; a good cottage; four kept.—Apply, W. DRYDEN, Mapleton, Edenbridge, Kent.

WANTED, SECOND GARDENER for Glass-houses; good Plantsman; wages 35s., bothy and vegetables.—State age and experience to G. HY. SHOEBRIDGE, The Gardens, Pinkney Park, Malmesbury, Wilts.

MARKETS.

COVENT GARDEN, August 13.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Fuchsias, 48's, per doz.	12 0–18 0
Asparagus plumosus	12 0–15 0	Heliotropes 48's, per doz.	15 0–18 0
—Sprengeri ...	12 0–18 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
Aspidistra, green	48 0–72 0	— Pink, 48's, per doz.	30 0–48 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Marguerites white	18 0–24 0
Campanula isophylla	12 0–15 0	Mignonette, 48's per doz. ...	18 0–21 0
— — alba ...	12 0–18 0	Palms, Kentia ...	18 0–24 0
Crassulas, red 48's per doz. ...	30 0–36 0	—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

REMARKS.—Trade is not brisk in this department, and many stands are empty. The most attractive subjects are a few Lilium longiflorum in pots, Kochias, a few white Ericas and Campanula isophylla.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Achillea, per doz. bun.	3 0– 4 0	Lilium speciosum album per bunch	6 0– 7 0
Alstroemeria, per doz. bun. ...	4 0– 6 0	—rubrum per bun.	5 0– 6 0
Asters, white, per doz. bun. ...	5 0– 8 0	Orchids per doz.:	
Carnations, per doz. blooms, best American var.	1 6– 2 6	— Cattleyas ...	18 0–24 0
Chrysanthemums—		Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
—White, per doz. blooms.. ...	4 0– 6 0	— white, per doz. bunches ...	15 0–18 0
— — per doz. bun.	12 0– 15 0	Roses, per dozen blooms—	
—Yellow, per doz. blooms.. ...	4 0– 5 0	— Frau Karl Druschki ...	1 6– 2 6
— — per doz. bun.	10 0–15 0	— Lady Hillingdon	1 0– 2 6
Coreopsis, per doz. bun.	1 6– 2 6	— Liberty ...	1 6– 2 0
Cornflower, blue per doz. bun....	2 6– 3 0	— Melody ...	1 6– 2 6
Daisies, white, large, per doz. bun.	2 0– 4 0	— Mme. Abel Chatenay ...	1 6– 2 6
Gaillardia, per doz. ½ bun.	2 6– 3 0	—Mrs. J. Laing...	1 6– 2 6
Gardenias, per box specials ...	8 0– 9 0	— Ophelia ...	3 0– 4 0
— ordinary ...	2 0– 3 0	— Richmond, var.	1 6– 2 6
Gladiolus, —Brenchleyensis, per doz. spikes	5 0– 6 0	— Sunburst ...	3 0– 4 0
Gypsophila, per doz. bun. ...	5 0– 6 0	—White Crawford	2 0– 3 6
— paniculata, per doz. bunches ...	6 0– 8 0	Scabious, per doz. bun.	6 0– 8 0
Iceland Poppies, doz. bun. ...	2 0– 2 6	Statice, mauve ...	6 0– 8 0
Lapagerias, per doz. blooms ...	4 0– 4 6	— white... ...	6 0– 8 0
Lavender, per doz. bun., large ...	15 0–18 0	— latifolia, per doz. bun. ...	12 0–18 0
Lilium longiflorum, per bunch ...	10 0–12 0	Sultan, white, per doz. bun. ...	4 0– 6 0
		— — mauve ...	4 0– 6 0
		Stephanotis, 72 pips	3 0– 3 6
		Sweet Peas, per doz. bun.—	
		— white	2 6– 4 0
		— coloured ...	2 6– 4 0
		Stock, Dbl. White	6 0– 8 0
		—Dbl. Pink ...	6 0– 8 0
		—Dbl. Mauve ...	8 0–12 0
		—Dbl. Purple ...	8 0–12 0
		Violas, per doz. bun.	3 0– 4 0

REMARKS.—Supplies greatly exceed the demand, and prices generally are much lower than hitherto, which is not unusual for August. Lilium longiflorum is still a limited supply, and its prices are the same as those of last week. White Asters are more numerous at each succeeding day, and the blooms are improving in quality. Coloured varieties are still scarce. Large quantities of Sweet Peas are being offered cheaply, but these flowers do not travel well in hot weather. There are abundant Carnations, but many blooms in boxes show the effects of the hot weather before they reach the market. Disbudded blooms of white and yellow Chrysanthemums are arriving in good condition, but do not draw much attention at present. There is nothing fresh to report in Roses; best blooms are scarce. Other items abundantly supplied are Achilles, Gypsophila elegans, G. raniculata and the double white variety. White, yellow and mauve Statice, Sweet Sultan, white and mauve Clarkia, Coreopsis, and yellow Marguerites are all obtainable.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	0 4– 0 6	Onions (Egyptian) per bag ...	12 0–16 0
—Scarlet ...	0 3– 0 4	—Valencia ...	20 0–24 0
—Broad, per bus.	3 0– 4 0	Peas, per bus. ...	4 0– 5 0
Beetroot, per bus.	6 0–10 0	Parsley, per doz. bunches ...	3 0– 6 0
Cabbage, per doz.	1 0– 1 6	Potatos, new, per cwt.	9 0–11 0
Carrots, New, per doz. buns. ...	1 6– 2 0	Radishes, per doz. bunches ...	1 0– 1 6
Cauliflowers, per doz.	2 0– 3 0	Spinach per bus.	5 0– 6 0
Cucumbers, per flat	24 0–30 0	Spring Onions, per doz. bunches ...	4 0– 6 0
Garlic, per lb. ...	0 6– 0 8	Tomatos, English, per doz. lbs. ...	8 0– 8 6
Herbs, per doz. bun.	4 0– 6 0	Vegetable Marrows, per doz, ...	2 0– 4 0
Lettuce Cabbage and Cos, per doz.	1 0– 1 3	Watercress, per doz	0 9– —
Mint, per doz. bun.	9 0–12 0		
Mushrooms, per lb.	2 6– 3 6		
Mustard and Cress, per doz. punnets	1 3– 1 6		
New Turnips, per bunch	5 0– 6 0		

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d
Apples (English)		Grapes, Canon Hall	3 0– 8 0
—Beauty of Bath per ½ bus. ..	5 0– 7 0	—Muscats, per lb.	2 0– 4 0
—Quarrenden ..	5 0– 7 0	Melons, each ...	2 0– 6 0
—Lord Suffield ..	3 0– 5 0	—Canteloupe ...	6 0–10 0
—Keswick Codling	2 6– 3 6	Nectarines, per doz. ...	4 0–18 0
—Ecklinville Seedling	3 0– 4 0	Nuts—	
—Grenadier ...	3 0– 4 0	— Brazils (new) per cwt.	110 0–115 0
Aubergines; pr doz	6 0– 8 0	Pines, each ...	2 6– 6 6
Bananas... ...	30 0–45 0	Plums (English) per ½ bus.	
English Peaches per doz. ...	4 0–18 0	—Czars ..	10 0–12 0
Black Currants — (English) ...	20 0–25 0	—Gages English	18 0–20 0
Cherries (English) per strike 12lbs.	10 0–15 0	—Orleans ..	10 0–12 0
black. per ½ bus.	16 0–25 0	—Washington ...	16 0–18 0
Gooseberries, per ½ bus, cooking	10 0–12 0	Plums (French Royals) per ½ sieve ...	14 0–15 0
— Dessert ...	12 0–16 0	Worthing Figs, per doz.	3 0–
Grapes:—		Pears French Williams boxes 48's ..	10 0– 12 0
— Alicante ...	2 0– 3 6	—Bon Chretien ½ sieves ...	21 0– 22 0
—Blk Hamburgh,	1 6– 3 6		

REMARKS.—All produce continues in heavy supply, and is meeting a demand which is adequate to prevent prices falling unduly. Most commodities are somewhat cheaper; hothouse fruits are plentiful; Grapes, Peaches, Nectarines, Melons, Figs are available in large quantities. English Apples are in heavy quantity and comparatively cheap, with best quality fruits of Beauty of Bath and Quarrenden considerably lower than control prices. English Plums (Czars), Early Rivers and Orleans are available in good supply. Boxes of French Williams, Bon Chrêtien Pears are also in good quantity. All vegetables continue to be plentiful and are meeting with an easy demand, with tendency to cheaper prices.

The following are approximate weights of various market measures:—*Apples*:—Pot=56 lbs.; ½ bush=20-22 lbs.; case=40 lbs. *Gooseberries*:—Pot=63 lbs.; ½ bushel=24 lbs. *Strawberries*:—Chip=4 lbs. *Cherries*:—½ bushel or sieve=21-24 lbs.; Pot=63 lbs. *Currants*:—½ bushel=24 lbs. *Raspberries*:—Chip=4 lbs *Greengages*:—Sieve or ½ bushel: French=20-24 lbs.; Spanish 24-28 lbs. *Plums*:—Pot=72 lbs. *Beans*:—Pot=40 lbs.; ½ bushel=15 lbs. *Beet*:—Pot=56 lbs. *Onions*:—Case=120 lbs. *Peas*:—Pot=40 lbs.; bushel=30 lbs. *Spinach*:—Bushel=16 lbs.

GARDENING APPOINTMENTS.

Mr. John Smith, who has served in East Africa, Egypt and Palestine as an N.C.O. in the Royal Garrison Artillery, and was previously gardener at Cowdenknowes, Earlston, and for five years foreman at Castlemilk, Lockerbie, as Gardener to Her Royal Highness PRINCESS LOUISE (Duchess of Argyle), at Rosneath Castle, Dumbartonshire.

Mr. Charles Milner, previously gardener to Colonel C. E. WARNER, The Great Trench, Hildenborough, Kent, as gardener to W. B. WOODROW, Esq., Steep Park, Rotherfield, Sussex.

Mr. James Small, for the past nine years gardener to JOHN GRAEME THOMSON, Esq., Norwood, Alloa, N.B., as gardener to the same gentleman at Shipton Court, Shipton-under-Wychwood, Oxon. (Thanks for 2s. 6d. for R.G.O.F. Box.—EDS.)

Mr. W. J. Murphy for the past 5½ years gardener and Orchid grower to H. D. Boret, Esq., The Gables, Surbiton, as gardener to The Lady THEODORA GUEST, Inwood, Templecombe. (Thanks for 1s. for R.G.O.F. Box.—EDS.)

Mr. B. Holt, previously gardener to Sir NEVILLE LYTTELTON, Bell Hall, Stourbridge, as gardener to D. V. JOHNSTONE, Esq., Park Hall, Salford Priors, near Evesham.

Mr. C. W. Abbott, for the past three years with H. M. Forces, and previously for 5 years Gardener to the Late Mrs. NORMAN WATNEY, "Valence," Westerham, Kent, as Gardener to the Rgt. Hon. LORD DIGBY, "Minterne," Dorchester, Dorsetshire. (Thanks for 2s. for R.G.O.F. Box.—EDS.).

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WANTED, SECOND GARDENER (Inside and Out); good references; wages 35s. and bothy, duty alternate weeks. Write GARDENER, c/o Taylers, 30, Fleet Street, E.C.

WANTED, UNDER-GARDENER (single), chiefly Outside work.—Apply, FARR, Gardener, Oakleigh, Edgware, Middlesex.

WANTED, FOREMAN for Fruit and Plant Houses, also JOURNEYMAN for Lawns, Roses, Herbaceous Borders; wages 38s. and 30s. respectively, bothy, milk, vegetables, attendance; 6s. duty; 1 o'clock Saturdays; good references. — T. HERBERT, Tilstone Lodge Gardens, Tarporley, Ches.

WANTED, YOUNG MAN as UNDER-GARDENER, with some experience.—Apply to GARDENER, Atcombe, Woodfield Avenue, Streatham Hill.

WANTED, JOURNEYMAN for Inside and Out; some experience; single; 35s weekly; bothy, milk and vegetables; duty alternate weeks.—Apply, GARDENER, Denbies, Dorking, Surrey.

WANTED, JOURNEYMAN for Inside and Out; some experience; wages 30s. a week, bothy, vegetables, etc.—Apply, J. H. EDGE, Orton Hall Gardens, Peterborough.

WANTED, JOURNEYMAN for general Pleasure Ground work, to take duty; highest references essential; good wages, bothy, milk and Vegetables; extra for duty; 1 o'clock Saturday.—HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, JOURNEYMEN or IMPROVERS, chiefly Inside; bothy, milk and vegetables provided.—State particulars, when at liberty, and wages required, to W. G. GUISE, Keele Hall Gardens, Newcastle, Staffs.

IMPROVER wanted, Inside and Out; wages 28s., bothy, milk and vegetables; duty alternate weeks.—Apply, CORBETT, Mulgrave Castle, Whitby, Yorks.

WANTED, single MAN to take charge of Fruit and Plant Houses, under Head; duty alternate weeks.—State age and wages required, with refs., to W. H. SWANBOROUGH, Haines Hill, Twyford, Berks.

WANTED, SINGLE MAN to take lead in Kitchen Garden.—State age, wages and experience (good bothy), A. SMITH, Parkwood, Henley-on-Thames.

WANTED, good all-round MAN, chiefly for Kitchen Garden; good spade hand; wages £2.—W. COE, Caldecott House Gardens, Abingdon, Berks.

WANTED, a MAN for the Garden, about 45–50, married (no family preferred); cottage provided.—Apply, stating wages to GARDENER, Sheepcote House, Wooburn Common, South Bucks.

WANTED, at Crowborough, Sussex, experienced MAN for the cultivation of Hardy Fruits; very little glass; must be willing to fill up time with general garden work; cottage and garden.—Apply, stating age, wage, and experience, to E. H., Box 20, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, smart, experienced MAN for Pleasure Grounds; live in lodge.—Experience, age, and wages expected to GEO. MORBEY, The Gardens, Lilleshall House, Newport, Salop.

WANTED, good MAN for Pleasure Grounds, understanding Lawns, Borders and Shrubs; wages 35s. and cottage; duty every third week.—Apply, ATWILL, The Gardens, Kitwells, Shenley, Herts.

WANTED, MAN to take charge of Glass, with assistance; experienced Fruit and Plants; bothy; 1 o'clock Sat.—Experience and wages required to HEAD GARDENER, Oakwood House, Otterbourne, nr. Winchester.

WANTED, active MAN for Lawns, Herbaceous and Pleasure Grounds; wages 32s. 6d., bothy, etc.; extra for duty and overtime.—Apply, stating age and experience, to HEWITT, Ashlands, Billesdon, Leicestershire.

WANTED, good MAN for Houses (single), age 23 to 25; lodgings close to work; duty alternate weeks; wages 40s. per week.—Apply, W. TURNER, The Gardens, Hill House, Harrow Weald, Middlesex.

WANTED, a married man for mostly outside work with some knowledge of Watering and Firing; wages £2 2s. per week with house and light.—Apply to H. MOTTRAM, The Lodge, Werneth Park, Oldham, Lancashire.

WANTED, two YOUNG MEN, general Garden Work, also two good strong YOUTHS, about 19, experienced.—Apply, stating wages, with bothy, to WILLIAM JAMES PENTON, Warren House Gardens, Coombe Wood, Kingston Hill, Surrey.

WANTED, YOUNG MAN for general Garden Work; able to take duty; wages 32s. and bothy; overtime and duty paid; 1 o'clock Saturdays.—Apply, stating experience and references, E. DUMPER, The Gardens, Great West Hatch, Chigwell, Essex.

WANTED, two YOUNG MEN, one for Glass and one for Water Garden; wages 30s. week, with rooms, milk and vegetables; Sunday duty paid; 1 o'clock on Saturdays.—Apply, stating experience, to A. G. SMITH, Home Farm, Hatchford Park, Cobham, Surrey.

WANTED for Pleasure Grounds, a reliable MAN; wages 30s., with cottage.—State age and experience to G. HY. SHOEBRIDGE, The Gardens, Pinkney Park, Malmesbury, Wilts.

WANTED, two LADS about 18; one for Inside, one Pleasure Grounds; good wages, bothy, etc.—HOLDEN, Woburn Place Gardens, Addlestone.

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TRADE.

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WANTED, a WORKING FOREMAN for an up-to-date small Fruit Farm of 25 acres; must thoroughly understand spraying, pruning, grafting, budding, etc.—Apply "APPLES," Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED in September, good Perpetual Carnation PROPAGATOR and GROWER; Expert Propagator essential. State age, wages and references.—J. H., Box 15, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, a MAN to take charge of Forest and Fruit Trees, etc., Nursery; must be well up in Budding and Grafting.—Apply with testimonials and salary asked for, to MANAGER, Lissadell, Sligo.

WANTED, YOUNG MAN for Fern Raising and Growing.—State wages required, etc., LEWIS AND SON, Nurserymen, Malvern.

WANTED, YOUNG MAN for Perpetual Carnation growing.—State wages required, etc., J. LEWIS & SON, Nurserymen, Malvern.

NURSERY PACKING SHED FOREMAN. — Wanted Head Packer, accustomed to checking off orders; must have sound general knowledge of trade.—State age, previous experience, and wages required, with copies of testimonials, etc., to DANIELS BROS., Ltd., Norwich.

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MR. ALFRED MOUL strongly recommends his Head Gardener; married; at liberty end of September, or earlier if required; present situation nearly 10 years, with two under him; wife available for lodge, caretaking, etc.—Address, SAMUEL COVENTRY, Fern Cottage, Pangbourne, Berks.

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HEAD GARDENER.—I can highly recommend good all-round man as above; life experience, Inside and Out; age 44; married (two girls, age 13 and 14).—Further particulars with pleasure from EDWARD J. PARSONS, F.R.H.S., Seed Merchant, Worcester, or write F. MAPP, 61, Lansdowne Road, Worcester.

C. R. DELLA SALLE, Esq., highly recommends his late HEAD GARDENER, where several are kept; life experience gained in good establishments; last post six years previous to enlistment; age 42; married (no family).—T. PROWTING, "Oakdene," Orlando Drive, Carlton, Notts.

MR. R. J. SMITH, Bedgebury Park Gardens, Goudhurst, Kent, wishes to highly recommend his late FOREMAN to any lady or gentleman as Head Gardener; life experience; married (no family); demobilised.—J. BROOKER, 5, Ash Down, Uckfield, Sussex.

HEAD GARDENER.—Hon. A. Mulholland highly recommends A. MORRIS as a first-class man in all branches of gardening, and thoroughly fitted to meet requirements of good establishment; highest references from previous employers; Estate, Woods, Bees, etc.; age 55.—44, Fairclose Road, Beccles.

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HEAD GARDENER, just demobilised, M.F.P.; married; age 39; no family; requires re-engagement; keen, energetic, and thoroughly experienced in all branches; Vines, Peaches, Stove and Greenhouse Plants, Carnations, Vegetables, etc; Head previous to serving.—AIKIN, 15, Fairlawn Street, Moss Side, Manchester.

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HEAD GARDENER seeks re-engagement; skilled in all branches, and especially in Alpines, Hardy Plants and Fruits; familiar with the making of new gardens and remodelling; can control any number of men; five years' Head of well-known garden; first-class references; age 37.—ADVANCE, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head) demobilised.—Will any lady or gentleman wanting a first-class man, married, expert cultivator, thoroughly experienced all branches; 6 years Head, prior to service, with well-known families.—Communicate with H. G. SMALL, Upper Hartwell, Aylesbury, Bucks.

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GARDENER (Head) where two or three others are kept, seeks situation for end of September; life experience, Inside and Out; good references; age 40; married; three years present situation.—W. T., Box 5, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head or Gardener-Bailiff); working, life experience in all branches; Inside and Out; several years Head in good families; thoroughly reliable; highly recommended; married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head) seeks situation; life experience; good references; married when suited.—Apply, A. CHANT, The Rest, Tilford, Farnham, Surrey.

GARDENER (Head), 40, requires situation where three or more are kept; 9 years' Head in present situation; first-rate references from good establishments; one girl (13); disengaged when suited.—A. SLOGROVE, Rockshaw Road, Merstham, Surrey.

GARDENER (Head of two or good Single-handed) seeks situation; experienced under Glass and Outside; married (no family); good references.—HOOPER, Grange Cottages, Binfield, Bracknell, Berks.

KEEN, practical, energetic man seeks situation as HEAD; experienced with Roses, Rock Gardens, Herbaceous, all Fruit, Flowers, Vegetables, Inside and Out; disengaged early September; Woking district preferred. — BATTSON, The Gardens, Rake Manor, Melford, Surrey.

HEAD GARDENER, 25 years' practical experience, desires Management of large Gardens where surplus produce is sold; thorough experience in growing large quantities of Fruits Inside and Out, Flowers and Vegetables; good organiser; excellent references for abilities and integrity; age 40; married; abstainer.—State terms, STEDMAN, Dwygyfylchi, Penmaenmawr, N. Wales.

GARDENER (Head), capable, energetic man, seeks re-engagement; thorough practical life experience, all branches; five years Head previous to war; married; age 35; demobilised.—M. G., Box 19, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head) seeks situation; life experience in all branches; Inside and Out; can take sole charge of collection of Orchids; highest references; age 27; demobilised; married when suited.—LEWIS, 46, Victoria Road, Bradmore, nr. Wolverhampton.

GARDENER (Head) where two or more kept; 18 years' first-class experience in all branches; Lady recommends; age 24; married.—W. ELKINS, 12, Brocas Street, Eton.

GARDENER (Head) requires situation where several are kept; life experience in first-class places; 8 years in present place as Head; age 40; married.—F. BAKER, Egginton, nr. Derby.

HEAD GARDENER of several (Northumberland) desires re-engagement; lifelong first-class experience gained in all branches, both under Glass and outside. Also Landscape and Rockwork construction. Energetic and industrious, taking a keen interest all round; first-class certificate, R.H.S. examination; 37; married (two children); F.R.H.S.—W. H., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

MR. BAYFORD, Davenham Gardens, Malvern, highly recommends Gardener, Head Working, where three or four are kept; or very good Second; life experience; married; age 29; demobilised.

MR. COWARD, Lexham Hall, Swaffham, Norfolk, highly recommends J. BAYLEY as HEAD WORKING GARDENER; life experience Inside and Out; age 37; married (1 child); excellent references.—J. BAYLEY, Wallsworth Lodge, Sandhurst, Gloucester.

W. BUTT, Esq., Oakwood, nr. Chepstow wishes to highly recommend his HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good, reliable practical man where three or more are kept; previouly at Blenheim, Chatsworth, etc.

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MRS. HOLBECK highly recommends her HEAD WORKING GARDENER, who has been with her ten years; life experience, Inside and Out; married (four children).—GILBERT, Farnborough, Banbury.

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HEAD WORKING GARDENER; life experience, Inside and Out; Flowers, Fruit and Vegetables; abstainer; good references.—PARKER, 48, Middleton Road, Banbury.

GARDENER (Head Working), demobilised, seeks post where several are kept; life experience; 3 years and 8 months Head to the Hon. Carr Glyn; married (no family); age 36; excellent references.—A. MORPHETT, Wootton, nr. Ashbourne, Derbyshire.

GARDENER (Head Working or good Single-handed), seeks situation; life experience in all branches Inside and Out; 3 years and 10 months last situation, 8½ years previous; excellent references, married (no family at home); disengaged.—A. T., c/o Mr. J. Batson, The Ramblers, Amersham Common, Bucks.

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HEAD WORKING GARDENER, thoroughly experienced in Fruit, Flowers, and Vegetables both Inside and Out and management of good Garden; 12 years Head of nine; age 43; excellent character; demobilised.—F. SMITH, Harpton Cottage, Yateley, Hants.

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GARDENER (Head Working or Single with help) seeks situation; life experience Inside and Out; married; age 39.—W. CHARLTON, Hennerton Gardens, Henley-on-Thames.

GARDENER (Head Working), married, seeks re-engagement; over 30 years' experience; Inside and Out; 20 years Head; good references and character.—YOUNG, Lawn Cottage, Melbourn, Cambs.

GARDENER (Head Working) where two or more are kept; 11 years' experience; age 30; married (no family); demobilised.—FORD, 3, Apley Farm Cottages, Shifnal, Salop.

GARDENER (Head Working), thoroughly experienced in all branches; excellent recommendations from first-class establishments; recently demobilised; married; age 32.—WILKS, Ashcroft, The Green, Southgate, London, N.14.

GARDENER (Head Working or good Single-handed with help); life experience all branches; good references; age 42; married (1 child).—WHEELER, Glengarriff, Queen's Road, Crowborough, Sussex (demobilised).

GARDENER (Head Working) seeks situation where several are kept; life experience; could manage electric light plant, also stock, if required; leaving through estate being sold; disengaged in September; age 44; married. — C. OSMAN, Sandle Manor, Fordingbridge, Hants.

HEAD WORKING GARDENER seeks situation, early October, where produce is grown for market; accustomed to producing Fruit, Flowers, and Vegetables, both Inside and Out, on a large scale; Midland counties or South Wales preferred.—Address, A. P. S., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head Working or good Single-handed with help); 20 years' experience, Inside and Out; wife willing to help in house; no children; age 38 years; demobilised; A.1. Please state wages, with cottage.—E. LANG, 24, Johnson Street, Notting-Hill Gate, London, W.

HEAD WORKING GARDENER, where four or more kept (demobilised).—Life experience all Branches; excellent references; married (no family); four years Head, previous Army; age 32.—BARNES, Heywood Lodge, Westbury, Wilts.

GARDENER (Head Working); thoroughly experienced all branches; excellent references; age 30; married when suited; demobilised.—E. G. DAY, Queen Anne's Gardens, Caversham, Reading.

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GARDENER (HEAD WORKING) seeks situation in September; life experience, Inside and Out, including Vines, Peaches, Stove and Greenhouse, and Hardy Fruit and Vegetables, etc.; age 33 years; married (one child); highest references.—T. WICKS, Chaulden Cottages, Boxmoor, Herts.

GARDENER (HEAD WORKING); life experience in first-class establishments, Inside and Out; married; age 44; 12 years in present situation; well recommended.—J. DRAISEY, the Gardens, Ashfordby Place, nr. Melton Mowbray, Leicestershire.

GARDENER (HEAD WORKING).—Mrs. Charles Long, 38, Lowndes Square, S.W., can very highly recommend her late GARDENER, T. HIRST; life experience with Flowers, Fruit and Vegetables; left through country house being given up; no family; disengaged.—163, Osmaston Road, Derby.

GARDENER (HEAD WORKING); 20 years' experience all branches, Inside and Out; married (one child); disengaged; wife useful; excellent references; age 30.—F. DRAGE, Ambury Cottage, Huntingdon.

MR. HUGH MICKLEM highly recommends GARDENER (married, no children), SINGLE-HANDED or HEAD of two, who has been with him nine years. Understands electric light plant.—Apply in first instance, Mr. GEORGE OSBORNE, Coldblow Cottage, Burgh Heath, Tadworth, Surrey.

GENTLEMAN, with confidence, wishes to recommend his GARDENER, H. HUMPHREYS, as good SINGLE-HANDED or with help; life experience; good references; age 34; married (one child); present situation 7 years.—The Cottage, Fawke House, Sevenoaks.

GARDENER (SINGLE-HANDED or with help); life experience, Inside and Out; age 43; married; no children; excellent references; cottage.—WELLS, 40, Dickson Road, Eltham, S.E.9.

GARDENER (SINGLE-HANDED or with help); life experience Inside and Out; age 39; single; good references.—GREEN, 82, Park Street, Camden Town, N.W.1.

GARDENER (single) seeks situation, SINGLE-HANDED preferred; thoroughly understands vegetables and Outside Fruits and Herbaceous Borders.—Address, W. PARKER, 63, Hurley Road, Kennington, S.E.

GARDENER requires situation, SINGLE-HANDED or with help; life experience, Inside and Out; good references; age 28; married.—H. MABBOTT, 125, Munster Road, Teddington, Middlesex.

GARDENER (SINGLE-HANDED), age 33, 16 years' experience in good gardens; married (two children); good references.—W. SAVAGE, Wookey House Cottage, Wells, Somerset.

GARDENER (SINGLE-HANDED) seeks situation, 18 years' experience; would be willing to learn motor driving; age 33; married (1 child); good refs.; last situation 7 years.—Write, F. SHAMMON, Leaholme Lodge, Plymouth Road, Burnt Green, Worcestershire.

MRS. E. P. HENDERSON strongly recommends her present GARDENER to anyone wanting a man who thoroughly understands his work. First-class with Vegetables and Flowers; thoroughly trustworthy and hard-working; only leaving as Mrs. Henderson is giving up her house. Free October.—Apply, FREEMAN, The Presbytery, Weston Underwood, Olney, Bucks.

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GARDENER, age 36, seeks situation, chiefly Outside work; 16 years' experience, Inside and Out; good references; demobilised; single.—E. SLOSS, 4, Foots Cottages, The Hyde, N.W.

GARDENER, where four or more are kept; first-class Grape and Fruit Grower; 20 years as Head Working in large establishments; married (one boy, 14 years); position near a town preferred. State wages, etc.—"WORK," Box 6, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER seeks engagement; life experience in all branches; can be well recommended; age 33; married; demobilised; 3½ years Army.—WILLIS, 6, Port Street, Evesham, Worcs.

GARDENER seeks situation, Kitchen Garden; age 29; married; good references.—SILVER, The Gardens, Blankney Hall, nr. Lincoln.

GARDENER seeks situation as SECOND or SINGLE-HANDED; life experience; Inside and Out; age 29; good references.—Please state wages, etc., to OAKES, 1, Jubilee Cottages, Gravel Hill, Leatherhead, Surrey.

GARDENER (SECOND); age 35, married, no family; seeks situation, chiefly Outside work; life experience Inside and Out; good references.—PAYNE, Cranfield Stein Road, Woodmancote, Emsworth, Hants.

GARDENER (SECOND) seeks situation, Inside or Inside and Out; single; age 34; good references; bothy preferred.—State wages to T. Forward, Tulworth, Bartley, Southampton, Hants.

UNDER-GARDENER seeks situation in Kitchen Garden; 5 years' experience; good references; single; state wages; Midlands preferred.—F. A. MARSH, Ashfold Cott., Rusper, Horsham, Sussex.

FOREMAN; Kitchen Garden or Kitchen Garden and Pleasure Grounds; excellent references; age 38 (2 girls).—P. CHAPLIN, Scotland Green, Henley-on-Thames.

AS FOREMAN or good SECOND, thoroughly experienced Fruit, Plant Houses and Table Decorations; bothy preferred. Please state wages.—J. WALKER, Kirtlington, Oxford.

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JOURNEYMAN (24) seeks situation in private garden; 4½ years' experience in general Inside work; good refs.; bothy; just demobilised.—F. O. LANAWAY, 113, Crawley Road, Horsham, Sussex.

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WANTED, situation with prospects, by gentleman, 22, Games and Junior Master at large Prep. School; open-air essential; fruit farm preferred; some farm experience.—G. R. W., 33, Vincent Road, Croydon.

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HEAD GARDENER recommends LADY GARDENER; ten years' general experience; last two years chiefly glass; left through place being sold; Private or Market Garden; experienced Cucumbers, Tomatos, Carnations, propagating.—GILBERT, Fairway, Sandwich Bay, Kent.

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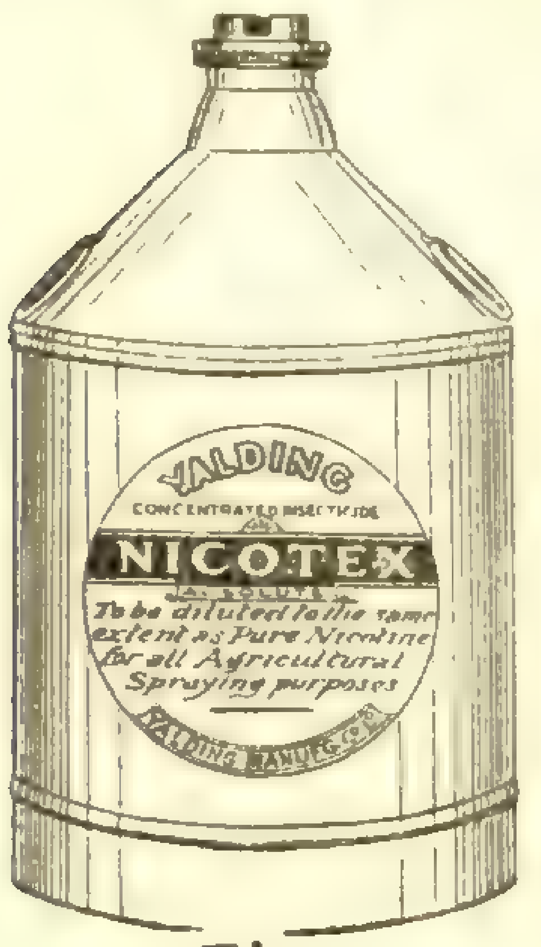

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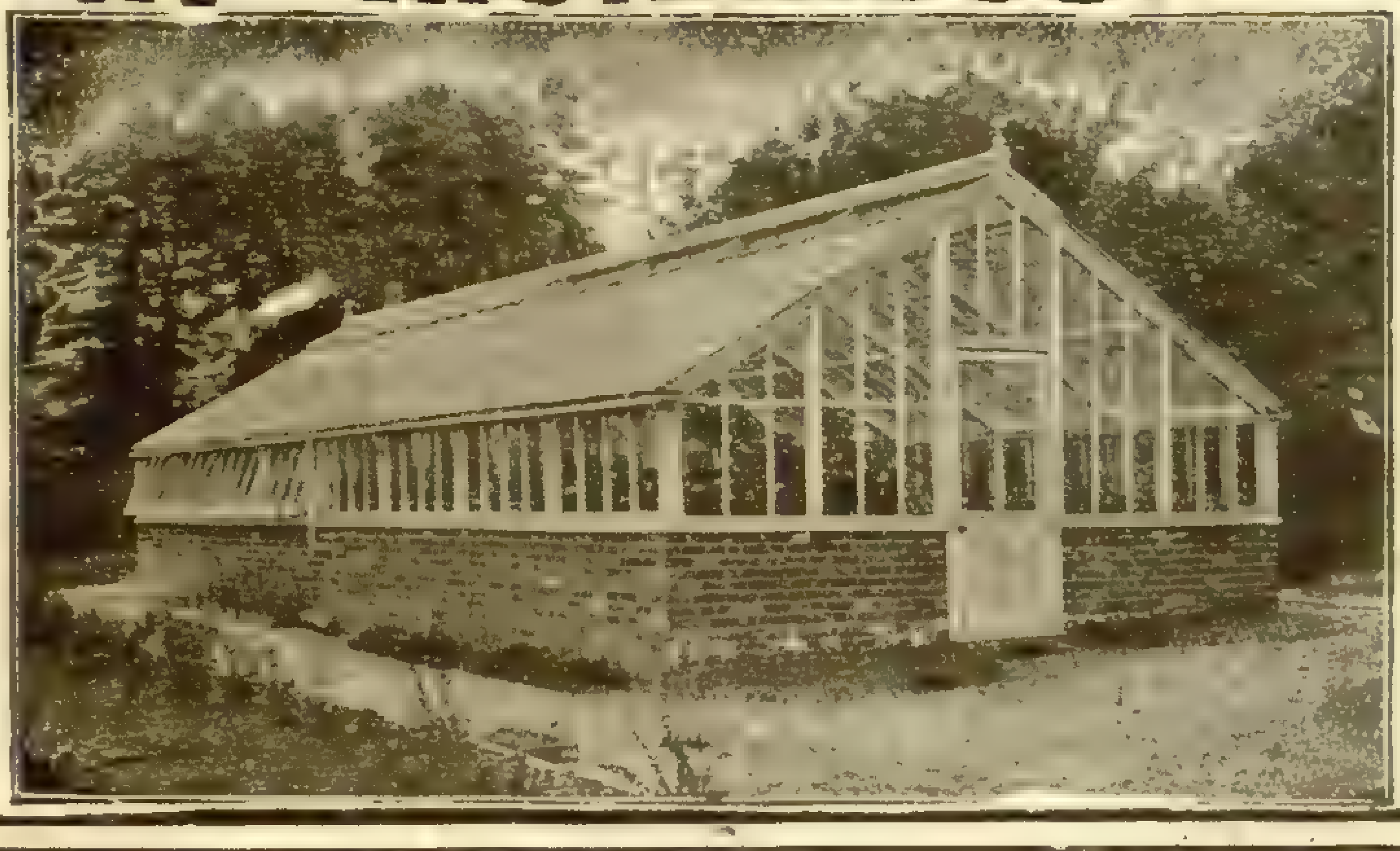

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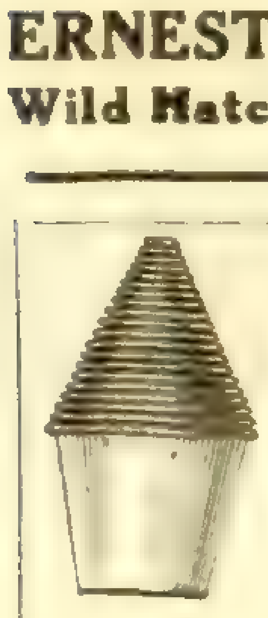

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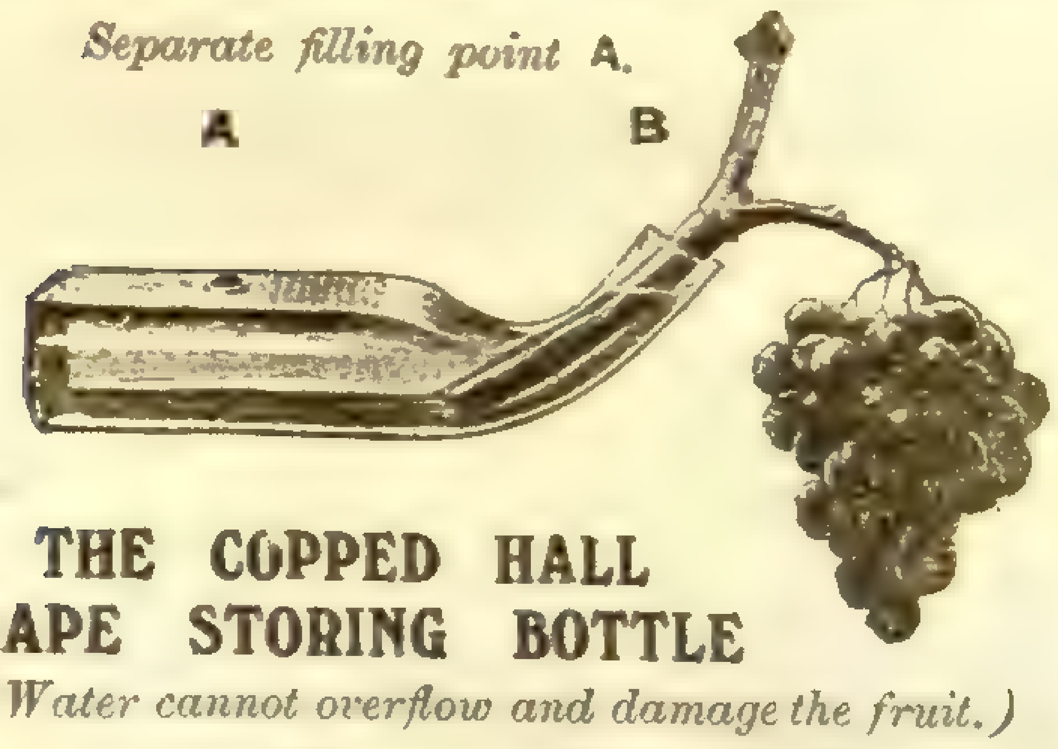

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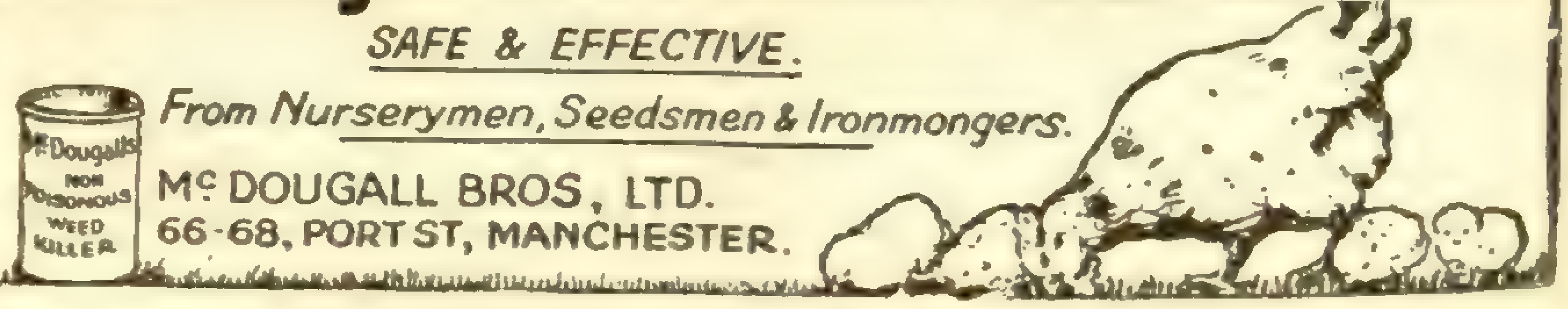

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THE
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No. 1704.—*SATURDAY, AUGUST* 23, 1919.

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.*

No. 5.—MAY ON THE HEIGHTS.

I LEARN a sad fact. That glorious "Blue Primula," on which I had imagined my eyes had been the first to stare in amazed delight, turns out to have been already seen by others, notably by Forrest, but it does not appear to have been introduced to cultivation, nor even to have had its seed sent home. All members of the P. sonchifolia group are said to be extremely recalcitrant about germination, and this beauty is said to be no exception. However, I shall persevere undaunted, since no pains would be too great for success with a plant of such startling loveliness and apparently robust growth. But as it loves the cool, rich woodlands, in whose decay of leaf-mould its roots spread shallowly, I suggest that its seed should be treated in the same way, and with the same care, as if it were that of Rhododendron. The seed is borne on a fat, cushion-disk covered with membrane, around and below which the sepals, pedicels and scapes all stiffen and thicken markedly, as in the Davidii group; then the covering membrane splits, and the seed is revealed, green or browning, on the disk, from which it seems to me to have an ominous way of falling unripe.

At the beginning of May the high tops, of course, are not yet advanced beyond the sereness of winter. They are difficult to negotiate, too, being densely covered in a man-high brake of Bamboo, varied with thickets of dwarf Rhododendrons, whose flowers only the future can reveal. The arborescent species still monopolise the picture—the great fleshy pink-and-cream one, the blood-scarlet, the blossom-smothered tree of soft pink. Of the smaller kinds the only ones as yet in evidence are a precious bush of yellow, with flowers produced before the leaves (and the only Rhododendron, as yet, that I do not hunger to introduce to home gardens); and another and very charming shrub, with foliage smooth and white on the reverse, enhancing the beauty of its profuse little trumpets of rich scarlet. This also seems to have a twin or counterpart in another small shrub, also abounding in rich scarlet flowers. But here they are larger, and the pointed leaves are clad, on their reverse, in a shag of white or tawny wool. Indeed, I continue to be even more struck than I had expected with the number and variety of Rhododendrons in these ranges, where any little outcrop or open slope may yield a distinct species.

A pale-yellow Fritillary is now appearing among the seeding scapes of the Blue Primula, in the open grassy glades that here and there occur in the universal Bamboo-brake. Otherwise there is nothing else as yet in flower, except a Ribes of gawky, graceless habit, with long tails of dull brown flowers. But on the open granite cliffs along the tops, and down their pendent moss-cushions, abounds a Primula which is certainly none other than P. bella (see Fig. 46) It is indeed a charming, dainty thing, with big, blur-eyed flowers of lavender-lilac, hovering close over the massed, tiny rosettes of powdered foliage—often in a regular, thick constellation over a carpet of minute greyness. Yet, were I

FIG. 46.—PRIMULA BELLA AT HOME.

naming the plant anew, I think I should soar less high for a title. Delicately lovely though it be, the plant recalls P. minima in a bluer shade, and gives very much the effect of P. minima, the mass of leaves making up for the difference of the non-ramifying habit. P. bella is common in the indicated situations between 10,000-13,000 ft., but the next Primula I have to record is found only on the high tops, beginning at some 11,000 ft. This is a Nivalid, which loves deep, damp, old moss-cushions on the damp, shady cliffs, or mossy tussocks among the lichened, interlacing stems of the dwarf Rhododendrons. Here it grows in clumps of two or three crowns, sending up stems three or four inches in height, each carrying three or four flowers of a clear bluish-purple that brings to mind those of P. marginata. But this Primula, though lovely enough, yet does not stand high in its glorious group, where the standard of magnificence is so exacting; nor dare I hope, from its home and habit, that it will ever serve with us as a carpeter, even of Tea-Rose beds.

But these heights yield yet another Primula,* and one of such precocious temper as already to have almost passed out of bloom. Deep in the shade of the Bamboo and Rhododendron forest, deep and damp little rocky gullies sink steeply down from the arête on both the Chinese and the Burmese sides; and here, in the dark and dank mossy walls, occurs a Primula of very odd appearance and habits. Readers may picture it roughly as a miniature of P. sinensis, with 3-inch scapes and umbels of fringed, pure white flowers, very rarely indeed tinged or backed with palest lilac-pink. It is a remarkably pretty plant, and strangely enough has a look, to me, of being quite likely to prove a good garden plant, were it only under glass, but its outstanding peculiarity lies in its foliage habit. The scape and toothed calyx, fattening towards seed, suggest the Davidii group, but the foliage is quite distinct. At flowering time all the leaves of the rosette are obovate and drawn down to the base in a diminishing, winged petiole. But after flowering, as the seed scapes fatten, the plant sends up, round and over them a new set of leaves, bare-stalked, cordate, and sharply dentate-lobate, as completely at variance with the first set as is the foliage of P. mollis with that of P. acaulis.

For the rest, there is still only promise along the high ridges. Pleiones and Coelogynes on the cliffs and in the old trees at 10,500 ft. altitude give an almost certain promise of proving hardy. Diapensias, Megasea-Saxifrages and Rodgersias await further inspection; and so does the Meconopsis of the grassy strips, which is clearly going to be nothing but P. Wallichii. One more Primula, however, remains to puzzle me. Of rare occurrence on Hpimaw Hill itself, appearing in solitary specimens among the Bracken and down in the gullies, there is a rich red-purple, yellow-ringed candelabra which I myself am completely unable to distinguish from P. japonica. The only other possibility would be P. mallophylla, and of P. mallophylla this plant lacks the long bracts that are its distinguishing note, otherwise P. mallophylla would be the more probable identification. The occurrence here of P. japonica seems so very unlikely that for some time I considered that plant must be a mere garden escape, owing its origin to the previous occupants of this bungalow, who were "great gardeners," and whose zeal is still evidenced by many an alien happily persisting. However, one who knew them well, and this Primula too, maintains confidently that they never introduced P. japonica, and that this rarely-occurring species is none of theirs at all, but belongs to the hill; so I must leave the identity of the plant to be settled by higher authorities. Of seed, unfortunately, there is no hope; as all the scapes I knew of have been plucked by the local poultry. *Reginald Farrer.*

* The previous articles by Mr. Farrer were published in our issues for June 21, June 28, July 12 and August 9.

* Primula sp. F. 881.

ORCHID NOTES AND GLEANINGS.

DISAS IN LEAF-MOULD.

AFTER reading your note on this subject on p. 33, and having seen Messrs. Flory and Black's well-grown specimens at the R.H.S. on the 1st ult., I should like, before attempting to follow this advice, to know how long they have been in pure leaf-mould; because some years ago, when I was growing Disas very successfully in the compost which seems most suitable to them—a mixture of peat and sand, surfaced with Sphagnum—my gardener was induced to try them in Oak leaf-mould, which at that time was very much advocated for Orchids by certain growers who had been very successful with it. The result was the loss of all my seedlings, together with a number which were sent me by the Kew authorities to grow for them. After forty years' experience of growing terrestrial Orchids, and having seen Disas successfully grown in several places under very varied conditions and in various com-

posts, I have come to the conclusion that success depends as much, or more, on the personal skill and judgment of the grower, on the climate of the place where they are grown, and on careful watering, airing and lighting, than on the compost. If anyone will read the account of the conditions under which Disas grow on Table Mountain, most carefully described in the *Botanical Magazine* for 1844, under Plate 4073, by Sir John Herschel, it will be seen that we cannot reproduce these conditions in England. I have had tubers sent from Cape Town in the hard, black, sandy peat in which they grow there, and have lost them, as others have often done, after a year or two in the same soil. I have tried them in the soft, fibrous loam in which Mr. Smith grows them so well, in a cold frame facing north, at West Dean Park, and have failed, as Mr. St. Quintin—a most careful

grown well in pots in a cold greenhouse, without any shading, near Edinburgh, and at times elsewhere; but no one as yet seems, so far as I know, to be able to succeed with them for many years together. It may be that they gradually lose their constitution in this country, and must be grown from seed, as Messrs. Flory and Black grow them, to keep up their vigour. When I first got Disa Luna I thought that it was a much more vigorous and easy plant to grow than D. grandiflora, but my old plants of this hybrid are now going back in the same house and under the same treatment as formerly; and it may very likely be the case that Messrs. Flory and Black's seedlings, which are new hybrids, will decline in vigour, and that the strength of the plants is due rather to their skill in managing them than to the Beech leaf-mould in which they are potted.

Fig. 47.—H.T. ROSE MRS. HENRY MORSE; A NEW PINK VARIETY.
N.R.S. Gold Medal, Norwich, July 10, 1919.

and successful grower of many rare Orchids—tells me he has also failed in Yorkshire. I have seen Disas, many years ago, most successfully grown at Messrs. Backhouse's nursery at York, planted out in a bed of peat mixed with clinkers and surfaced with Sphagnum, where for a few years they increased and flowered beautifully, but when a fresh man was put in charge they were all lost. Col. Stevenson Clarke grows them very well in Sussex in a peat bed in a cold house, where the stem bases are buried in luxuriant Sphagnum. The late Mr. Gumbleton grew them for a time with success in the mild, soft climate of Queenstown, out of doors during the whole summer, where they did not suffer from thrips as they always do out of doors at Colesborne. I have seen them

I believe that the principal points to attend to are :—First, to admit as much fresh air and light as possible at all seasons of the year, without direct exposure to strong sunshine or cold draughts. Second, constant watchfulness against thrips, for the leaves will not bear fumigation, and are very quickly injured by this pest. Third, very careful watering and frequent syringing about the pots in order that the roots, when in active growth, shall never be dry or waterlogged; and about three months of partial rest after flowering. Fourth, repotting every two years, either in autumn, as is done by most growers, or in early spring, as practised by Mr. Smith at West Dean. Lastly, a temperature not falling below about 35° in winter and not over about 75° in summer, with top and side ventilation all the year round when the weather is mild.

I shall be grateful to Messrs. Flory and Black if they will tell me how to improve on or modify these cultural directions.

A very fine and robust form of Disa grandiflora was once figured under the name of D. Barellii. I shall be glad if anyone can tell me whether this still exists, and where the illustration was published. *H. J. Elwes, Colesborne.*

THE ROSARY.

H. T. ROSE MRS. HENRY MORSE.

Among the several new Roses to which the National Rose Society awarded Gold Medals at Norwich, on July 10, the variety which most attracted the attention of ladies was named Mrs. Henry Morse, in compliment to the wife of a large wholesale grower of Rose plants in the Norwich district. This Hybrid Tea variety is slightly fragrant, and though its blooms are not of the largest exhibition size, they possess rare beauty of form (see Fig. 47), and a firmness of petal that suggests qualities likely to commend the Rose to growers of flowers for market. The colour is bright shell pink, with a salmon pink glow that is deepest at the base of the petals. H. T. Rose Mrs. Henry Morse was raised by Messrs. S. McGredy and Son, Portadown, and exhibited by them at Norwich.

NURSERY NOTES.

TOMATOS AT READING

Messrs. Sutton and Sons have a large range of glasshouses at their extensive trial grounds on the outskirts of the borough of Reading, and these houses in normal times are devoted to the cultivation of indoor-flowering plants such as Cyclamens, Primulas, Gloxinias, Calceolarias, Begonias and the numerous other popular greenhouse plants raised annually from seed. These houses are always very interesting, not only on account of the great variety of subjects grown in them, but also for the excellence of the cultivation of these flowering plants in pots. They are in the widest sense "show" houses, for even the most expert gardener would be more than satisfied in seeing the greenhouses and conservatories under his charge furnished with such healthy and floriferous specimens. In common with nurserymen and gardeners generally, Messrs. Sutton and Sons recognised that it was more important during war time to grow food crops than plants of a purely decorative character, and so, instead of growing such large quantities of indoor flowers as usual, only sufficient to maintain the necessary stocks of each subject were cultivated, leaving room for a crop of more utilitarian value.

This season a considerable amount of room in these glasshouses has been devoted to a trial of Tomatos in pots, and it was our pleasure recently to inspect this very complete collection and to make notes of the cropping and other characters of the individual varieties. This trial was an excellent one, and there was not a poor specimen amongst the very large number of plants grown. It was obvious that each variety had been given the fullest opportunity, so far as cultural skill was concerned, to exhibit its qualities under the best conditions, thus making comparison the more easy.

In all there were some eighty-six stocks representing well-proved sorts as well as most of the modern varieties, and especially those that are popular with growers for market. All, or almost all, were of the round fruited type, the first of which, Perfection, was sent out by this well-known seed firm. The pioneer variety was bearing a good crop of large, finely coloured fruits, and holding its own bravely among many later introductions. There are some who maintain that a good stock of Perfection gives almost everything that is needed in an indoor Tomato, but although we should not be inclined to support such a contention

especially after seeing several in the trial that were undoubtedly superior, it must be admitted that this old favourite is still worthy of being perpetuated. Sunrise marks a further advance in these round-fruited Tomatos, and it was obvious that many of the varieties of recent years had descended from it. One of the finest of all Tomatos in this collection was Early Market (see Fig. 48), which has much of the habit of Sunrise, but was certainly superior. The plants of this variety were well furnished with large clusters, some of which carried as many as nine fine fruits, perfectly round in shape and of medium size. One of the earliest to ripen was well named—Earliest of All—and this Tomato is very suitable for open-air culture. Magnum Bonum is somewhat like the last, but its flesh is thicker. There did not appear to be so many trusses on the upper part of the stem as in some others, a defect that some otherwise good varieties also possess. A1, an Apple-shaped variety, with perfectly smooth fruits of excellent colour (see Fig. 49), is much in request for exhibition purposes; it also crops freely. Eclipse is another good exhibition variety, quite smooth, with no "eye," and a moderate cropper. Best of All is worthy of its name, for there were few in this extensive collection that had superior merits. One of the chief qualities of this fine Tomato is its short internodes, and as it develops big trusses of fruits, a plant a few feet high bears an enormous crop. In Lister's Prolific the opposite is seen, for though this fine sort has long racemes, bearing shapely fruits, it is "long jointed," which must be considered a defect. We were very favourably impressed with Scarlet Beauty and Ideal, and consider these two amongst the best in the trial.

We can only make a brief reference to such sorts as Peacock's Beat All, which seems to set its top fruits well, and bears large bunches of brightly coloured Tomatos; Market King, which is quite good; Ailsa Craig, a popular sort with market growers; Fillbasket, which is quite distinct in the shape of the trusses; Water Baby, a rather late variety, but with big trusses of fine fruits; Wonderful, of the Best of All type; Tuckswood Favourite, of the Early Market type, but with broader clusters of fruit; Evesham Wonder, also of the same type, each plant with four or five excellent bunches; Kondine Red and Holme's Supreme, which are good croppers.

There were several yellow varieties in the trial, and one of the best was named Golden Perfection. Sunbeam has yellow, egg-shaped fruits, but the heaviest cropper of the yellow-fruited sorts was Golden Queen. Amongst novelties we noticed a seedling raised from Early Market × Wonder of Italy. This new variety bears big trusses of small, highly coloured, red fruits, and it will be put into commence as Sutton's Dessert (see Fig. 50).

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante pp. 64-70.)
(*Continued from p. 92.*)

ENGLAND, N.E.

DURHAM.—The plague of caterpillars has this year destroyed almost everything outside, especially the Apples and Black Currant crops. *E. Tindale, Ravensworth Gardens, Gateshead.*

NORTHUMBERLAND.—We had a splendid prospect for all small fruits until snow and frost in April caused most of the fruits of Gooseberries and Black Currants to drop. Strawberries set plenty of fruits, but owing to prolonged drought the crop did not develop. Very few Apple trees which bore crops last season carry any fruit this season, and all have suffered from the plague of caterpillars. *John Jackson, Ford Castle Gardens, Berwick-on-Tweed.*

—— Severe frosts in April ruined the Gooseberry and Red and Black Currant Crops, and the drought in May and June spoiled the Strawberry crop. *J. Winder, Howden Dene, Corbridge.*

YORKSHIRE.—All fruit trees and bushes blossomed abundantly, but the crops are disappointing, owing to the excessively dry weather experienced in May and June. Many Apple and Pear trees were full of bloom but failed to set fruits owing to caterpillar attacks, but some trees carry heavy crops. Strawberries, where well supplied with water, bore heavy crops. Gooseberries, Currants and Raspberries cropped well. *Jas. E. Hathaway, The Gardens, Baldersby Park, Thirsk.*

—— The fruit crops on the whole are very satisfactory, with the exception of Apricots, which have failed to set a crop of fruit for the first time in 15 years. *F. C. Puddle, Scampston Hall Gardens, Rillington, York.*

—— Most varieties of Pears and Plums were subject to 13 degrees of frost when in bloom. Apples flowered strongly and set well, but the prolonged drought caused large quantities of fruits to drop. A notable point is that Apple trees on the Crab stock suffered less from drought than those on the Paradise stock. Strawberries were very fine and extremely late; the first gathering taking place on July 1. Caterpillars were not so numerous as last season—preventive measures having the desired effect. *Sidney Legg, Warter Priory Gardens.*

FIG. 48.—TOMATO EARLY MARKET.

CAMBRIDGESHIRE.—Apricot and Plum blossom suffered severely from frost. Strawberries, after promising a very good crop, were considerably affected by the drought. *Arthur Sewell, c/o Mrs. Martin, Barton Road, Ely.*

—— Apple crops look extremely well and a great deal of thinning has been done. Plums carry a small crop, as they were in flower when we had a severe snowstorm on April 27. The recent drought affected the Strawberry crop and, although the fruits were good, the season was a very short one. Gooseberries bore a heavy crop. *E. Matthews, Moulton Paddocks Gardens, Newmarket.*

ENGLAND, E.

ESSEX.—Apple trees, except the varieties Lane's Prince Albert, Bismarck and Devonshire Quarrenden, are not carrying such good crops as the amount of bloom they carried led one to expect. From many trees large quantities of fruit have dropped, probably owing to the prolonged draught, but on the whole the quantity is a fair average. The same remark applies to Pears. Plums carry very heavy crops, and so do Damsons. *Arthur Bullock, Copped Hall Gardens, Epping.*

—— The early drought affected the Strawberries and Raspberry crops, and caused the loss of a great many Apples. In certain places much injury was done by caterpillars. *C. Wakely, County Gardens, Chelmsford.*

—— Apple trees bloomed abundantly, but the drought caused the young fruits to drop in large numbers. Most varieties of Pears carry a good clean crop. Plums are not so plentiful as was expected owing to a heavy snowstorm, and later to the drought. Cherries, Peaches and Nectarines are all good average crops, but Apricots are a poor crop. Small fruits are abundant, and Strawberries would have given a heavy crop if the drought had not lasted so long. *William Johnson, Stansted Hall Gardens, Stansted.*

HUNTINGDONSHIRE.—The prolonged drought adversely affected all fruit crops, chiefly Strawberries and Black Currants. Apples have suffered least, and there is every promise of a heavy crop. *A. V. Coombe, Ramsey Abbey Gardens.*

LINCOLNSHIRE.—Fruit crops have not fulfilled the promise of early spring. The Apple crop is a good average one. The trees blossomed freely and no frost occurred during the setting period, but the dry weather of May and June caused large numbers of fruits to drop. Bush and espalier trees are carrying heavy crops; standard trees, grassed over, are almost bare, while those on tilled ground are carrying better crops. Pears are bearing about half an average crop, except the standard trees, which in many cases are entirely devoid of fruit. Plums gave a fine promise and set their fruit, but only Victoria and The Czar have perfected a crop. Apricots have about half a crop, but Peaches and Nectarines are bearing good average crops. Bush fruits were plentiful. Strawberries promised well, but drought spoiled the good prospects; Royal Sovereign and Leader were the best varieties. The soil here is heavy, with clay subsoil. *F. J. Foster, Grimsthorpe Castle Gardens, Bourne.*

—— The Strawberry crop suffered seriously through drought. Raspberries and Gooseberries bore heavy crops. It is almost impossible to grow Apricots here—the trees die back even when young, although the borders are specially prepared for them. Soil, strong loamy; clay subsoil. All varieties of Apples are yielding well; the trees were sprayed in February with caustic soda. *F. C. Stainsby, Brocklesby Park Gardens, Lincolnshire.*

NORFOLK.—All fruit trees flowered exceptionally well, but, owing to the cold easterly winds, Apricots failed to set. Pears and Plums also suffered, but not to the same degree. Apple trees carry an excellent crop. Strawberries, Raspberries and Gooseberries bore abundant crops. *Isaiah Johnson, Catton House Gardens.*

SUFFOLK.—The Apple crop in this district is an uneven one, primarily due to the ravages of the Apple blossom weevil and Apple sucker and the winter moth caterpillar. Spraying controls were conducted, principally with nicotine, of which I hope to report later, with a few notes as to the effect of various sprayings at different periods upon early and late cooking or dessert varieties, as the case may be. Black Currants carried an enormous crop, Boskoop Giant being very fine, but for general utility and immunity (so far) from big bud, Seabrook's Giant, in my opinion, stands first. Carter's Champion should, however, be grown wherever possible owing to its extreme value as a late variety. *Arthur Turner, Orwell Park Gardens, Ipswich.*

MIDLAND COUNTIES.

BEDFORDSHIRE.—All kinds of fruit trees flowered most profusely. Practically all Apple trees and Pear trees were literally smothered with blossom, particularly Red Currants. Cold winds adversely affected Black Currants, and drought spoiled the Strawberries. In this district early Pears are more abundant than late varieties. *C. Turner, Ampthill Park Gardens, Ampthill.*

(*To be continued.*)

The Week's Work.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Watering Fruit Trees.—Fruit trees should receive abundant supplies of water this dry season, both on the foliage and at the roots if they are carrying heavy crops. This will tend to keep the trees clean and assist the fruits to swell. After the latter begin to colour, syringing and hosing should be discontinued.

Painting.—Advantage should be taken of dry weather to paint ironwork, wooden copings on walls, and, after the old Raspberry canes are cut out, the posts and wires of the trellis, before the young canes are tied to them; it is best to give one coat of paint every year if possible, especially to ironwork. Gas tar is very good for coating iron and woodwork provided it does not touch the plants, as it keeps down insect pests which harbour in crevices. The tar should be allowed to harden before the plants are tied in position.

Figs.—The fruits of outdoor Figs will be about full grown and therefore should be exposed to the sun as much as possible to encourage ripening and to secure good flavour. Cut out badly placed and unnecessary growths, and tie the remaining shoots close to the wall to provide next season's crop. Avoid crossing the shoots and use strong tar cord for tying, as the large leaves of Fig trees offer considerable resistance to the wind. Give liquid manure to the roots of all Fig trees carrying heavy crops, but not to trees carrying light crops or those growing grossly.

Black and White Currants.—Where the bushes are getting tall and heavy, some of the old shoots should be cut back, as this practice saves a certain amount of winter pruning, and also admits light and air to ripen the remaining growths. All vigorous young growths should be allowed to remain in Black Currant bushes to replace old fruiting wood. During dry weather Currant bushes should be watered at the roots and overhead, and if aphides are present, syringe the bushes with Quassia extract.

Protection for Late Fruits.—All kinds of fruits which are to be kept as late as possible should be protected by nets put over the trees. Choice Pears and Apples are soon spoiled by birds pecking them before they begin to ripen, especially in dry seasons.

Exposing Peach and Nectarine Fruits.—Fruits on Peach and Nectarine trees should be exposed to the sun to secure good colour, and this may be done by placing thin, flat pieces of wood behind the fruits before they get too far developed. Any leaves that shade the fruits should be tied back.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Peas.—All Peas should receive every assistance from mulching, watering and overhead sprayings whenever needed. Watch closely for the first signs of mildew, and dust the foliage with lime or sulphur immediately it appears, as a timely application will check the progress of the disease. The late rows of Peas should be earthed up, and staked when 2 or 3 inches high, as they benefit largely from the partial shade the sticks produce.

Runner Beans.—The continued hot, dry weather experienced in the south renders it necessary to regularly water Runner Beans, provide a mulching over the roots, and spray the plants overhead to encourage the flowers to "set." The pods should be gathered immediately they are large enough for use. When the plants reach the top of the supports, pinch out the point of growth. If too much growth is made at the base of the plants, do not hesitate to thin this out. The late sown batch, sown in a sheltered situation, should have all the basal flowers removed to allow succeeding pods to develop when the early rows become exhausted.

Onions.—Large Onion bulbs will by this date be "finishing," consequently water must now be witheld from them, or the finest specimens may split and become useless for exhibition purposes. It is a good plan to thrust a garden fork into the ground six inches from the Onions that are finishing and partially lift the bulbs; this treatment will encourage the ripening process. In the event of very wet weather, lift the large bulbs and place them in a dry and cool house or cold frame; but the bulk of the crop will dry well if placed on hurdles on the bed and covered with lights.

Maincrop Onions.—Hot and dry weather will soon render the maincrop Onions ready for harvesting much earlier than usual. The tops should be bent down to assist the bulbs to mature more quickly. As the tops become pale and wilted, the bulbs should be pulled up and laid in rows on the ground, but if wet weather follows remove them to dry quarters, such as open sheds, or place them under garden lights. Thick-necked plants should be removed from the bed at the time of pulling and dried by themselves for early use.

Fig 49.—tomato sutton's a1.
(See p. 103.)

Lettuce.—A good batch of Lettuce should now be raised for use next spring. Choose proved varieties, such as Improved Bath Cos, Winter White (a fine hardy Cos variety) and Stanstead Park. Sow the seeds in watered drills, one inch deep.

Thinning Vegetable Crops.—Seedlings of Endive, Lettuce and Turnip should be thinned as soon as large enough to handle if quick and sturdy growth is to be maintained. During hot, dry weather it is a good plan to slightly earth up little seedlings of all kinds.

Winter Spinach.—A sowing of the winter and prickly types of Spinach should be made on ground that has become vacant after Potatos; hoe in a good dressing of soot, work the soil to a fine tilth, and sow the seed in drills drawn 16 inches apart and watered before sowing.

Cardoons.—These grow freely in very hot weather, provided the roots receive liberal supplies of water. When earthing-up Cardoons, rough paper or motor-tyre coverings should be placed around the plants, about 1 foot in height, before each earthing up. It is not very difficult this season to choose dry days for the operation.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cattleya.—The more light and air Cattleyas receive the greater is the amount of water they will require at the roots. Towards the end of the growing season inexperienced growers often commence to lessen the water supply too quickly, and shrivelling of the plants during winter, followed by weak growths in spring, is the inevitable result. The period at which Cattleyas require most water is from the commencement of the forming of the pseudo-bulbs until it is apparent that the latter have attained full development, avoiding, of course, that excess which causes the roots to decay. When the leaves and pseudo-bulbs of these Orchids take on a hardy and bronzed appearance, with the flower sheaths well pushed up, it is a sure sign that the maximum of light and air has reached them, and the wants of the plants have been supplied with regard to moisture. In such cases there will not be the need for so much water in winter and early spring, when root action is sluggish, and the plants have therefore not the same power of using up the moisture. Too little water at the stage indicated is, I believe, often the forerunner of many growths damping off in spring.

Sobralia.—The members of the genus Sobralia have slender, reed-like stems, which carry a profusion of rich, deep green leaves, and specimens are elegant even when not in bloom, but when carrying their gorgeous flowers, which are produced during the summer months, they are quite unsurpassed in general effect by any other plants. The species and hybrids are easily grown and thrive best in an intermediate temperature. Plenty of water should be afforded the roots of established specimens when the plants are in full growth, with an occasional supply of weak, liquid manure from the farmyard when the new growths are nearing completion in the spring. Sobralias do not have a decided resting perior, therefore at no season of the year should they become quite dry at the roots, as this would cause many leaves to drop and thus destroy the beauty of the plants. The leaves are subject to attack of red spider and black thrips, but if the syringe is used freely under and over the foliage, when the weather is fine, little difficulty is found in keeping these pests in check. Sunlight and fresh air are desirable at all times to enable the plants to form strong, healthy shoots that will flower satisfactorily.

Repotting.—The most suitable time at which to pot Sobralias is soon after the plants have ceased flowering. Root-bound plants should be placed in larger pots, if specimens are required, and any that are considered too large may be divided. It is a difficult matter to separate the fleshy roots without injuring them, and care should be taken to preserve as many of these as possible. After shaking all loose material from the divided parts, all broken roots should be cut off cleanly just above the point where they are broken. Being terrestrial, the plants should be potted in the usual way and not elevated above the rim of the pot. Pots or teak-wood tubs, of a reasonable size, are desirable, as the plants make quantities of large and fleshy roots. The receptacles should be well provided with drainage to ensure a free passage for the abundant supplies of water needed during the summer season. The soil should consist of good fibrous loam two parts, peat or A1 fibre two parts, and leaf soil two parts, with sufficient gritty material added to keep the mixture porous. The compost should be used in a rough state, and made moderately firm about the roots. The usual care should be exercised in watering newly-potted plants and especially those that have been divided.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Lilium.—When Liliums are required to flower by Christmas, retarded bulbs of L. speciosum varieties should be potted at once, three or four together in 9-inch pots; use a compost of loam peat, sand and dried manure, but only half fill the pots so as to allow for top dressing afterwards. Just cover the bulbs with soil, place the pots in a cool, darkened frame, and keep them there until growth commences, then fully expose them to light and, as growth extends, top dress the roots.

Winter-Flowering Plants. — Plants required for flowering in winter and now established in their flowering pots and standing out of doors should be carefully staked and tied as a protection from strong winds. Keep them free from insect pests and give the roots frequent supplies of liquid manure.

Roman Hyacinths.—Roman Hyacinths required to flower in early winter should be potted, placing as many bulbs as possible in a 6-inch pot, in ordinary soil, with a sprinkling of sand round each bulb. Pot firmly, leaving the tops of the bulbs uncovered; afford a good soaking of water after potting, plunge the pots in a cold frame facing the north, and cover them with a few inches of coal ash, the object being to secure early root action. When the pots are filled with roots and some top growth appears, place the plants in full light in a cold frame. Where quantities of Roman Hyacinths are grown for cut flowers, the bulbs may be placed in boxes and given similar treatment to those in pots.

Narcissi and Early-flowering Tulips.—Bulbs of varieties selected for forcing should be treated in the same way as Roman Hyacinths; 7-inch pots are suitable for Narcissi.

Poinsettia pulcherrima.—Young plants should now be potted into 6-inch pots, in which they are to flower. Old plants should be placed in larger pots, and until the weather becomes colder, should be fully exposed to light and air.

Euphorbia jacquiniaeflora.—This elegant plant should be grown in a warm house and exposed to the light. Plants that are growing slowly may be given weak liquid manure at the roots, increasing the supply as the plants increase in size and strength.

Chinese Primulas.—Varieties of Primula sinensis, growing either in boxes or small pots, should now be ready to be potted into 6-inch pots, in which they will flower. Use a compost of fibrous loam, leaf-mould and sand, and add some plant fertiliser. Stand the newly-potted plants in a cool house or pit, near the glass; shade them from bright sunshine, afford plenty of air and expose them to the moist, night air, when there is no rain, by removing the lights.

Double Primulas.—Young plants propagated from side-shoots, if well rooted, should now be placed in their flowering pots, using pots and soil as in the case of the single varieties referred to above; stand them on a trellis raised well up toward the roof glass in a greenhouse. Double varieties are more liable to damp off at the "collar" than single varieties, therefore watering should be done very carefully.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Winter Fruiting Cucumbers.—Seeds may be sown from the middle to the end of August to supply Cucumber plants for winter fruiting. This early start may, however, be modified when the Cucumber-house is very light and well provided with top and bottom-heat. In providing for winter cropping, the plants should be of considerable size and strength ere they are allowed to carry many fruits. The winter plants should be in readiness to carry on the supply, as soon as the summer and autumn plants are exhausted.

The Early Vinery.—It frequently happens that, once the crop is removed from them, the early Vines are sadly neglected, whereas strict attention to cultural details is necessary to obtain future success. Borders well filled with roots should not be allowed to become dry; indeed, occasional applications of liquid manure, either natural or artificial, will enable the Vines to plump up their buds ready for a vigorous start in the new year. Superfluous laterals should be checked early and the fruiting laterals shortened gradually, so that the basal buds may derive all possible benefit from autumn sunshine. When the weather is bright, thoroughly syringe the Vines at intervals of three or four days, but later on, when the nights become chilly, syringing should be done in the mornings, as an excess of moisture under such conditions will be harmful. Free admission of air should be afforded, both day and night, and the paths damped occasionally during hot weather.

Vine Borders.—Where the Vines have failed to make satisfactory growth or to finish their crop properly, the failure can usually be traced to faulty root action. In such a case the borders should be carefully examined, and if the soil is in bad condition and the roots unhealthy, the best plan will be to re-make the border entirely. Where the roots extend in outside as well as inside borders, it is advisable to re-make one border at a time, as there will be less check to the Vines, and by the following year root action should be progressing in the new soil, and it will be possible to complete the operation without fear of serious consequences to the Vines. If the work is taken in hand before the foliage ripens, Vines will make new roots which will assist the foliage and buds. Every possible preparation should be made for carrying out the work expeditiously. Good fibrous loam of a medium texture should be roughly chopped up and mixed with some old mortar or plaster rubble, wood ash or charred refuse, and crushed bones. The rooting medium for Vines should allow water to pass freely through it, for once there is stagnation the Vines will suffer. To overlay the drainage, freshly-cut turves, the grass side downwards, should be used. A depth of 2 ft. 6 ins. of soil should be allowed, and if the border is of greater depth than this, add more drainage material.

Fig. 50.—Tomato Sutton's Dessert. (See p. 103.)

Care of the Roots.—When removing the old soil the work should not be hurried, or the Vine roots will suffer. The utmost care should be taken to preserve all fibrous roots from damage, and as the roots are cleared bind them up in wet stable litter and mats to prevent them from drying. When replacing the roots, after cutting away damaged portions, lay them out regularly throughout the border and place some of the strongest about 6 in. or 8 in. below the surface. As the layers of roots are placed in position, moisten each set before adding a fresh layer of soil. If the border is an inside one and the soil is reasonably moist, there will be no need to give water until the house is closed. An outside border will naturally receive sufficient moisture from the autumn rains, but in this case an excess of moisture must be guarded against by covering the border with shutters, corrugated iron sheets or spare lights—the latter for preference. During the time the work of renovation is proceeding, and for a week or two after its completion, shade the Vines on bright days, keep the house closed, and syringe the Vines several times a day in bright and sunny weather. When the foliage has recovered from the check, air may be admitted and the syringing gradually discontinued.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Climbing Roses.—Give the roots of all Roses trained to poles, arches and other supports, copious supplies of liquid manure to assist the plants to maintain their vigour and develop strong young shoots for flowering next year. This important work is sometimes neglected owing to pressure of other urgent matters. In applying liquid manure at this season, give sufficient to penetrate the soil to a good depth, otherwise the best results cannot be expected—the same remarks apply to Roses growing in borders and trained to trellises. Cuttings of most climbing Roses will root freely under handlights if inserted now.

Hardy Annuals.—Prepare the soil and sow the seeds of all kinds of hardy annuals required for flowering next year. Make the soil rather firm, draw the drills about 1-inch deep, and, if the weather is dry, water the drills a short time before sowing the seed. Sow thinly and evenly, cover the seeds carefully and afford shade if the weather continues to be very bright and dry, until the seedlings appear. Keep the seedlings free from weeds and supply water as needed.

Chrysanthemums.—Young plants placed in rich, deeply dug soil and made moderately firm at the roots should have made strong and luxuriant growths; these should be neatly supported by suitable stakes and ties to prevent breakage during strong winds. Give the roots abundant supplies of water and afford liquid manure at alternate waterings. Plants in the reserve garden, to be lifted and transferred to the herbaceous border to give a display when some of the summer flowering occupants are over, should receive ample supplies of moisture at their roots.

Ostrich Plume Asters.—The branching growths of the exceptionally useful Ostrich Plume Asters should be neatly supported to prevent breakage during wet and stormy weather. Clay's Fertiliser, or some other suitable manure in liquid form, should be supplied to the roots to assist the production of large flowers. Keep the surface soil lightly hoed and free from weeds. On light soils mulchings of decayed manure will prove very helpful to both Asters and Stocks.

Rock Garden.—As a consequence of the hot, dry weather experienced, shallow-rooting Alpine plants will suffer unless watered a few times in succession until the soil and roots have become thoroughly moistened.

Hardy Ferns.—In a hot period like the present it is almost impossible to over-water hardy Ferns. Specimens growing in pots or tubs will need large supplies of water during hot weather to keep their fronds healthy and the roots thoroughly moist. Once the mass of soil and roots becomes very dry fronds will quickly assume a sickly appearance.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* Publisher; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* Editors. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

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Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, AUGUST 26.—
Royal Horticultural Society's Committees meet. Lecture by Mr. H. Burns, at 3 p.m., on "Allotment Development in and around Leicester."

THURSDAY, AUGUST 28.—
Sandy Flower Show.

SATURDAY, AUGUST 30.—
Southport Fruit and Vegetable Show.

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 61.35°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, Aug. 20,* 10 a.m.: Bar. 30.1; temp. 70°. Weather—Rainy.

Ormskirk Potato Trials, 1919. The continued spread of the wart disease of the Potato, its serious effects upon the crop, and the compulsory measures which the Board of Agriculture has felt bound to adopt in order to attempt to check its spread, have combined to draw attention to the trials which the Board commenced several years ago at Ormskirk. That this attention is well merited our previous references to these trials will have made evident; that it is increasing the many interested persons—more numerous than in previous years—that visited the trials at the invitation of the Board last week, and the increased number of stocks growing in the trials, clearly show. The primary object of the trials is to settle the question quite definitely as to whether any particular variety of Potato will withstand the wart disease or not. In order to ascertain this fundamental point the Potatos are grown in land very badly infected with the organism that is the cause of the disease—viz., Synchytrium endobioticum. Every opportunity is given for the Potato under trial to be infected, and although certain difficulties inherent in the circumstances in which the trials have had to be conducted have to be overcome, the care exercised by Mr. John Snell (and for his work no praise can be too great), under whom the trials are conducted, makes the answer as nearly definite as may be, and only a few varieties have to be recorded as doubtful each year. One cause of uncertainty will be removed when the new land recently acquired, and which we understand is likely to be available next year, is brought into use.

No cure for the disease is known, and no method of soil treatment will, so far as is yet discovered, rid it of the organism that causes the disease. The only remaining means of obtaining a crop, therefore, is to grow varieties of Potatos not subject to attack, and it is in this search for resistant varieties that the Ormskirk trials are so valuable. Several good second-early varieties, like King George and Great Scot, are available, but of first-earlies less can yet be said with certainty. Midlothian Early (or Duke of York, as the variety is often called), Ninetyfold, May Queen and Epicure are all susceptible varieties. Are there any to take their place? One or two seen at Ormskirk for the first time this season are very promising, so far as habit, earliness and cropping go, but the very best of these have proved susceptible to wart disease. Two or three others becoming known now, and proved, by growing in Ormskirk's infected soil, immune from attack by the wart disease, are promising, especially Arran Comrade, Arran Rose, Dargill Early, and perhaps America. It is not clear from what is seen at Ormskirk that they are such heavy croppers as those mentioned, nor whether they are as early, nor whether, like Epicure, they may be lifted and prove of good quality while the haulm is still green. The Wisley trials of early Potatos may perhaps throw some light upon these questions, and some can only be answered after very special precautions have been taken, but there is a very prevalent feeling that a really first-class, first-early, immune, white-skinned Potato is still to be sought. There is room, therefore, for much effort in raising new first-early varieties, and as Dr. Keeble—at the discussion following the inspection—pointed out, seedling-raisers, in their endeavour to raise new first-early varieties, would do well to use as parents only early varieties and to carry their breeding on to the second generation rather than depend upon the first generation only.

Equally important is it to raise new late varieties of good size, white skin, and heavy yield combined with wart resistance. Perhaps the most promising of the new late varieties (since Templar produces only a medium crop as a rule and a tuber too small in size to please many, and Lochar also produces so many small tubers although the crop is heavy) are Roderick Dhu and Tindwald Perfection, but here again there is room for effort. Many are at work, but there is ample room for more, and Potato seedling raising is easy, though the prizes are few. To gain a prize at all would be to confer a great benefit upon the English Potato grower.

Destruction of Rats. The ironical cheers which greeted the introduction to the House of Commons of the Bill for the Destruction of Rats and Mice must have grated on the ears of all who suffer from the depredations of these vermin. It is well known that the losses which rats and mice cause to agriculturists and growers generally, are enormous, and also that of recent years the losses have increased. Besides the toll which they habitually take of Corn, rats show extraordinary and maleficent enterprise in attacking all manner of garden crops. Two examples have recently come to our notice. In one they not only gnawed the soft stems of Maize, but actually swarmed up the stems and devoured the ripening heads of "seed." In the other they developed a sudden taste for Gooseberries, and made considerable havoc among the ripe berries of a small plantation. These, however, are only, as it were, side lines in their business of destruction. Their main activities result in the annual destruction of many millions of pounds' worth of foodstuffs. Rats and mice are moreover, enemies to human health, and as is now well known, act as carriers of disease.

Their fecundity and versatility make them redoubtable enemies of mankind, and experience has shown that in their case, as in that of so many other pests, nothing but concerted and systematic action is of use in keeping their numbers within bounds.

It is the object of the Bill to secure this action in the first place by preventing so far as may be the landing of these undesirable aliens from ships in port, and by securing the destruction of such as infest our ports. Further, the Bill imposes on all occupiers of land the statutory duty, under penalties, of taking reasonable and practicable steps for the destruction of these vermin.

In the spacious and plenteous days of the past the loss of feeding stuffs might have been considered of less importance than the preservation of individual liberty of inaction. But the war and the present grave economic position have changed all that, and with the menace of rising prices for grain and all manner of feeding stuffs, it is a matter of great importance and urgency that all unnecessary loss of food should be prevented. Hence the powers conferred by the Bill on the Local Authorities, even though the exercise of these powers may interfere with the liberty of the subject, will not be resented by informed members of the community. It is certain, moreover, that as an outcome of this campaign, knowledge will be gained with respect to the most economical and efficacious methods of dealing with these pests.

New President of the Board of Agriculture.—It is officially announced that Lord Lee of Fareham has become President of the Board of Agriculture in succession to Lord Ernle. Lord Lee, who recently gave the Chequers estate, in Buckinghamshire, to the nation as a country residence for future Prime Ministers, was chief of the Food Production Department during a very critical period of the war, and served for some time under Mr. Lloyd George in the Ministry of Munitions.

New Public Park for Glasgow.—Mr. Gordon, of Aikenhead, being disposed to sell the estate of The Linn, Cathcart, Glasgow, a picturesque property on the banks of the River Cart at one of its most delightful points, negotiations were opened between the owner and the Glasgow Corporation. These led to the estate being offered to the Corporation for the sum of £10,000, or, approximately, £55 per acre. After due consideration, the Glasgow Parks' Committee recommended the Council to purchase The Linn at the sum asked, and the Council, by a decisive majority, agreed to do so. In addition to its many other attractions The Linn includes a golf course which is at present used by the members of the Cathcart Castle Golf Club.

A Successful London Allotment.—One of the most remarkable instances of intensive cultivation of allotments that England can show is to be found in London, right in the heart of the Royal Borough of Kensington. A little more than two years ago this small plot of twelve rods was nothing less than an eyesore. Every part of it is now producing three crops in a year, and at the present time it contains Potatos, Broccoli, Marrows, and other useful vegetables. In addition to all this there are 40

rabbits and 30 hens and chickens in a set of model hutches and pens.

Grapes from the Hampton Court Vine.—We learn that the Dowager Viscountess Wolseley has purchased the entire crop of Grapes borne this year by the Great Vine at Hampton Court and presented the fruit to the Church Army for distribution in military and civilian hospitals. The weight of the crop is estimated to be 500 lbs.

King Edward Memorial Park at Shadwell.—The scheme for converting the derelict Fish Market at Shadwell into a King Edward Memorial Park for the East End of London was suspended when war broke out, but fresh efforts are now being made to carry it into effect. The site was purchased by the Mansion House Committee from the Corporation of the City of London, for £70,000, and it is estimated that the cost of completing the memorial will be about £25,000.

Fig. 51.—Carpinus japonica.
(See p. 108.)

Flowers in Season.—Messrs. Robert Veitch and Son have sent, from their Exeter nurseries, a fine flowering branch of Plagianthus Lyallii, under its synonym, Gaya Lyallii. The genus Plagianthus consists of a small group of Australasian trees and shrubs belonging to the Natural Order Malvaceae. The trees of this family are more or less tender in this country, but P. Lyallii grows and flourishes well in favoured districts, such as the South West of England. The shoots are crowded with creamy-white flowers, in bunches, on stalks 1½ in. to 2 in. in length.

Agricultural Training for Officers.—The Board of Agriculture and Fisheries makes the following announcement:—(1) As part of the Government schemes of Higher Education and Training of ex-Service Officers provision is made by the Board for financial assistance for agricultural training by means of—(a) Grants for residential training with selected farmers in England or Wales; (b) Agricultural Scholarships at approved Universities or Agricultural Colleges in England or Wales. (2) Over 1,300 officers have now been approved for grants under (a), of whom upwards of 1,000 are actually in training on farms, whilst 65 out of the 100 scholarships available under (b) have been awarded. (3) In view of the numerous applications which are still being received, the Board has decided that no application either for a grant for training on a farm or for a scholarship can be entertained by them—(a) from any officer who has been demobilised by July 31, 1919, unless the application has been lodged at the appropriate District Directorate of the Ministry of Labour on or before August 31, 1919; (b) from any officer who has not been demobilised by July 31, 1919, unless it is received by December 31, 1919, except in any case in which it can be shown that for military reasons the application could not have been made by that date. All applications from non-demobilised officers should be made as soon as possible. (4) Particulars of these farm training grants and agricultural scholarships, and of the manner of making application, are given in the Board's booklet, "Land Settlement in the Mother Country," which can be obtained either from the Board's offices at 72, Victoria Street, London, S.W.1, or from any District Directorate of the Appointments Department, Ministry of Labour. The address of the appropriate District Directorate can be ascertained at any post office. Non-demobilised officers should make their applications on Army Form Z15 or Navy Form S1299. (5) Warrant officers, non-commissioned officers and men in the ranks of suitable educational promise are also eligible for these grants.

Dispossession of Allotment Holders at Wandsworth.—Various statements have appeared with reference to the position of London allotment holders generally, and in particular to the shortness of the notice stated to have been given to holders of land at the corner of Union Road and Clapham Road, Wandsworth. The Board of Agriculture has accordingly issued a statement of the facts of the case, as follows:—The land in question comprises 1 acre, 1 rood and 10 poles. It has been occupied as allotments by 21 holders. The Borough Council, in the exercise of its powers under the Cultivation of Land Order, entered upon the land in 1917 for the purpose of laying it out as allotments. The land is a valuable building site; and it has been frequently explained by the Board that in such cases the tenure can only extend until the land is required for building purposes. The Borough Council and the allotment holders were fully aware of this condition of tenure when the land was taken over. Early in July, 1919, the Savoy Hotel Co., Ltd., informed the Board of Agriculture that it was negotiating with the owners of the land with a view to leasing it for the erection of a laundry. This laundry, they stated, would cost £50,000, and would employ 150 persons. It was desired to commence building operations immediately, and the company was prepared to take any risk that might arise through the commencement of work before the plans were actually approved. The Board refused to agree to the dispossession of the allotment holders without further evidence of the imminence of building operations. The company was informed that the Board would not move in the matter until the plans for the laundry had been prepared and submitted to the London County Council, and approved by that body. The building plans were duly approved towards the end of July. This being so, the Board had no longer any justifiable reason for refusing to relinquish possession of the land to the owners, especially as the builders were anxious to take full advantage of the long working hours and fine weather. It was represented to the Board, moreover, that the need for the laundry was urgent and that any delay in handing over the site might result in the company having to find alternative land elsewhere. This would have exposed the Board to substantial claims for compensation by the lessors, the lessees, and the builders. As a result, whilst regretting the waste of foodstuffs growing on the allotments, the Board, as the trustees of public funds, felt that there was no other course open but to give notice to the allotment holders. Obviously, large subsidies from the National Exchequer cannot be paid whenever and wherever allotment holders may naturally desire to remain secure in their holdings, as against

the admitted claims to possession of the owners or lessees, who require the land for immediate building purposes. It should be added that full compensation is being paid to the allotment holders for their crops and labour; the amount of such compensation has, in fact, been agreed upon already between the Inspector of the Board of Agriculture and each of the Wandsworth plotholders.

"Le Chrysanthème."—We are pleased to announce the revival of this publication, the official organ of the French Chrysanthemum Society. Publication was suspended five years ago with the July-August issue, 1914, and the present issue is numbered consecutively and dated July-August, 1919. In appearance it is identical in every respect with the old publication, and its golden-yellow wrapper is more than welcome. Among its contents we note an address to members and friends by the secretary; and, unfortunately, a lengthy obituary notice, the society having suffered many losses during the war. It has lost its honoured president, M. Maxime de la Rocheterie; its chairman of committee, M. Rozain-Boucharlat; and its treasurer, M. Dubreuil, of whom lengthy notices appear. Then we learn of the demise of others more or less connected with the society, notably, Dr. Audiguier, M. Rible, M. Firmin de Smet, Mr. Wm. Wells, M. Geo. Schneider, M. Rodrigues, M. Crépin and others less well known perhaps to their English colleagues. A short note is devoted to Mr. Harman Payne's article in *The Gardeners' Chronicle* of December 14, 1918, p. 223, on "The Chrysanthemum in China." There is also a paper on the War Culture of the Chrysanthemum. Several little paragraphs of news and the treasurer's note of subscriptions received bring our little contemporary's first post-war issue to a close. We wish it every success, and look forward to its regular receipt as of yore.

Garrya elliptica in Fruit.—From his garden at Leonardslee, Horsham, Sussex, Sir Edmund G. Loder has sent us specimens of Garrya elliptica in fruit. British gardeners are not so familiar with the fruiting branches of the female plant (see Fig. 52) as with the catkin-laden shoots of the male plant.

The Destruction of Rats.—In connection with the Rat Exhibition and the series of tests, or trials, of various methods of rat destruction carried out by the Zoological Society and the Board of Agriculture, Mr. E. G. Boulenger, F.Z.S., will deliver a lecture on "Rat Destruction," in the Lecture Room, at the Zoological Gardens Offices, Regent's Park, London, at 12 o'clock, on September 26th. The lecture will be followed by a demonstration in the afternoon; and Medical Officers of Health, Sanitary Officers, Officials appointed by Local Authorities for the administration of the Rats Orders, 1918-1919, and others interested in the subject, are invited to attend.

Fig. 52.—Fruiting branch of Garrya elliptica.

TREES AND SHRUBS.

THE JAPANESE HORNBEAMS.

There appear to be three species of Hornbeam truly native of Japan, viz., Carpinus japonica, C. cordata, and C. laxiflora. The last belongs to the true Hornbeams which are typified in our native species C. Betulus. The other two belong to the group which some botanists have made a separate genus under the name Distegocarpus. They differ from the "true" Hornbeams in the trunks having a scaling bark, as distinct from the smooth trunks seen in our native species; also in the bracts of the fruit clusters being enfolded at the base and almost entirely covering the nut. In C. Betulus and its allies of the "true" Hornbeam section the nut is exposed. The Distegocarpus group seems to be a connecting link between the "true" Hornbeams and Hop Hornbeams (Ostrya).

Carpinus japonica, of which a fruit bearing twig is illustrated in Fig. 51, is, in a wild state, a tree 40 to 50 feet high, with a trunk 3 to 5 feet in girth, and a wide spreading head of branches. The leaves are of handsome form, with numerous parallel ribs typical of the Hornbeams, 2 to 4½ inches long, about one-third as much wide, the apex drawn out into a long slender point. The fruit clusters, as shown in the illustration, are 2 to 2½ inches long, the bracts that enclose the nut strongly ribbed and coarsely toothed. As a garden tree this is attractive for its well-marked and handsome foliage, and is especially beautiful in autumn when carrying a good crop of its pendulous fruit clusters, as it has done several times at Kew. The tree, in cultivation at least, is much inclined to form strong, lateral, horizontal-growing branches instead of increasing in height, and in its early stages may need assistance in forming a lead if trees rivalling those of Japan in height are desired. The species is said to have been introduced by Maries to the Coombe Wood nursery in 1879, but most or all of the trees now in cultivation we owe to Prof. Sargent, who collected seeds during his journey in Japan in 1892, and afterwards distributed plants from the Arnold Arboretum.

Carpinus cordata.—This species is described by Sargent as the handsomest of the Japanese Hornbeams. The tree reaches in the forests of Yezo a stature of 45 to 50 feet, with a trunk 4½ to 6 feet in circumference clothed with scaly, furrowed bark. A specimen well known to tree-lovers formerly grew in the Coombe Wood nursery, which, although introduced by Maries in 1879, had only attained some 15 or 18 feet in height in thirty years. A somewhat larger one in the Earl of Ducie's collection at Tortworth was about 20 feet high when I saw it in 1915. The most notable characteristic of C. cordata is perhaps the size of its leaves as compared with those of other Hornbeams. On the Coombe Wood tree they were occasionally 5½ inches long and 3 inches wide, but Sargent saw leaves in Japan up to 7 inches long and 4 inches wide. They are deeply cordate at the base, thin in texture, and the downy parallel ribs fifteen to twenty in number. The fruits are in long-stalked clusters 3 inches or more long, the membranous bracts one inch or more long, furnished with stiff bristles at the base and completely hiding the nut. Another prominent feature of this Hornbeam is the winter buds, which are slender-pointed and up to ¾-inch long. In 1901. Wilson introduced from Central China the var. chinensis, which is well distinguished by its silky-hairy young shoots and peduncles, and by its smaller leaves.

Carpinus laxiflora.—Of this tree there is not much to be said, for it is of recent introduction and no characteristic tree exists in this country. Sargent describes it as a graceful tree, 50 feet high, the trunk smooth and pale, almost white. A variety of it called macrostachya has been introduced by Wilson from Western Hupeh, which is quite attractive for its reddish-purple young leaves. *W. J. B.*

NATURAL REPRODUCTION OF THE HEMLOCK SPRUCE.

Many self-sown plants of the Hemlock Spruce (Tsuga Albertiana) may be seen in one of the woods at Emmetts, near Sevenoaks. A few days ago I counted in one place seven healthy young trees growing in a space about 3 feet square and numbers of others at quite long distances away from the parent tree. Self-sown seedlings of various coniferous trees have at times been recorded as growing in this country, notably the Lebanon Cedar at Holwood and elsewhere; Lawson's Cypress by the banks of ditches that had been cut to drain an Irish bog; the Weymouth and Bhotan Pines at Woburn; Abies grandis at Penrhyn Castle, and the Douglas fir, Sitka Spruce and Silver fir in many places, especially in Scotland and Ireland. Amongst the extensive collection of trees and shrubs at Emmetts, nothing interested me more than the weeping forms of the Spruce and Silver Fir and upright Beech. The two former are the finest in the United Kingdom, and the latter is a stately specimen, but it is a member of a family that does not take kindly to the fastigiate habit. *A. D. Webster.*

CATALOGUE OF THE LIBRARY OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.

Perhaps some readers of *The Gardeners' Chronicle* may not know that, although the first part of the long-awaited catalogue of the library of the Massachusetts Horticultural Society was published in 1918, it has had only a very limited distribution as yet. It was intended to hold it back until completed by a subject index, the publication of which has been deferred on account of the cost, but I learn from the Librarian, Mr. Wm. P. Rich, that not only is the material for the index all in hand, but that it is hoped to print it shortly. Regrettable as the delay has been, there should be a distinct advantage in issuing the catalogue as a whole. The subject index, if prepared with anything like the care exercised in the "Alphabetical List of Authors and Titles," will not only add to the value of the catalogue for the use of libraries—particularly agricultural—which have not yet fully catalogued or developed their own resources, but it will be practically indispensable to persons interested in particular sections of the Massachusetts Horticultural Society's Library, as the very broad and diverse scope of the latter is likely to be an embarrassment of riches to anyone who wants to get at everything published in a limited field.

While its resources in agriculture and gardening are very extensive, I venture the opinion that the Massachusetts Society's collection is actually stronger in botany than in purely horticultural literature; that is, it contains a very high proportion of such botanically essential works as Roxburgh's Coromandel Plants, "H. B. K.," Flora Brasiliensis, Karsten's Flora Columbiae, Hortus Malabaricus, Rumphius' Herbarium Amboinense, and even the leading authorities on Mosses and Lichens; but the seeker after particularly rare garden books may be rather disappointed in this catalogue. Part I., comprising in one alphabet authors of books and titles of periodicals—an arrangement which seems to me undesirable, even though it may be mitigated by separate listing of periodicals in the subject index—is practically identical in style and type with the catalogue of the Arnold Arboretum Library.

In general the catalogue is characterised by great accuracy, for which the careful work of Miss Hewett, the assistant librarian, is largely responsible. The fulness with which authors' names are given, and the careful crediting of reprints and extracts, are specially commendable, while references have been judiciously supplied. It is unfortunate that the "Manuel du jardinier . . . par le sieur Mandirola. Traduit sur l'original italien par M. C. L. F. Randi" (Paris, Saugrain jeune, 1765), has been entered under "Mandirola, le sieur," as if quite unrelated to the first edition: "Manuale di giardinieri diviso in tre libri" (Macerata, Grissi, 1649), and the German version (Nurnberg, Miltenberger, 1670), which precede it under the author's full name. I do not find that any distinction has been made between the George Gordon (1806-1879) of the "Pinetum," and his namesake (1841-1914), so long editor of *The Gardeners' Magazine*, although other confusing cases have been carefully discriminated.

In March of this year the Massachusetts Horticultural Society began the publication of a *Bulletin*, the second issue of which calls attention to the Library and its privileges, and lists some of the more important recent accessions, as diverse in scope as Plat's "Garden of Eden" (1659), Crosby and Leonard's "Manual of Vegetable-garden Insects" (1918), the "Genus Iris" (1913) of Dykes, and Arthur Young's "Tour in Ireland" (1780). With certain restrictions the books may be borrowed by any member of the Society, loans being made by mail to those living out of Boston, but it is obvious that a thorough appreciation of the collection can be obtained only through the privilege of working in the Library itself. *M. F. Warner, Washington, D.C.*

A NEW GARDEN WORM.

Ever since the days of Hensen and Darwin it has been recognised that worms play a very important part in horticulture and agriculture. They break up decaying vegetable matter, aerate the soil and contribute materially to the nitrogenous contents of the humus in which they live, toil and die. But the study of worms from the economic standpoint is being constantly neglected, and it is my mission to keep the subject always in the memory of those concerned.

Some years ago I contributed to these pages a number of articles on Garden Worms, paying special attention to those about which little or nothing had previously been written. At that time I received other worms which for various reasons remained undescribed, and it is to one of these that I propose to direct attention in the present paper. On April 30, 1910, I received from Mr. A. C. Bartlett, of Pencarrow, Washaway, Cornwall, a consignment of worms from the bottom of a slate tank in which Water Lilies were grown. Along with a large number of "blood worms," or larvae of flies, were some specimens of the red worm (Lumbricus rubellus, Hoffmeister) and the curious Helodrilus oculatus, which at that time was very little known in this country, together with a worm which I had never seen before. It has not reached me since, and remains at present undescribed.

There must still be many worms of different kinds, from the tiny white worms (Enchytraeids) to the larger water worms and the still more robust earth worms, in our old English gardens, which have never been described, and it may be hoped that these notes will result in gardeners giving them more attention, and sending specimens to me for identification. The present worm is of special interest for a variety of reasons. In the first place it is a very near relative of the curious worm first found by Dr. Benham, of Oxford, at Goring-on-Thames in 1890. During the two following years he studied it carefully, and in 1892 described it as Sparganophilus tamesis, a new genus as well as a new species. Since then other species of Sparganophilus have been found, but their home is America, and the question arises—Is Sparganophilus a native of these islands, or has it been imported? From information received at the time from Mr. Bartlett, it seems that the worm he sent me was thoroughly established in the gardens at Pencarrow, and might be looked upon as indigenous. Its presence, however, in a Lily tank suggests that at some time a water plant from abroad (say, Florida or Mexico) may have been introduced, in which case the cocoons of the worm may have been at the roots. I should be glad if I could obtain light on this subject.

Since Sparganophilus is very distinct from all our other large worms, it is reasonable at present to assume that it is an importation, but that it is capable of adapting itself to the conditions of life which exist in this country. It may be that many such worms only survive for a season, others become acclimatised and perpetuate their kind. On account of the great length of the new worm in comparison with its diameter, I have recorded it hitherto as Helodrilus elongatus. The first or generic name has now to be changed.

Sparganophilus elongatus, Friend (see Fig. 53), attains a length of eight inches when fully adult, but does not exceed an eighth of an inch in diameter. It thus appears very slender, and much more closely resembles some of our parasitic worms than our earthworms. It is exceedingly wiry and harsh, owing to the vast number of bristles. Though there are only eight of these bristles in each segment, the individual segments are so narrow that 250 may be counted in a full-grown worm. This gives a total of 2,000 (two thousand) setae to a worm. The girdle, in the specimens which reached me, was not so conspicuous as in the earthworm, and is much nearer the head. It extends from the 15th to the 27th segment (a total of 13), but as April is possibly too early in the year for the worm to exhibit its most perfect sexual condition, I should not be surprised if the girdle is found, later in the year, extending further back.

The body of the worm is of a chocolate-brown colour, tinged with red, owing to the blood-vessels showing through the integuments. The girdle is clay coloured, while the portion in front of the girdle is pink or red. The blood-vessels are very richly developed, and my drawings of the living worm, made before I had seen those of Dr. Benham, show that the system is the same in each species. The head is small and rounded, while the anus is terminal and not dorsal, as in Benham's species and some others. An iridescent play of colours makes the appearance of the worm attractive, however unpleasant it may be to the touch.

A worm found in Mexico, and another found in Florida, closely resembles the worm under notice in some particulars, though differing in others. These differences, however, are chiefly internal, and can only be made out by the expert. Benham's worm is only half as long as mine, and has an average length of four inches, with 100 segments. The scientific description of Sparganophilus elongatus will appear elsewhere, but enough has been written in this popular description to enable one to form a general idea of its size and appearance.

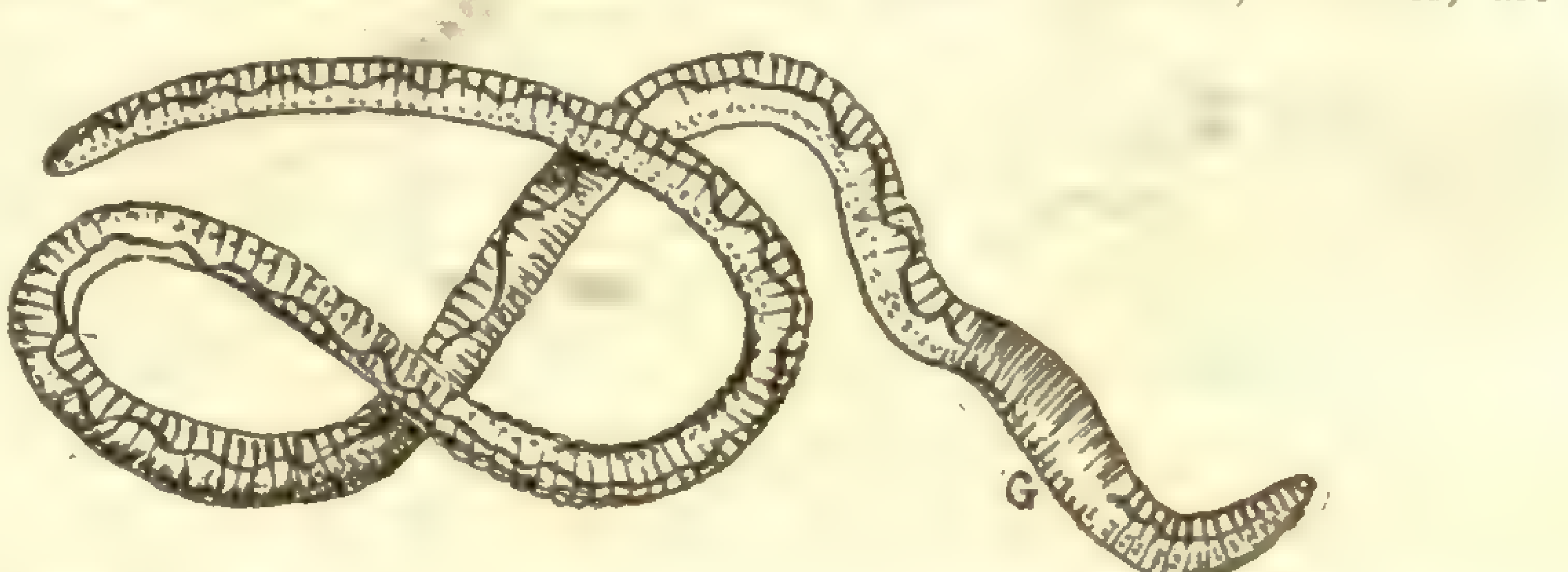

Fig. 53.—A new garden worm: Sparganophilus elongatus, Friend. (G. girdle.)

I appeal to gardeners and others to send me living specimens of worms which come under their observation, and especially such species as are suspected of being injurious to plants, or are of rare occurrence. Specimens should be sent in tin boxes, not perforated, addressed during August to Cathay, Solihull, Birmingham. *Hilderic Friend.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Phyllopertha horticola.—Referring to my note on this beetle (see p. 71), in your issue for August 2, the comma after Berberis should have been omitted. I have many species of Barberry in my garden, but the only one the beetle seems to attack is the Himalayan Berberis Lycium. I think it right to make this correction, although it is a small matter. *J. S. Gamble, Highfield, East Liss.*

The Improvement of Freesias.—The extracts from an article by Mr. Walter van Fleet (see p. 95) serve to show the great influence that Freesia Armstrongii has exercised in the production of many of the present-day varieties. This Freesia was originally found wild by Mr. W. Armstrong, at Hermansdorp, Cape Colony, in the closing years of the last century. It first flowered at Kew, where its merits were duly recognised, and in time it became gener-

ally distributed. Concerning the parentage of some of the rich yellow forms, I am inclined to think that their depth of colour owes at least something to the influence of Freesia aurea, which, shown by Messrs. R. Wallace and Co., of Colchester, was given an Award of Merit by the Royal Horticultural Society on May 28, 1902. With regard to Freesia Armstrongii, it may be noted that the flowers are almost, if not quite, devoid of fragrance, while none of its progeny is in respect of fragrance the equal of the old Freesia refracta alba, though many of the hybrids are sweetly scented, but to a lesser extent than the older kind. *W. T.*

Myrtus Luma.—Sir Herbert Maxwell finds Myrtus Luma the hardiest of the Myrtles at Monreith, Wigtownshire, and has a very fine bush of it in his garden, where it flowers freely every year and stands the winter perfectly. Some people consider that M. Ugnii is the hardiest species, but the experience at Monreith is in favour of M. Luma as being the best of the genus for outdoor planting. A plant six feet or more high is very beautiful, with its evergreen foliage and its many white flowers. *S. Arnott.*

Antholyza paniculata.—Sir Herbert Maxwell has planted this late-flowering bulbous plant with success in the woods. It does not appear to be harmed by rabbits, and its fine, braided or plaited leaves are quite in keeping with the surrounding greenery. Certain people may not like the scarlet and yellow flowers, and will consider them too "foreign" in their appearance for such a scene, but the leaves are very handsome, and those who think the flowers are out of place agree in admiring the foliage, which is effective for a much longer period than the flowers. *S. Arnott.*

Lilium sulphureum.—On p. 96 reference is made to the success attending the cultivation of Lilium sulphureum in the Nilgiris. It is also stated that trials are being made to ascertain whether this Lily will prove hardy in the Nilgiri Botanic Gardens. Judging by its behaviour in this country, there should be no doubt about its hardiness in the Nilgiris, as it is hardier than the Nilgirri Lily itself (Lilium neilgherrense), and far more amenable to cultivation. The only way of keeping up a stock of the last named is by means of imported bulbs, which flower well the first season and then deteriorate. Some thirty years or more ago considerable quantities of Lilium neilgherrense were sent to this country, but eventually they all died out. Reverting to Lilium sulphureum it may be pointed out that one drawback to its cultivation out of doors in this country is its late season of blooming, as the cold nights experienced towards the autumn often check the development of the latest buds. L. sulphureum was, under the name of Lilium Wallichianum superbum, given a First-class Certificate, by the Royal Horticultural Society on June 25, 1889. Shown by Messrs. Low and Co., it attracted a very large share of attention. Strange to say, Messrs. Low and Co. gained a similar honour for the distinct Lilium nepalense in the previous year. *W. T.*

The Doubling of the Stock.—Mr. Taylor, writing (p. 82) in reference to the account which appeared in these columns (see p. 44) of my remarks on the subject of the double Stock, made at the meeting of the Genetical Society, in Cambridge, last month, states that his experience and that of other growers of East Lothian strains is at variance with the facts which I gave, and he asks whether I am acquainted with the methods pursued by the Lothian growers. In reply, I may say that I have grown the East Lothian (Intermediate) Stock, as well as the Ten Week and true, biennial forms, and that I have found no difference in behaviour between it and the other forms mentioned. That is to say, there is found in each case two distinct kinds of single, indistinguishable in outward appearance, the one consisting of individuals which invariably throw doubles—on the average from 56 to 57 per cent. —and the other which equally invariably yields none, provided in each case there is no crossing with foreign pollen. It follows that if one starts with a pure-bred strain of double-throwing singles, success is ensured, for every single in each succeeding generation will then be found to behave alike and to yield the full number of doubles. It may well be that such is the case with the material which the Lothian growers have in cultivation, as I have found it to be also with many strains supplied by Continental growers. As I understand the two important points in which Mr. Taylor believes that the East Lothian strains differ in behaviour from the general principles which I have stated above are (1) that *any* single East Lothian plant, after it has attained a certain age will be found to yield doubles, and (2) that the East Lothian growers are able to control doubling, *i.e.*, the output of doubles, by a very simple method. By this method 90 per cent. of doubles are secured and this although there is no intentional selection of the most vigorous plants, in fact, as he adds, "the reverse is actually the case." With regard to the first point, I agree with Mr. Taylor, provided that, as I have mentioned above, the strain is pure, that *every* single will yield doubles. I would only add that this result may be expected every season that the plant flowers if no crossing with impure strains is allowed to occur. As regards the second point, I imagine that Mr. Taylor's own words provide us with the explanation, *viz.*, that the Lothian growers base their quoted percentages not on the *whole sowing*, but on the *results of selection*, although selection in this case, according to him, is of the *less*, not of the *more* vigorous individuals. I venture to predict that if any Lothian grower will flower every seedling from a sowing of unselected seed he will find the percentage of doubles obtained will approximate to the number quoted above (56-57), which is the point that Mr. Taylor contests That this result can be bettered by selection I have shown elsewhere (*Journal of Genetics*, Vol. V., 1916), and my conclusions have been amply confirmed by the results obtained by Mr. Chittenden and Mr. Jaramillo in experiments definitely undertaken with a view to testing this point (*Journal of the Royal Hort. Soc.*, Vol. XLIV., 1919). In conclusion, I may say that in the extremely interesting treatise by the French grower, Chaté, on "The Cultivation of the Stock," which was probably written about 1860, we find mentioned a long list of the strains then in cultivation, together with the percentage of doubles which may ordinarily be expected from each and a description of the method by which these percentages can be raised. The writer tells us that the cultivation of the Stock had been carried on in his family for half a century, and that the treatise contains an account of the experience thus gained. One has to add that when put to the test by experiment his beliefs have proved to be without foundation. If Mr. Taylor would have the kindness to send to me at the Botanic Garden, Cambridge, a small sample of unselected seed of his East Lothian strain, I should like to have the opportunity of testing the relation of doubleness to vigour in this strain, although the damp and frost of a Cambridge winter are sorely against successful over-wintering of Stocks as a rule. *E. R. Saunders, Cambridge.*

SOCIETIES.

ROYAL HORTICULTURAL.

The following awards have been made to summer Raspberries by the Council of the Royal Horticultural Society after trial at Wisley.

AWARD OF MERIT.

No. 29, Golden Hornet, sent by Mr. G. TRINDER, Fleet, Hampshire; and to No. 12, Park Lane, sent by Mr. P. H. COUSENS, Swanwick, near Southampton.

HIGHLY COMMENDED.

No. 2, Brown's Excelsior (for flavour), sent by Mr. G. BROWN, Thorngumbald, Hull.

COMMENDED.

Nos. 9 and 10, Hornet, sent by Messrs. PAUL, Cheshunt, and Mr. COUSENS; No. 41, Lloyd George, sent by Mr. J. J. KETTLE, Corfe Mullen, Dorset; Nos. 13 and 14, Profusion, sent by Messrs. G. BUNYARD AND Co., Maidstone, and Mr. COUSENS; Nos. 16 and 17, Pyne's Royal, sent by Mr. COUSENS, and Mr. ALLGROVE, Slough; and No. 36, Laxton's Prolific, sent by Messrs. LAXTON BROTHERS, Bedford.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

The monthly meeting of this Society was held at the R.H.S. Hall on Monday, August 11, Mr. Charles H. Curtis in the chair. Six new members were elected. Three members withdrew double the amount of their interest, amounting to £11 12s.; one lapsed member was allowed to withdraw £6 2s. 4d.; and the sum of £4 was passed for payment to the nominee of a young, deceased member. The sick pay for the month on the ordinary side amounted to £56 6s. 4d., and on the State side to £26 1s. 6d., while maternity claim came to £1 10s. The committee has decided to meet, until further notice, at 6 p.m. instead of 7 p.m.

LIVERPOOL HORTICULTURAL.

AUGUST 13 and 14.—This Society has not yet resumed its pre-war work, but as an encouragement to allotment holders it again organised a competitive exhibition, which was held on this occasion in the Corn Exchange. We regret that the venture attracted so few competitors and visitors.

The vegetable section was not so well filled as usual, but this may be accounted for by the trying season the growers have experienced, the hot, dry weather of May being followed by low temperature and a minimum rainfall. The most successful exhibitors were Messrs. JOHN WORTH (whose six dishes of Potatos, immune to wart disease, were interesting), J. GOLBOURNE, GEO. BOWDON, A. HURSTFIELD, F. TAYLOR and D. R. FELL.

Mr. JAS. GOLBOURNE led for hardy cut flowers, Mr. G. COUVELAS for Sweet Peas, Messrs. E. R. CRIPPIN and W. BOND, Junr., for Roses, Mr. R. E. WILLIAMS for a collection of flowers, and Miss NEWSHAM for the best decorated dinner table.

The non-competitive displays were capital, and Gold Medals were awarded to Mr. C. H. TAUDEVIN, Willaston, for an excellent display of Carnations; to GARDEN SUPPLIES, LTD., for a large collection of Sweet Peas and Vegetables; to Messrs. STUART LOW AND Co., for a well-arranged display of Orchids and Cut Carnations; and to Messrs. MIDDLEHURST for a collection of vegetables and cut flowers. Silver Medals were awarded to Messrs. R. P. KER AND SONS for plants; to Messrs. KER, LTD., for vegetables; and to the COVENT GARDEN Co. for vegetables; and to Messrs. J. and W. BURCH for Potatos immune to wart disease.

SOUTHEND FLORAL FETE AND FOOD PRODUCTION.

AUGUST 15 and 16.—The annual exhibition held under the auspices of the local Food Production Society took place in the grounds of Chalkwell Park, Westcliff, on the above dates. Notwithstanding that this exhibition was held a month earlier than the one in 1918, excellent produce was staged. The competition was keen, and particularly in the vegetable classes, and reached its climax in the local classes open to residents in the county borough of Southend-on-Sea (which now includes Thorpe Bay, Southchurch, Prittlewell, Southend, Westcliff and Leigh). Much interest centred in the championship classes, A B and C, these being arranged for cultivators of not more than ten rods, not more than twenty rods, and more than twenty rods respectively. The domestic side of the exhibition was equally attractive and good, while the tent set apart for rabbits demonstrated, by

the number of entries, the remarkable variety of breeds shown and the condition of the animals, how keen is the interest in this particular phase of animal life.

The larger vegetable class was for a collection on a space 6 feet by 4 feet, the winner, Mr. D. POOLE, Southend, setting up over thirty dishes in about two dozen varieties. Much of the produce was excellent. This exhibitor also excelled in the championship class for cultivators of more than twenty rods, the dual win clearly indicating his skill as a cultivator and exhibitor. The winner in the championship class for cultivators of ten rods was Mr. G. BONBERNARD, Westcliff-on-Sea. Mr. A. C. SCRAGGS, Southchurch, whose name as a prize-winner occurred with some frequency, was the winner in the class for three dishes of Potatos, distinct, ten tubers to a dish, the varieties being Arran Chief, Sharpe's Express and Eclipse. Mr. SCRAGGS also excelled in the class for four dishes of Potatos, distinct, two kidney and two round varieties, and again in the single dish class, where a particularly good ten specimens of Midlothian Early left no room for doubt as to his position.

In the ladies' classes for four kinds of vegetables, grown by the exhibitor, Mrs. G. M. INGRAM, Westcliff, led, showing capital white Celery, Potatos and Crimson Globe Beet.

In the non-competitive section, Messrs. SUTTON AND SONS were awarded a large Gold Medal for a magnificent exhibit of vegetables, flowers and fruits. The last named were chiefly Melons, such as Emerald Gem, Hero of Lockinge, Superlative, Jubilee and King George. Messrs. GEORGE BUNYARD AND Co. were awarded a Silver-gilt Medal for an exhibit of Apples, Pears and Plums, the last-named including some fine examples of Oullin's Golden Gage. Messrs. ALLWOOD BROTHERS gained a like award for Carnations and Pinks. Mr. VINCENT BANKS, for the Board of Agriculture, showed some 150 specimens of bottled fruits and vegetables in excellent condition, and was awarded a Gold Medal. Mr. A. KEELING, gardener-in-chief of the Corporation Parks, Southend, showed a wonderful variety of fruits and vegetables, and was awarded a Gold Medal; Cannon Hall Muscat, Madresfield Court and other Grapes, Peaches and Nectarines, Figs, Apples, Tomatos, Peas, Gourds and other things testifying to the skill of the cultivator.

TRADE NOTES.

INCOME TAX AND SUPER TAX.

Two interesting decisions have recently been given by Mr. Justice Rowlatt in actions brought by the Commissioners of Inland Revenue to recover Income Tax and Super Tax. In both instances the Crown was unsuccessful.

In the first of the two instances mentioned, the tax-payer was a shareholder in a certain limited Company. This Company made large profits, but, instead of dividing a considerable portion of these profits by declaring a dividend, the Company adopted the somewhat ingenious method of passing a resolution to the effect that a bonus should be paid at the rate of 33⅓ per cent. free of Income Tax, which was to be satisfied by the distribution of un-issued preference shares credited as fully paid. It will be seen therefore that the bonus was paid in shares and not in cash.

The Commissioners of Inland Revenue not unnaturally contended that, as these bonus shares represented money value, Super Tax ought to be paid by a certain shareholder in respect of them. The shareholder however contended that these bonus shares were merely an augmentation of his capital holding in the Company and could not therefore be regarded as income. He consequently declined to pay the Super Tax claimed.

The case came before the Commissioners for Special Purposes under the Income Tax Acts in the first instance, and they decided that the shareholder was right in his contention. Thereupon the Crown appealed to the High Court, but the Judge took the same view of the matter and dismissed the appeal.

In the second of the two cases referred to above the facts were practically the same as in the first case, except that the claim was for Income Tax instead of for Super Tax. Here again the learned Judge considered that the Crown had no claim and held that the bonus shares given to the shareholder instead of cash were exempt from Income Tax.

These two cases have aroused considerable interest in Company circles, as it opens a door by which Limited Companies may quite legally avoid paying Income Tax or Super Tax in respect of large profits made during recent years. If the decisions stand the loss to the Treasury will in all probability prove very great, and it is not surprising to hear that the Crown has given notice of appeal to a Higher Court. The ultimate result will doubtless be watched with great interest by all limited Companies and their shareholders who are affected thereby.

It should perhaps be added that the two Companies which were concerned in the litigation referred to were empowered by their Articles of Association to increase their capital by the issue of new shares and to pay any dividend either wholly or partly by the distribution of specific assets and in particular by paid up shares of the Company.

The contention of the Crown was that, as the shares had been allotted as fully paid, and as no payment was in fact made for these shares by those to whom they were allotted, it must be assumed that the real effect of the transaction was practically that the shareholders had received the bonus dividends in cash and had then handed back the money to the Company in payment of the shares allotted to them. Mr. Justice Rowlatt however, declined to assent to this proposition. He pointed out that if the Company had capitalised its profits and had then divided them as capital, instead of adopting the machinery of declaring a bonus and allotting shares in payment of the bonus, the case for the Crown would not have been arguable. In his opinion the fact was that the shareholder was given the bonus in the form of shares and not in dividends. It was not income, but capital, and therefore it ought not to be assessed to Income Tax or Super Tax.

Whether the Higher Courts will adopt a similar view remains to be seen, and those who wish to avail themselves of the machinery adopted in these two instances would perhaps be wise to await further developments on the appeal. *H. M. V.*

ON Wednesday, the 13th inst., the directors and employees of Messrs. Sutton and Sons, Reading, gathered in the Cintra Recreation Grounds to welcome back the 200 or so of their number who have returned from the great war. Various sports were arranged, and the Flower Show was revived. The last show was held in 1913, and although, we were informed by Mr. C Lovejoy (the hon. sec. of the Society), the entries this year were only about one-half of those in former years, yet it was a very interesting show. Peas, particularly Sutton's V.C. and Pioneer, Potatos and Beet were of specially high quality, and the first prize collection of vegetables was of great merit. An exhibit of some 26 different hardy flowers of especial value to bee-keepers was put up by Mr. E. J. Dove. The relative pollen and honey values were shown, and it was interesting to find our native White Clover, Honeysuckle and common Bramble at the head of the list. Close by an exhibit illustrating the damage done by many of the more common insect pests and plant diseases also attracted a deal of attention.

A large queue assembled outside the war trophies tent awaiting their turn to view the great number of most interesting souvenirs and photographs collected by members at the different theatres of war.

At 5 o'clock Mr. and Mrs. Arthur Sutton entertained over 950 of the staff and their friends at tea in a large marquee. Whilst the meal was in progress Mr. Arthur Sutton, in an admirable speech, formally welcomed back those who have served, and voiced the general feelings of gratitude. By standing in silence, the company paid heartfelt tribute to the memories of those who will not return. Appreciative reference was made to those of the staff who, for special reasons, chiefly of age, stayed at home and kept things going. At the close of his address, Mr. Arthur Sutton was heartily cheered, and Mr. Leonard Sutton also met with a great reception.

Sir John Cockburn, K.C.M.G., late Prime Minister of South Australia, who had come expressly from Kent, spoke on "Divine and Human Handicraft." Sir John Cockburn is a most eloquent speaker, and he made feeling reference to the great meed of gratitude owing those who have returned from fighting our battles, and especially to the "unreturned brave."

CROPS AND STOCK ON THE HOME FARM.

RYE.

APART from its value as food for sheep in the spring before the grass or Vetches are ready, and after the roots are finished, Rye is well worthy of attention as a cereal crop, especially on thin chalk or poor soil. For distilling purposes Rye is valuable, and so it is for grinding into mixed meals, and for mixing with other poultry foods. The present price for Rye under the Cereals Order is 76s. 6d. per quarter of 63 lbs. per bushel, with the addition of several shillings per quarter if the grain is suitable for seed. With a yield of eight to ten sacks per acre from poor land, Rye is a profitable crop to grow. The straw is also valuable for the thatching of ricks and barns. Three bushels of seed per acre, drilled or broadcasted, in September, is sufficient, ploughing the land once and spreading 3 cwt. of superphosphate per acre evenly over the surface before sowing the seed.

VETCHES.

To the sheep farmer, both winter and spring Vetches are indispensable as food for stock from May to September, especially where lambs are fattened, or ewe lambs kept for stock. Green Vetches are also appreciated by cows, horses and pigs. Vetches are a profitable crop for seed, as they usually command a high price, and in some seasons are scarce. No time should be lost in cutting the crop when intended for seed; the pods nearest the base of the plant are the most valuable, and their condition should guide the harvester. It is useless trying to save all the pods on the haulm. A sickle and a short-hooked stick are the best tools for harvesting this crop, which should be cut into small heaps, or grips, which are easily turned with a long-handled prong. If the weather remains dry after cutting until the seed becomes hard, once turning will suffice, but in showery weather it will be necessary to turn the haulm several times, though it should not be forgotten that the more often it is turned the greater is the risk of losing seed. When the seed is thoroughly hard, either thrash the crop direct from the field or cart it into a rick, remembering that if the bulk is put together when at all damp mildew may attack the seed.

THE FARMING OUTLOOK.

I have just completed an inspection of farms in Hampshire and Sussex, the object of such inspection being to award challenge cups for the best cultivated farms of various sizes. Competitions act as a stimulus to improved methods of farming and cannot be otherwise than a step in the right direction.

On farms entered for the honour of holding a cup there are few objectionable weeds, therefore the absence of such drawbacks to good farming is a strong point in favour of such competitions.

In our inspection, my colleagues and I were much impressed by the difficulties which the cattle farmer may experience during the coming winter. We, of course, know from our home experience what the prospect is, but it was obvious that many farmers will be in a worse plight than ourselves.

To the sheep farmer especially the outlook is very black, and made worse by the lack of a statement of the agricultural policy of the Government. Farmers are anxiously waiting to know what crops and purchases are to be controlled, and what they are to be encouraged

to produce in the future. A statement of what is to govern the conduct of the farmer for the next ten years is sadly needed. Last year the hay crop was fixed at £8 per ton; this year, so far, no information is forthcoming as to whether hay is to be controlled or not. The hay crop is estimated at from half to three-quarters of the average. With the prospect of hay being £12 or £15 per ton, the outlook for the sheep farmer is very dark, and a further reduction of sheep will be a great national loss.

In our travels we did not find a single example of a satisfactory crop of roots, not even of Mangolds, which are easier to obtain than Swedes, Turnips, Rape or Kale. Last year Mangolds, owing to their scarcity, sold readily at £2 per ton; what they will be this winter, no one can tell. For the sheep farmer Mangolds provide one of the best of stock foods, especially during May and June. During lambing time and after January, February and March, Turnips are a boon, but with the scarcity this season, sheep will be largely dependent upon hay and water—the former very expensive and the latter entailing much horse labour. As many as three times, without success, have Turnips been sown in one field this season.

The second growth of Broad Clover is short and is now shrinking in bulk, and what would under ordinary circumstances be put on one side for seed must now be used for sheep feed, therefore Clover seed will be dearer next season.

It is pleasing to know that cereal crops promise to yield better than we dared hope at one time. Black Oats will be superior in quality, and the straw, which is so valuable for cattle, is excellent from a feeding point of view. Wheat may not yield quite so well as it at one time promised; the corns are a trifle small, but good in quality. Early sown Barley will be excellent, judging from present appearances. *E. Molyneux, Swanmore Farm, Bishops Waltham.*

Cabbages for Stock Feeding.

Cabbage yields very heavily under suitable conditions and furnishes nutritious, wholesome and palatable fodder for cattle and sheep. It is an extremely gross feeder and flourishes best on deep rich soils of a clay-loam character. There are several excellent varieties of cattle Cabbage, and in ordinary seasons it is not difficult to manage the crop so as to provide fodder during the greater part of the year. The manuring can scarcely be on too liberal a scale; if it can be spared, 15 to 20 tons per acre of good dung should be given, and be supplemented later by two or more cwt. of nitrate of soda or sulphate of ammonia.

There are two methods of cultivation: (1) Growing the plants in a seed-bed and transplanting into the field; (2) sowing in drills or rows direct into the field and singling out the plants to the proper distance. Sowing direct into the field is now commonly practised in the south, as it entails less labour. Horse and hand hoeing are commenced as soon as the rows can be detected. Many growers prefer to buy the plants instead of growing them from seed; they are usually to be obtained for a few shillings per 1,000. It is best to deal locally, if possible, as there is some risk of plants becoming injured by delay in transit.

The field intended to receive Cabbage plants should be clean, rich and deeply cultivated. As a rule, the planting is done on the unbroken plough furrow, the plants being dibbled in along every alternate or every third furrow. It greatly facilitates the subsequent horse hoeing if the plants are in straight lines, both parallel to the furrows and at right angles to them.

If suitable varieties are selected, seeds sown in early April will provide a succession of plants during summer, and the crop will be fit for consumption from October to early spring. Seeds sown in early August, if plants are removed partly in autumn and partly from February to April, will provide Cabbages from May to November. Cabbages are particularly useful for dairy cows. If Cabbages are cut so as to leave a few leaves at the base, they will throw out second growths from the stumps.

ANSWERS TO CORRESPONDENTS.

A Gardener's Notice: *L. W.* It is usual for a head gardener to give and receive a month's notice on terminating an engagement, but there appears to be no settled rule on the question, and as you are paid weekly and have no written agreement, you might be regarded by the courts as only entitled to a week's notice. The article entitled "A Gardener's Notice," published in *Gard. Chron.*, March 22, 1919, p. 143, might be helpful to you.

Cockchafer Larvae in Flower Border: *J. P.* Cockchafers' grubs are not very easily got rid of, but hens penned on the border for a week or two in spring, when the border is beginning to get dry, might considerably lessen their numbers. If this is impossible, the grower should aim at the following conditions:—(*a*) Firm soil underneath, *i.e.*, digging should be done early in the winter; (*b*) deep summer cultivation, *i.e.*, a soil mulch of at least three inches should be obtained by surface cultivation. A heavy dressing of soot in early spring should be helpful. Unfortunately, there is no "sure means" of destroying the larvae.

Grading Fruits for Market: *W. B.* The hardy fruits commonly graded for market are Apples, Pears, and, less often, Plums. The two first should be made into two samples, "firsts" and "seconds," and, in the case of dessert varieties, it is often advisable to make "thirds" also. Supposing the sample to be clean and evenly coloured, grading is done simply according to size; but more often colour and freedom from scab or other blemishes have to be taken into account as well. At any rate, the "firsts" should include only well-coloured fruit of fair size and good shape. The "seconds" include any that are a size smaller, lacking in colour, or slightly disfigured. "Thirds" are generally quite small fruit, but may include also larger ones that are too ugly to be classed as "seconds." Samples vary so much that hard-and-fast rules cannot be laid down, but it is not difficult to decide the number and nature of the grades when starting to handle the fruit as it is brought in from the trees. For Plums two grades are enough, but most of them are marketed just as they are gathered. With good dessert kinds, however, it often pays to take out the very best and sell them in chip baskets, sending the rest in half-bushel baskets. We do not know of any good book dealing with grading only, but there is an up-to-date chapter on packing fruit for market in "Fruit and its Cultivation," price 6s. 6d., published by W. H. and L. Collingridge, 148, Aldersgate Street, E.C.1.

Large Ferns for Indoor Decoration: *T. J. F.* The following are the best ferns for cultivation in pots for indoor (home) decoration:—Asplenium decorum, A. diversifolium, Cyrtomium falcatum, Lomaria gibba, L. grandis, Nephrolepis cordifolia, N. tessellata, L. Whitmanii, Polypodium magnificum, P. glaucum-crispum, Pteris cretica cristata and P. Ouvrardii. The most suitable ferns for cultivation indoors in baskets are:—Nephrolepis elegantissima, N. exaltata, N. Forsterae and N. Scottii.

Names of Plants: *E. G. U.* 1, Rosa Willmottiae; 2, R. multiflora; 3, Photinia variabilis; 4, Cotoneaster microphylla; 5, C. horizontalis; 6, a withered specimen, not determined.—*T. C. S.*: 1, Ceratostigma plumbaginoides; 2, Leycesteria formosa; 3, Ozothamnus glomeratus; 4, withered, not recognised; 5, Pentstemon Hartwegii.—*H. M.*: 1, Cupressus Lawsoniana var. lutea; 2, Sequoia (Wellingtonia) gigantea; 3, Aconitum luteum; 4, specimen insufficient for determination; 5, Phillyrea angustifolia; 6, Tecoma grandiflora; 7, Elaeagnus pungens var. Simonii aureo-variegata; 8, Acer palmatum; 9, Reseda sp.; 10, Prunus cerasifera var. atropurpurea; 11, Cornus Mas var. variegata; 12, Euonymus japonicus var. albo-variegatus.—*T. E. N.*: 1 and 3, Spiraea Douglasii; 2, S. Menziesii; 4, S. discolor; 5, Buddleia nivea; 6, missing, 7, Spiraea japonica Bumalda var. Anthony Waterer.—*L. I. R.*: 1, Juniperus chinensis var. aurea; 2, Cupressus Lawsoniana var. albo-variegata; 3, Juniperus communis var. fastigiata; 4, Thuya occidentalis; 5, Cupressus pisifera var. plumosa aurea; 6, Cupressus Lawsoniana var. erecta viridis; 7, Cupressus pisifera var. plumosa; 8, Cupressus Lawsoniana var. Alumii; 9, Thuya dolabrata var. variegata; 10, Quercus coccinea; 11, Spiraea japonica Bumalda var. Anthony Waterer; 12, Spiraea Douglasii.—*B. and W.*: Pyrus salicifolia.

Removal of Branches from Walnut Tree: *A. W.* The present is a very good time to prune deciduous trees, and there is no fear of your Walnut tree bleeding if certain branches are removed. Care must be taken, however, to protect the wounds against fungus spores. This may best be done by coating the wounds as soon as made with ordinary coal tar. The branches could be strengthened by bracing the three main ones together by means of iron bars bolted through them. Holes should be bored through the branches large enough to take the bars, without injuring the tree.

Silver Leaf Disease: *A. K.* Your Plum tree is affected with Silver Leaf Disease. It is sometimes possible to save a tree by removing the diseased branches, but if the tree is badly affected this method is quite useless. No remedy for the disease has been discovered, and your best plan would be to uproot the tree, rather than run the risk of the disease spreading to other trees.

Tomato Leaves Diseased: *E. F.* The leaves are attacked by the disease known as Tomato Leaf Mould (Cladosporium fulvum). The best method of prevention is to spray the plants at intervals from the time they are planted, onwards, especially in cases where the disease has been prevalent in the previous season. Leaflets which are badly affected should be removed and burned at once, and the plants sprayed with sulphide of potassium or with diluted Bordeaux mixture.

The Harvest Bug: *S. T.* There is little doubt that the Harvest Bug is responsible for the irritation complained of. It has been especially abundant this year, probably owing to the dry weather in May. The Harvest Bug itself is the immature six-legged stage of a true mite. It is very small, being about 1/60th of an inch in length, and so, though of an orange colour, is difficult to see.

Violas Diseased: *M. S.* The plants are attacked by the fungus Botrytis, a common parasite of many cultivated plants. It is usually found that plants are most suceptible to attacks of Botrytis when they are enfeebled, therefore, if cultivators aim at securing healthy specimens, admitting plenty of air to those grown under glass, the plants will be better able to resist attack. As the fungus infests both dead and living tissue, all diseased plants, vegetable refuse, etc., should be collected and destroyed by burning.

Weeds in Pond: *G. R.* Your best plan will be to ascertain the amount of water contained in the pond by multiplying together the average length, breadth and depth in feet, and multiplying the result by 6¼, the approximate number of gallons in a cubic foot. One pound of copper sulphate should be used to every 100,000 gallons of water. Break the material small, and enclose it in a bag of loose texture. Tie the bag behind a boat and draw it along in the water in parallel lines about 10 to 20 feet apart. The copper sulphate will not injure either the fish or the Water Lilies if care be taken not to let the bag remain stationary in one part of the pond.

Communications Received.—R. H.—W. W.—J. T. D.—F. T.—H. C. H.—H. W.—F. C.—Miss S. B. H.—F. T.—L. H.—G. B.—L. H. E. E. L.—T. W.—R. W. R.—W. H. M.—G. B.—L. H. J.—G. E.—A. B. H.—H. W.—A. N.—E. B. H.—T. H. J.—F. W. B.—L. E. O.—W. M.—E. S.—P. D. W.—E. L.—F. W. B.—R. S. P.—W. G. H.—J. J.

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MARKETS.

COVENT GARDEN, August 20.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Fuchsias, 48's, per doz.	12 0–18 0
Asparagus plumosus	12 0–15 0	Heliotropes 48's, per doz.	15 0–18 0
—Sprengeri ...	12 0–18 0	Hydrangeas, white 48's, per doz. ...	24 0–36 0
Aspidistra, green	48 0–72 0	— Pink, 48's, per doz.	30 0–48 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Marguerites white	18 0–24 0
Campanula isophylla	12 0–15 0	Mignonette, 48's per doz. ...	18 0–21 0
— — alba ...	12 0–18 0	Palms, Kentia ...	18 0–24 0
Crassulas, red 48's per doz. ...	30 0–36 0	—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Achillea, per doz. bun.	3 0– 4 0	Lilium speciosum album per bunch	6 0– 7 0
Alstroemeria, per doz. bun. ...	4 0– 6 0	—rubrum per bun.	5 0– 6 0
Asters, white, per doz. bun. ...	5 0– 8 0	Orchids per doz.:	
Carnations, per doz. blooms, best American var.	1 6– 2 6	— Cattleyas ...	18 0–24 0
Chrysanthemums—		Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
—white, per doz. blooms.. ...	4 0– 6 0	— white, per doz. bunches ...	15 0–18 0
— —per doz. bun.	12 0– 15 0	Roses, per dozen blooms—	
—yellow, per doz. blooms.. ...	4 0– 5 0	— Frau Karl Druschki...	1 6– 2 6
— — per doz. bun.	10 0–15 0	— Lady Hillingdon	1 0– 2 6
Coreopsis, per doz. bun.	1 6– 2 6	— Liberty ...	1 6– 2 0
Cornflower, blue per doz. bun....	2 6– 3 0	— Melody ...	1 6– 2 6
Daisies, white, large, per doz. bun.	2 0– 4 0	— Mme. Abel Chatenay ...	1 6– 2 6
Gaillardia, per doz. bun.	2 6– 3 0	—Mrs. J. Laing...	1 6– 2 6
Gardenias, per box specials ...	8 0– 9 0	— Ophelia ...	3 0– 4 0
— ordinary ...	2 0– 3 0	— Richmond, var.	1 6– 2 6
Gladiolus,		— Sunburst ...	3 0– 4 0
—Brenchleyensis, per doz. spikes	5 0– 6 0	—White Crawford	2 0– 3 6
Gypsophila, per doz. bun. ...	5 0– 6 0	Scabious, per doz. bun.	6 0– 8 0
— paniculata, per doz. bunches ...	6 0– 8 0	Statice, mauve ...	6 0– 8 0
Iceland Poppies, doz. bun. ...	2 0– 2 6	— white... ...	6 0– 8 0
Lapagerias, per doz. blooms ...	4 0– 4 6	— latifolia, per doz. bun. ...	12 0–18 0
Lavender, per doz. bun., large ...	15 0–18 0	Sultan, white, per doz. bun. ...	4 0– 6 0
Lilium longiflorum, per bunch ...	12 0–16 0	— — mauve ...	4 0– 6 0
		Stephanotis, 72 pips	3 0– 3 6
		Sweet Peas, per doz. bun.—	
		— white	2 6– 4 0
		— coloured ...	2 6– 4 0
		Stock, Dbl. White	6 0– 8 0
		—Dbl. Pink ...	6 0– 8 0
		—Dbl. Mauve ...	8 0–12 0
		—Dbl. Purple ...	8 0–12 0
		Violas, per doz. bun.	3 0– 4 0

Remarks.—Abundant supplies of cut flowers find a very slow trade. Prices are on a par with those of last week, with a few exceptions, such as Lilium longiflorum Stephanotis and Orchids, these being a very short supply.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	0 4– 0 6	Onions (Egyptian) per bag ...	10 0–12 0
—Scarlet ...	0 2½–0 3	—Valencia ...	10 0 18 0
—Broad, per bus.	3 0– 4 0	Peas, per bus. ...	4 0– 5 0
Beetroot, per bus.	6 0–10 0	Parsley, per doz. bunches ...	3 0– 6 0
Cabbage, per doz.	4 0 —	Potatos, new, per cwt.	7 0– 9 0
Carrots, New, per cwt.	8 0 —	Radishes, per doz. bunches ...	1 0– 1 6
Cauliflowers, per doz.	6 0 —	Spring Onions, per doz. bunches ...	4 0– 6 0
Cucumbers, per flat	20 0–26 0	Tomatos, English, per doz. lbs. ...	7 6– 8 6
Garlic, per lb. ...	0 6– 0 8	— Dutch.. ..	6 0– 7 0
Herbs, per doz. bun.	4 0– 6 0	— French ...	6 0– 7 0
Mint, per doz. bun.	9 0–12 0	— Outdoor Jersey	6 0– 7 0
Mushrooms, per lb.	2 6– 3 6	Vegetable Marrows, per doz. ...	1 6– 2 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Watercress, per doz	0 9- —
New Turnips, per cwt.	8 0–10 0		

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d.
Apples (English)		Nectarines, per doz. ...	6 0–18 0
—Beauty of Bath per ½ bus. ..	5 0– 8 6	Nuts Brazils (new) per cwt.	110 0–115 0
—Quarrenden ..	4 0– 7 0	Pineapples each...	2 6– 6 6
—Lord Suffield ..	3 0– 5 0	Plums (English) per ½ bus.	
—Keswick Codling	2 6– 3 6	—Czars ..	10 0–14 0
—Ecklinville Seedling	3 0– 4 0	—Gages English	18 0–20 0
Aubergines; pr doz	6 0– 8 0	—Orleans ..	12 0–14 0
Bananas... ...	30 0–45 0	—Victoria ...	16 0–20 0
English Peaches per doz. ...	6 0–18 0	—Washington ...	16 0–18 0
Grapes:—		Plums (French Royals) per ½ sieve ...	14 0–15 0
— Alicante ...	1 6– 2 6	Worthing Figs, per doz.	3 0– —
—Blk Hamburgh,	1 6– 2 0	Pears, French, Williams boxes 48's ..	10 0– 12 0
—Canon Hall	3 0– 8 0	—Bon Chretien ½ sieves ...	18 0– 20 0
—Muscats, per lb.	2 0– 4 0		
Melons, each ...	2 0– 6 0		
—Canteloupe ...	8 0–14 0		

Remarks.—All market produce has been in ample supply during the past week, with no appreciable change in the volume of business. Hothouse fruits are plentiful, Grapes in particular arriving in larger quantities. Peaches, Nectarines, Melons and Figs are sufficient for the demand. English Apples continue in full supply with good dessert varieties in fair demand. Plums are moderately plentiful, and prices rule somewhat high. A shipment of Pineapples is just to hand. Jersey outdoor Tomatoes are now arriving, and with French and Dutch supplies coming in increasing quantities an adverse effect on the price of home-grown supplies may be expected. Cucumbers are a short supply. Prices of all vegetables show the effect of continued drought. The Potato trade is steady at lower prices.

The following are approximate weights of various market measures:—*Apples:*—Pot=56 lbs.; ½ bush=20-22 lbs.; case=40 lbs. *Gooseberries:*—Pot=63 lbs.; ½ bushel=24 lbs. *Strawberries:*—Chip=4 lbs. *Cherries:*—½ bushel or sieve=21-24 lbs.; Pot=63 lbs. *Currants:*—½ bushel=24 lbs. *Raspberries:*—Chip=4 lbs *Greengages:*—Sieve or ½ bushel: French=20-24 lbs.; Spanish 24-28 lbs. *Plums:*—Pot=72 lbs. *Beans:*—Pot=40 lbs.; ½ bushel=15 lbs. *Beet:*—Pot=56 lbs. *Onions:*—Case=120 lbs. *Peas:*—Pot=40 lbs.; bushel=30 lbs. *Spinach:*—Bushel=16 lbs.

GARDENING APPOINTMENTS.

Mr. J. H. Oliver, for two years previous to joining H.M. Forces, Gardener to H. L. Wilson, Esq., J.P., Selby Wood, Selby Oak, Birmingham, as Gardener to Kenneth Wilson, Esq., at the same place. (Thanks for 2s. 6d. for R.G.O.F. Box.—Eds.)

Mr. J. W. Lennox, for some time during the war Gardener to Wm. Cree, Esq., Kailzie, Peebles, as Gardener to J. T. Haworth, Esq., Hankelow Hall, near Nantwich, Cheshire.

Mr. Geo. Morbey, for nearly three years with H.M. Forces, and previously Gardener to W. R. Lee, Esq., Plumpton Hall, Heywood, Lancashire, as Gardener and bailiff to Sir John Leigh, Bt., J.P., Lillieshall House, Newport, Salop.

Mr. G. E. Overbury, for three and a-half years with H.M. Forces in France and Salonica, and previously for two and a-half years second gardener at Aldercar Hall, Langley Mill, Derbyshire, as Gardener to G. Longden, Esq., Draycott, near Derby.

Mr. E. Croucher, for the past four years and three months Gardener to C. F. Lippincott, Esq., The Old Lodge, Ashford, Middlesex, as Gardener to Captain Stewart Saville, Ven House, Milborne Port, Somerset.

Mr. R. J. Horlock, previous to enlistment in the Earl of Jersey's gardens at Osterley Park, Middlesex, and recently at Walton Heath, as Gardener to J. D. Collins, Esq., Shirley Park, Croydon.

Mr. Albert Witt, for the past fourteen and a-half years Gardener to R. G. Hargreaves, Esq., Cuffnells Park, Lyndhurst, as Gardener to Sir William Mather, Bramble Hill, Bramshaw, New Forest, Hampshire.

Mr. Victor C. A. Francis-Gregson, for the duration of the war Gardener to Sir Henry Lopes, Bart., Maristow, Roborough, Devon, and previously Gardener-bailiff to S. Akroyd, Esq., Warwick, and for many years Gardener-bailiff to the late Leonard Gillett, Esq., Gelli Gwyn Hall, Wales, and Shepleigh Court, Devon, as Gardener to Captain J. P. Rogers, R.A., Penrose Park, Helston, Cornwall. (Thanks for 2s. 6d. for R.G.O.F. Box.—Eds.)

CATALOGUES RECEIVED.

E. P. Dixon & Sons, Ltd., Paragon Square, Hull.—Bulbs.

John Peed & Son, West Norwood.—Bulbs.

Morle & Co., 150-156, Finchley Road, London, N.W.—Bulbs.

E. H. Krelage & Son, Haarlem, Holland.—Bulbs and Novelties for autumn planting.

Cooper, Taber & Co., Ltd., 90 and 92, Southwark Street, London, S.E.—Wholesale Bulbs.

Brown & Wilson, 10, Market Place, Manchester.—Bulbs.

SITUATIONS VACANT.

Twenty words (or three lines including headline) **3s. and 6d.** *for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office,* **6d.**

PRIVATE.

CITY OF NORWICH.

Parks and Allotments Superintendent.

APPLICATIONS are invited for the post of PARKS AND ALLOTMENTS SUPERINTENDENT. The duties of the selected candidate will be as follows:—

(a) The general organisation and management of all matters in connection with the Parks, Gardens and Playgrounds, Small Holdings, Allotments, Public Open Spaces, Open-Air Bathing Places and Street Trees, under the control of the Corporation, including Mousehold Heath.

(b) The general supervision of the Foremen Gardeners in the various Parks, who will themselves be responsible for the details of the work in their respective Parks.

(c) To supervise and arrange for the letting of the Corporation Allotments and to be responsible for the collection of the rents.

(d) To act as Inspecting Officer under the several Orders issued by the Board of Agriculture and Fisheries dealing with the destruction of Agricultural and Gardening Insects and Pests.

(e) Generally to carry out the work of the Department under the instructions of the Committee and to be responsible to the City Accountant in all monetary matters.

The salary will be £300, rising (subject to satisfactory service) by annual increments of £10 to a maximum of £350 per annum, with an allowance for travelling in the City.

The appointment to be terminable by 3 months' notice on either side.

The selected candidate will be required to undertake to ride a motor-cycle.

Applications, stating age and experience, and marked "Parks and Allotments Superintendent," and accompanied by copies of not more than three recent testimonials, should reach the undersigned not later than Wednesday, the 27th August.

ARNOLD H. MILLER, Town Clerk.

Guildhall, Norwich,
7th August, 1919.

BERKS AND BUCKS JOINT SANATORIUM COMMITTEE.

Horticultural Instructorship.

HORTICULTURAL INSTRUCTOR required for training tuberculous ex-soldiers and civilians in a County Sanatorium Colony. Must be able to teach all branches of Horticulture, both theoretically and practically. Training or experience at a Horticultural College would be a recommendation, also service during the war in any branch of His Majesty's Forces. Salary £250 per annum. Applicants should write, giving full personal particulars and details of experience, together with copies of recent testimonials, by the morning of Saturday, September 6th, to the SUPERINTENDENT, Berks and Bucks Joint Sanatorium, Peppard Common, Oxon.

STAFFORDSHIRE EDUCATION COMMITTEE.

Appointment of Expert Pruner.

A PRACTICAL PRUNER and PROPAGATOR is required to prune and renovate Fruit Trees in the County. He will also be required to assist on the County Fruit Plots.

The commencing salary offered is £160 per annum, together with travelling expenses according to the County Scale

Further particulars and forms of application, which must be returned by 6th SEPTEMBER, may be obtained from the undersigned,

GRAHAM BALFOUR, Director of Education.

County Education Offices, Stafford,
August, 1919.

WANTED, for Trereife, near Penzance, a HEAD WORKING GARDENER.—Apply, stating experience and wages required; house provided.—C. HENRY LE GRISE, Esq., Penalverne, Penzance.

SINGLE-HANDED GARDENER wanted at once, single man preferred.—State age, experience, and wages required, to "Haslemere," 30, Park Road, Hampton Hill, Middlesex.

GARDENER (not over 25) required from 1st October, for Broadstairs, Kent; good position for capable man; wages 40s. per week.—Apply by letter, L. B., c/o J. W. Vickers and Co., Ltd., 5, Nicholas Lane, E.C.4.

F. P., Box 10, thanks the 200 applicants for the post of Single-Handed Gardener. Impossible to answer all applications.

WANTED, KITCHEN GARDENER (single); good wages to suitable man; ex-soldier preferred; take duty.—Wages and experience to RITCHIE, Newtown Hall Gardens, Newtown, Montgomery.

WANTED, CHAUFFEUR - GARDENER (single).—Apply, "The Cliffe," Alcester Road, Bromsgrove, Worcs.

UNDER-GARDENER (single), Inside and Out; wages £2; good references.—Apply, MISS L. A. MOORE, Head Gardener, Colney Park, St. Albans.

WANTED, FOREMAN and JOURNEYMAN for fruit and plant houses; also two men for kitchen garden and hardy fruit.—State full particulars, wages, and reference with bothy to THOS. L. BAILEY, The Gardens, Kentchurch Court, Hereford.

WANTED, FOREMAN for Kitchen Garden and Hardy Fruit; wages 38s. per week, bothy and vegetables; 1 o'clock Saturdays.—G. BRADLEY, The Gardens, Hamstead Park, Newbury.

WANTED, reliable LEADING HAND for Pleasure Grounds, Herbaceous, Rock and Water Gardens; 48 hours week; 35s. and bothy; duty 7s. 6d. extra.—CRADWICK, Stoney Ware Gardens, Marlow, Bucks.

WANTED, in large garden, a well-experienced JOURNEYMAN for Inside; age not under 22; wages 36s. weekly, bothy and usual allowances; good pay for duty and overtime; 12 o'clock Saturdays. —Apply, H. LLOYD, Tewin Water Gardens, Welwyn, Herts.

WANTED, two JOURNEYMEN (Inside), 35s. and bothy, light, vegetables, etc., also attendance.—Apply, Mr. JEFFREY, Lowther Castle Gardens, Penrith.

WANTED, good FIRST JOURNEYMAN (Inside); also one for Ornamental Grounds; smart man with first-class experience essential.—All particulars, references and wages expected with bothy, to GEO. MORBEY, The Gardens, Lilleshall House, Newport, Salop.

WANTED, JOURNEYMAN, some experience, chiefly Outside; able to take duty; bothy, etc.—Apply, with full particulars, state wages required, W. D. GREEN, Milton Park, Peterboro'.

WANTED, JOURNEYMAN for Inside; wages 30s. weekly, with bothy, etc.; duty alternate weeks.—T. DENT, Brynkinalt Gardens, Chirk, North Wales.

WANTED, a JOURNEYMAN for Inside; must be capable of taking charge when necessary; good references essential; wages 35s. weekly, bothy and vegetables; 1 o'clock Saturdays; duty alternate weeks.—Apply, H. KEMP, Priory Gardens, Reigate.

WANTED, JOURNEYMAN for Inside (single); 34s. weekly, 50 hours, bothy, etc., insurance paid; duty extra.—R. BILLINGHAM, The Gardens, Coombe Abbey, Coventry.

WANTED, JOURNEYMAN for general Pleasure Ground work, to take duty; highest references essential; good wages, bothy, milk and Vegetables; extra for duty; 1 o'clock Saturday.—HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, JOURNEYMAN (Outside), 36s. 6d. bothy, potatos, vegetables, etc.; 7 in bothy.—Apply, with full particulars, to H. R. WHITELAW, Hever Castle Gardens, Hever, Kent.

WANTED, JOURNEYMAN for Fruit (Inside), at once; 35s. per week, bothy; extra for duty. F. JOHNSON, Maiden Erlegh, Reading, Berks.

WANTED, at Crowborough, Sussex, experienced MAN for the cultivation of Hardy Fruits; very little glass; must be willing to fill up time with general garden work; cottage and garden.—Apply, stating age, wage, and experience, to E. H., Box 20, 41, Wellington Street, Covent Garden, W.C.2

WANTED, good MAN, chiefly for Kitchen Garden work, and to assist in other departments when required; 30s. per week, bothy, vegetables, and attendance.—C. LAMB, Wicksted Hall Gardens, Whitchurch, Salop.

WANTED, smart, intelligent YOUNG MAN for houses and rock garden, and to assist in other departments when required; 33s. per week, bothy, vegetables, and attendance.—Apply, C. LAMB, Wicksted Hall Gardens, Whitchurch, Salop.

WANTED for Inside and Out, strong, active Young Man, good spade hand; some knowledge of Inside work.—Full particulars to G. HEARN, Womersley Park, Doncaster.

YOUNG, useful MAN wanted to look after Pony and Garden; unmarried.—B., The Grange, Northaw, Potters Bar.

TRADE.

PRIVATE GARDENERS awaiting situation can have temporary employment and good wages by applying to JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

WANTED, about the end of August or early in September, an experienced GARDENER to take charge of a small Nursery at Frimley Green producing Toms., Cues., Mums., etc., for wholesale and retail trade; trade wages, house, garden, overtime and percentage on production.—Application, by letter in first instance, with copies of recent testimonials, to PHILLIPS, 4, Cheriton Road, Winchester.

WANTED, WORKING FOREMAN, first or second man, with thorough knowledge of forcing Carnations, Roses, Tomatos, Sweet Peas, and bedding plants; must have good references from big growers; good wages and dividend; single man, or married without children, owing to housing.—H. S., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN WANTED for Forest, Ornamental and American Trees and Shrubs; must be experienced in growing and handling large stocks, and accustomed to the control of labour.—State full particulars of experience and wages required (including house), CLIBRANS, Altrincham.

WANTED, FOREMAN for Rockery construction.—Apply, stating wages, etc., to JOHN WATERER, SONS & CRISP, Ltd., Hare Hatch, Twyford, Berks.

WANTED, experienced Departmental FOREMAN for small Nursery specialising in Roses and General Nursery Stock; single man familiar with retail prices.—State wages required, with references, R. W. PROCTOR & SONS, Nurseries, Chesterfield.

WANTED, several first-class FOREMEN for Landscape work, especially those with expert experience in Rock and Water Gardening.—R. WALLACE AND CO., Ltd., Colchester.

WANTED, HEAD FOREMAN, thoroughly experienced in Grape, Peach and Tomato Growing for market; good manager of labour; six acres under glass; state full particulars, experience and wages required.—Apply, E. BOURGAIZE & CO., Leigh Vineries, Wimborne, Dorset.

WANTED, for London, thoroughly experienced Palm Grower, used to the trade; permanent position for suitable man.—Write PALM, c/o 54, New Oxford Street, W.C.1.

WANTED, thoroughly good grower for Tomatos, Cucumbers, Chrysanthemums, and Bedding Stuff; good permanent place for the right man; single preferred.—WRIGHT, Nurseries, Pangbourne, Berks.

PROPAGATOR wanted for Rock and Herbaceous Plants, also man used to nursery work.—PULHAM and SON, Hardy Plant Nursery, Elsenham, Essex.

GARDENER. — Wanted, JOURNEYMAN, unmarried, for this nursery; also IMPROVER with one or two years' experience. Work almost entirely under Glass; good opportunity of advancement for willing, capable man.—FINDLAY BROS., Springhill Nursery, Baillieston, Glasgow.

WANTED, a MAN to take charge of Forest and Fruit Trees, etc., Nursery; must be well up in Budding and Grafting.—Apply with testimonials and salary asked for, to MANAGER, Lissadell, Sligo.

GOOD MAN wanted for Cut Blooms, Plants, and Carnations. — State salary, experience IVYDORE NURSERY, Worthing.

WANTED at once, a capable, trustworthy Young Man, single, as Leading Hand in nursery; preference given to one used to growing Carnations, Chrysanthemums and Cucumbers.—Only good man need apply, references and wages required to, J. E. LOWE, Hatton, Warwick.

SEED TRADE.—Wholesale House, desirous of developing Garden Seed Department, wishes to meet with capable MAN to manage same. No one need apply who has not had wholesale experience, and preference will be given to one who understands Seed Growing, Selecting and Testing. Applications will be treated in confidence, and should be addressed to Expert, Box 8, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—Wanted, experienced, capable counter hands for Garden Seed Department.—Apply, with references, particulars of experience, and wages required, to TOOGOOD and SONS, The King's Seedsmen, Southampton.

POSITION VACANT.—Wholesale seed firm; country; MANAGING CLERK, correspondence and general (not ledger) office; staff of 20; organising ability and trade experience essential.—Apply, with full particulars and references, S. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, good MAKER-UP and SALESWOMAN.—Apply, WILLS & SEGAR, 16a Onslow Crescent, South Kensington, S.W.7

FLORIST (lady), used to high-class trade; must be a good designer and saleswoman; wanted for northern town, commencing salary £156.—Apply with full particulars, references, etc., in confidence, D. L., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED at once, HANDY MAN; must be well up in painting and glazing.—State age, experience, and wages required, to SHERWOOD, St. James' Road Nursery, Hampton Hill, Middlesex.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

MESSRS. MANSELL & HATCHER, LTD., Rawdon, Yorkshire, can highly recommend a HEAD GARDENER, age 41, just demobilised; a first-class man in every respect; has had experience in Fruit houses, Plant houses, including Orchids, and understands thoroughly, the general routine work of a big garden.

MAJOR E. H. THURLOW (estate sold) highly recommends his late HEAD GARDENER; a capable manager of good gardens; life experience Fruits, Plants, Vegetables, Rock Gardens, etc.; abstainer.—E. SNELGROVE, Buckham Hill, Uckfield, Sussex.

A GENTLEMAN can thoroughly recommend his GARDENER (Head or Single-handed); twenty years' experience, Inside and Out; trustworthy and willing; age 36; married; demobilised. Please state wages offered.—W. TYLER, Hay Lane, Kingsbury, Middlesex, N.W.9.

MR. MILLS, Gardener and Bailiff to Lord Howard, Glossop Hall, Glossop, can with confidence recommend his General Foreman, A. E. CREED, as HEAD GARDENER to any Lady or Gentleman requiring a good all-round man; married (two children).

MR. ALFRED MOUL strongly rcommends his HEAD GARDENER; married; at liberty end of September, or earlier if required; present situation nearly 10 years, with two under him; wife available for lodge, caretaking, etc.—Address, SAMUEL COVENTRY, Fern Cottage, Pangbourne, Berks.

C. R. DE LA SALLE, Esq., highly recommends his late HEAD GARDENER where several are kept; life experience gained in good establishments; last post six years, previous to enlistment; age 42; married (no family).—T. PROWTING, Oakdene, Orlando Drive, Carlton, Notts.

CAPTAIN SAVILE highly recommends E. STOKES; been with him 10 years as HEAD GARDENER; life experience in all branches; certificate from R.H.S.; excellent testimonials from good places.—Church Street, Milborne Port, Somerset

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER to lady or gentleman requiring the services of a competent man; age 34; married.—W. ELKINS, 12, Brocas Street, Eton, Bucks.

GARDENER (HEAD).—Mr. Harvey, The Gardens, Frampton Court, Dorchester, very highly recommends W. GIBBONS as above, where one or more are employed; age 30; married; no family; seven years in these Gardens. Good active hard working man; full particulars from above.

GARDENER (HEAD).—B. C. FORDER, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establishment; life experience in all branches; ten years as Head; good manager and economical; age 39; married (one child, 13 years); excellent references; Army discharged.—Full particulars, The Gardens, Whatcombe House, Blandford, Dorset.

HEAD GARDENER (demobilised), married man (one child), seeks appointment; qualified and well recommended for charge of good private establishment.—Wages, etc., to E. W., c.o. Mr. T. Lewis, 45, Uxbridge Road, Hanwell, W.7.

HEAD GARDENER seeks re-engagement; skilled in all branches, and especially in Alpines, Hardy Plants and Fruits; familiar with the making of new gardens and remodelling; can control any number of men; five years' Head of well-known garden; first-class references; age 37.—ADVANCE, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head); life experience in large establishments, private and commercial; experience with Stock and Electric Light; good testimonials; married; age 44.—JONES, Glenleith, Bushey Heath, Herts.

HEAD GARDENER of several (Northumberland) desires re-engagement; lifelong first-class experience gained in all branches, both under Glass and outside. Also Landscape and Rockwork construction. Energetic and industrious, taking a keen interest all round; first-class certificate, R.H.S. examination; 37; married (two children); F.R.H.S.—W. H., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

HEAD GARDENER, 25 years' practical experience, desires Management of large Gardens where surplus produce is sold; thorough experience in growing large quantities of Fruits, Inside and Out, Flowers and Vegetables; good organiser; excellent references for abilities and integrity; age 40; married; abstainer.—State terms, STEDMAN, Dwygyfylchi, Penmaenmawr, N. Wales.

GARDENER (Head) demobilised.—Will any lady or gentleman wanting a first-class man, married, expert cultivator, thoroughly experienced all branches; 6 years Head, prior to service, with well-known families.—Communicate with H. G. SMALL, Upper Hartwell, Aylesbury, Bucks.

GARDENER (Head or Gardener-Bailiff): working, life experience in all branches; Inside and Out; several years Head in good families, thoroughly reliable; highly recommended: married (family one).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, situation as HEAD GARDENER or FARM BAILIFF; life experience in all branches; garden, farm work, both English and Colonial experience; very successful exhibitor in both stock and produce; age 40; married (two children, youngest 8 years).—Apply, W. H. REYNOLDS, 194, Liverpool Road, Reading, Berkshire.

GARDENER (Head) seeks situation; good experience in all branches; age 32; married when suited.—A. CHANT, "The Rest," Tilford, Farnham, Surrey.

GARDENER (Head), where two or three are kept; 15 years' experience in all branches; excellent references; married.—A. JEFFRIES, 13, Colvin Road, Thornton Heath, Surrey.

GARDENER (Head); demobilised Sergeant, four and a half years' service; married (4 children); age 38; life experience in Gardening; 10 years as Head; excellent references.—Apply, WARD, Lavington, Petworth. Sussex.

GARDENER (Head) where two or more kept; 18 years' first-class experience in all branches; Lady recommends; age 34; married.—W. ELKINS, 12, Brocas Street, Eton.

GARDENER seeks situation, Head or good Single handed; life experience; married (one child, 6 years); good references.—W. MUZZELL, Hope Cottage, Braywick, Maidenhead.

GARDENER (Head) where two or more are kept; life experience in all branches; good references; age 41; married (no young children); (London preferred).—D. C., Box 19, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head), seeks re-engagement; 20 years' thorough practical all-round experience; married (no family); age 40; excellent references; demobilised.—F. W. P., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head) seeks re-engagement; life experience in all branches; understands land and stock; married; age 42; one girl age 8.—Apply to F. N., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head), capable energetic man, seeks re-engagement; thoroughly practical; life experience in all branches; five years head previous to war; married; age 35; demobilised.—M. G., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head), practical experience Fruits, Plants, etc.; Kitchen Garden, Pleasure Grounds, House and Table Decoration gained in first-class establishments; previouly Head; well recommended; married (two children); age 37; demobilised.—T. LARKBEY, Battlefields, Wrotham, Kent.

LADY recommends HEAD WORKING GARDENER, where three or more are kept; life experience in all branches; leaving for no fault; married (no family); age 37; please state wages.—Apply first, GARDENER, c/o Butts, Kirkford, Billingshurst, Sussex.

W. BUTT, Esq., Oakwood, nr. Chepstow wishes to highly recommend his HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good, reliable practical man where three or more are kept; previously at Blenheim, Chatsworth, etc.

A. G. SOAMES, Esq., Sheffield Park, Uckfield, highly recommends W. Edworthy as HEAD WORKING GARDENER, for over 8 years Head Gardener here prior to joining Army; seven years' previous reference; age 44; married (two children); demobilised.—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

HON. MRS. WYNN wishes to recommend her late HEAD WORKING GARDENER to any Lady or Gentleman in want of a thorough practical Man in all Branches; age 48; married (no family).—BURCHILL, Lea-by-Backford, near Chester.

MR. BECK, Great Amwell, Ware, wishes strongly to recommend F. BUTCHER as HEAD WORKING GARDENER where one or two others are kept; thoroughly experienced in all branches; 23 years' highest character; married (two sons); free early in autumn; wishes to be within easy reach of London.—F. BUTCHER, Amwell Terrace, Ware, Herts.

MR. TOMALIN, gardener to the Earl of Bessborough, Bessborough Gardens, Co. Kilkenny, wishes to highly recommend his late Foreman as GARDENER (Head Working); thoroughly experienced; age 32; married.—WILKS, Ashcroft, The Green, Southgate, N.14.

CAPTAIN RICHARDSON can very highly recommend Gerald Fletcher as HEAD WORKING GARDENER; thoroughly experienced in all branches; 10 years' character before enlistment; age 38; married (no children).—G. FLETCHER, Morestead, Winchester.

J. C. POTTER, Esq., wishes to highly recommend his HEAD WORKING GARDENER, who has been with him four and a-half years, as a capable, energetic man; efficient all branches; highest references; nine years previous; age 48; no family.—ELBOURN, 8, Bryanston Square, London, W.

LORD ASHCOMBE, Denbies, Dorking, Surrey, highly recommends G. Allan as HEAD WORKING GARDENER; life experience in all branches; excellent references gained in first-class establishments; disengaged. — Apply, 40, Leamington Street, Crookes, Sheffield.

MR. HARMON, Gardener to the Earl of Denbigh, Newnham Paddox, Lutterworth, highly recommends J. HAYNES to lady or gentleman requiring good HEAD WORKING GARDENER; fully qualified Inside and Out.—For particulars apply above address.

SIR ROBERT McALPINE, Bart., wishes to highly recommend A. EVERITT as GARDENER (Head Working) where four or more are kept; life experience in all branches of Gardening, Inside and Out; age 45; married (no family).—Address, A. EVERITT, 3, Claremont Villas, Hare Lane, Claygate.

R. C. BATTIE-WRIGHTSON, Esq., Cusworth Park, Doncaster, strongly recommends as HEAD WORKING GARDENER WATKIN JONES; over two and a half years in temporary charge here; excellent capabilities, energetic and reliable; highest previous references.—Apply, WATKIN JONES, Cusworth Gardens, Doncaster.

GARDENER (Head Working); life experience all branches (including exhibition) gained in good establishments; four years Army, R.F.A.; previous place, seven years (three as Head); excellent references; married (no family); age 32.—W. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head Working); highly recommended by the Exor. of the late G. P. SPICER, Esq.; life experience in all branches; present situation (as HEAD) 8 years'; age 41; married (one child).—SMITH, Voewood, Malden, Surrey.

GARDENER (Head Working); 20 years' Head. Practical experience Inside and Out; used to marketing surplus if required.—NEWTON, The Gardens, Longbridge Manor, Warwick.

WANTED, situation as WORKING HEAD GARDENER, where several men kept; age 42; married. Life experience in the cultivation of fruits vegetables, and plants; thorough knowledge of rock gardens, hardy plants and landscape work. Highest references.—Apply, W. S., c/o DICKSON and ROBINSON, The King's Seedsmen, Manchester.

GARDENER (Head Working), where ... or more are kept; life experience in all bra... Inside and Out; highest references; at liberty... MAY, Hollydale, Keston, Kent.

GARDENER (Head Working), life ... ence in all branches, for the past 20 years ... Gardener at Wyfold Court, Reading, seeks re-... ment; excellent references.—Apply, A. J. LONG ... R. and G. Cuthbert, Southgate Nurseries, So... Middlesex.

HEAD GARDENER (Working). — H... Mulholland personally recommends his late ... DENER as a first-class man in all branches of G... ing; energetic and reliable; highest references ... previous employers. Cause of leaving, estate ... Married; age 55.—MORRIS, 44, Fairclose Road, ...

GARDENER (Head Working of thr... four); life experience; good references; ... (one girl); age 30; demobilised.—BRAMBLEY, 6... Road, St. John's, Worcester.

GARDENER (Head Working) seeks sit... where four or more are kept; life experience ... in good establishments, Inside and Out; age 30; ... (no family).—H. W., Box 18, 41, Wellington ... Covent Garden, W.C.2.

GARDENER (Head-Working) where ... or three are kept; married (no children); ... 14 years' practical experience in all branches ... recommended and good references. — Apply, ... wages, A. HENLEY, 103, Dudley Road, Southall, ...

GARDENER (Head Working), where ... more are kept; life experience; excellent refer... ences; age 30; married (no family); demob... A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (Head Working), highly ... fied, life experience good establishments ... excellent testimonials, desires re-engagement ... establishment where choice Vegetables, Fruit, ... Carnations, etc., are required; 16½ years H... situation; married; age 46.—A. J., Box 1..., ... lington Street, Covent Garden, W.C.2.

GARDENER (Head Working); demob... life experience in first-class establishments ... cellent grower of all choice Fruits and ... good Manager; three years eight months Head ... Hon. Carr Glyn; age 36; married (no family); ... references.—A. MORPHETT, Wootton, near A... Derbyshire.

GARDENER (Head Working), thoro... experienced all branches, Inside and ... where three or more kept; married; excellent refer... ences; age 43.—WORMAN, 12, Lochaber Road, ... S.E.13.

GARDENER (Head Working), thorough... tical man with life experience, desires re-... ment; 15 years' and 4 years' highest references ... ried (no family); age 45.—W. COOK, 1, ... Cottages, Gascoigne Road, Weybridge.

GARDENER (Head Working) requires ... tion where three or more are kept; life... ence in first-class places; eight years in present ... as Head; age 40; married; demobilised.—F. ... Egginton, nr. Derby.

GARDENER (Head Working) seeks si... where several are kept; life experience ... manage electric light plant, also stock if ... leaving through place being sold; age 4...; ... disengaged in September.—OSMAN, Sandle... Fordingbridge, Hants.

GARDENER (Head Working), married ... re-engagement; over 30 years' experience ... and Out; good references and character.—YO... Lawn Cottages, Melbourn, Cambs.

GARDENER (Head Working); thorou... perienced in all branches; highest references ... 30; married when suited; demobilised.—E. ... Queen Anne's Gardens, Caversham, Reading.

MR. HUGH MICKLEM highly reco... GARDENER (married, no children), ... handed or Head of two, who has been with ... years. Understands electric light plant.—Apply ... instance, Mr. GEORGE OSBORNE, Coldblow ... Burgh Heath. Tadworth, Surrey.

GARDENER (Single-handed) 16 years ... ence in good gardens; age 33; married (... dren); good references.—WM. SAVAGE, Wook... Cottage, Wells, Somerset.

GARDENER (Single-handed or wit... life experience, Inside and Out; single; ... ences; age 39.—GREEN, 82, Park Street, Cam... N.W.1.

GARDENER seeks situation, Single ... preferred; cottage required; good ref... wages.—E. T., Langsmead Lodge, South ... Surrey.

GARDENER seeks situation as SINGLE-HANDED or with help; life experience; good references; married (one child).—Apply, G. WORSFOLD, 1, Rose Cottages, Station Road, Cheam, Surrey.

G. E. MARR, Esq., highly recommends his GARDENER where four or five are kept; life experience in all branches; leaving through estate being sold.—KINGSLAND, Thorncroft Manor, Leatherhead, Surrey

MISS WYATT, Heathfield, Ascot, highly recommends her Gardener, J. IRVIN, as a thorough practical, all-round man; 22 years' experience both Inside and Out, gained in large establishments; previous situation as HEAD; age 35; married (no family); excellent references.

GARDENER seeks situation; life experinece, Inside and Out; married (one boy, 12); age 35; good references; London suburb preferred; demobilised.—H. NOAKES, 16, King Alfred Place, Winchester.

GARDENER desires situation, mainly Inside; 10 years' experience before war; age 29; good references.—H. A. DRAKE, 156, Paynes Road, Freemantle, Southampton.

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GARDENER, age 45, single, seeks charge of small garden; willing to do any odd jobs.—G. B., 2, Capron Cottages, Sungate, Collier Row, Romford, Essex.

GARDENER (SECOND), Inside and Out or single-handed; experienced; good reference; married; age 35; no family; cottage preferred; abstainer.—RUSHEN, Dry Street, Langdon Hills, Essex.

GARDENER (SECOND); age 35, married, no family; seeks situation, chiefly Outside work; life experience Inside and Out; good references.—PAYNE, Cranfield Stein Road, Woodmancote, Emsworth, Hants.

YOUNG MAN, 24, single, seeks situation, UNDER-GARDENER or Groundsman or Park-Keeper; Hove district prefferred; good reference.—R. HARRISON, Oak Cottage, Binstead, I.W.

GARDENER (UNDER); age 30; good experience Inside and Out; able to take duty; bothy preferred; discharged Army.—S. CRUTTENDEN, 2, Camden Grove, Chislehurst, Kent.

PARK-KEEPER or similar situation; practical Gardener, all branches; 5 years' Corporation, last; tall, smart; 39; lately demobilised, Coldstream Guards.—M., 4, Willow Cottages, Wannock, near Polegate, Sussex.

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MR. D. S. MELVILLE, Poltalloch Gardens, confidently recommends FRED DENNISON, as FOREMAN (Inside or General), in good establishment; competent and energetic; life experience; age 29 (single).—FRED DENNISON, Poltalloch Gardens, Kilmartin, Argyll.

FOREMAN (INSIDE).—Mr. J. Coutts, Fairlawn, Tonbridge, Kent, confidently recommends his FOREMAN, A. NORCUTT, to any Gardener requiring a thoroughly practical man; first-class experience in Fruit and Plant Houses, including House and Table Decoration; age 28.

FOREMAN or SECOND (Inside); Fruit and Plants experience gained in good establishments; age 29. State wages.—L. BOSWELL, Beacon View, Pound Bank, Great Malvern.

GARDENER (FOREMAN INSIDE) seeks engagement in good establishment; life experience in general Gardening; excellent references from previous employers; age 32, demobilised; north country preferred.—R. POOLE, 32, Catherine Street, Reading, Berks.

KITCHEN GARDEN FOREMAN or Kitchen Garden and Pleasure Grounds; age 38; excellent references; two girls.—P. CHAPLIN, Scotland Green, Henley-on-Thames.

WANTED, situation, JOURNEYMAN, Inside and Out; three and a-half years' experience; age 20; demobilised; good references; bothy.—J. SADLER, Camelsdale Terrace, Haslemere.

JOURNEYMAN (age 26) seeks situation, Inside and Out; seven years' experience; good references.—W. HEADINGTON, The Bothy, Ottershaw Park, Chertsey, Surrey.

JOURNEYMAN seeks situation as Inside and Out; six years' experience; knowledge of stove and greenhouse plants, Grapes, Peaches, Melons, Cucumbers; lodgings.—Reply to be addressed to C. F., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

JOURNEYMAN (INSIDE); nearly five years' experience in big establishment; Fruit and Flowers; age 18½.—Please state wages, etc., to H. STENNING, Dunorlan Gardens, Tunbridge Wells, Kent.

JOURNEYMAN seeks situation, Kitchen Garden, and Pleasure Grounds; 7 years' experience; age 29; good references; South Coast preferred.—R. GIDDEN, 5, Dupont Road, Rayne's Park, Wimbledon, S.W.

LADY GARDENER desires post, SINGLE-HANDED or otherwise; or with Lady Head Gardener, with view partnership, Market Garden, later; some furniture, piano, etc.—F. R., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER (F.R.H.S.) seeks post as Under; 12 months' training; Outside.—MISS MAY, The Hythe Post Office, Staines.

YOUNG LADY GARDENER, F.R.H.S., College Trained, twelve months' experience Inside and Out, desires post; near big town preferred.—I. B. STIGANT, Danesfield Gardens, Marlow, Bucks.

LADY GARDENER seeks situation, Inside and Out, or Inside only; four and a half years' experience, the latter part under glass, fruit and flowers; good references.—R. M., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER, well-recommened; ten years' general experience, last two years chiefly glass; left through place being sold; experienced Cucumbers, Tomatos, Propagating, Potting; private or nursery; hardy Fruit experience desired.—GILBERT, Fairway, Sandwich, Kent.

LADY GARDENER desires post, seaside or country preferred; three years' practical experience, chiefly under Glass; bothy.—R. M. D., Danesfield Gardens, Marlow, Bucks.

TWO LADY GARDENERS desire post together; five and a-half and three years' experience Fruit, Flowers, Vegetables; good references; hard working; F.R.H.S.—R. I., Box 13, 41, Wellington St., Covent Garden, W.C.2.

LADY GARDENER requires post; two years' practical experience Inside and Out; good references.—The Gardens, Lynwood, Blakedown, near Kidderminster.

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TO NURSERYMEN, TRUSTEES AND EXECUTORS. — MANAGER seeks engagement; life experience Nursery trade; thoroughly competent book-keeper, accountant, and a capable organiser.—CEDRUS, Box No. 12, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER or FOREMAN (retail) in all general culture under glass, Outside Fruit, Vegetables, Salads; married; good references; abstainer.—D. F., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

WORKING MANAGER or FOREMAN requires situation in Market Nursery; 30 years' experience in Tomatoes, Cucumbers, Grapes, Mushrooms, Chrysanthemums and Bedding Stuff; good references; married.—F. W., Brooklands Nursery, Central Park Road, Laindon, Essex.

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FOREMAN and GROWER; all produce required Market and Shop sale, all soft wooded stuff; pot plants, cut flowers, fruit, branches, Routine Forcing, Propagating, etc.; life experience; good references.—Ivy Cottage, Leighs, Chelmsford.

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ADVERTISER desires situation in good Fruit or Vegetable Market Nursery; life experience in general nursery produce; age 27; married.—Stating wages, cottage or rooms, ex-service man, to B. FRATER, 218, Squires Lane, Church End, Finchley, London, N.

WANTED, in September or October, by a young MAN, age 18, situation in a General Nursery; over two years' experience; wages not so much an object; very willing, obliging, and anxious to improve.—WOOLLARD, Semer Lodge, Ipswich.

SITUATION required in Market Nurseries; 15 years' good experience in all branches; age 34; good references; married; near town preferred; demobilised man.—Apply, G. S. COLES, 21, Christ Church Street East, Frome, Somerset.

SEEDS, BULBS, NURSERY. — Discharged soldier, 32, married, desires progressive permanency; 14 years' experience Mail Order and Counter trade; capable Manager; good references.—REAVES, West Haddon, Rugby.

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Revision Forms for the "Gardeners' Chronicle" **HORTICULTURAL DIRECTORY** have been posted to Nurserymen in every county in England, Scotland, Wales, and Ireland. In order to facilitate the early publication of the Revised Edition for 1920, nurserymen are asked to return the forms, with the necessary corrections, **AS SOON AS POSSIBLE.** It is only by the hearty co-operation of all interested that this section of the **DIRECTORY** can be made perfect.

Any Nurseryman who has **FAILED TO RECEIVE A FORM** should send a penny postcard to

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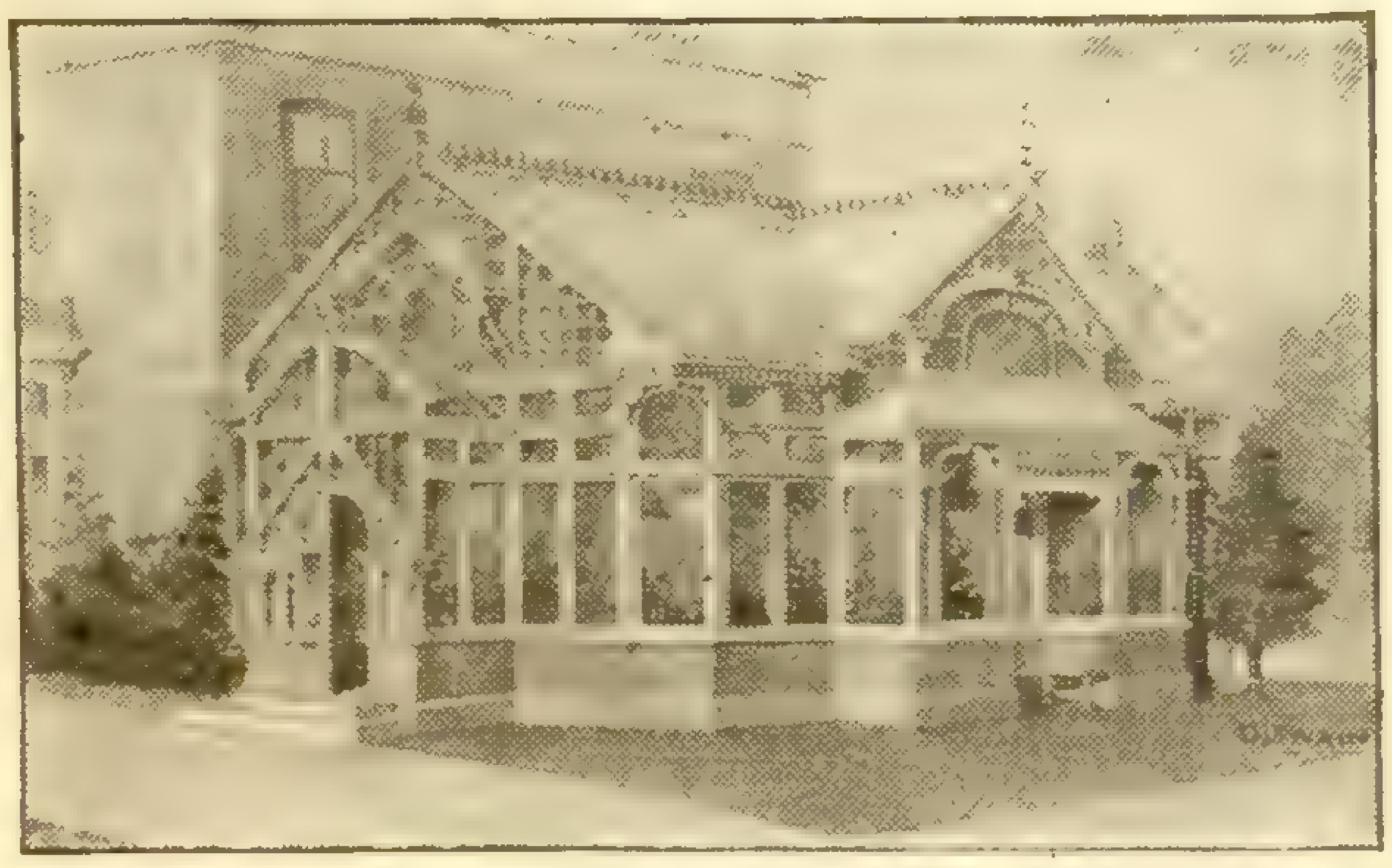

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R.H.S. GENERAL EXAM.—Correspondence Class conducted by a practical gardener.—Particulars from the HEAD GARDENER, Heath End House, near Basingstoke.

NOTICE.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W.14.

EXHIBITION.

SHROPSHIRE HORTICULTURAL SOCIETY.

The Shropshire Horticultural Society intend holding their Floral Fete and Exhibition in August, 1920. The schedule is in course of preparation and will be available for issue at an early date.

W. G. BRAZIER, Secretary, SHREWSBURY.

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PRIMULAS! PRIMULAS! PRIMULAS!

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FERNS! FERNS!! — Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

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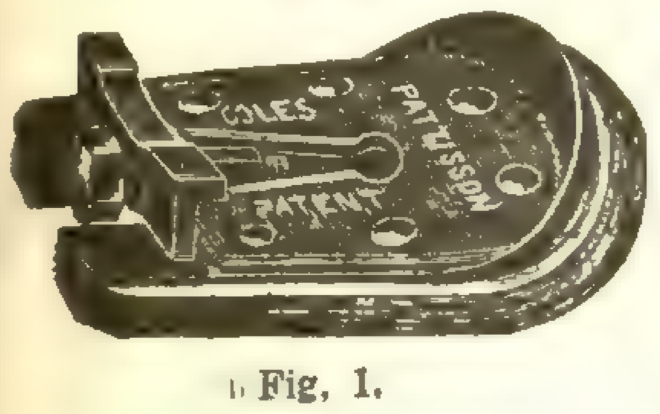

Fig. 1.

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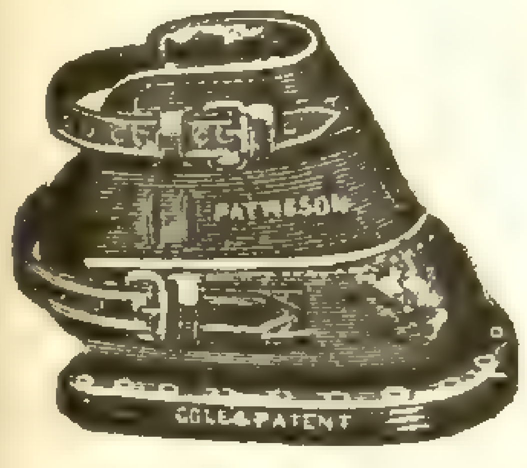

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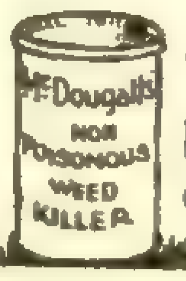

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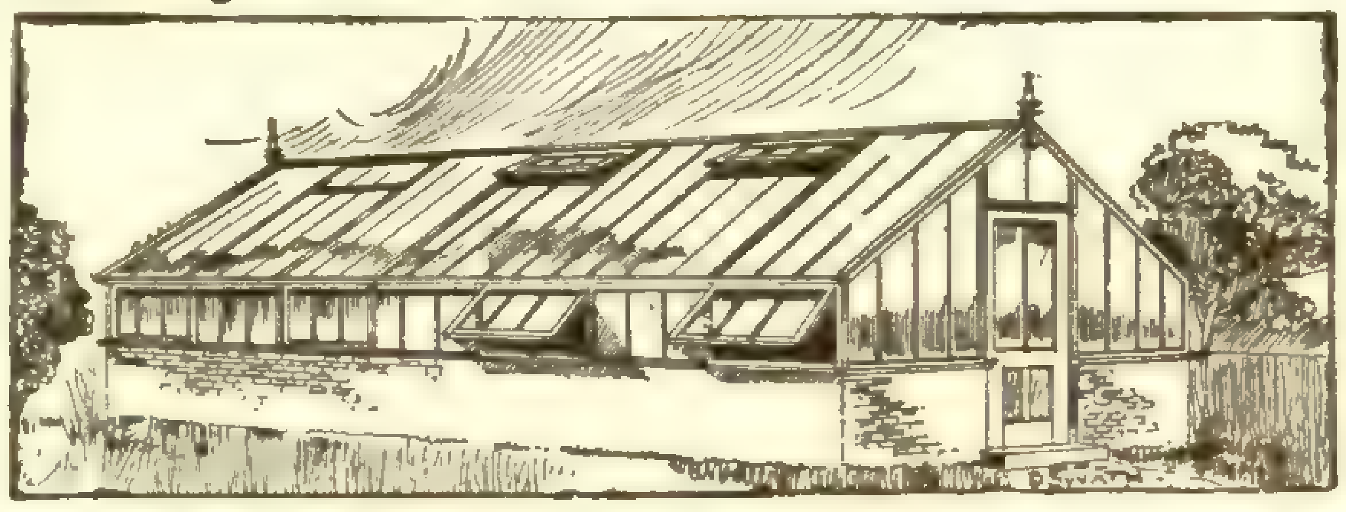

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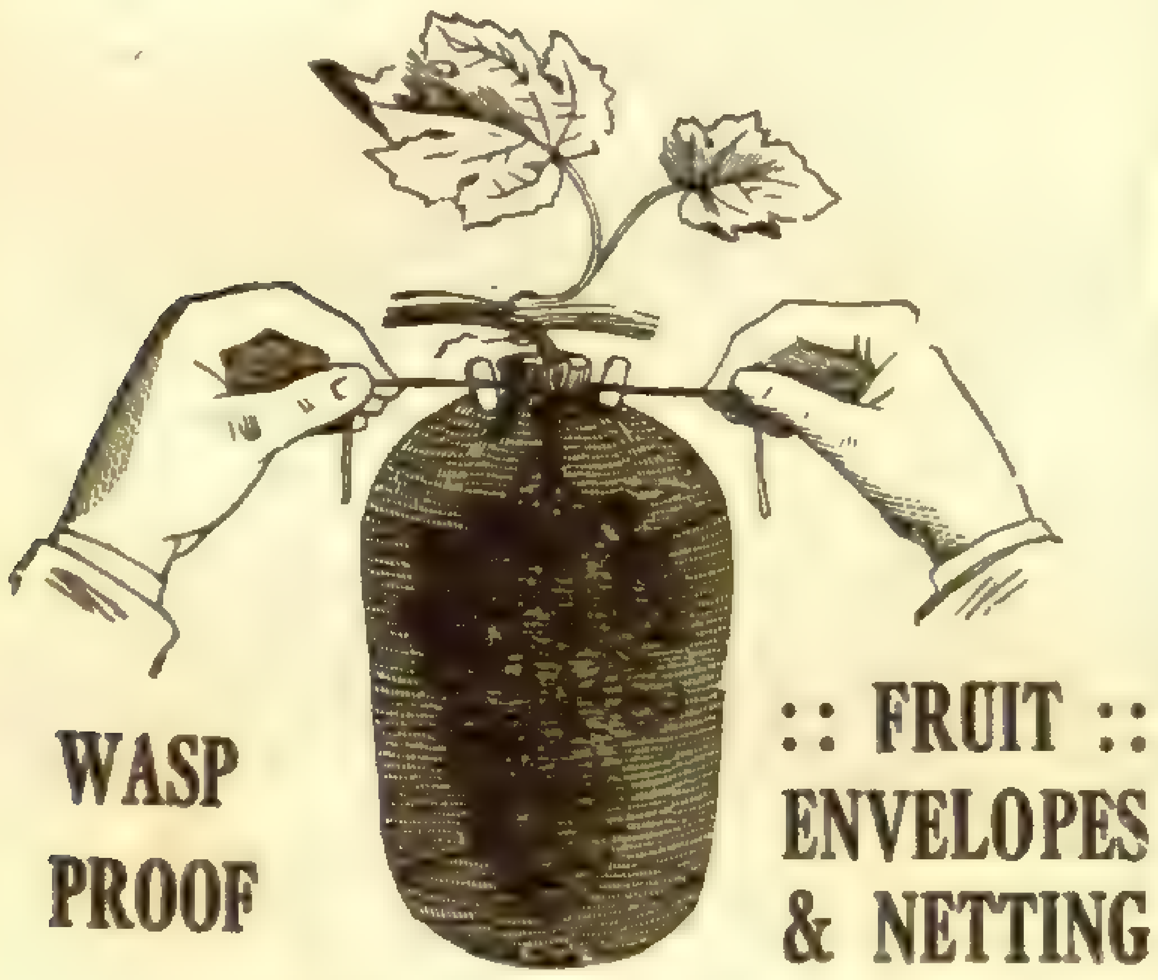

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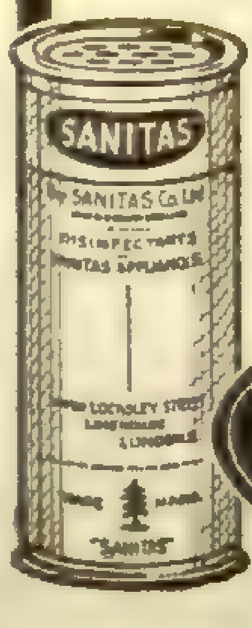

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THE
Gardeners' Chronicle
No. 1705.—SATURDAY, AUGUST 30, 1919.

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TULIPS AND THEIR WAYS.

(Concluded from p. 90.)

TURNING now to the question of the natural classification of the wild species of Tulip, it cannot be said that we have made much progress. Dr. Boris Fedtschenko, of Petrograd, was working at the genus in the years immediately preceding the war, and the herbarium there should be specially rich in specimens of Tulipa, since so many of the species are natives of what we have hitherto known as the Russian Empire. In 1914 he published in *Engler's Botanische Jahrbücher* (L. Supplement, p. 612) a preliminary list of 148 species, arranged in six sections. But when we notice that, in this list, T. linifolia is separated from T. Batalinii by no fewer than 41 species, and T. Greigii from T. Fosteriana by 72, and that separate sections are made for species with smooth and with hairy stems, it is hard to believe that the proposed classification will be really satisfactory. If ever two Tulips were closely allied, T. Batalinii and T. linifolia are. Having raised numbers of both from seeds and compared their growth both above ground and below it, and having, by crossing the two, obtained red forms from seed of Batalinii and also a yellow flower with a red picotee edge, it is almost impossible to look upon them as anything but colour forms of the same species. Moreover, T. praestans, to take only one instance, has either a smooth or a hairy stem, or, at any rate, forms that differ in no other way are found among wild collected bulbs.

A further point, in which I am led to disagree with Dr. Fedtschenko's arrangement of the species, is the inclusion in the list of such North Italian Tulips as T. Didierii, T. planifolia, and the like. All the evidence goes to show that these so-called species are not really wild Tulips at all, but garden forms that have escaped from cultivation and become distributed by degrees in fields and semi-cultivated ground. My refusal to accept these Tulips as good species is due to the fact that each of them has a definite basal pattern, which is reproduced in identical form in every example of each variety. Figs. 54 and 55 show the basal blotches of four of these North Italian Tulips. There is no variation among the individual specimens of each kind. Now this is a phenomenon which only occurs among bulbs that have increased by vegetative, as opposed to sexual, increase. In other words, each of these so-called species is the offspring of one garden seedling, which has increased not by seeds but by offsets. If we remember that, when the Tulip mania was at its height in Holland, it also raged, though less virulently, in Northern Italy, and, if we remember, too, that in those days no seedling was of any account unless it "broke" into a striped or "flamed" form, it will not surprise us to think that these red-flowered seedling forms were discarded because they showed no sign of "breaking."

FIG. 54.—BASAL BLOTCHES OF TULIPS.
(1) Tulipa Didierii; blue shading on creamy yellow. (2) T. aximensis; dark bluish green shading on yellow.

Some years ago I had an opportunity of examining in Haarlem a whole bed of imported bulbs of T. Fosteriana, and it was difficult to find any two of which the basal pattern was identical. The general shape was much the same, but there was infinite variation in the results of the struggle for supremacy between the black and the yellow colouring (see Figs. 56 and 57). This year I have noticed the same sort of variation in wild specimens of T. Greigii, in a species from the hills near Lake Beisheir in Asia Minor, and in another from Armenia, which could be obtained some years ago as T. armena. In each of these wild species there was infinite variation in the basal markings, and I have no doubt that the same differences will be found in seedlings of these Italian Tulips, which I hope soon to have raised to flowering size. Of the above-mentioned Armenian Tulip there is a yellow-flowered form, which may or may not be properly called T. galatica, but it shows that similar basal variation is always found among wild plants. There is seldom any distinct basal blotch in yellow Tulips, though the base of the segments is usually stained a light brown. A few specimens of T. galatica have, however, faint blackish markings.

If this theory is right, we shall cease to consider as wild species any Tulips of which all the known specimens have identical basal patterns, and of which the individual plants show no variation. We shall consider these as the vegetative increase of one original garden-raised bulb, and the acceptance of this argument will greatly reduce the number of Tulips to which we can grant specific rank.

It is easy for criticism to be destructive, but less easy to be constructive. Yet it is difficult to see how to make more than three sections of the known species of Tulips. It is easy to separate off the few species from the Far East akin to T. edulis and T. erythronioides, which are distinguished by their long-beaked ovaries and by their extremely short, round anthers. The other species can then be divided into two sections, according as the filaments of the anthers are, or are not, hairy at the base. This hairiness may be as obvious as it is in T. sylvestris, where the base of the filament is much enlarged and densely covered with fine hairs, or as difficult to see as it sometimes is in some of the Greek and Balkan species, such as T. Hagerii and T. Orphanidea. But some hairs are always present in certain species, and this is, as far as I can discover at present, the only character on which we can rely to separate the vast majority of Tulips into one or other of two natural groups.

Nearly all the species that have hairs at the base of the filaments may have a branching stem. T. saxatilis bears two or three flowers, as also do strong bulbs of T. sylvestris; most of the Greek Tulips are apt to have twin flowers; T. primulina has two or three stems, T. dasystemon three, four or five, while T. turkestanica may produce a branching stem with as many as eight or ten flowers.

On the other hand, those species, of which the filaments are always glabrous, seldom produce a branching stem. The chief exception is T. praestans, which regularly produces two or three flowers from each bulb, and I have also an early flowering pale yellow form of what I think must be T. Kolpakowskiana, which regularly produces a branching stem and two flowers.

These examples show that we cannot rely on the stem of a Tulip for help in classification, and a further instance is found in the Tibetan form of T. Clusiana, in which the stem never appears to grow more than an inch above the soil. The flower is identical with that of the well-known T. Clusiana. Unfortunately I have only a single bulb of this stemless form, and so have been hitherto unable to obtain seed, for apparently every Tulip is sterile to its own pollen and to that of bulbs grown from its own offsets. It would be interesting to obtain other examples of this stemless form, in order to raise seedlings and see whether they, too, would be stemless.

The questions involved in the understanding of the colour-pigments of Tulips are probably too complicated for all but skilled chemists, but one cannot help thinking that it is only among hybrids that stripes and streaks of different colours are likely to occur on the inner side of the segments. On the outer side, broad bands of colour seem to be quite usual—*e.g.*, in T. Kaufmanniana and in the cherry-red band of T.

Clusiana and T. stellata—but in all of these the inner surface is unbroken by any such streak of colour.

There are several Tulips which, when the flowers first open, are white or yellow, but over which there gradually comes a suffusion of pink or red until the full-blown flower becomes so distinct from the bud as to be no longer recognisable as the same. This year a seedling of T. Batalinii, crossed with pollen of T. linifolia appeared with a faint edging of red. I expected the red colour to spread all over, but instead it faded entirely away, so that the flower was then indistinguishable from typical examples of T. Batalinii. The problems involved are obviously not easy. *W. R. Dykes, Charterhouse, Godalming.*

ORCHID NOTES AND GLEANINGS.

PHAIUS GRANDIFOLIUS.

The illustration of splendidly flowered specimens of Phaius grandifolius at Hong Kong in *Gard. Chron.* of June 21, 1919, (see Fig. 153) reminds me that it may interest your readers to know that this fine old Orchid may be propagated quite easily by means of its flower stems. After the flowers have faded the flower stem should be cut into short lengths of two or three inches, and if these are inserted as cuttings they will form young plants. *R. F. Seervai, 291, Hornby Road, Bombay.*

CATTLEYA DAMARIS.

A noble flower of this handsome Cattleya, raised at Westonbirt, is sent by Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir Geo. L. Holford, Westonbirt, Tetbury. It was obtained by crossing C. Lord Rothschild (Gaskelliana × Dowiana aurea) and C. Artemis (Gaskelliana × Iris), raised at Westonbirt, and for which a First-class Certificate was obtained from the Royal Horticultural Society on July 2, 1912; the object being to carry on and improve upon the fine features and colouring of the lip of that showy hybrid, an effort which has been successfully accomplished. The form of the large-flowered Cattleyas in its parentage is retained, C. Iris not appearing except in the extra substance of the sepals and petals, which are white, delicately tinged with rosy-mauve. The lip is one of the largest and most perfect in form of any of the Cattleyas, the broad, wavy-edged, well-rounded front being bright purplish crimson, this colour extending over the margins of the side lobes. The disc and base of the lip are bright chrome yellow, shaded with orange in the centre and changing to white towards the margin. The tube of the lip is white above and yellow underneath, and the column is white.

CATTLEYA WARSCEWICZII WIGAN'S VARIETY.

A First Class Certificate was obtained for this fine Cattleya by the late Sir F. Wigan at the meeting of the Royal Horticultural Society on October 29, 1901, and a grand three-flowered inflorescence of it, taken from a plant obtained at the dispersal of the Hessle collection, is now sent by Mr. Geo. W. Marsh from the Amberley House collection, Gravelly Hill, Birmingham. The finely-formed flowers, each eight inches across, have silvery white sepals, and petals slightly tinged with pale lilac, the broad lip being light mauve purple in front, with distinct white margin, and thin yellow lines extending from the base to the disc, where there are two white patches, one on each side. The basal parts of these white patches are tinged with yellow, and in this and in the slight colour on the petals, the variety does not agree with the description of the original in *Gard. Chron.*, November 2, 1901, but the original plant was shown in October and did not produce the tints which it afterwards, as in the present instance, developed when it bloomed in its brighter, normal season.

LAELIO-CATTLEYA RHODOPE.

A two-flowered spike of this pretty and distinct new hybrid between Cattleya Rhoda (Hardyana × Iris) and Laelio-Cattleya Dominiana (C. Dowiana × L. purpurata) is sent us by Messrs. Flory and Black, Slough, the raisers, with whom it is flowering for the first time. In form it is nearest to L. C. Dominiana, but with a decided reversion in colour towards C. Dowiana. The sepals are light bronze yellow with a slight rose shade, the petals rosy mauve tinged with yellow, and the lip bright purple with white lines beneath the fleshy white column.

SOPHRO-LAELIO-CATTLEYA SAXON.

Sophro-Laelio-Cattleya Saxon, raised between S. C. Saxa (C. Trianae × S. grandiflora) and L.-C. Ingramii (C. Dowiana aurea × L. Dayana) is also sent by Messrs. Flory and Black. The flower is as large as the Laelio-Cattleya parent, and like it in form. The sepals, which are unusually broad, are light rosy mauve, the broader petals being similar in colour but with a veining of darker mauve. The much-frilled lip is light purple, with shaded orange base and lighter veining.

DENDROBIUM AMOENUM.

Specimens of this pretty little Dendrobium are flowering in the collection of J. Ansaldo, Esq., Rosebank, Mumbles, the home of a large number of rare and curious species, as well as those with showy flowers and hybrids. The clustered, slender stems bear numerous fragrant flowers, one to three together, white, tipped with rose, the apex of the lip being magenta colour, and the base having yellow markings. It was first shown by the late Mr. William Bull, of Chelsea, at the Royal Horticultural Society's meeting of June 4, 1874, when a First Class Certificate was given. The plant was known for many years previously to that date, and imported in small quantities from Burma and the Himalaya region. The variation of the size and showiness of the flowers from the different localities is very marked. It is of the same group as D. transparens and sometimes appears in gardens under the names of D. mesochlorum, and D. marmoratum. It thrives in a lower temperature than most Dendrobiums, although it should occupy a warm moist house in the growing season.

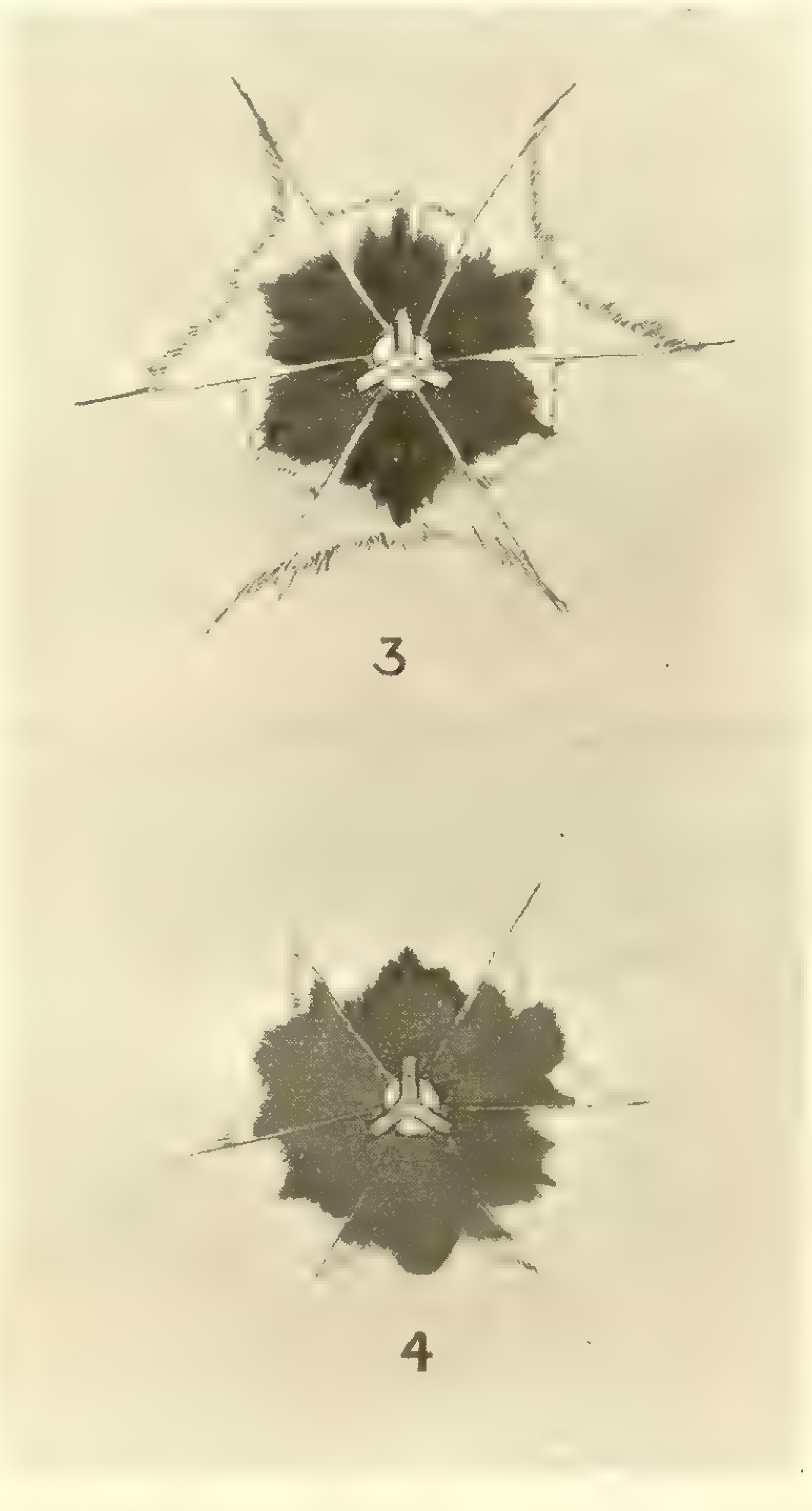

Fig. 55.—Basal blotches of tulips.
(3) A red Florentine Tulip; base black on yellow. (4) Tulipa planifolia; base black, edged with deep yellow. (See p. 113.)

CATTLEYA HYBRIDS.

There are several instances of Cattleya Fabia (Dowiana aurea × labiata) giving white-petalled forms when crossed one way and flowers with intensified colouring when crossed the other way. White-petalled varieties when crossed usually give all white, or a proportion of white, seedlings, though in some cases, as, for example that in which M. Chas. Maron crossed Cattleya Eldorado alba and Laelia Perrinii alba, which resulted in all rose-coloured progeny (see *Gard. Chron.*, Jan. 12, 1907, p. 21), the seedlings give coloured flowers.

The subject is interesting, although the points are as yet obscure. One thing is evident, and it is that the production of albinos and white-petalled forms has progressed immensely under the skilful efforts of the hybridist.

SWEET PEAS.

In most gardens the production of early flowers of Sweet Pea is desirable, as the blooms are greatly admired and are invaluable for table decorations. Nothing is gained by forcing the plants to produce flowers much before the middle of April, because in the absence of sunshine the growth remains weak and the blooms lack colour and substance. The best results are obtained from plants grown under comparatively cool conditions in a light and airy house. Early flowers may be obtained from plants raised in September by sowing seeds in 5-inch pots and keeping the seedlings growing steadily in a cold frame until early in January, when they should be placed in a cool house and potted towards the end of that month.

For the provision of flowers for cutting Sweet Peas may be grown either in boxes or planted out in prepared trenches, while for decorative purposes, large pots are the most convenient. A fairly good compost should be used, preference being given to a rather strong loam, enriched with some decayed manure and bone meal, lime rubble being added to keep the whole porous. Ample drainage should be provided in all cases, and the soil made quite firm. For the production of early flowers the single-stem method of cultivation is the most satisfactory. Arrangements for supporting the growth should be made quite early. Careful watering is necessary for some time after potting, owing to the cold weather generally experienced until March, but once the plants begin to grow freely regular attention to watering becomes necessary. In the absence of sun heat, a temperature of about 50° is sufficient to maintain steady growth during the early part of the year, but as the sun gains power more air should be admitted and the atmosphere made more genial by occasionally damping the floors and spraying the plants on all bright days.

During their period of active growth Sweet Pea plants should never be allowed to suffer from lack of moisture at the roots, and they will receive considerable benefit at this period from occasional applications of weak liquid manure or soot water. When the flower buds begin to appear a top-dressing of an artificial manure will materially add to the length of the flower stems and the colour of the blooms. An intelligent grower will afford more liberal treatment to Sweet Peas growing in a restricted root area than to those in trenches. If there is any likelihood of the supply of bloom failing before the outdoor Sweet Peas are available, cut out the tops of plants in order to encourage side shoots; some nitrate of soda will also afford aid in this connection if applied to the roots in liquid form.

The strong-growing varieties of Sweet Peas do best under glass; Maud Holmes, King White, Thos. Stevenson, Warrior, Royal Purple and Hercules are excellent varieties, and embrace most of the desirable colours. *F. T.*

TWO GOOD MELONS.

After an experience covering several years, I have found the two Melons illustrated (see Fig. 58) excellent in every way. They crop well, are of excellent flavour, and the individual fruits are often of large size. The variety Queen of the South was obtained by crossing Superlative with Gunton Scarlet; it is scarlet-fleshed, and the fruit illustrated weighed 11¾ lb. The variety Queen of the West has green flesh, and its parentage is Royal Jubilee × Best of All: the fruit illustrated weighed 10¾ lb. Both varieties have been distributed by Messrs. R. and G. Cuthbert. *A. B. Wadds, Englefield Gardens, Reading.*

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante pp. 64-70.)

(Continued from p. 103.)

MIDLAND COUNTIES.

Bedfordshire.—The Gooseberry and Black Currant crops were excellent this season. Red and White Currants had very fair crops. The Strawberry crop was the worst I have had, as so many of the plants were "blind." This is a new experience to me, although I have heard of such cases. Apricots were disappointing; I hardly know the cause, as we had an abundant crop last season; possibly the April frosts are responsible. Apples and Pears are very promising. *J. W. Stanton, Hinwick Hall Gardens, Wellingborough.*

Buckinghamshire.—Apple trees apparently set their blossoms freely and promised to give a heavy crop, but owing to the prolonged drought old orchard standards cropped poorly, though young, vigorous trees are carrying good crops of fruits which promise to be of good size. Pears carry a good average crop of clean, healthy fruit. Plums are good, also small fruits, and Cherries promise to be very fine. Peaches and Nectarines carry good crops, and the trees clean and healthy. *Chas. Page, Dropmore Gardens, Maidenhead.*

—— All fruit trees developed an abundance of bloom, but the prolonged drought seriously affected the crops in this district. Strawberries were almost a failure. Prune trees are carrying a crop of fruit under the average. Many orchard trees are affected by mildew, and Gooseberry bushes in some gardens are badly infested with caterpillars. Black Currants gave a light crop of poor quality. Red Currants, on the contrary, were extra good. Raspberries gave a heavy crop of fruit, and the canes are remarkably healthy. Gooseberries gave the heaviest crop experienced for many years past. Our soil is a heavy, retentive loam, resting on clay, and the natural drainage is bad. During the recent drought the soil cracked badly and in some instances to a depth of several feet. *W. Hedley Warren, Aston Clinton Gardens, Tring.*

—— The early prospects were very promising, but the continued drought and persistent attacks of aphis and caterpillar, severely thinned the Plum and Pear crops. Apples are a heavy crop. Owing to the dry weather, the early varieties of Strawberries failed to mature properly, but rains helped the late sorts, which gave a heavy crop of splendid quality. Boskoop Giant Black Currant is practically a failure, as the fruits failed to swell; Carter's Champion, growing alongside, was heavily laden. *G. F. Johnson, Waddesdon Gardens, nr. Aylesbury.*

Cheshire.—The early promise of a heavy fruit crop was entirely spoiled by the prolonged dry weather in May and June. *Philip Bolt, Manor House Gardens, Middlewich.*

—— Early varieties of Pears are cropping well, especially Jargonelle and Hessle. Some late Pears are also bearing fairly well, and trees of Beurré Diel, Winter Nelis, Glou Morceau, and Souvenir du Congrès are carrying moderate crops. Numbers of other varieties have failed, chiefly owing to drought. Apples have cropped irregularly, but some trees are laden with fruit, and the quality is good except for some slight damage from caterpillers. *Alfred N. Jones, Marbury Hall Gardens, Northwich.*

—— Hardy fruit crops in these gardens vary greatly. Early in the spring all fruit trees blossomed very freely, but owing to the dry hot spring the flowers failed to set well and they were also affected by blight, although the trees were sprayed. Pears carry fair crops, but the crops of Apples, Plums and Cherries are poor. Strawberries, Black and Red Currants, Gooseberries and Raspberries gave good crops of clean fruit. *James B. Allan, Tirley Garth Gardens, Tarporley.*

—— The most remarkable point about fruit crops this season is that the most exposed trees are producing very good crops, and the trees which are sheltered have very poor crops. Probably the trees which are exposed had well ripened wood, and those which are sheltered produced poor fruit buds. *James Atkinson, Torkington Lodge Gardens, Hazel Grove, nr. Stockport.*

Fig. 56.—Basal blotches of Tulipa Fosteriana. (1) Base wholly yellow. (2) Base black, shading to yellow. (See p. 113.)

—— There was an abundance of blossom on the trees in spring and every promise of a record crop of most hardy fruits, but, owing to the long spell of dry weather, Apples have dropped, Pears did not swell properly, and all bush fruits were very small. Owing to the shortage of labour during the past few years, we have not been able to spray some of the larger trees, and the result is seen in fruits badly damaged by grubs, whereas the fruits on sprayed trees are remarkably clean. *N. F. Barnes, Eaton Gardens.*

—— The fruit crops in this district are generally under the average. Apples are fairly good, and would have been better but for the plague of caterpillars which destroyed the entire crop in certain places. Pears are scarce, and so are stone fruit, except Cherries and Victoria Plums. Damsons will be a light crop. Small fruits have been plentiful, excepting Strawberries, which suffered from the long spell of drought. *E. Severn, Combermere Gardens, Whitchurch, Salop.*

Derbyshire.—Of Apples we have a good crop and the fruits are fairly clean. Strawberries were extra good early in the season, but the cold spell caused many fruits to rot. The Red Currant crop was the best we have had for many years. *F. G. Mills, Laneside House Farm, Glossop.*

—— The fruit trees in this district were well set with fruit buds this spring after a light crop last year. The late spring was very favourable to the setting of the blossom, but owing to the drought during May and June many Plums, Apples, Pears and Cherries dropped, but with the advent of rain we hope for good crops both in quality and quantity. *J. Maxfield, Darley Abbey Gardens.*

Hertfordshire.—The fruit crops are far different to those of last season. Several Pear trees which were laden with fruits two years ago are again devoid of fruit. Insect pests have not been so troublesome as usual, mainly as a result of spraying. I was rather anxious regarding our Plum crop when the trees were in flower, but we shall have a fine crop. The rain came just in time to save our Raspberries and Black and Red Currants. I strongly advocate mulching the roots of all fruit trees and bushes. *Wm. Fulford, The Gardens, Delrow House, Aldenham, nr. Watford.*

—— There were plenty of flowers on Blenheim Pippin, Cox's Orange Pippin, and Ribston Pippin Apple Trees, but a poor crop resulted. All other Apple trees, especially Lane's Prince Albert and culinary varieties generally, carry an abundance of fruit. As a result of heavy waterings given them during the long drought, both Strawberry and Raspberry plantations produced fine crops. *T. J. Hartless, The Gardens Kings-Walden-Bury, Hitchin.*

—— The heavy fall of snow on April 27th, followed by 8° of frost on the 28th, completely destroyed all prospects of Plum and Damson crops, broke large branches from the trees, and damaged Gooseberry and Black and Red Currant bushes. Apples which are planted in the grass meadow have very poor crops, and some of the trees were badly attacked by caterpillars, although they were sprayed with caustic alkali. These gardens are 500 feet above sea level, and have a northern slope; the soil is a medium loam, resting on clay in some parts, and on gravel in others. *T. W. Birkenshaw, The Gardens, Caldecote Towers, Bushey Heath, Watford.*

—— Apples are clean and good; some trees carry heavy crops and others have scarcely any fruits. Currants, Red and White, carried heavy crops, but Black Currants did not crop so well and the fruits were not large owing to the long spell of hot, dry weather during May and June. Gooseberries promised well, but the heavy fall of snow on April 27th spoilt them, so that the crop has been comparatively light. *Thomas Nutting, Childwickbury Gardens, St. Albans.*

—— The outlook for all fruit crops in this district was a gloomy one during the dry weather as caterpillars were numerous and the fruit dropped in quantities. After rain came the outlook altered and we had very good crops of Raspberries, Strawberries, Gooseberries, Currants and Cherries. Apples and Cherries are swelling well and some varieties will still require to be thinned. *F. Fitch, The Gardens, Balls Park.*

—— The fruit crops in these gardens are well above the average in quantity. Apples are exceptionally good, and the varieties Peasgood's Nonesuch, Charles Ross, Bramley's Seedling, Blenheim Pippin, Worcester Pearmain, and Warner's King, have excellent crops. Pears and Plums promised bountiful crops at the blossoming period, but the good prospects have not been realised. The drought in May and June may be responsible for their failure. Cherries have a good, but not heavy crop. Early Strawberries were of good quality, but the crop was a small one, although the later sorts were better.

Gooseberries and Currants gave very good crops. Raspberries were very plentiful and of good quality. Damsons, which I thought at one time would be plentiful, are a complete failure. The soil here is very light in texture, and dries very quickly. The subsoil is gravel. *James A. Paice, Aldenham Vicarage Gardens, Watford.*

—— In striking contrast to last season the fruit crops generally are very satisfactory this year with the exception of Apricots, which are a complete failure. The trees are clean, and the rain came just in the nick of time. Strawberries have never been better, and the same applies to most kinds of bush fruit. Currants and Gooseberries have excellent crops. *Edwin Beckett, Aldenham House Gardens, Elstree.*

—— The promise of fruit during the flowering period was splendid, but the succeeding drought very adversely affected it; Strawberries and Red Currants suffered badly. Rain came just soon enough to prevent failure, and the fruit is of good quality. *E. F. Hazelton, North Mymms Gardens, Hatfield.*

Leicestershire.—The plague of caterpillars has not much affected the Apple crop, which is a most abundant one here. Lord Grosvenor, Bramley's Seedling, Lane's Prince Albert, Annie Elizabeth, Stirling Castle, Belle de Pontoise, Seaton House, Improved Northern Greening, and Newton Wonder are the most prolific cooking varieties; while of dessert varieties, Worcester Pearmain, James Grieve, and Allington Pippin, are the best. Plums are over an average crop in the orchard, but only a medium crop on wall trees. Peaches are excellent and the trees clean. Strawberries, owing to drought, were small, and the season a short one. Gooseberries, Red Currants and Raspberries were most prolific, but the Black Currant crop was much reduced by cold N.E. winds and drought. *D. Roberts, Prestwold Gardens, Loughborough.*

—— Raspberries were plentiful and of very good quality. Black Currants were good, and also Gooseberries. Apples and Plums and Pears seem very plentiful and of very good quality, and trees look very healthy, although they suffered during the dry weather. *W. Paterson, Swithland Hall Gardens, Loughborough.*

Northamptonshire.—The condition of the hardy fruit crops here is, on the whole, very satisfactory. The only failure is in the case of Apricots, which flowered well, but had their blooms destroyed by frosts and cold winds, even though protection was afforded. Peach and Nectarine trees were badly attacked by aphis, but the pest was kept down by frequent syringings with Bentley's Quassia compound. The trees are clean and healthy, the fruits swelling well, and there is every promise of a good average crop. Sweet Cherries were only a moderate crop, but Morellos are very plentiful. Plums are a very heavy crop, and Apples and Pears set so thickly that much thinning was necessary on all the smaller trees. All bush fruits carried heavy crops, and Black Currants and Gooseberries were extra good. Strawberries were a grand crop, many berries of Leader weighing 3 oz. each, and of excellent flavour, but owing to the hot, dry weather, the crop was over earlier than usual. All our fruit trees were mulched with stable manure early in the season, thus saving much labour in watering. The value of a good mulch to all fruit trees in a dry season cannot be over-estimated. *F. W. Gallop, Lilford Gardens, Oundle.*

—— The long spell of dry weather in May and June ruined the Strawberry crop, and very seriously thinned Black Currants in this district, excepting where the bushes were well mulched. Plums and Damsons are a failure. *Robert Johnston, Wakefield Lodge Gardens, Stony Stratford.*

—— In these gardens Apple and Plum trees set heavy crops of fruit, but drought caused many fruits to fall, leaving a fair average crop. Pears are a light crop; Gooseberries were a very heavy crop; Strawberries, Red Currants, and Raspberries were also good. Our soil is a light loam, overlying ironstone. *John Meager, Harrowden Hall Gardens, Wellingborough.*

(*To be continued.*)

The Week's Work.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Oncidium.—Those members of this genus that are not furnished with pseudo-bulbs, as in the case of O. Lanceanum, O. luridum, O. variegatum, O. carthaginense, and others, are handsome and distinct Orchids which flower during the late spring and summer months. These species should be grown in the warmest division, and, as clear light is of the utmost importance to them, they should be kept as near the roof-glass as possible. They root well in the ordinary fibre and Sphagnum-moss mixture, and are best potted above the rim of the receptacle and fixed firmly in the compost. Plenty of material for drainage should be afforded them, as the plants require plenty of water while growing, and they enjoy overhead syringing in bright weather. These bulbless kinds are not the easiest of Orchids to manage during their resting period, in winter, when they should be kept well on the dry side, but not allowed to suffer unduly from drought.

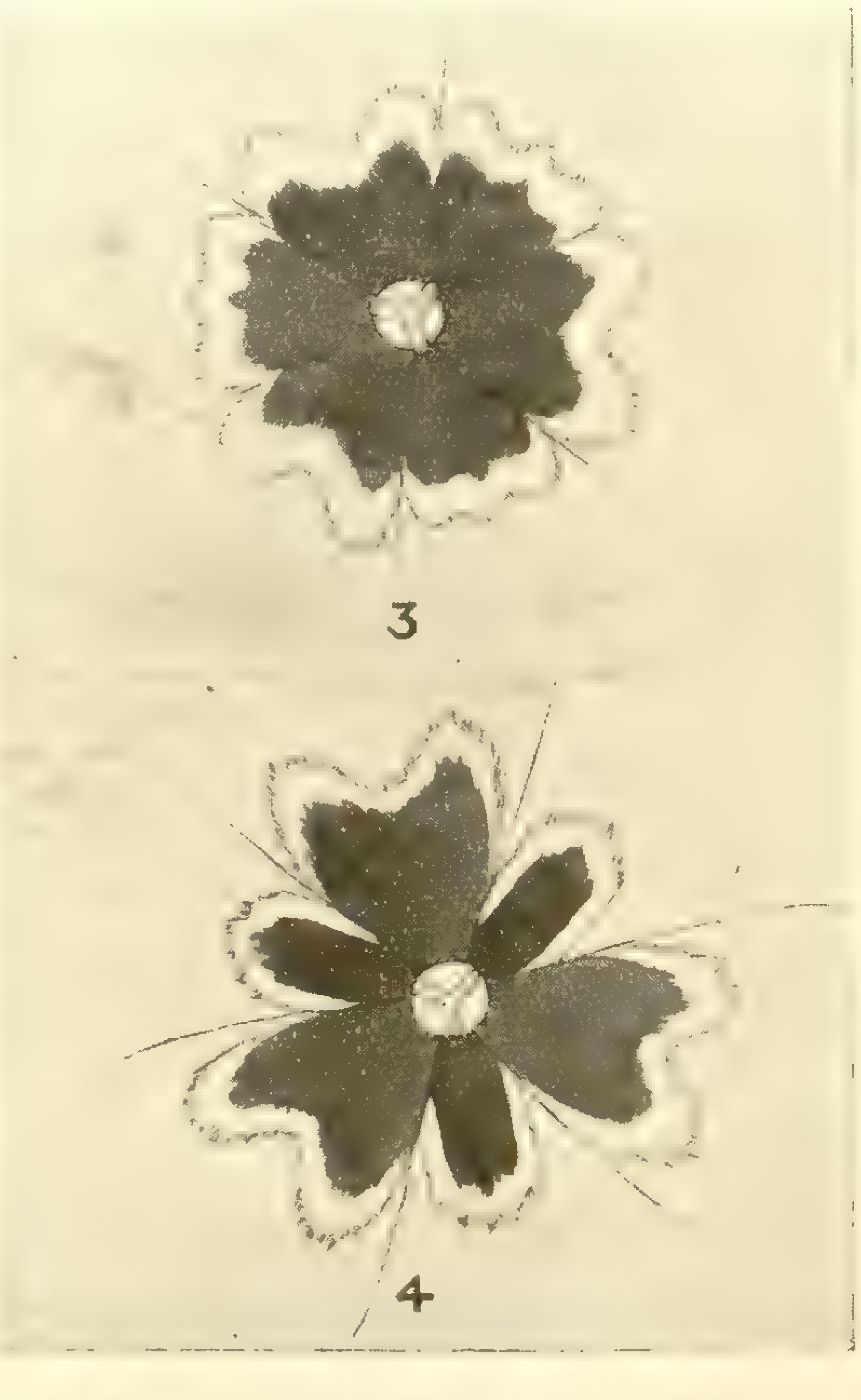

Fig. 57.—basal blotches of tulipa fosteriana. (3) Base black, edged with yellow. (4) Base black, edged with yellow. (See p. 113.)

Oncidium macranthum.—This species and its allies, O. superbiens, O. undulatum, and O. zebrinum, etc., are stately kinds that should at all times be accommodated in the cool department. Specimens that are well established and growing freely delight in abundance of water at the present season, provided the compost is sweet and porous, and the drainage is efficient. The handsome O. aurosum, a member of the yellow-flowered section, also requires liberal supplies of water at the roots while growing, but this species, which is not a difficult plant to grow, likes a light, airy position in an intermediate house. During the resting season it requires to be kept dry, but undue shrivelling of the bulbs must not occur, and unless so treated the flower spikes will be few. O. sphacelatum, which is one of the oldest cultivated Orchids we have, and perhaps the freest-growing of all Oncidiums, requires similar treatment to the last-named species.

Oncidium varicosum.—Well established plants of this species and the members of the crispum group will be growing and rooting freely, and the rooting material should be kept continuously moist, whilst overhead syringing on bright mornings will prove beneficial until the present season's growth is fully matured. The plants should be kept close up to the roof ventilators, where they will have the full benefit of light and air, which are so essential to the proper maturation of the pseudo-bulbs. Flower spikes are so freely produced by this group of Oncidiums that plants will flower themselves to death if allowed to do so. It is only strong, healthy plants that can successfully withstand the strain, and it is best to remove the spikes from weak specimens.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Semi-wild Garden.—Owing to pressure of work in other departments the semi-wild garden is apt to be neglected in summer, and where this has been the case a general tidying up should be taken in hand at the earliest opportunity. Cut the long grass early in the morning; remove weeds and other rubbish which may have accumulated, and give groups of all subjects a thorough watering. Thin out the clumps of single and other Roses and see that the roots do not lack moisture.

Climbers.—Keep the growths of climbing plants thinly trained and within bounds. Red spider increases very rapidly in dry weather; therefore spray the foliage with some suitable insecticide and thoroughly syringe the plants occasionally to prevent attacks of this pest. Do not neglect to afford liquid manure to the roots of climbers growing in well-drained borders. Keep Ivies and other strong growing climbers and creepers within bounds, and cut out any growths that are extending over window frames and gutters.

Various Matters.—Michaelmas Daisies and other tall subjects should be supported and receive applications of liquid manure at the roots. Trim shrubs and other plants where they are inclined to exceed their allotted space and damage other things. Bulbs should be ordered early. Do not overlook the correct labelling of all plants and the provision of wire netting to make trees and other subjects secure against rabbits.

Rhododendrons.—Pink Pearl and other varieties planted late in the spring will be greatly benefited by soaking the soil and roots with water and by adding further mulchings of leaf mould, grass mowings, or other suitable material that will prevent excessive evaporation of moisture and keep the roots cool.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Potatos.—The second-early and some of the maincrop varieties of Potatos are ready for lifting and storing. Nothing is gained by allowing the tubers to remain in the ground after the skins are firm. Choose a dry day for lifting, when the Potatos may be gathered quickly and conveyed to the store. First collect the seed-sized tubers and place them in an open, airy position under cover. It is not necessary to leave the seed Potatos to "green" in the open as it has been proved that heavy crops are produced from unexposed seed. A slight dusting of lime and sulphur should be given to stored Potatos.

Turnips.—The plots from which Potatos have been lifted will provide excellent sites for Turnips. Little time need be spent on the preparation of the plot, beyond harrowing or

rolling the ground, as the case may be. Sow the seeds in drills drawn 15 inches apart, and an inch deep. Sow both white and coloured varieties.

Cabbages.—Should the weather be favourable, the first planting of early Cabbages should take place. Choose sheltered sites, west and southern borders for preference, and plant the seedlings 15 inches apart, in rows 18 inches apart. The maincrop Cabbages in the seed bed should receive every attention with regard to watering, weeding and hoeing. It is a good plan to dust the seedlings occasionally with black sulphur, as I am sure this prevents the Cabbage butterfly caterpillars from spoiling the small plants. Make another sowing of suitable varieties, such as Flower of Spring and Wheeler's Imperial.

Tomatos.—Tomato plants growing out of doors should have the point of growth stopped to assist the development of the later trusses of fruit. Remove parts of the leaves where they shade the fruit clusters, and pick out any side growths that appear.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Cineraria.—Plants required for winter flowering should be potted into 6-inch pots so that they may be well developed by the late autumn. Pot them in a compost of fresh loam, leaf-mould, sand and decayed manure. The most favourable position for the cultivation of Cinerarias in summer is a cold frame facing north, with their pots partly plunged in coal ashes. Provide ample ventilation, and during fine weather remove the lights at night to enable the plants to benefit from heavy dews. An occasional spraying with weak insecticide will keep the foliage free from insect pests. Seedlings from later sowings should be pricked out in boxes in fairly light soil and placed near the roof-glass in a cool, shaded and airy structure.

Bouvardia.—Plants that were rooted early and have had the points of their shoots stopped, in due course, should be encouraged to produce strong growths for autumn flowering by syringing the foliage and closing the frame early in the afternoon. If the pots are well filled with roots, give frequent waterings with a weak solution of artificial manure. Late struck cuttings may be potted into 5-inch pots in a compost of fresh loam, leaf-mould and sand, and grown in a warm pit.

Zonal Pelargoniums.—All Pelargoniums required for flowering in the winter should be placed out of doors in a position exposed to the sun; here, with their pots plunged in ashes, they will form hard, short-jointed growth. To secure uniformity of habit, pinch the points out of the strongest shoots, and for the present remove all flower spikes. If the pots are well filled with roots, give occasional supplies of liquid manure.

Fuchsia.—A fresh stock of Fuchsias should be raised to take the place of old and leggy specimens. Select strong shoots for cuttings and insert them in small pots filled with light, sandy compost. Plunge the pots over mild bottom heat, preferably under a handlight, and spray the foliage frequently; under these conditions cuttings will root freely, and in a very short time they will be ready for potting separately.

Salvia.—To be of service for flowering in late autumn, the points of Salvia growths should be pinched out and all flowers should be removed until new growths are made. Syringe the plants on bright days to check red spider. Late rooted cuttings, grown in small pots, are very useful for decorative purposes.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Planting Fruit Trees.—All who intend to plant fruit trees in the autumn should at once decide what kinds and varieties they require, and how many trees, so that orders may be placed with the nurserymen in good time. Early orders have the best chance of being filled at an early date, and it should be remembered that autumn is much the best time for planting. It is practically impossible to suggest varieties of fruits suitable for all districts, therefore those who propose to plant new trees should select the varieties which succeed best in their district. The aim should be to decrease the inferior sorts and increase the number of trees of superior kinds and varieties. Care should be taken to choose varieties that will furnish a succession of fruits over a long period, and preference should be given to long keeping Apples, such as Bramley's Seedling, and to free cropping dessert varieties.

Peaches and Nectarines.—As early varieties of these fruits begin to ripen, syringing should cease until the crops are gathered, but the roots of the trees should not be allowed to become dry.

Highly-Coloured Fruits.—To obtain high colour it is necessary to expose the fruits fully to light and air by tying back growths and foliage; but the best fruits are those which are exposed to light all through their period of development.

Loganberries.—The old growths should be cut out and the young ones tied into position. Where new plants are required, surplus shoots should be pegged down, first cutting a notch in the growth just behind a joint; several plants can be produced from one growth so treated, but the layered portions should be kept moist.

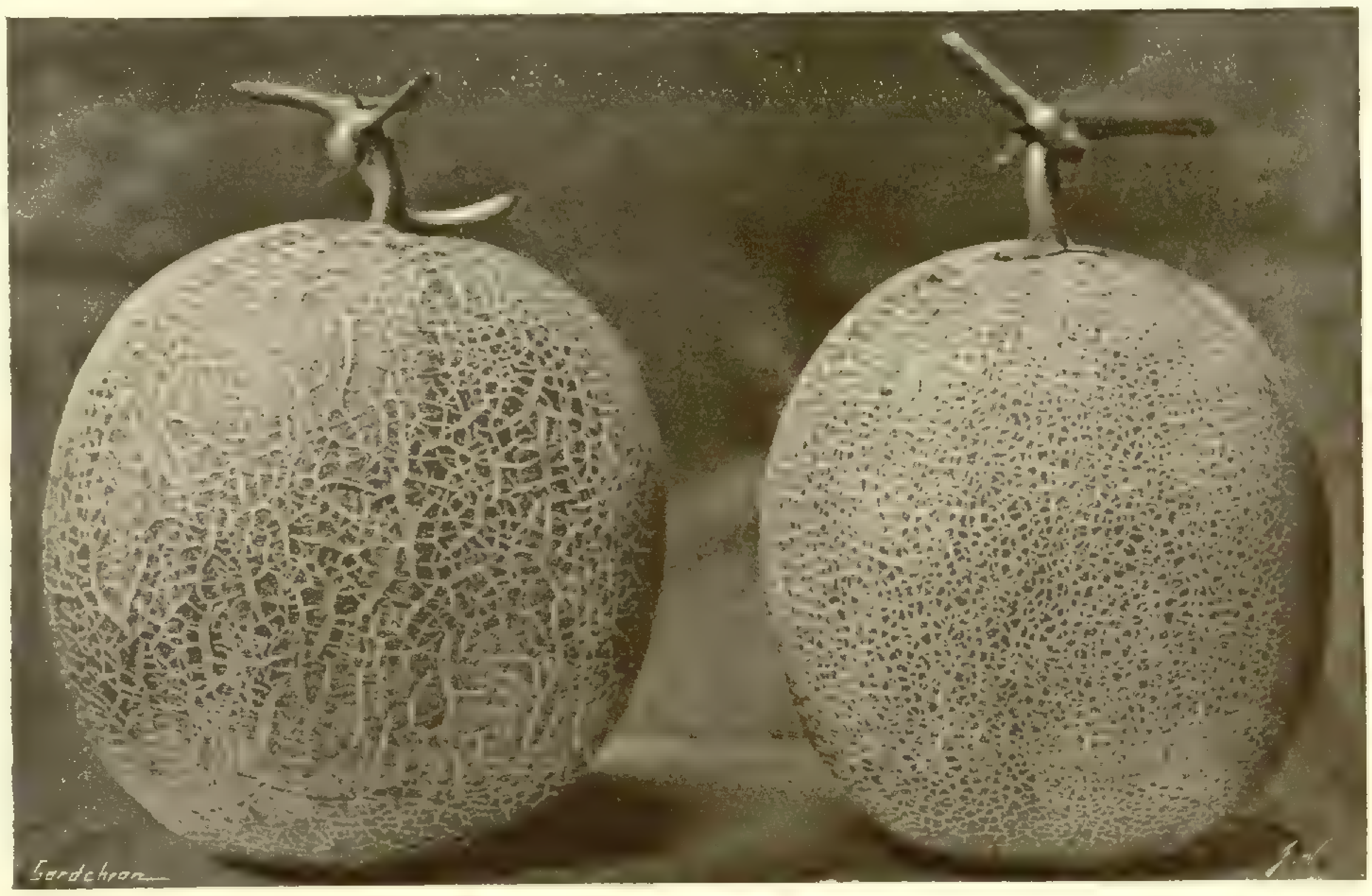

Fig. 58.—Two good melons.
Queen of the South. (See p. 115.) Queen of the West.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Cucumbers.—In order to maintain a regular supply of Cucumbers, close attention must be paid to the ventilation of the house or pit, and to watering the roots and syringing the foliage. Red spider should not be allowed to spread, as once this pest becomes established on the plants it is not easily got rid of. A humid atmosphere will assist in warding off attacks of this pest, and at the same time promote healthy, vigorous growth. Green or black aphides may be destroyed by fumigating or vaporising. Mildew may be checked by sulphur vaporising. The stopping of the shoots should be attended to once or twice a week, according to the amount of growth made, pinching them at one joint beyond a good fruit. Should the fruits set very freely, or in clusters, it may be necessary to thin them severely. To promote active root-action apply light top-dressings of rich compost occasionally and give the plants stimulants, either in liquid or solid form. To prolong the supply of Cucumbers until late in the autumn, strong seedlings should still be planted on well-prepared hotbeds.

Early Peach House.—Where early Peach trees received the necessary pruning, and were tied and thoroughly cleansed immediately after the fruits were gathered, the beneficial effects of the recent hot and sunny weather will be seen in the maturation of the wood and the plumping up of the buds. Every possible effort should be made to keep the trees in vigorous health by syringing them thoroughly every afternoon if the weather is favourable, and by supplying the roots with sufficient moisture. The ventilators of the early house should be left wide open day and night, unless the weather is stormy, when it will be necessary to reduce the ventilation according to circumstances.

Late Peach House.—The hot weather has so hastened the ripening of the fruits in this house that moderately heavy shading has had to be applied to prevent scorching, particularly in the case of some varieties of Nectarines. Continue to use the syringe freely until the fruits commence to ripen. Trees which are heavily cropped will be assisted by watering the roots with liquid manure.

Strawberries. — Potting should be completed. Plants that were forward enough to be potted in July will have filled their pots with roots, and may now be afforded weak liquid manure twice a week. Do not overcrowd the plants, but let them stand just clear of each other. Should the weather be wet, raise the pots on boards or trellises, and apply lime water in a clear state to the roots if worms get into the pots.

Figs.—The favourable character of the weather has been most suitable for the production of highly-flavoured Figs, the necessary temperature having been maintained without the use of much artificial heat. Early fruited trees which are producing their second crop of fruit will require a drier atmosphere than was recommended for the trees when swelling their crop. It must, however, be remembered that excessive dryness causes red spider to put in an appearance. When the fruits which are ready are gathered, a good syringing may be given the trees early in the morning. During warm weather afford plenty of air, both by day and night. Trees grown in pots must be given liberal supplies of liquid manure to assist them to finish their crops. All late fruits which appear should be removed, and any trees that require a shift should be potted as soon as they have finished fruiting. Avoid over-potting, one shift in two years being sufficient if all has gone well. Use good turfy loam, with old plaster rubble and a fair sprinkling of bone-meal added, and see that the drainage is efficient.

APPOINTMENTS FOR SEPTEMBER.

TUESDAY, SEPTEMBER 2—
The Botanical and Horticultural Society of Durham, Northumberland and Newcastle-on-Tyne's Flower Show to be held in the Leazes Park, Newcastle-on-Tyne (three days).

WEDNESDAY, SEPTEMBER 3—
Glasgow and West of Scotland Horticultural Society's Exhibition (two days).

THURSDAY, SEPTEMBER 4—
Lytham (Lancashire) Peace Exhibition (three days).

MONDAY, SEPTEMBER 8—
International Horticulture Conference, Paris (two days).
United Hort. Ben. and Prov. Soc. Com. meet.

TUESDAY, SEPTEMBER 9—
Royal Horticultural Society meet.
National Rose Society's Autumn Meeting at the London Scottish Drill Hall, Buckingham Gate, London, S.W. Lecture by Mr. Vincent Bank, at 3 p.m., on "Bottling and Drying Fruits."
National Dahlia Society's Annual Floral Meeting in the London Scottish Drill Hall.

WEDNESDAY, SEPTEMBER 10—
Needham Market Horticultural Society.

SATURDAY, SEPTEMBER 20—
Brighton Horticultural Society's Outing.

MONDAY, SEPTEMBER 22—
National Chrysanthemum Society Floral Committee meet at Essex Hall at 3 p.m.; Executive Committee meets, 7 p.m.

TUESDAY, SEPTEMBER 23—
Royal Horticultural Society's Vegetable Exhibition. Lecture by Mr. Ronald G. Hatton, at 3 p.m., on "Fruit Tree Stocks."

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 60.5.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday, Aug. 27.* 10 a.m.: Bar. 29.5; temp. 61°. Weather—Showery.

Tobacco Cultivation in the United Kingdom.

The cultivation of Tobacco in the United Kingdom has passed through many phases according to an interesting historical survey recently contributed by a correspondent to the *Daily Telegraph*. Tobacco growing was prohibited during the Commonwealth, and it is recorded that in 1658 a party of horsemen moved out of Gloucester to Cheltenham to destroy the Tobacco grown in those parts, whereupon the farmers rose against them and assailed them with abuse, threatening to kill them, horses and men, in so much that the tumult being so great the officer in charge had to desist (Mercurius Politicus). More effectual interference with experiments in growing this crop were made at Pickering a century ago, when crops were confiscated and burnt.

In more recent times the Royal Agricultural Society interested itself in assisting experiments in Tobacco growing, and also in 1886 Messrs. James Carter and Co. began experimenting on a considerable scale, and as a condition of the experiment were required to enter into a bond with the Inland Revenue Authorities that the crop should be burned under official supervision after the question of successful cultivation had been settled. Others also took up the cultivation, and as a result it was proved that Tobacco may be grown with success in this country. The records of the results are to be found in Mr. E. J. Beale's "English Tobacco Culture."

In 1903 the prohibition was removed. In 1913 the British Tobacco Growers' Society* was formed with the object of reviving Tobacco growing as an agricultural industry, and received financial assistance from the Development Commissioners.

The programme which the Society set before itself was to ascertain in the first place whether selected Tobacco could be grown here. Having shown that it may be, the next thing was to ascertain the most suitable localities and soils. This also has been done, as also the class of Tobacco that these soils can produce. It remains now to ascertain whether home grown Tobacco will be accepted by manufacturers and used in their standard blends, and whether the crop is a profitable one for the farmer.

The Society's operations since 1913 have included the organisation of Tobacco growing over a considerable area: $32\frac{3}{4}$ acres in 1913, $101\frac{3}{4}$ in 1914, $80\frac{1}{2}$ in 1915, 17 in 1916, 12 in 1917, and $12\frac{1}{2}$ in 1918—a total of $256\frac{1}{2}$ acres. In selecting localities, the Society acted on the advice given by the Board of Agriculture that the climate and soil of certain parts of Norfolk would probably prove suitable—advice the correctness of which has been proved by practical test. In addition to this test, the Society has also carried out experiments in other counties—Hampshire, Surrey, Lincolnshire, Suffolk, Anglesea, Carnarvonshire, Gloucestershire, Warwickshire, Worcestershire, and Kirkcudbrightshire. Although the experiments showed that Tobacco could be grown successfully on good land in many localities, effort was concentrated on the experiments in the light, sandy land about Brendon; for the land there was cheap, less in demand for other crops, the Tobacco matures well, and by growing this crop, the land is helped towards "reclamation."

The yields per acre in Norfolk over a period of six years averaged 839 pounds of Tobacco as cured (with 25 per cent. moisture); the highest yields over the same period averaged 1,406 pounds. The result in all the counties gave a better average, viz. 1,013 pounds. It remains to carry the experiment to its final stage and to show that there can be produced here a kind of Tobacco which the manufacturer can and will use. It is to be hoped that the result will be favourable for we have none too many crops suitable for the poor light lands in which Tobacco appears to do sufficiently well.

* *The Development of the Tobacco Growing Industry in Great Britain*, by Alfred Wood. Issued by the British Tobacco Growers' Society, Ltd., 3d.

Shropshire Horticultural Society.—The Shropshire Horticultural Society proposes to hold a Floral Fête and Exhibition in August, 1920. The schedule is in course of preparation and will be available for issue at an early date.

Proposed Garden City at Welwyn.—A proposal is on foot to construct a garden city at Welwyn, Hertfordshire, on part of the Panshanger estate. The idea is to form a township of about 8,500 houses, with room for certain industries and also a wide belt of agricultural land.

The English Rock Garden.—Mr. Reginald Farrer's extensive work *The English Flower Garden*, is now completed, and Messrs. J. C. and E. C. Jack will publish it immediately. It is in two volumes and contains 200 illustrations.

The Fream Memorial Prize.—The Board of Agriculture and Fisheries has awarded the Fream Memorial Prize for 1919 to Miss Doris Anderson, of Southfield, Ropley, Winchester, a student of University College, Reading, who took first place in this year's examination for the National Diploma in Agriculture.

Gardeners' Hours and Wages.—Mr. C. Harding, secretary to the British Gardeners' Association, informs us that his Executive Council has recently adopted the following standard of hours and wages for gardeners, and the Association will endeavour to obtain this throughout the country. Workers under the age of 21 years:—Journeymen, improvers, apprentices, garden and nursery lads and labourers—under 15 years of age, 14s. per week; under 16 years of age, 17s. per week; under 17 years of age, 21s. per week; under 18 years of age, 28s. per week; under 19 years of age, 35s. per week; under 20 years of age, 40s. per week; under 21 years of age, 47s. per week. At the age of 21 and over all workers to receive the minimum rate of £3 per week. First journeyman, leading hands and charge hands to receive minimum rate of £3 5s. per week; nursery, garden, and park foremen and single-handed gardeners, £3 7s. 6d. per week; general foremen, landscape foremen and stokers, £3 10s. per week; head gardeners and nursery managers, from £3 12s. 6d. per week; superintendents, horticultural instructors and horticultural travellers, £260 per year. Day gardeners, 1s. 4d. per hour; if own tools used, 1s. 6d. per hour. Overtime, time and a half during week, Saturday afternoons, Sundays and public holidays, double time. At least seven days' holiday per year, with pay. All perquisites, such as house, bothy, coal, vegetables, milk, etc., to be a matter of arrangement between employer and employee. It must be distinctly understood that all the foregoing rates of wages are based on a 44-hour working week.

Destruction of Rats.—At the recent Congress of the Royal Sanitary Institute, held at Newcastle, a considerable amount of attention was paid to the rat problem. Papers were read on (1) Zoology of rats and mice, with special reference to the control of the rat population; (2) Fleas found on rats and their relation to plague; (3) The rat as a carrier of diseases transmittable to men and to other lower animals; (4) The rat problem and repressive measures. The Medical Officers of the ports of Hull, London, Hartlepool, Manchester and Liverpool took part in the discussions, and as a result the following resolution was passed:—"That the Council of the Royal Sanitary Institute be recommended to urge upon the Minister of Health the necessity of continuing, as a health measure, the powers conferred under the Rats Order, and that support be given to the Bill dealing with Rat Destruction now before Parliament."

Begonias and Pelargoniums at Glasnevin.—In addition to its functions as a Botanic Garden and School of Horticulture, the decorative side of gardening is an important feature at Glasnevin, Dublin, and at present the conservatory is brilliantly gay with flowers. Nearly the whole length of one of the side stages is filled with named varieties of double, single and crested Begonias, every plant being a well-grown specimen. The opposite stage is filled with Zonal Pelargoniums—an extensive and varied collection of the best varieties, flowering freely. In the centre of the garden the herbaceous borders on either side of the main walk are providing a wealth of colour.

Bursaria spinosa.—A correspondent, who signs himself "Rushmore," sends us from his garden in Cornwall a flowering spray of Bursaria spinosa gathered from a specimen fifteen feet high. It was raised from a cutting given him by Canon Ellacombe fourteen years ago. At the present time the shrub is so completely covered with flowers that it is difficult to find a few shoots to provide cuttings. The plant seeds freely in Cornwall, indeed, there were numerous seed pods on the specimens received, and the seed vessels closely resemble those of the common Shepherd's Purse (Capsella Bursa-pastoris). According to the *Botanical Magazine*, t. 1767, Bursaria spinosa was introduced to cultivation in 1793, by the Marchioness of Rockingham.

Educational Exhibits at Flower Shows.—A distinct and progressive movement is on foot in Staffordshire, which is appealing to many thousands of gardeners and allotment holders in the County. The County Education Committee has made arrangements with Horticultural Societies to put up an honorary exhibit at as many flower shows as it is possible to attend during August and September. The exhibit covers about 50 feet of tabling space, and includes the life histories of some of the most troublesome insect pests which infest gardens and orchards; a prepared collection of Potato diseases which are prevalent in the County,

with instructions for controlling them; varieties of Potatos grown on the County Demonstration Plots, all of which are resistant to Black Scab or Wart Disease; early varieties of culinary and dessert Apples; samples of bottled fruit and vegetables; fowl and rabbit; bees, with model hives and full complement of apparatus; and diagrams and charts demonstrating the best methods of planting, pruning and training fruit trees. Interesting leaflets on all these subjects are also distributed. It is the experience of the Staffordshire Education Committee that this is the best means of approaching large numbers of interested people and disseminating information and advice amongst those who would not attend winter lectures. Demonstrations on bottling, drying and preserving fruits, vegetables, etc., are given at the shows and these have proved very attractive to visitors, as have also the lectures and practical demonstrations given by the County Instructors in summer pruning of fruit trees, manipulation of bees, etc.

Fruit and Vegetable Preservation.—The Board of Agriculture and Fisheries desires to impress upon all fruit growers, smallholders and allotment holders the necessity for conserving as much as possible of the present season's crop of fruit and vegetables for use during the coming winter. Those who require information as to the best methods of preservation should write to the Agricultural Education Committee for their county for particulars of any demonstrations that have been arranged. The Board is prepared to give instruction to a limited number of persons, who are unable to obtain training from their County Committees, at their Canning Kitchen in London. The courses will last five days and will include instruction in:—(1) Simple science governing the various methods of fruit and vegetable preservation, and explaining the various reasons of failure. (2) Various methods of preservation—(*a*) Bottling in all phases, including bottling in water and syrup and pulping for jam-making; (*b*) Jam, marmalade and jelly-making; (*c*) Brining and pickling, and the making of sauces, chutneys and fruit syrups; (*d*) Canning, for use when large quantities of fruit are dealt with; and (*e*) Crystallising and drying. Persons who desire to attend one of these courses should make a written application to the Secretary, Board of Agriculture and Fisheries, 72, Victoria Street, S.W.1. The courses will be given free of charge.

Potash Salts from Germany.—The Government has recently acquired from Germany a quantity of potash salts in exchange for food, and arrangements have now been made by the Board of Trade, in conjunction with the Board of Agriculture, for the distribution of about 40,000 tons for agricultural purposes. The sale of the material will be undertaken by the British Potash Company, Ltd., 49, Queen Victoria Street, London, E.C.4, under the direction of an Official Committee, to be called the Potash Distribution Committee, on which the Board of Trade and the Departments of Agriculture for England, Scotland and Ireland will be represented, together with representatives of trade interests. The following maximum selling prices have been agreed (per ton, nett cash, in bags) for sales to farmers, delivered to nearest railway station in Great Britain or Ireland, in lots of not less than four tons:—Potash salts, 30 per cent. K_2O., £12 10s.; muriate of potash, 80 per cent. KCL., £20 12s. 6d.; sulphate of potash, 90 per cent. K_2SO_4, £25 2s. 6d. Manure mixers, merchants, dealers and co-operative societies will be allowed a discount on these prices of 7s. 6d. per ton on potash salts, and 10s. per ton on muriate and sulphate of potash. The potash will be sold at the above basis prices, and a proportionate increase or decrease will be made for higher or lower quality as shown by analysis of a representative sample of each consignment. For sales of small quantities made *ex* merchants' store the Board would regard as reasonable the following maximum additions to the price charged for four-ton lots:—One ton and over, 10s. per ton; 2 cwt. and over but less than 1 ton, 1s. per cwt.; 1 cwt. and over but less than 2 cwt., 2s. per cwt.; 28 lbs. and over but less than 1 cwt., 3s. per cwt.; 14 lbs. and over but less than 28 lbs., 4s. per cwt. In the case of sales for delivery to consumers' premises, *ex* merchants' shop or store, the cost of conveyance, charged at local rates, may be added. No potash of a lower grade than 30 per cent. salts is available under the above arrangement, but licences are being granted to the Alsace Lorraine Trading and Development Company, 54, Gresham Street, London, E.C.2, for the importation of 20,000 tons in all of kainit (14 per cent. K_2O) and sylvinite (20 per cent. K_2O). Those who wish to purchase potash of these grades should apply to their usual dealers.

Land Settlement.—The Land Settlement (Facilities) Bill having received Royal assent, letters are being sent to all County Councils and Councils of County Boroughs urging them to put into operation forthwith their extended powers to acquire land compulsorily and to obtain vacant possession of land acquired by agreement. The desirability of obtaining early possession of parts of properties intended to be used as sites for dwelling houses is being specially emphasised. With a view to reducing, so far as possible, the demands on the Exchequer in respect of purchases for cash, Councils are being asked to arrange, wherever possible, to make use of their new powers of hiring land compulsorily, and also in all suitable cases to purchase land for an annuity instead of for cash. Returns have now been received from 57 County Councils showing that of 25,161 applicants for small holdings, 12,111 have been interviewed. Of the number interviewed, 10,443 have been approved. The approved applicants comprise 9,739 who require small holdings amounting to 183,577½ acres, and 704 who require cottage holdings amounting to 2,590 acres. During last week County Councils, under the Small Holdings and Allotments Act, 1908, bought 8,128 acres of land with the approval of the Board of Agriculture, mainly for holdings for ex-service men. The Board also approved the leasing by the Wiltshire County Council of South Bank Farm, Corsham, comprising 154 acres, for a period of 14 years at an annual rental of £200; and the leasing by the Dorset County Council of 8 acres forming part of Great Woodyhyde Farm, Corfe Castle, for a period of 15 years from Michaelmas, 1919, at an annual rent of £9 15s. The total area of land acquired or agreed to be acquired by County Councils since December 20, 1918, with the Board's approval, is 77,816 acres, of which 71,023 acres are in England and 6,793 acres in Wales. In addition the Board has under consideration proposals by County Councils for the acquisition of 96,821 acres, including 13,101 acres which the Councils propose to acquire by the exercise of compulsory powers. Of this total, 86,388 acres are in England and 10,433 acres in Wales.

Fig. 59.—Lilium regale at Roslindale, Massachusetts, U.S.A. (see p. 120).

LILIUM REGALE IN AMERICA.

When at the Arnold Arboretum in June last, Mr. Wilson was good enough to accompany me to Mr. Farquhar's nursery at Roslindale, Mass., where I saw, among many other plants of exceptional interest and novelty, a field of Lilium regale. Mr. Wilson now sends me a photograph (see Fig. 59) of part of this field, taken on July 8, when more than a million flowers were expanded. These plants were raised from seeds ripened in this nursery from bulbs collected in China in the autumn of 1910, and introduced in 1911.

Nothing can prove more conclusively the good constitution of L. regale than this illustration, when it is remembered that in the winter of 1917-18 the temperature fell far below zero at Boston, and that the ground was frozen for a long period, in some places 2-3 feet deep, and that the temperature in June, when I was there, went up to 93° Fahr., succeeded by a sudden fall of 30-40° in three hours.

Few Lilies will bear such sudden and extreme changes without injury. I may add that I saw, quite recently, in Mr. Dunsdale's garden at Eastleach, Gloucestershire, an absolutely perfect specimen with eight flowers expanded at once. The plant was growing in a sheltered spot, where it had endured the past extremely wet winter without suffering. The species succeeds in the open both in Sir Herbert Maxwell's garden at Monreith, and at Edinburgh. *H. J. Elwes, Colesborne.*

NOTICES OF BOOKS.

Medicinal Herbs and Poisonous Plants.*

There can be no doubt of the widespread interest that has been taken by all ranks of society, from the highest to the lowest, during the last eight or ten years in the cultivation of medicinal plants and herbs of various kinds. In the various European countries and in the United States, Government departments have considered the subject of sufficient importance to carry on extensive experiments and publish information with the view of establishing the cultivation as a minor national industry. Great Britain alone has done practically nothing to make the culture of medicinal plants a national or imperial industry.

Under these circumstances, the little work by Dr. Ellis which, the author claims, is intended to impart useful information on the subject and emphasise the paramount importance of scientific training, is certainly opportune in its appearance. The botanical portion, on the structure of the flower, is very clearly written, and the illustrations will be very useful to those who know little or nothing of our wild, poisonous plants, and medicinal herbs, and with very few exceptions they are free from error. It may, however, be pointed out that the flower marked (b) in Fig. 69 does not give the ten-hooked calyx teeth characteristic of Marrubium vulgare, and which are not quite correctly drawn in (c). Possibly the flowers (b) were from a commercial specimen from Spain, which might have contained another species, M. candidissimum, which, as in (b), has only five straight teeth and rather larger flowers than M. vulgare. This adulteration or admixture has been found in commerce. Another error occurs on p. 140, where the receptacle of the Common Chamomile is said to be hollow, whilst it is solid, that of the German Chamomile being hollow. Where the author attempts to deal with the medicinal plants from the commercial side, it is evident that the information given is culled from other sources and not from personal experience, *e.g.*, where he quotes from the leaflet 288 of the Board of Agriculture and Fisheries, that Egyptian Henbane is Datura metel, the Egyptian Henbane of commerce being Hyoscyamus muticus; and Germander is given as Teucrium Scorodonia, which is the botanical name for Woodsage, that of Germander being Teucrium Chamaedrys. Nor is he more happy in the physiology of plant life when (on p. 16) he states that "bitterness is the prevailing characteristic of the plants which compose the Compositae," and that "astringent plants prevail in the Gentianaceae." For an elementary work the chemistry given in the same chapter pre-supposes a wider knowledge of chemistry and chemical nomenclature, than is taken for granted in the case of botany in the chapter devoted to the structure of the flower.

The author's remarks in the concluding paragraph on pp. 19 and 20 are worthy of the greatest consideration on the part of the Horticultural section of the Department of Agriculture, where the author points out that the want of scientific knowledge of the life history of medicinal plants "is a severe handicap to a country desirous of growing certain medicinal plants and entering into commercial rivalry with other nations which possess this knowledge. In Hungary, for instance, experimental farms to determine the nature of the conditions of growth of valuable medicinal plants, have been established for a long time. It is certain that the haphazard cultivation of wild plants, be they ever so valuable, will not succeed in the long run against the efforts of formidable organisations from abroad." *E. M. H.*

* *Medicinal Herbs and Poisonous Plants.* By David Ellis, D.Sc., Ph.D., F.R.S.E. Blackie & Son, Ltd. Small 8vo, pp. 127, with 103 illustrations.

The Flower and the Bee.*

There are many books dealing with flowers from the purely botanical point of view, and there are also an abundance of books concerned with technical entomology, but it is seldom that an author can bring the combined knowledge of both subjects to bear on the life relationships of flowers and insects. When, however, an author is not only a botanist and entomologist, but is also learned in bee lore, the combination should be particularly effective. Mr. Lovell combines all these three rôles and his book benefits accordingly. The two points which will most appeal to readers are the large amount of accurate information given and the abundant and exceedingly good floral plates. The opening chapters deal with general considerations and conclude with a good description of wind-fertilised flowers. From there onwards to the end of the book the author settles down to the business of describing the relationship and interdependence of flowers and insects, the most important insect undoubtedly being the honey-bee, though the relationships of flowers with other insects are also well treated. Luckily for his readers, the author does not confine himself to dry facts, if one can indeed call these facts dry, but embarks on the rather thorny path of evolution, pointing out, for instance, how that yellow is probably the first real colour to be developed in flowers after the primitive green, and adducing as argument its frequent appearance in flowers of simple shape such as the Buttercup, and its rare appearance in the more complicated and advanced type of Labiates. The author is here presumably speaking of advancement of type as regards floral structure and not as regards the plant as a whole, since, taken all round, there is little doubt that the Compositae are the more highly advanced plants, and amongst these yellow is a common colour. Nevertheless, whether one agrees or disagrees with the author, his book is stimulating and always informative. One can only regret that, as the flowers described are North American only, some of them will be unfamiliar to British readers, but the excellent plates are a good "next best thing" to the actual flowers. Perhaps this book will suggest the production of a similar one dealing with British flowers.

* *The Flower and the Bee: Plant Life and Pollination,* By John H. Lovell. Constable and Co., Ltd.

Hampton Court Gardens. — The committee appointed to consider and advise upon the proposed alterations in the flower beds and borders at Hampton Court Gardens has issued its report as a White Paper. The committee recommends the retention of the twenty-eight beds in the semi-circle, the improvement of the plantations beyond the canal, the extension of the lawn and the water-line, on the Palace side, the retention of the Yew trees and the planting of new specimens where there are vacancies, and to replace bad ones, and the use of plants in tubs around the oval fountain basin.

HOME CORRESPONDENCE.

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

Shirley Poppies in Sea Sand.—It may interest your readers to know that I have grown Shirley Poppies amongst beach stones, and fed them on sand, from which the sea had just receded. I only came here last October and have made the garden myself. *Edith Bagot Harte, Lysways, Pevensey Bay, Sussex.* [Some excellent specimens of semi-double flowers were sent with this note.—Eds.]

Pelargonium crispum variegatum.—In your issue of August 9, p. 82, a good specimen of Pelargonium crispum variegatum is figured. I have been greatly interested in reading about this plant, especially so as the sport originated in these gardens in 1912, during the residence of Mr. G. W. W. Blathwayt. The sport was saved and propagation persevered with until quite a good stock was obtained. In 1915 I showed six good plants at Chelsea, but apparently it was not then recognised as of any value, as no award was received for it. A strong plant of this variety was afterwards sent to Mr. Beckett, who duly acknowledged its receipt. He evidently recognised its value as a pot plant and for other purposes, and has been lucky enough to obtain a First-class Certificate for it from the Royal Horticultural Society. I have recently disposed of a stock of P. crispum variegatum to a local nurseryman, who will no doubt put it on the market; hitherto the variety has been held solely by me with the exception of the plant sent to Mr. Beckett, and I would very much like to know whether the latter was the parent plant of the meritorious Aldenham exhibit. We used to have a good collection of about 55 varieties of scented-leaved Pelargoniums, including several rare ones. If one could obtain a variegated sport from Pelargonium citriodora, what a treasure it would be! *R. H. Legg, Melksham House Gardens, Melksham, Wiltshire.*

SOCIETIES.

ROYAL HORTICULTURAL.

August 26.—Although the holiday season was responsible for the small attendance at the London Scottish Drill Hall, Westminster, on the above date, it had no reducing effect on the exhibition which was, in fact, larger than the previous one. Gladioli were prominent flowers on this occasion and a Gold Medal was awarded to one of the groups. Delphiniums, Orchids and fruits all helped to make up an interesting display.

The Floral Committee and also the Fruit and Vegetable Committee had a long sitting. The former granted six Awards of Merit and sixteen medals, and the latter body granted two Awards of Merit and three medals; the joint R.H.S. and National Dahlia Society Committee granted three awards and the Orchid Committee two Awards of Merit and two medals.

Floral Committee.

Present: Messrs. Henry B. May (in the chair), John Green, G. Reuthe, T. J. Bennett Poe, W. J. Bean, Sydney Morris, John Heal, W. Howe, C. R. Fielder, J. F. McLeod, A. Ireland, Thos. Stevenson, A. Turner, J. W. Moorman, C. Dixon, John Dickson, H. J. Jones, W. P. Thomson, Jas. Hudson, H. Cowley, E. H. Jenkins, Chas. E. Pearson, A. J. Jackman, Wm. Cuthbertson and Clarence Elliott.

Awards of Merit.

Hollyhock Queen of the Yellows.—A splendid, large-flowered, finely formed, double variety of soft, light yellow colouring. It is a strong grower, and the big blooms are finely set on a tall spike. Shown by Messrs. Jas. Vert and Sons.

Hollyhock Lady Bailey.—In this distinct and beautiful variety the large double flowers are of a light, silvery-pink shade. Shown by Messrs. Jas. Vert and Sons.

Gladiolus Maréchal Foch.—An erect variety with the flowers less spreading than is usual, so that the spike is not so broad as in many modern varieties. The colour is vermilion-scarlet with shading and small markings of deep scarlet. Shown by Messrs. J. KELWAY AND SON.

Gladiolus White Beauty.—This is a beautiful and distinct white-flowered, broad-petalled variety. The only trace of colour is found in a basal, pale, violet mark on the smaller of the three inner segments. Shown by Messrs. J. KELWAY AND SON.

Gladiolus Mrs. McAlpin.—This bright, salmon-coloured variety has a few small splashes of scarlet on almost every segment. The flowers are of large size and set closely together on the sturdy spike. Shown by Messrs J. KELWAY AND SON.

Erigeron Merstham Glory.—A late-flowering and freely-branching variety of medium height. The individual flowers, very freely produced, are about 1¾ inches across and of a lovely shade of pale mauve. Shown by Mr. W. WELLS, Jnr.

Primrose Queen, pale yellow; and Black Knight, blackish crimson, were a few of the outstanding varieties (Silver Flora Medal). Messrs. DOBBIE AND Co. showed magnificent flowers of their African Marigolds Prince of Orange and Lemon Queen—these two provided a patch of dazzling colour just inside the entrance to the hall (Silver Banksian Medal). Perpetual-flowering Carnations, in variety, from Messrs. ALLWOOD BROTHERS were the only representatives of these popular flowers on this occasion (Bronze Flora Medal).

The interesting plants exhibited by Mr. REUTHE included Gentiana lagodechiana, Rhododendron eximium, Eucryphia cordifolia, the graceful Clethra arborea, and Berberidopsis corallina (Silver Flora Medal). Spiraea Billardierii, S. paniculata alba, Tamarix odessana, and Clethra paniculata were a few of the shrubs in an interesting collection exhibited by Messrs. J. CHEAL AND SONS. This firm also exhibited Dahlias and a collection of Phloxes, with a background of Heleniums (Silver Banksian Medal). Messrs. B. S. LADHAMS contributed a collection of hardy Lobelias and some good Pinks; the former were in which Nidularium Meyendorfii and Gloriosa Rothschildiana were conspicuous plants (Silver Flora Medal). Messrs. H. B. MAY AND SONS' contribution consisted of Ferns and shrubby Veronicas, in flower (Silver Banksian Medal).

Dahlia Committee.

The following joint committee, composed of members of the Royal Horticultural Society's Floral Committee and the National Dahlia Society, met for the first time this season to consider new Dahlias submitted for awards:—

Present: Messrs. Henry B. May (in the chair), John Green, J. F. McLeod, Arthur Turner, J. A. Jarrett, J. Emberson, H. J. Jones, D. B. Crane, E. H. Jenkins, J. B. Riding, and Chas. H. Curtis.

The following varieties of Dahlias obtain the R.H.S. Award of Merit and the N.D.S. First-Class Certificate:—

Dahlia Triumph.—A very large-flowered, decorative variety; its heavy blooms are carried erect on long, stout stems. The colour is a very pleasing shade of rosy cerise. Shown by Messrs. J. STREDWICK AND SON.

FIG. 60.—PLUM LAXTON'S GAGE.
R.H.S. Award of Merit, August 26 (see p. 122).

GROUPS.

Messrs. KELWAY AND SON staged about 125 vases of Gladioli, three spikes of one variety in each vase. This was a very showy exhibit, and the great range of colouring it contained made it particularly attractive. Golden Measure, soft yellow, in the centre of the group, was one of the finest of the many varieties staged (Gold Medal). Gladioli in great variety, including numerous hybrids from G. primulinus, were shown by Messrs. K. VELTHUIS, LTD. (Silver Banksian Medal). Messrs. STOUTENBEEK VAN TILL also staged a large collection of Gladioli (Silver Flora Medal). A small but bright and interesting group of Gladioli, containing many American varieties, was arranged by MAJOR CHURCHER, Alverstoke (Silver Banksian Medal).

It was pleasant to see Hollyhocks shown in good form again, and Messrs. J. VERT AND SONS' group of spikes and blooms attracted a great deal of attention. Queen of the Yellows, Alfred Chater, rose; Ovid, salmon rose; Peri, white; chiefly hybrids from L. syphilitica and showed a fairly wide range of colouring (Bronze Flora Medal).

Delphiniums were largely shown, and their blue shades formed a relief after the more vivid hues of the Gladioli. Mr. W. WELLS, Jun., had a pleasing bank of these flowers and showed Lamartin, Robt. Cox, Mrs. A. Carnegie, Mrs. H. Kaye, Merstham Glory and other capital varieties (Silver Banksian Medal). Messrs. BLACKMORE AND LANGDON staged sheaves of small spikes of Turquoise, F. Miles, Mrs. A. J. Watson, Lavanda, Rev. E. Lascelles and many other sorts, including a semi-double cream-coloured seedling (Bronze Flora Medal).

The Rev. J. H. PEMBERTON showed numerous Roses, including Vanity, Francesca, Callisto, Danae, Moonlight and others of his own raising (Silver Banksian Medal). Mr. ELISHA HICKS had an exhibit composed entirely of his beautiful new H. T. Rose Joanna Bridge (Silver Banksian Medal).

Mr. L. R. RUSSELL had a group of stove plants,

Dahlia Stalwart.—A large-flowered decorative variety, long-stemmed, and effective. The colour is deep red, almost crimson, with soft plum-coloured reverse and a purplish centre. Shown by Messrs. J. STREDWICK AND SON.

Dahlia Coral Star.—A particularly beautiful and effective single variety belonging to the "star" section. The colour is brilliant coral red, almost approaching light scarlet. Shown by Messrs. J. CHEAL AND SON.

Orchid Committee.

Present: Sir Harry J. Veitch (in the chair), Messrs. Jas. O'Brien (hon. secretary), William Bolton, Gurney Wilson, S. W. Flory, R. A. Rolfe, Fred. Sander, R. G. Thwaites, A. McBean, Chas. H. Curtis, Walter Cobb and W. J. Kaye.

AWARDS OF MERIT.

Cattleya Hardyana alba Pitt's variety (*Dowiana aurea* × *Warscewiczii alba*), from

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood). A magnificent variety, superior to the variety President Wilson, which was shown with it. Sepals and petals pure white; lip, deep Tyrian purple with yellow disc.

Cypripedium Rosslyn (*Godefroyae leucochilum* × *Rolfei*), from H. T. Pitt, Esq. Flowers ample, with distinct traces of C. Rolfei (bellatulum × Rothschildianum), but with broader segments. Petals and dorsal sepal pale yellow, finely marked with dotted claret lines; lip, yellow, with slight purple spotting.

Cultural Commendation.

To Mr. Thurgood, gr. to H. T. Pitt, Esq., for a finely-grown specimen of the dwarf Jamaican Laelia monophylla, with sixteen scarlet flowers, and which had been grown suspended in a cool house.

Other Exhibits.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, was awarded a Silver Flora Medal for a showy and most interesting group, in which good hybrids and rare species were equally balanced. At the back various forms of Selenipediums, with the graceful rose and white Oncidium incurvum, were arranged, and in the body of the group were good Odontoglossums, including the fine O. Promerens Princess Mary, which gained a Preliminary Commendation last year. A good selection of well-flowered Cattleya Warscewiczii and showy Laelio-Cattleyas was also shown. The species were represented by Catasetum fimbriatum, Cynoches Egertonianum viride, Dendrochilum filiforme, Oncidium flexuosum, Brassavola Digbyana and various Zygopetalums.

Messrs. Stuart, Low and Co., Jarvisbrook, Sussex, were awarded a Silver Flora Medal for an excellent group of showy Cattleyas, Laelio-Cattleyas, etc. Specially fine were Cattleya Comet var. vivicans (Dowiana × Warnerii), of large size and rich colour; white-petalled forms of Cattleya Gaskelliana; and Laelio-Cattleya Sargon (L.-C. Lustre × C. Hardyana), a very showy flower. The now rare Laelia xanthina and other species were also shown.

Mrs. Bischoffsheim, The Warren House, Stanmore (Orchid grower Mr. H. Haddon), sent Laelio-Cattleya Rubens, Warren House variety, with an extraordinarily large blush-white flower, with purplish-crimson front to the lip; the best light-petalled form yet shown.

Pantia Ralli, Esq., Ashtead Park, Surrey (Orchid grower Mr. Farnes), showed Cattleya illustris ashteadensis, a good yellow flower tinged with rose and having a carmine front to the lip.

J. Ansaldo, Esq., Rosebank, Mumbles, showed a selection of fine cut flowers of Orchids which included Cattleya Mrs. J. Ansaldo; C. Sybil Rosebank variety, a grand form; a very fine C. Hardyana, Sophro-Cattleya Faboris, and a large new Brasso-Cattleya with peach-blossom coloured flower.

R. Windsor Rickards, Esq., Usk Priory, Monmouthshire, sent a fine three-flowered inflorescence of Cattleya Mrs. J. Ansaldo, Usk Priory variety (C. Adula × C. Warscewiczii Frau M. Beyrodt), which would probably have gained an award if the plant had been shown. The large flowers had cream-white sepals and petals and deep purple lip in which C. Adula appeared. Also another hybrid with white flowers having coloured lines on the lip.

Messrs. Flory and Black, Slough, staged a good selection of hybrids, among which were noted a fine Cattleya Hardyana with two good hybrids of it on either side, and other Cattleyas. Two specially good hybrids were Sophro-Laelio-Cattleya William Pitt (S.-L.-C. Dorila × C. Hardyana), with large, intensely dark, purplish mauve flowers with deeper purple lip; and a very handsome form of Laelio-Cattleya Soulange (L.-C. Lustre × C. Dowiana), with large, richly-coloured flowers, and probably the best of the batch, which they secured an Award of Merit for in 1913.

Messrs. Sanders, St. Albans, sent Cattleya Prince John var. Brilliant (Dowiana aurea × Hardyana), a fine flower resembling the best C. Hardyana alba, with white sepals and petals and ruby purple lip, with yellow disc; also the new L.-C. Brightness (C. fulvescens × L.-C. Martinetii), with bronzy yellow sepals and petals and crimped purple lip.

A. J. Hollington, Esq., Forty Hill, Enfield (gr. Mr. Mays), sent Cattleya Hollingtonii (parentage unrecorded), which the Committee decided was a good form of C. Hardyana. Also another hybrid of unrecorded parentage.

Fruit and Vegetable Committee.

Present: Messrs. Wm. Poupart (in the chair), P. C. M. Veitch, Owen Thomas, John Harrison, Wm. Bates, Edwin Beckett, George P. Berry, J. C. Allgrove, Wm. J. Jefferies, E. A. Bunyard, A. Bullock, F. Jordan, H. Markham, A. R. Allan, H. S. Rivers, W. H. Divers and Rev. W. Wilks.

Awards of Merit.

Plum Laxton's Gage.—This is a splendid addition to the varieties fit for table use at the present time. It is a cross between the ordinary Greengage and Victoria Plums. In size it approaches Denniston's Superb, though of Victoria shape; its colour is a pleasant yellow and the flavour most agreeable and distinctly gage-like (see Fig. 60). A photograph shows the trees to be most prolific bearers, consequently the variety should have a great future. Raised and shown by Messrs. Laxton Bros.

Apple Laxton's Superb.—This is said to be a Cox's Orange Pippin without any of its failings. It is a cross between Wyken Pippin and Cox's Orange Pippin. It bears freely and the "Cox's-like" foliage is clean and healthy. In appearance the fruits are very like the popular Cox's Orange Pippin, but the eye is rather more prominent. Mr. Laxton informs us that its season is March and that the flavour is first-class. Also raised and shown by Messrs. Laxton Bros.

Other Novelties.

Messrs. Laxton Bros. had before the Committee various Plum crosses which appear very promising, particularly the Damson × Victoria Plum, which has resulted in a sloe-black miniature Victoria of good flavour and heavy cropping qualities.

Grape Mendosa Rosado was shown by C. E. Gunther, Esq., Tongswood, Hawkhurst, who had it from Mendosa, South America, in 1914, though it is said to have originated in Asia Minor. The bunches are large and shapely and the berries of good average size. The colour is decidedly reddish and the flavour reminiscent of Raisins. The variety will be sent to Wisley for trial.

Groups.

An admirable collection of fruit was shown by John Nix, Esq., Tilgate, Crawley, Sussex (gr. Mr. E. Neal). It was almost a cool-house collection, for except that the vineries had received fire-heat till the end of April, all the rest, including Melons, Peaches and Nectarines, were grown without artificial heat. The Grapes were Muscat of Alexandria, Appley Towers and Black Hamburgh, and were represented by large, shapely bunches of first-rate quality. Many Melons were of handsome appearance and gave an agreeable aroma. Peaches and Nectarines were also excellent, and these were principally of Grosse Mignonse, Violette Hative, Thos. Rivers and Bellegarde of the former, and Pine Apple, Humboldt and Rivers' Early Orange Nectarines. Several boxes of Pears and Plums of equally high quality were representative of the season (Gold Medal). Messrs. George Bunyard and Co. contributed a small collection of "Fruits in Season, such as would be grown in the average garden." It included splendid dishes of highly coloured Red Victoria, Maidstone Favourite and Lady Sudeley Apples; Souvenir du Congrés and Clapp's Favourite Pears; Denniston's Superb Gage, Early Transparent Gage, Sultan and Belle de Louvain Plums (Silver Knightian Medal). Mr. G. W. Miller had a goodly heap of brilliant Red Victoria Apples.

Sir Albert Rollit was awarded a Silver Banksian Medal for a collection of Figs, but these were not on view to the public.

ABERDEEN.

August 21, 22 and 23.—Favoured with charming weather during the three days, the annual exhibition of this society was held on above dates in the Duthie Public Park, Aberdeen, kindly lent for the occasion by the Town Council. The previous show was held in 1913. It was not to be expected that the display would come up to the standard of pre-war days, but nevertheless a brave show was made. Lord Provost Sir James Taggart, performed the opening ceremony, and the event proved remarkably successful, especially from the financial point of view, the citizens attending in large numbers. The following are the principal details.

Plants in Pots.

As was to be expected, with the attenuated staffs in the gardens of our large county mansions, the entries in this section were not numerous. Colonel Gill, of Dalhebity, Aberdeenshire (gardener, Mr. Alex. Brebner), was first for specimen plants in flower with an exquisite Orchid, and second with a much admired Statice. A. E. Benzie, Esq., Morkeu, near Aberdeen (gardener, Mr. William Henderson), took third place with a remarkably fine display of Begonias. The last-named gentleman had also the premier awards for Ferns, Fuchsias, Begonias (double and single), and plants for dinner-table decoration. Colonel Gill had the finest entry of specimen foliage plants.

Cut Flowers.

The fine display made in this section reminded one of old times, and the judges were highly gratified at the material submitted for their adjudication. For the best 18 Rose blooms, H.P. and H.T., or either, named, distinct varieties, Mr. John Ireland, Park Place, Brechin, won the Challenge Silver Cup. For decorative, Tea, or Noisette blooms, Colonel Gill, of Dalhebity, was especially successful, his charming flowers being greatly admired. Cactus Dahlias were limited in number, but again Colonel Gill led the way. For Asters, hardy herbaceous flowers, twenty distinct varietes of cut flowers, and fine-foliaged bedding plants, including annuals, Miss McLennan, Springhill House, Aberdeenshire (gardener, Mr. Douglas Scorgie), gained chief honours, while for cut Pelargoniums, Colonel Gill again took the leading place. For the best twelve blooms of Begonias, six single and six double, A. E. Benzie, Esq., of Morkeu, had matters entirely his own way.

Mr J. A. Grigor, gardener at Duff House, Banffshire, had a fine entry of twelve bunches of annuals, distinct. Miss McLennan, Springhill House, was the most successful for twelve spikes of double Stocks, at least six varieites. Lord Sempill, Fintray House, Aberdeenshire (gardener, Mr. William Smith), had a magnificent set of Sweet Peas, and thoroughly won his first prize. His lordship was also first for Chrysanthemums, with very much admired specimens. Florists' and nurserymen's entries were numerically small, but very fine in quality, leading honours being taken by Messrs. Adam and Craigmyle, Fernielea, Aberdeen, and Mr. H. Rigby, Union Street, Aberdeen.

Sweet Peas.

An outstanding feature of the exhibition was the close fight put up for the Scottish Challenge Cup of the National Sweet Pea Society. The judges, Mr. Alexander Malcolm, Duns, Berwickshire, and Mr. George Reid, Downfield, Dundee, were warm in their praise of the fine specimens placed before them. Mr. James Paul, Drumbeg, Killearn, who won the cup three years ago at Dunfermline, and four years ago at Glasgow, knowing that if he won at Aberdeen the cup would become his own property, evidently put his very best into the fight. And he did win it, and Mr. Paul has to be warmly congratulated on his achievement, but how close was the competition will be understood when it is stated that only half a point separated him from the runner-up, Sir Thomas Burnett, Bart., Crathes Castle, near Aberdeen (gr. Mr. John Petrie). The warmest praise must be bestowed on the superb entries from Drumbeg and Crathes Castle. The

blooms of Tangerine, The Valentine and Alexander Malcolm in these collections attracted much attention and were greatly admired.

The entries from Lord Sempill, Fintray House (ordinary competition) were outstanding, and the gardener, Mr. William Smith, was heartily congratulated. The entries, which were finely staged and set up, contained some fine blooms of Barbara, Warrior, Alexander Malcolm and Beryl.

Fruit.

The remarkably dry summer, which brought on the small fruits too quickly for the show, accounted, but only in a small degree, for the reduced number of entries in this section. Lord Sempill won first prize with an excellent collection of hardy fruits, and he also took chief honours for Grapes (white) and Peaches, the latter comprising a superb dish of Royal George. The Raspberries from Dalhebity were easily first, as were also the Gooseberries (green) from the same gardens. Tomatos were also a very strong feature from Dalhebity. The Strawberries looked and tasted remarkably well, the leading prize baskets coming from Drumduan and Dalhebity. Gooseberries were a strong display, the leading prize going to Mr. George Taylor, market gardener, Inchgarth, Aberdeen. Mr. J. Ferguson, Linton House, Cluny, had matters pretty much his own way for Red and Black Currants. Grapes were not numerous, but those from Morkeu and Fintray House earned their awards. Morkeu had also the best Nectarines. Apples were shown very well, and some much-admired samples came from Mr. A. Gardiner, Drumduan, and Mr. James Ferguson, Linton Gardens, Cluny. For Pears, Jargonelle and any other, and Plums, Mr. J. A. Grigor, Duff House, was the prizewinner.

Vegetables.

The section devoted to vegetables was one of the principal features of the show, and took no mean part in contributing to the 800 entries. The best collection of vegetables, arranged on a space 4 feet by 3 feet, and comprising nine varieties, were sent by Miss McLennan, Springhill House, Aberdeen, and Lord Sempill, Fintray House. Springhill Gardens have long been noted for the fine specimens of vegetables sent from them to the Aberdeen show, and there was no exception made on this occasion. The salads and Cucumbers from Springhill were also given first prizes. Cabbages looked well, Mr. William Lawson, market gardener, Cornhill, Aberdeen, leading. Carrots were a particularly strong feature and embraced some very finely-grown specimens, Mr. J. Moir, Hardgate, Aberdeen, taking the leading place. Onions were well shown, as were also Leeks, the best entries coming from Duff House, Banff. Mr. J. Paul had the best dishes in the Pea classes.

Potatos have always proved a strong department at the Aberdeen show, and that reputation was fully upheld this year. Mr. Lawson, Cornhill, had a capital entry in the class for the best six varieties. It was composed of Great Scot, Midlothian Early, Sutton's Abundance, Prizetaker, Majestic, and Forester. The finely-shaped, well-grown tubers were greatly admired. Mr. Ferguson, Linton House, Cluny, was second with a display scarcely less creditable. Mr. J. Mc C. Brown, Drumoak, near Aberdeen, had some remarkably fine kidney-shaped specimens, and he also led for Beetroot.

The displays made by amateurs and working men were very good.

Non-competitive Displays.

Mr. M. H. Sinclair, Aberdeen, had a very fine exhibit, occupying some 80 feet of space. It contained many interesting and instructive features, and earned the warmest encomiums of all who had the pleasure of seeing it. One missed very much the presence of old firms whose names are not only household words locally, but who are known throughout the length and breadth of the country.

Obituary.

James M. M'Donald.—We have to record the death, at the advanced age of 73, of Mr. James M. M'Donald, Gregorton, Blairgowrie, one of the oldest, if not the oldest, of the pioneers of fruit growing in the Blairgowrie district. Mr. M'Donald succeeded his father in the farm of Shawfield, Blairgowrie. He embarked upon fruit culture, gradually increased the area under fruit, and eventually took additional land. Thirty years ago he leased another farm and, in addition to Strawberry culture, started Raspberry plantations and carried on the business of fruit growing in partnership with his son. Mr. M'Donald was chosen as a witness before the Royal Commission on fruit growing, and from his experience in growing and selling was able to give valuable evidence. He was much respected and filled several public offices to the satisfaction of the community.

Daniel Roberts.—We learn, with regret, that Mr. Daniel Roberts, of Prestwold Hall Gardens, Loughborough, died on the 19th inst., in his 77th year. Had he lived to October next, Mr. Roberts would have completed forty years' service as head gardener at Prestwold Hall. In his earlier years he was a successful exhibitor, and for a very long period he held a high reputation as a cultivator of both indoor and outdoor fruits. In 1901 he contributed the calendar notes on "Plants Under Glass" to these pages. He was the founder of the Loughborough Gardeners' Mutual Improvement Society, and for many years acted as its secretary. He also took a keen interest in the Loughborough Chrysanthemum Society, and was chairman of committee for some considerable period. Mr. Roberts was in great request as a judge of fruits, flowers and vegetables, and he was very highly respected in the district in which he was so long resident. He leaves a widow and two sons. The funeral took place on August 23 at Prestwold Church, on the Prestwold Hall estate.

TRADE NOTE.

We understand that Mr. D. Chater, late Honorary General Secretary of the National Union of Allotment Holders, has been appointed by the Agricultural Wholesale Society, Ltd., to be manager of the Allotments Branch.

CROPS AND STOCK ON THE HOME FARM.

Tractors.

The value of mechanical power on a farm, as afforded by various types of tractors, is daily becoming more noticeable. The many tractors and suitable implements so readily disposed of at various sales by the Government afford further proof of an increasing appreciation of the value of motor power on the farm. Last October I lost an order for 200 sacks of seed Wheat as a consequence of inability to get outsiders to thresh the corn. With my own tractor and threshing tackle I am now independent of outside help, and such a delay will not occur again; indeed, I have already threshed and delivered all the Rye and Winter Oats grown. All vacant land has been summer fallowed, and ploughed and cultivated several times, therefore, until harvesting is complete, there is no land work requiring urgent attention, and the horses can be employed solely in connection with harvest operations.

In former times it was difficult to keep abreast of the ordinary work and the harvesting, not to mention estate work, and particularly the management of woods, in which work goes on all the year round where they are made to provide their share of income. With the tractor power I have I can now dispense with six horses, which is an item of importance, especially with hay at the present price of at least £10 per ton.

There are many types of tractors, and no doubt all of them find favour. I use a Titan, 12-20 h.p.; with this and a four-furrow Cockshutt plough, five to six acres per day can be ploughed, which is really equal to the work of twelve horses and six men, whereas the tractor required but two men. Eighteen acres can be deeply cultivated with a Ransome 13-tine cultivator in the same period, and as much as twenty acres of corn can be cut with one 7-foot binder. With a new type of Marshall drum, weighing five tons, the Titan tractor finds no difficulty in hauling it where required, and to drive the drum when threshing is really easier work for it than ploughing. I need hardly say that having the right man in charge is an important point. In my case an expert ploughman asked for the post, and knowing how important it is to have the land properly worked, I at once agreed.

On an eight-hundred-acre farm the purchase of threshing tackle will be recouped within three years, and the convenience of being able to thresh corn when required and in suitable weather is a strong point for consideration in connection with economical management. With the addition of another tractor, which is called a one-man outfit, I shall be able to further reduce the number of horses.

By the aid of tractors a farmer can revert to the practice of summer fallowing the land, as was the common custom many years ago, and no one will dispute the value of such tillage for future cereal crops. I need hardly say that the present has been an ideal season for cleaning land, and in the next year's corn crops there should be no Couch, except, of course, where corn is sown on leys—Clover, etc. The advantage of several times ploughing land more deeply than is customary with horse labour must be apparent. The strongest of soils can be brought into a desirable condition by constantly stirring in suitable weather. Those who have not used tractor power but who purpose doing so would no doubt be glad of information as to the cost of running the machines. As is generally known, the tractor is started with petrol, one pint of which is required during the warmer weather, though more is needed in cold weather. As fuel, paraffin (the present price is 1s. 3d. per gallon) is used, the quantity varying with the nature of the soil and the lay of the land. Naturally, more fuel is used on hilly land, and although some tractors may consume as little as two gallons per acre, I prefer to put the quantity at from three gallons to four gallons per acre, thus allowing for all travelling from field to field. *E. Molyneux, Swanmore Farm, Bishops Waltham.*

Prices of the Wheat Crop of 1919.

The Board of Agriculture and Fisheries states that arrangements have been made whereby flour millers will be in a position to purchase all home-grown wheat of the 1919 harvest offered to them at such prices as will produce for the whole crop an average *Gazette* price of 71s. 11d. per quarter of 480 lbs., equivalent to 75s. 6d. per quarter of 504 lbs.

While the average price will be 75s. 6d. per quarter of 504 lbs., the market will be free and each sample of Wheat will be bought on its merits; if of milling value above the average it will be worth more than 75s. 6d., while samples of inferior quality or out of condition will only be saleable at prices below the average. Every seller of Wheat will have to make the best terms he can, as under the ordinary pre-war conditions of a free market, and will not have the right to call upon a miller to buy at 75s. 6d. or any other price.

While it is anticipated that the average price will be at least 75s. 6d. per quarter of 504 lbs., equivalent to 71s. 11d. per quarter of 480 lbs., *Gazette* prices will be collected as usual, and if at the end of March, 1920, the average *Gazette* price should prove to be lower than 71s. 11d. per 480 lbs., payment will be made, as promised, to the grower of each acre of Wheat of four times the difference between 71s. 11d. and the average *Gazette* price of Wheat for the seven months—September, 1919—March, 1920.

Answers to Correspondents

British Gardeners' Association.—*J. B.* The offices of the British Gardeners' Association are at 22, Buckingham Street, Strand, London, W.C.2, and the secretary is Mr. C. Harding, who will be pleased to forward you full particulars on application.

Collapse in Tomato Plants : *C. C.* There is no evidence of any insects, fungus, or eelworm. The trouble must, therefore, be due either to drought, or to something deleterious having been thrown over the plants.

Damage to Rose Growths.—*E. H. M.* Please send further and larger specimens at an early date. No fungus disease was present on the shoots received.

Descriptive Names of Plants : *T. J. H.* The generic names of plants are usually descriptive or commemorative. In the case of those mentioned in your letter, Acacia comes from the Greek akakia, a point or edge, from the many thorny species. Aubrietia is a commemorative name, after a French botanical draughtsman. Calceolaria comes from the Latin calceolus, a shoe, and Cineraria from the Latin cinerea, ash-coloured, in allusion to the grey leaves of some species. Eschscholzia and Godetia each commemorates a botanist, Petunia comes from Petun, the Brazilian name for Tobacco, and is an allusion to the affinity of this genus with Nicotiana; Salvia, from the Latin salveo, to save or heal, referring to the medicinal qualities of some species; while the specific name of capsicastrum really means Star Capsicum.

Diseased Lettuce.—*H. P.* The specimens were so badly decayed that it was not possible to determine the primary cause of the trouble.

Euonymus radicans Failing : *B. H.* As you evidently realise, the shrubs have exhausted the available supplies of plant food and are slowly starving. In view of your objection to organic manure and inability to introduce fresh soil to the troughs, the remedy is not easy. We should like to have been able to advise you to give a liberal top dressing of turfy loam and leaf-mould. At this season it would not be advisable to apply any quick acting chemical manure, as the result would probably be, particularly after the recent heat-wave, to induce late, soft growth which would be injured by winter frosts. At the moment the best chemical to apply would be basic slag at the rate of 3 ozs. to each yard run, and lightly worked into the surface soil. The use of basic slag is, we know, usually restricted to heavy soils, but we have experienced excellent results from its use on light soils when applied in the early autumn. In the hope of improving the colour of the leaves for the winter, it would be worth while giving a weekly application of soot water for the next four weeks. Commencing next spring, just before growth is renewed, we advise monthly dressings of 1 oz. sulphate of ammonia, and 3 ozs. superphosphate of lime to each four feet run, until mid-July. This would improve matters considerably. We do not recommend syringing with any chemical, but a daily syringing, or hoseing, with clear water during the growing season would be helpful. In the conditions you have described, the soil will dry rapidly during most of the year, so proper attention should be paid to watering.

Failure with Tomatos.—*W. T. W., R. S. P.* There is no evidence of fungous disease, either in the fruits or leaves. The trouble is undoubtedly due to some cultural error.

Foeted Laurel or Til Tree : *R. W. R.* Your specimen is Ocotea foetens (Oreodaphne foetens), the Garve or Til Tree, not Dill Tree. It is not likely to prove hardy out of doors in this country, except perhaps in Cornwall. It is difficult to say when your specimen might flower, as its flowering in cultivation is uncertain, and even when it does produce flowers they are small and inconspicuous. The plant is a native of the Islands of Teneriffe, Grand Canary and Palma, and also of Madeira, where it is found with other evergreens of the so-called "laurel forest" characteristic of the cloud region of the Canaries. It is now generally supposed to be the Rain Tree of Hierro, on which island it is no longer found. This island was of great interest to early voyagers on account of the supposed existence of a wonderful tree called Garve or Til, accredited with the miraculous power of supplying the whole of the inhabitants with sufficient water for their maintenance. The water which was supposed to be distilled by the tree was collected in a tank or tanks constructed at its base. A detailed and interesting account, by J. Hutchinson, of "The Rain Tree of Hierro" is to be found in the *Kew Bulletin*, No. 3, 1919.

Fungus on Gooseberry Shoots : *J. B. S.* There is no mildew on the Gooseberries received, but a Botrytis is present. The latter does not usually cause serious harm to the fruit itself, but may cause a "die back" of the branches, and such branches should be cut away and burnt.

Holes in Peach Leaves : *C. R.* The Peach leaves are attacked by the Shot-hole fungus (Cercospora circumscissa). Spray the trees with ammoniacal solution of copper carbonate when the leaves are expanding, and repeat the spraying at intervals. Bordeaux mixture should not be used as the leaves, and even young shoots, are injured by dilute solutions of this fungicide.

Hydrangeas not Flowering : *H. C. H.* Hydrangea hortensis flowers either from terminal buds or from stout, roundish buds, towards the ends of the shoots; therefore in cutting back the shoots during the winter, you removed the potential heads of bloom, and leaf growth only could result. These shoots should, however, now be robust and if properly treated, will ensure plenty of bloom next year. The plants should be placed in the open and, until cold weather sets in, given liberal supplies of water. A weekly application of weak liquid manure will be advantageous. As the leaves change colour gradually reduce the supplies of water, but the plants must never be allowed to become quite dry at the root. When the leaves have fallen, store the plants in a cool house, or, failing this, a shed. At the turn of the year inspect the plants, when it will probably be found that a proportion of the shoots have died back slightly; these should be pruned to the nearest pair of plump, roundish buds and these will produce flowers.

Names of Fruits : *C. P. and Co.* It is impossible to name such poor specimens with any degree of accuracy. Fruits for naming should be fully developed, typical of the variety and free from blemishes caused by disease or insect pests.—*W. C.* : It is quite useless to send small, immature specimens for naming; many of the fruits received were not larger than a good sized Cob-nut. *G. E.* : Fruit smashed, poor specimen; not recognised. *E. L.* : White Transparent.

Names of Plants : *C. E. S.* 1, Malva moschata alba; 2, Lychnis coronaria; 3, Nepeta Mussinii; 4, Sedum Sieboldii.—*C. C. H.* : 1, Crinum Moorei; 2, Cnicus arvensis var. setosus; 3, Rubus illecebrosus.—*P. A.* : A Mesembryanthemum, probably M. blandum; this may be increased by means of cuttings at various seasons of the year, and also by divisions of the roots.—*R. W. R.* : Rubus microphyllus. *T. H. J.* : 6, Bocconia cordata; 7, Chlorophytum elatum variegatum; 8, Ophiopogon Jaburan.—*G. B.* : Artemisia vulgaris.—*C. R.* 1, Salvia Sclarea; 2, Dracaena Godseffiana; 3, Ficus radicans; 4, Lysimachia punctata; 5, Ophiopogon Jaburan; 6, Chlorophytum elatum variegatum. *G. S.* Statice sinuata.

Planting Roses : *G. M. S.* Three rows of plants, eight in a row, will fill your beds. The beds are hardly large enough for a colour scheme. Mdm. A. Chatenay, General McArthur, Frau Karl Druschki, Hugh Dickson, Caroline Testout and Mdm. Ravary are all good varieties of Roses. Mrs. A. R. Waddell will suit your purpose better than Gorgeous.

Potato Edzell Blue : *C. E. C.* As the name implies, this Potato is an old Forfarshire variety. At one time it was very largely grown by cottagers in its home county in Perthshire and Kincardineshire. It is also well known in Aberdeenshire and further north. Of late years it has been displaced by the early white kidney varieties, although many old growers still cling to it. It is looked upon as an early, but compared with May Queen and Sharpe's Express, or even Eclipse, it lags far behind, and it would be better described as a second early. The flesh is white and the quality, if grown in suitable Potato soil, is excellent, and it is a good cropper when well cultivated. The fact that this variety has proved immune to black wart disease has given it a new lease of life in face of the fact that up to the present early immune varieties have been difficult to find or produce, and therefore any early variety which can be safely grown on infected land is valuable, although it may be coloured. It is well known to the trade that all conditions being equal, a coloured Potato will never compete on the market with a white skinned variety. Its hardy character and good quality have been the means of preserving Edzell Blue over a long number of years, and those in the north who appreciate a good flavoured, mealy Potato are still loth to part with it.

Seeds of Grevillea Thelemaniana : *R. F. S.* You will most likely be able to obtain the seeds of Grevillea Thelemaniana from Messrs. Thompson and Morgan, Ipswich, or from Messrs. Vilmorin-Andrieux and Co., Quai de la Megisserie, Paris.

Strawberry Hatfield Victor : *W. M.* This new Strawberry was raised by Mr. Prime, gardener to the Marquis of Salisbury, Hatfield House, Hatfield, Hertfordshire. Mr. Prime crossed Monarch with President, and then crossed one of the resulting seedlings with Royal Sovereign; one of the seedlings therefrom was Hatfield Victor. We understand this new variety will be distributed next year by Messrs. Whitelegg and Co.

The Cropping of Vines : *G. N. S. H.* Your Vines, being 15 feet in length, if the spurs are from 12 to 15 inches apart, and the ripening of the growths is satisfactory, should each be capable of bringing to perfection from 20 to 24 bunches, averaging a pound in weight each, or practically one bunch on each well-placed and vigorous lateral. If the bunches are larger they should be fewer in number, so that the total weight of crop in each case does not much exceed 24 pounds. The behaviour of the Vines during the current season should be a guide as to future cropping. If there is any shanking or lack of finish, the succeeding crop must not be a heavy one.

Tomato Leaves Diseased : *H. W.* The plants are attacked by the fungus known as Cladosporium fulvum. See answer to "H. H. G." in *Gard. Chron.*, August 16, 1919, p. 100.

White Fruits from a Green Marrow Seedling : *L. E. O.* The white fruits produced by plants raised from seeds of a green-fruited Vegetable Marrow are evidence that cross pollination took place in the seed crop.

Communications Received.—X. Y. Z.—R. W. R.—A. J. H.—J. G. O.—F. and B.—H. M.—M. R.—H. P.—T. J. H.—J. K.—E. J. P.—F. S. F.—A. G.—S. and E. W.—R. S.—F. H.—F. C.—T. E. E.—H. M.—W. H. P.—P.

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Schizanthus, Jefferies Wisetonensis Strain.
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Per packet 1/- and 2/6.

Calceolaria, Cotswold Hybrid.
A plant unequalled for giving a display of bloom during April, May and June. We have much improved the range of colours, and besides the glorious gold and lemon shades, our strain now contains a range of bronze, orange, pink and crimson colours.
Per packet 1/6 and 2/6.

Schizanthus retusus. Pink Beauty.
Delicate rose pink. An excellent plant for decoration or for cut bloom, the blooms resembling a well-formed spray of a good Spencer Sweet Pea of this colour.
Per Packet 1/-

Cineraria stellata.
Finest mixed shades of delicate pink, Oxford and Cambridge blue, pure white, etc. Per packet 1/- and 2/6.

Each of the above may be easily grown in just sufficient heat to keep out frost, and well grown plants will give a display of bloom unequalled by any other four plants in cultivation.

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COVENT GARDEN, August 27.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0
Asparagus plumosus	12 0–15 0
—Sprengeri ...	12 0–18 0
Aspidistra, green	48 0–72 0
Cacti, per tray 12's, 15's ...	5 0– 6 0
Campanula isophylla	12 0–15 0
— — alba ...	12 0–18 0
Crassulas, red 48's per doz. ...	30 0–36 0

	s. d. s. d.
Fuchsias, 48's, per doz.	12 0–18 0
Heliotropes 48's, per doz.	15 0–18 0
Hydrangeas, white 48's, per doz. ...	24 0–36 0
— Pink, 48's, per doz.	30 0–48 0
Marguerites white	18 0–24 0
Mignonette, 48's per doz. ...	18 0–21 0
Palms, Kentia ...	18 0–24 0
—— 60's ...	15 0–18 0
—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0
— elegans ...	15 0–18 0
Asplenium, 48's per doz.	15 0–18 0
— 32's	21 0–24 0
— nidus, 48's ...	12 0–15 0
Cyrtomium, 48's...	10 0–15 0

	s. d. s. d.
Nephrolepis, in variety, 48's	12 0–18 0
— 32's	24 0–36 0
Pteris, in variety 48's	12 0–21 0
— large 60's ...	5 0– 6 0
— small 60's ...	4 0– 4 6
— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.
Achillea, per doz. bun.	3 0– 4 0
Alstroemeria, per doz. bun. ...	4 0– 6 0
Asters, white, per doz. bun. ...	5 0– 8 0
Carnations, perdoz. blooms, best American var.	2 0– 2 6
Chrysanthemums—	
—white, per doz. blooms.. ...	4 0– 6 0
— —per doz. bun.	12 0– 15 0
—yellow, per doz. blooms.. ...	4 0– 5 0
— —per doz. bun.	10 0–15 0
Coreopsis, per doz. bun.	1 6– 2 6
Cornflower, blue per doz. bun....	2 6– 3 0
Daisies, white, large, per doz. bun.	2 0– 3 0
Gaillardia, per doz. bun.	2 6– 3 0
Gardenias, per box specials ...	8 0– 9 0
— ordinary ...	2 0– 3 0
Gladiolus,	
—Brenchleyensis, per doz. spikes	5 0– 6 0
Gypsophila, per doz. bun. ...	5 0– 6 0
— paniculata, per doz. bunches ...	6 0– 8 0
Iceland Poppies, doz. bun. ...	2 0– 2 6
Lapagerias, perdoz. blooms ...	4 0– 4 6
Lavender, perdoz. bun., large ...	15 0–18 0
Lilium longiflorum, per bunch ...	16 0–18 0

	s. d. s. d.
Lilium speciosum album per bunch	6 0– 7 0
—rubrum per bun.	4 0– 5 0
Orchids per doz.:	
— Cattleyas ...	18 0–24 0
Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
— white, per doz. bunches ...	6 0– 9 0
Roses, per dozen blooms—	
— Frau Karl Druschki...	1 6– 2 6
— Lady Hillingdon	1 0– 2 6
— Liberty ...	1 6– 2 0
— Melody ...	1 6– 2 6
— Mme. Abel Chatenay ...	1 6– 2 6
—Mrs. J. Laing...	1 6– 2 6
— Ophelia ...	3 0– 4 0
— Richmond, var.	1 6– 2 6
— Sunburst ...	3 0– 4 0
—White Crawford	1 –6 2 6
Scabious, per doz. bun.	6 0– 8 0
Statice, mauve ...	6 0– 8 0
— white... ...	6 0– 8 0
— latifolia, per doz. bun. ...	12 0–18 0
Sultan, white, per doz. bun. ...	3 0– 5 0
— — mauve ...	4 0– 6 0
Stephanotis, 72 pips	3 0– 3 6
Sweet Peas, per doz. bun.—	
— white	2 6– 4 0
— coloured ...	2 6– 4 0
Stock, Dbl. White	4 0– 8 0
—Dbl. Pink ...	6 0– 8 0
—Dbl. Mauve ...	8 0–12 0
—Dbl. Purple ...	8 0–12 0
Violas, perdoz. bun.	3 0– 4 0

Remarks.—The trade in Cut Flowers continues very quiet, large quantities of annuals being on offer. Bunched Chrysanthemums of the Marie Masse type are plentiful in yellow, bronze and pink colours. The white Roi des Blancs is not seen at its best yet, but should improve with the welcome rain. Statice sinuata in mauve and white makes a fine show just now, and so does the yellow S. Bonduelli. The perennial S. incana and S. latifolia are in good form. Lilium longiflorum is still on the up grade, and the best Carnations are firmer in price this week.

Vegetables: Average Wholesale Prices.

	s. d. s. d.
Beans, French, per lb.	0 4– 0 6
—Scarlet Budd	8 0–10 0
—Broad, per bus.	3 0– 4 0
Beetroot, per bus.	6 0–10 0
Cabbage, per doz.	2 6– 3 0
Carrots, New, per cwt.	8 0 —
Cauliflowers, perdoz.	7 0–10 0
Cucumbers, perflat	24 0–28 0
Garlic, per lb. ...	0 6– 0 8
Herbs, per doz. bun.	4 0– 6 0
Mint, per doz. bun.	9 0–12 0
Mushrooms, per lb.	3 6– 4 0
Mustard and Cress, per doz. punnets	1 3– 1 6
New Turnips, per cwt.	10 0–12 0

	s. d. s. d.
Onions (Egyptian) per bag ...	10 0–14 0
Peas, per bus. ...	4 0– 5 0
Parsley, per doz. bunches ...	3 0– 6 0
Potatos, new, per cwt.	10 0–14 0
Radishes, per doz. bunches ...	1 0– 1 6
Spring Onions, per doz. bunches ...	4 0– 6 0
Tomatos, English, per doz. lbs. ...	5 0– 6 6
— Dutch.. ..	3 6– 4 0
— French ...	4 0– 4 6
— Outdoor Jersey	4 6– 5 0
Vegetable Marrows, per doz. ...	1 6– 2 0
Watercress, per doz	0 9– —

Fruit: Average Wholesale Prices.

	s. d. s. d.
Apples (English)	
—Beauty of Bath per ½ bus. ..	5 0– 9 0
—Quarrenden ..	4 0– 8 6
—Lord Suffield ..	3 0– 4 0
—Keswick Codling	2 6– 3 0
—Ecklinville Seedling	2 6– 4 0
Aubergines; pr doz	6 0– 8 0
Bananas... ...	30 0–45 0
English Peaches per doz. ...	6 0–18 0
Grapes:—	
— Alicante ...	1 6– 2 0
—Blk Hamburgh,	1 6– 2 0
—Canon Hall	2 6– 7 0
—Muscats, per lb.	2 0– 4 0
Melons, each ...	2 0– 6 0
—Canteloupe ...	2 6– 8 0

	s. d. s. d.
Nectarines, per doz. ...	6 0–18 0
Nuts Brazils (new) per cwt.	110 0–115 0
Pineapples each...	2 6– 6 6
Plums (English) per ½ bus.	
—Czars ..	10 0–14 0
—Gages English	12 0–14 0
—Orleans ..	12 0–14 0
—Victoria ...	14 0–15 0
—Washington ...	15 0–16 0
Worthing Figs, per doz.	3 0– 6 0
Pears, French, Williams boxes 48's ..	10 0– 12 0
—Bon Chretien ½ sieves ...	18 0– 20 0

Remarks.—The volume of business continues heavy in all sections of the trade. Owing to large arrivals from Holland and France a considerable amount of attention has been drawn to the Tomato market, which has been unsettled in tendency and a reduction in price has to be recorded. Cucumbers continue in good demand. Hothouse Fruits are in plentiful supply. English Apples are in good supply, but good dessert varieties are short. Plums are moderately plentiful, but prices continue somewhat high, but with a tendency to fall somewhat with the increasing quantities. The market is clear of Pineapples, but a shipment is expected during the week-end. Supplies of green vegetables are at the moment below the needs of buyers, and prices continue firm. Potatos are particularly short, and firmer in price.

The following are approximate weights of various market measures:—*Apples*:—Pot=56 lbs.; ½ bush=20-22 lbs.; case=40 lbs. *Gooseberries*:—Pot=63 lbs.; ½ bushel=24 lbs. *Strawberries*:—Chip=4 lbs. *Cherries*:—½ bushel or sieve=21-24 lbs.; Pot=63 lbs. *Currants*:—½ bushel=24 lbs. *Raspberries*:—Chip=4 lbs. *Greengages*:—Sieve or ½ bushel: French=20-24 lbs.; Spanish 24-28 lbs. *Plums*:—Pot=72 lbs. *Beans*:—Pot=40 lbs.; ½ bushel=15 lbs. *Beet*:—Pot=56 lbs. *Onions*:—Case=120 lbs. *Peas*:—Pot=40 lbs.; bushel=30 lbs. *Spinach*:—Bushel=16 lbs.

GARDENING APPOINTMENTS.

Mr. G. A. Bacon, Gardener to H. Charrington, Esq., at Quarndon Hall, near Derby, as Gardener to the same gentleman at Castlemans, Kiln Green, near Twyford, Berks.

Mr. V. Shepherd, as Gardener to G. E. Bonner, Esq., Elmwood, Hooton, Cheshire.

Mr. H. L. Reed, for some time employed in munition work, and previously foreman at Kilworth House, as Gardener to the Hon. Verney Cave, Standford Hall, nr. Rugby.

Mr. George Newnes, for the past three and a half years with H.M. Forces, and previously foreman at The Goldings, Great Warley, Essex, and Hanklow Court, Nantwich, as Gardener to W. E. Barratt, Esq., Linley Hall, Bishop's Castle, Shropshire.

Mr. John C. Dick, for the past 24 years Gardener at Champfleurie, Linlithgow, as Gardener to Mrs. Ferguson, Poldrait, Linlithgow, N.B.

Mr. H. W. Epps, previously Gardener to Mrs. Nathan, Floresta, Ashtead, as Gardener to E. J. Benn, Esq., Blunt House, Oxted, Surrey.

Mr. J. T. Beck, recently demobilised, and previously general foreman at Grimston Park, as Gardener to the Hon. Mrs. Fairfax, Bilbrough Manor, York.

Mr. W. Ansell, late Gardener to W. M. Dean, Esq., Greenways, Sunningdale, as Gardener to E. Spyer, Esq., Harecombe Manor, South View, Crowborough, Sussex.

Mr. C. Partridge, previous to the war for ten years Gardener to Colonel F. T. H. Bernard, Chearsley Hill, Aylesbury, as Gardener to General Sir Reginald Stephens, Government House, R. M. College, Sandhurst, Berkshire.

CATALOGUES RECEIVED.

Robert Sydenham, Ltd., Tenby Street, Birmingham—Bulbs.

G. H. Plant & Co., Bank Buildings, The Eastgate, Chester.—Bulbs and Seeds.

John McKerchar, 35, Giesbach Road, Upper Holloway, N.19.—Bulbs and Roots.

Dickson, Brown and Tait, 57, Cross Street, Manchester.—Bulbs.

R. & G. Cuthbert, Southgate, Middlesex.—Bulbs.

John Waterer, Sons & Crisp, Twyford, Berkshire.—Fruit Trees and Bushes.

Sutton & Sons, Reading.—Bulbs for 1919.

T. Smith, Daisy Hill Nursery, Newry.—Hardy Bulbs.

Austin & McAslan, 89-95, Mitchell Street, Glasgow.—Bulbs.

SITUATIONS VACANT.

Twenty words (or three lines including headline) 3s., and 6d. for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office, 6d.

PRIVATE.

BRITISH GARDENERS' ASSOCIATION. (Registered No. 1,666 T.)

Head Office—

22, Buckingham Street, Strand, W.C.2.

THE NEW STANDARD of WAGES and HOURS formulated by the BRITISH GARDENERS' ASSOCIATION is now ready, and copies may be obtained by forwarding stamped addressed envelope to the Head Office. Discharged soldiers and sailors, before accepting new situations, should write for a copy of the Wage Standard.

CYRIL HARDING, General Secretary.

STAFFORDSHIRE EDUCATION COMMITTEE.

Appointment of Expert Pruner.

A PRACTICAL PRUNER and PROPAGATOR is required to prune and renovate Fruit Trees in the County. He will also be required to assist on the County Fruit Plots.

The commencing salary offered is £160 per annum, together with travelling expenses according to the County Scale

Further particulars and forms of application, which must be returned by 6th SEPTEMBER, may be obtained from the undersigned,

GRAHAM BALFOUR, Director of Education.

County Education Offices, Stafford, August, 1919.

WANTED, a HORTICULTURAL INSTRUCTOR and HEAD GARDENER for training Colony in Kent, for Convalescent Consumptive Soldiers and Sailors. He must be capable of training men in the highest class of gardening, fruit, flowers, and vegetable culture from the Commercial and Exhibition point of view. He must be able to lecture to the men on all branches of his work. He will be supplied with an efficient staff. Salary £300 per year, with house and garden produce.—Apply, THE MEDICAL SUPERINTENDENT, c.o. The Secretary, The Industrial Settlements for Disabled Soldiers and Sailors, Pilgrims Room, Savoy Hotel, Strand, London.

WANTED, GARDENER (Head), two employed; must be competent all branches.—Write, stating age, experience, wages required, to F. JACKSON, Wharton House, Bourne End, Bucks.

WANTED, HEAD WORKING GARDENER, UNDER-GARDENER and help; 3-roomed cottage, fuel, light, vegetables given; demobilised soldier and wife (laundress) preferred, but not essential; wages 35s. to 40s.—Apply, H. N. BARCLAY, Witney Wood, Stevenage.

GARDENER (Single-handed) wanted; cottage, vegetables; preferably no children.—State experience, wages required, to A. COOK, The Cedars, Iver, Bucks.

GARDENER (Second) Inside, duty alternate weeks, paid; wages 35s. and bothy; 1 o'clock Saturdays.—State age and experience to F. P. DICKSON, The Gardens, Yeaton Peverey, Shrewsbury.

WANTED, single man as SECOND, with good knowledge of his work, both Inside and Out.—Apply, B. GODFREY, The Gardens, Woodstock Park, Sittingbourne, Kent.

WANTED, UNDER-GARDENER for Inside and Out; good spade hand; highest references.—Write full particulars to H. W. SYMONDSON, Esq., "Woodside," South Hill Park, Bromley, Kent.

WANTED, UNDER-GARDENER, single, chiefly Flowers and Kitchen Garden; 34s. per week and rooms.—Apply, G. HUDSON, Misletoe Farm, Eastcote, Middlesex.

WANTED, FOREMAN for Fruit and Plant Houses; wages 35s., bothy, milk, vegetables, etc.; good references; duty extra.—H. WRIGHT, The Gardens, Wyfold Court, near Reading.

WANTED, two JOURNEYMEN for fruit and Plant Houses; duty paid. Also a JOURNEYMAN for Outside, with bothy.—State experience, with other particulars, wages expected, with bothy, milk, and vegetables, to A. TAYLOR, The Warren House Gardens, Stanmore, Middlesex.

WANTED, JOURNEYMAN for Inside; wages 30s. weekly, with bothy, etc.; duty alternate weeks.—T. DENT, Brynkinalt Gardens, Chirk, North Wales.

WANTED, a JOURNEYMAN for Inside; must be capable of taking charge when necessary; good references essential; wages 35s. weekly, bothy, and vegetables; 1 o'clock Saturdays; duty alternate weeks. — Apply, H. KEMP, Priory Gardens, Reigate.

WANTED, JOURNEYMAN (Inside and Out), where six are kept; no bothy.—Apply, stating wages, etc., J. V. MACDONALD, The Gardens, Wherstone, Edgbaston.

WANTED, smart JOURNEYMAN (Inside); also one for Ornamental Grounds; first-class experience essential.—Full particulars, wages expcted, with bothy, to GEO. MORBEY, The Gardens, Lilleshall House, Newport, Salop.

WANTED, JOURNEYMAN with knowledge of Pleasure Ground work, for Rock Garden, Choice Shrubs, Lawns and Bedding; 30s. per week, bothy, milk and vegetables.—W. BRISTOW, Maristow Gardens, Roborough, S. Devon.

WANTED, two good all-round JOURNEYMEN for Outside Garden Work; state age, experience and wages required.—Particulars to HEAD GARDENER, The Priory, St. Osyth, Colchester.

WANTED, two JOURNEYMEN for Kitchen Garden and Pleasure Grounds; good wages to suitable men.—Apply, W. BENTLEY, Port Regis, Broadstairs.

IMPROVER wanted at once, under Glass; some experience; good wages; no bothy. — E. HALL, Brislington Gardens, Bristol.

WANTED, IMPROVER, with some experience, for Inside and Out, age about 18; wages 25s. per week, bothy, milk and vegetables; duty paid.—Apply, W. WENMAN, The Gardens, Hickleton, Doncaster.

LEADING MAN for Kitchen Garden wanted. State experience. 35s. per week and bothy; take turn on duty.—G. KENT, Brocket Gardens, Hatfield, Herts.

WANTED, good MAN for Kitchen Garden and Pleasure Grounds, able to take charge; good wages.—G. BANNISTER, Priory Gardens, Mill Hill, N.W.7.

WANTED, MAN for Inside, with Journeyman under him; experienced Fruit and Plants; bothy; 1 o'clock Saturdays.—Please send particulars of experience and wages required to E. WISE, Oakwood Gardens, Otterbourne, near Winchester.

YOUNG MAN wanted, Lawns and Pleasure Grounds; 30s., bothy, milk, vegetables.—Particulars to S. HAND, Wixenford, Wokingham, Berks.

WANTED, YOUNG MAN, chiefly for the houses; age 18 to 20. Also Young Man for Outside work. State wages with bothy.—Apply, P. COLOHAN, Allerton Park Gardens, Knaresborough.

WANTED, good MAN for Houses, single, 23 to 25; wages 40s. per week; lodgings close to work; comfortable place to right man; duty alternate weeks, hours, 7 till 5, 1 o'clock Saturday.—Apply, with references, W. TURNER, The Gardens, Hill House, Harrow Weald, Middlesex.

WANTED, good MAN for the Houses, Orchids, Plant and Fruit; 50s., no bothy; single preferred.—Letters only, GARDENER, Feltham Lodge, Feltham.

WANTED, reliable MAN for Lawns and Borders; must be well up at his work; wages [illegible]s. and bothy, vegetables and attendance.—Apply, stating age and experience, GARDENER, Aberpergwin, Glyn-neath.

WANTED at once, respectable LAD, 18 to 20, to live with gardener and wife; comfortable home; good wages. — Address, with references, W. SHEPPARD, Gardener's Cottage, Parker's Hill, Sunningdale, Berks.

WANTED, two strong LADS about 19; some experience, general work; 30s. and bothy; 1 o'clock Saturdays; duty paid.—WILLIAM PENTON, Warren House Gardens, Kingston Hill, Surrey.

WANTED, WOMAN GARDENER (Under); good private experience, Inside and Out; Midland county.—Full particulars, HEAD GARDENER, Box 24, 41, Wellington Street, Covent Garden, W.C.2.

TRADE.

PRIVATE GARDENERS awaiting situations can have temporary employment and good wages by applying to JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

HEAD GARDENER; competent man wanted, used to growing Vegetables and Florists' Flowers for show and seed purposes, with nursery experience.—Apply by letter, giving full particulars, to EDWARD WEBB & SONS (Stourbridge), Ltd., Wordsley, Stourbridge.

WANTED, WORKING GARDENER with knowledge of Market Gardening; no glass; chiefly vegetables. State wages and percentage on profits.—Write H. M., Rastall's, 81, Ebury Street, S.W.1.

WANTED, WORKING FOREMAN, first or second man, with thorough knowledge of forcing Carnations, Roses, Tomatos, Sweet Peas, and bedding plants; must have good references from big growers; good wages and dividend; single man, or married without children, owing to housing.—H. S., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

WANTED (near Manchester), WORKING FOREMAN to take charge of small Nursery; must thoroughly understand Cucumbers, Tomatos and Ferns. Wages £3 per week and 25 per cent. of profits; none but experienced and reliable men need apply. Please state age, experience and references.—G. N., Box 5, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN WANTED for Forest, Ornamental and American Trees and Shrubs; must be experienced in growing and handling large stocks, and accustomed to the control of labour.—State full particulars of experience and wages required (including house), CLIBRANS, Altrincham.

PROPAGATOR wanted for Rock and Herbaceous Plants, also man used to nursery work.—PULHAM and SON, Hardy Plant Nursery, Elsenham, Essex.

GOOD MAN wanted for Cut Blooms, Plants, and Carnations. — State salary, experience IVYDORE NURSERY, Worthing.

WANTED, SINGLE MAN for Market Garden, Pigs, Poultry; must have experience; also SINGLE MAN for Nursery repairs.—Particulars, refs., and wages required, to I. C. L., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

WANTED by 1st October or earlier, energetic Young Man as COUNTER ASSISTANT, with good all-round experience of the retail Seed Trade.—State age, experience and salary expected to W. DRUMMOND & SONS, Ltd., Dawson St., Dublin.

WANTED for Seed Warehouse, an ASSISTANT well up in Vegetable and Flower Seed Stocks, active in executing orders.—Address, J. M., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—Wanted, experienced, capable counter hands for Garden Seed Department.—Apply, with references, particulars of experience, and wages required, to TOOGOOD and SONS, The King's Seedsmen, Southampton.

POSITION VACANT.—Wholesale seed firm; country; MANAGING CLERK, correspondence and general (not ledger) office; staff of 20; organising ability and trade experience essential.—Apply, with full particulars and references, S. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, IMPROVER for Seed and Bulb Department. State experience and wages required.—Apply, R. TUCKER AND SONS, Seedsmen, Oxford.

WANTED at once, SHOPMAN and CLERK with knowledge of Plants, Seeds, Bulbs, etc.—Apply, with references, stating age, experience and wages required, to T. K. INGRAM, Parkstone Nurseries, Dorset.

LADY FLORIST wanted for high-class Florist shop in Bournemouth. State age, particulars of past experience and salary expected to T. K. INGRAM, Parkstone Nursery, Dorset.

WANTED FOR SOUTH AFRICA, a lady-like, pleasant-mannered, artistic and highly capable FLORIST as Head of Florist's Department. Salary £16 per month. Opportunity for progressive advance.—Apply, SOUTH AFRICA, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.)* **Fee** *for having replies addressed to this office,* **6d.**

PRIVATE.

MESSRS. MANSELL & HATCHER, LTD., Rawdon, Yorkshire, can highly recommend a HEAD GARDENER, age 41, just demobilised; a first-class man in every respect; has had experience in Fruit houses, Plant houses, including Orchids, and understands thoroughly, the general routine work of a big garden.

GARDENER (Head).—B. C. FORDER, Esq., J.P., can with confidence highly recommend F. GOULD, who is thoroughly experienced in the management of a large establishment; life experience in all branches; ten years as Head; good manager and economical; age 39; married (one girl, 13); excellent references; Army discharged. — Full particulars, The Gardens, Whatcombe House, Blandford, Dorset.

SIR ALAN BAGOT wishes to very highly recommend his thoroughly experienced HEAD GARDENER, W. GIBSON, to any lady or gentleman requiring the service of a very expert gardener in all branches of the profession; estate, woods, etc.; Scotch.—Apply, W. GIBSON, Levens Hall Gardens, Milnthorpe, Westmorland.

GARDENER (Head).—A. G. SOAMES, Esq., Sheffield Park, Uckfield, can highly recommend W. EDWORTHY, for over 8 years HEAD GARDENER here, to anyone requiring first-class man for good establishment; thoroughly efficient all branches; age 44; married (two children); demobilised.—EDWORTHY, 76, Vernon Road, Copnor, Portsmouth.

MR. MILLS, Gardener and Bailiff to Lord Howard, Glossop Hall, Glossop, can with confidence recommend his General Foreman, A. E. CREED, as HEAD GARDENER to any Lady or Gentleman requiring a good all-round man; married (two children).

THE EARL OF JERSEY wishes to recommend his late General Foreman as HEAD GARDENER to any Gentleman requiring the services of a first-class Fruit and Vegetable grower; life experience; age 36; married (no children); demobilised; 3½ years Army.—Apply, W. T. CHATTERLEY, The Green, Snitterfield, Stratford-on-Avon.

HEAD GARDENER.—Mrs. Farquharson can with confidence highly recommend her temporary HEAD GARDENER to anyone in want of a first-class man; thoroughly experienced all branches; very energetic and excellent manager.—Apply, A. FISHER, Tilshead Lodge, Tilshead, Wilts.

C. R. DE LA SALLE, Esq., highly recommends his late HEAD GARDENER where several are kept; life experience gained in good establishments; last post six years, previous to enlistment; age 42; married (no family).—T. PROWTING, Oakdene, Orlando Drive, Carlton, Notts.

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER to Lady or Gentleman requiring the services of a competent man; age 34; married.—W. ELKINS, 12, Brocas Street, Eton, Bucks.

HEAD GARDENER seeks re-engagement; skilled in all branches, and especially in Alpines, Hardy Plants and Fruits; familiar with the making of new gardens and remodelling; can control any number of men; five years' Head of well-known garden; first-class references; age 37.—ADVANCE, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

HEAD GARDENER of several (Northumberland) desires re-engagement; lifelong first-class experience gained in all branches, both under Glass and outside. Also Landscape and Rockwork construction. Energetic and industrious, taking a keen interest all round; first-class certificate, R.H.S. examination; 37; married (two children); F.R.H.S.—W. H., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, situation as HEAD GARDENER or FARM BAILIFF; life experience in all branches; garden, farm work, both English and Colonial experience; very successful exhibitor in both stock and produce; age 40; married (two children, youngest 8 years).—Apply, W. H. REYNOLDS, 194, Liverpool Road, Reading, Berkshire.

HEAD GARDENER, 25 years' practical experience, desires Management of large Gardens where surplus produce is sold; thorough experience in growing large quantities of Fruits, Inside and Out, Flowers and Vegetables; good organiser; excellent references for abilities and integrity; age 40; married; abstainer. — State terms, STEDMAN, Dwygyfylchi, Penmaenmawr, N. Wales.

GARDENER (HEAD) seeks situation); life experience in all branches; age 31; married (no family); good references; demobilised.—FAIRCHILD, Cornish Hall End, Braintree, Essex.

GARDENER (HEAD in small place, SECOND in large).—Mr. Cross, Lamport Hall, Northampton, will be glad to recommend his SECOND GARDENER, a thoroughly respectable man; leaving for no fault; married (two childen).

HEAD GARDENER requires situation where large quantities of Fruits, Flowers and Vegetables are required; excellent testimonials.—Reference to Mr. MAITLAND, Head Agent, Rufford Hall Estate Office, near Ormskirk, Lancs, or to D. CRAIG, The Rookery, Preston Road, Rufford.

GARDENER (HEAD), demobilised, life experience; three years eight months Head to the Honble. Carr Glyn; previously five years Foreman at Lamport Hall and Yeaton Peverey; good manager; age 36; married (no family); excellent references.—A. MORPHETT, Wootton, near Ashbourne, Derbyshire.

HEAD GARDENER; life experience all branches; good references; one year present as Head; age 32; married (one child); Cambs. or Essex preferred. Please state wages.—H. A., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD or GARDENER-BAILIFF), working; life experience in all branches; Inside and Out; several years Head in good families; thoroughly reliable; highly recommended; married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD); life experience, competent, reliable man; good Fruit, Flower and Vegetable grower; Table Decorations, Land and Stock.—GARDENER, Northcourt, Eastling, Faversham.

GARDENER (HEAD), capable, energetic man, seeks re-engagement; thorough practical experience in all branches; five years Head of several previous to war; married; age 35; demobilised.—MAY, "The Hutch," Prestbury, Cheltenham.

GARDENER (HEAD), life experience in large establishments; private and commercial experience with stock and electric light; good testimonials; married; age 44.—JONES, Glenleith, Bushey Heath, Herts.

GARDENER (HEAD), demobilised, W.O. Class II, is open to re-engagement; thoroughly experienced in all branches; competent manager; excellent references; from good establishments; age 33; married. —LUCAS, c.o. Woollam, The Hough, Alderley Edge, Cheshire.

HEAD GARDENER; life experience in all branches; eight years' in present place; good references; married.—W. PEARCE, Manor House Gardens, Stoke Poges, Sough, Bucks.

GARDENER seeks situation, HEAD or SINGLE-HANDED; 22 years' experience cultivation Fruit, Flowers and Vegetables; Inside and Out; Pruning, Budding, Grafting; hours no objection; age 35.—H. P., Box 15, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good references; married (one child); age 38.—W. MUZZELL, Hope Cottage, Braywick, Maidenhead.

GARDENER (HEAD or SINGLE-HANDED with help seeks situation; life experience Inside and Out; married; age 45.—F. WELCH, The Lodge, Hazel Mount, Binstead, Ryde, Isle of Wight.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; a capable manager of large gardens; experience Fruits, Plants, Vegetables, Rock Gardens, etc.; abstainer; age 46.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

GARDENER (HEAD WORKING or SINGLE-HANDED); life experience all branches; age 42; married (no family); abstainer; present employer recommends.—JAMES NEVILLE, Meadow Cottages, Peasenhall, Suffolk.

CAPTAIN RICHARDSON can very highly recommend Gerald Fletcher as HEAD WORKING GARDENER; thoroughly experienced in all branches; 10 years' character before enlistment; age 38; married (no children).—G. FLETCHER, Morestead, Winchester.

HEAD WORKING GARDENER.—Hon. A Mulholland personally recommendst his late GARDENER as a first-class man in all branches of Gardening; capable of meeting requirements of good establishment; highest references from previous employers. Estate sold. Married; age 55.—MORRIS, 44, Fairclose Road, Beccles.

F. R. PELLY, Esq., thoroughly recommends HEAD WORKING GARDENER (Scotch); thoroughly experienced in all branches, Inside and Out; excellent references.—Write, ROBERT MURRAY, Hockwold, Brandon, Norfolk.

LADY EMILY VAN DE WEYER highly recommends her GARDENER (HEAD WORKING or otherwise); life experience; married; age 42.—G. SPENCER, Hungerford Park, Hungerford.

MR. COWARD, Lexham Hall, Swaffham, Norfolk, highly recommends J. BAYLEY as HEAD WORKING GARDENER; life experience, Inside and Out; age 37; married (one child); excellent references.—J. BAYLEY, Wallsworth Lodge, Sandhurst, Gloucester.

MR. TOMALIN, Gardener to the Earl of Bessborough, Bessborough Gardens, co. Kilkenny, wishes to highly recommend his late Foreman as GARDENER; (HEAD WORKING); thoroughly experienced; age 52; married.—WILKS, Ashcroft, The Green, Southgate, N.14.

LORD ASHCOMBE, Denbies, Dorking, highly recommends G. ALLAN as HEAD WORKING GARDENER; life experience in all branches; excellent references, gained in first-class establishments; disengaged.—Apply, 40, Leamington Street, Crookes, Sheffield.

LADY recommends HEAD WORKING GARDENER where three or more kept; life experience all branches; leaving for no fault; married (no family); age 37; demobilised. Please state wages. —Apply, GARDENER, c/o Butts, Kirdford, Billingshurst, Sussex.

GARDENER (HEAD WORKING), where three or more are kept; life experience in all branches, Inside and Out; highest references; at liberty.—F. MAY, Hollydale, Keston, Kent.

GARDENER, life experience, age 36, married; situation required as HEAD WORKING SINGLE-HANDED, or good SECOND; experienced all branches; good Plantsman and propagator; four years in charge; highly recommended; married (one boy, 10).—A. S., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING or good SINGLE HANDED with help); life experience Flowers, Fruit, Vegetables; excellent references from present and previous employers; married (two children, boy 15, girl 13).—BRADLEY, Quarr Cottages, Sway, Hants.

GARDENER (HEAD WORKING) where two or more kept; life experience in all branches; demobilised; age 34; married (no children); excellent references.—SNOOK, West Wittering, Chichester.

GARDENER (HEAD WORKING) where two or more are kept; life experience; excellent references; married (no family); age 30; demobilised. — A. PERROTT, Bathealton, Wiveliscombe, Somerset.

GARDENER (HEAD WORKING); thorough practical experience Flowers, Fruit and Vegetables; highly recommended; energetic and trustworthy; abstainer; no family.—T. HURST, 169, Osmaston Road, Derby.

GARDENER (HEAD WORKING) seeks situation where several are kept; life experience; could manage electric light plant and stock if required; leaving through estate being sold; present place 8½ years, previous 9; married; age 44.—OSMAN, Sandle Manor, Fordingbridge, Hants.

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GARDENER (HEAD WORKING), Scotch, demobilised; 26 years' experience all branches of gardening; 11 years head previous joining Army; also electric power plant; good references; married (two children, 9 and 5); age 42.—J. DONALDSON, 5, High Street, Sandy, Beds.

GARDENER (HEAD WORKING of three or four); life experience; good refs.; married (one girl); demobilised.—BRAMBLEY, 66, Foley Road, St. John's, Worcester.

GARDENER (HEAD WORKING), life experience Inside and Out; could run establishment on Food Production for profit if required; highly recommended; last ten years Head; age 38 (one child).—WARREN, 37, Albion Road, Hounslow, Middlesex.

GARDENER (HEAD WORKING) where others are kept; 22 years' general experience both Inside and Out gained in large establishments; highly recommended by present employer; previous situation as Head; age 35; married (no family); excellent references.—J. IRVIN, Heathfield Gardens, Ascot.

GARDENER (HEAD WORKING) where one or two kept; thorough practical all-round man; Inside and Out; highly recommended; age 30; no family.—JENKINS, Stover, Newton Abbot, Devon.

GARDENER (HEAD WORKING); life experience all branches (including exhibition) gained in good establishments; four years Army, R.F.A.; previous place, seven years (three as Head); excellent references; married (no family); age 32.—W. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

DEMOBILISED GARDENER (HEAD WORKING) seeks post; life experience in all branches; age 38, married.—Apply, H. NEEVE, High Street, Yoxford, Suffolk.

GARDENER seeks situation as SINGLE-HANDED or with help; life experience; good references; married (one child).—Apply, G. WORSFOLD, 1, Rose Cottages, Station Road, Cheam, Surrey.

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GARDENER seeks situation, Inside and Out; 10 years' experience; age 28; good references; married when suited; London suburb preferred.—A. ASHMAN, 20, West Street, Bromley, Kent.

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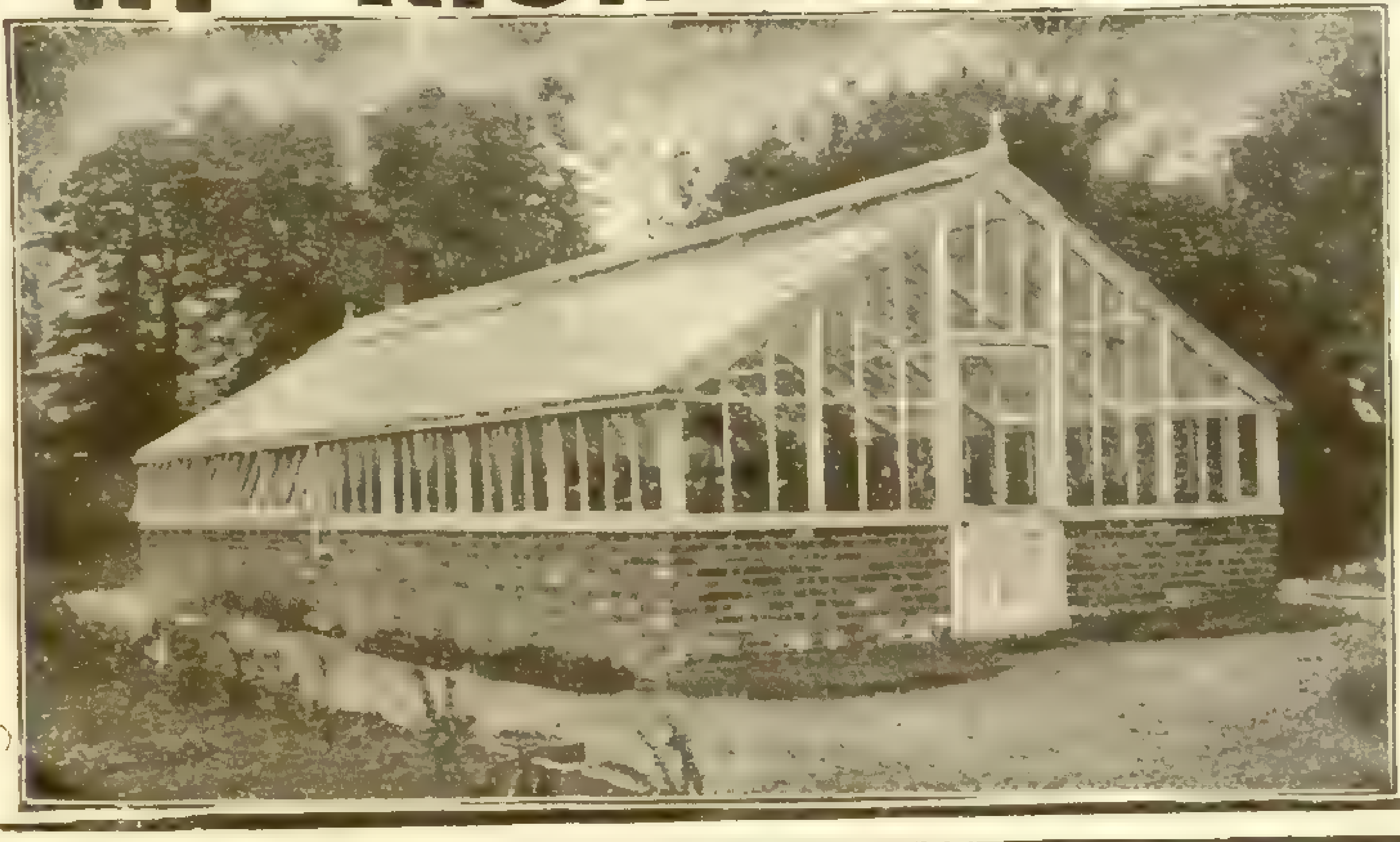

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Trade Sale of
BRITISH, FRENCH, AND DUTCH BULBS.

MESSRS. PROTHEROE & MORRIS will sell by Auction at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY, SEPTEMBER 10, AT 1 O'CLOCK, quantities of Hyacinths, early single and double Tulips, Narcissus, Polyanthus Narcissus, Snowdrops, Freesias, Roman Hyacinths. Lilium Candidum, etc.; also a consignment of Bay Trees, Azaleas, and Aspidistras from Belgium.
Catalogues on application to 67 & 68, Cheapside, E.C.2.

LEE, S.E.
Great Annual Trade Sale.
By Order of Messrs. B. Maller & Sons.

MESSRS. PROTHEROE & MORRIS will sell by Auction at the BURNT ASH ROAD NURSERIES, LEE, S.E., on Tuesday, September 9, at 11 o'clock, a remarkably well-grown stock of WINTER-BLOOMING HEATHS and other STOVE and GREENHOUSE PLANTS, consisting of 20,000 Heaths, Erica nivalis, gracilis, hyemalis, ventricosa, etc., 3,000 Genistas, 6,000 Ferns of sorts, 1,000 Ampelopsis, 2,500 Kentias in various sizes; also quantities of Acacias, Boronias, Epacris, Solanums, Hydrangeas, Cyclamen, Gardenias, and other stock. Catalogues may be obtained at the Nurseries, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

PRELIMINARY ANNOUNCEMENT.

MESSRS. PROTHEROE & MORRIS beg to announce that they have been instructed by W. BOLTON, Esq., to dispose of the Second Portion of the WILDERSPOOL COLLECTION OF ORCHIDS during the month of October, at a date shortly to be announced. Catalogues, when ready, of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

IMPORTANT SALE OF VALUABLE ORCHIDS.
By Order of SAMUEL GRATRIX, Esq.,

MESSRS. PROTHEROE & MORRIS have received instructions to Sell by Auction at THE COAL EXCHANGE, MARKET PLACE, MANCHESTER, a selection of rare and valuable plants from the well-known WEST POINT COLLECTION, including some of the very finest albino and other Cattleyas, choicest Cypripediums and Odontoglossums.
The plants may be viewed at "West Point," Whalley Range, Manchester, by appointment with the Gardener, Mr. J. Howes.
Catalogues of the Auctioneers, 67 & 68, Cheapside, London, E.C.2.

THE "ROSEFIELD" COLLECTION OF ORCHIDS.

MESSRS. PROTHEROE & MORRIS have been instructed by de Barri Crawshay, Esq., to dispose of his entire Collection of valuable Orchids. These will be sold by auction, on the premises, "ROSEFIELD," SEVENOAKS, on TUESDAY, OCTOBER 7, 1919, and two days following.
The plants may be seen at any time by appointment with de B. Crawshay, Esq., "Rosefield," Sevenoaks.
Catalogues of the Auctioneers, 67 & 68, Cheapside, London, E.C.2.

CHINGFORD.
31st ANNUAL SALE.
MESSRS.
PROTHEROE & MORRIS
will offer for Sale at the Nurseries, Chingford, by order of H. B. May & Sons, Ltd., on Wednesday, September 10th, 1919, at 11 o'clock precisely,
20,000 Palms (various sizes), 20,000 Ferns, Genistas, Cyclamen, Hydrangeas of Sorts, Aspidistras, Veronicas, Solanums (well berried), and a variety of other Plants.
Catalogues on application to the Nurseries, or the Auctioneers,
67 and 68, CHEAPSIDE, E.C.2.
Frequent trains from Liverpool Street, G.E.R.

WEDNESDAY, SEPTEMBER 24, 1919.
LOCKSHEATH NURSERIES.
1½ miles from Swanwick Railway Station and 6 miles from Southampton.

RICHARD AUSTIN & WYATT are favoured with instructions from the Owners to offer for Sale by Auction on the above date at 3 o'clock, in 5 lots, the following
FREEHOLD PROPERTIES,
The "Flagstaff" having 3 reception and 5 bedrooms with offices, standing grounds of about ONE ACRE. Range of Outbuildings, comprising: Stabling, Garage, Stores, Piggeries, etc., with an area of quarter of an acre.
THREE ENCLOSURES OF FRUIT LAND, measuring together 4a. 3r. 27p., or thereabouts, with 30,000 square feet of floor space of modern and roomy Glass Houses thereon. Possession on completion.
Particulars and Conditions of Sale of the SOLICITORS.—Messrs. Hargreaves & Joblin, 7, Stone Buildings, Lincoln's Inn, London, W.C.2. AUCTION OFFICES.—Bishop's Waltham, Hants, and at Fareham and Southampton.

BUSINESSES FOR SALE.

SPECIAL REGISTER OF NURSERIES, MARKET GARDENS, FLORISTS' AND SEED BUSINESSES to be Let or Sold. Published by

MESSRS. PROTHEROE & MORRIS every month. Copies may be obtained post free on application.—Estate Offices, 67 and 68, Cheapside, London, E.C.

BUSINESS OF FRUIT TREE, Rose Grower and Nurseryman. Exceptional opportunity to acquire lucrative and far-famed Nursery in full working order, on freehold land. Failing health demands immediate disposal.—WILL TAYLER, Hampton, Middlesex.

PROPERTY FOR SALE.

THE GLASSHOUSES, with contents, in the Nursery of the late Mr. D. W. Brotherton, Rose Lawn, Malvern Wells, will be offered for sale early in October. Particulars will be duly advertised.

PROPERTY WANTED.

WANTED to rent, or might buy, small NURSERY, chiefly Glass, of few hundred feet run.—B. A., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

WANTED TO RENT, small MARKET NURSERY, with Glass preferred, or good private gardens near good market.—A. PARSONS, Byford, Hereford.

BUSINESS CARDS.

R.H.S. GENERAL EXAM.—Correspondence Class conducted by a practical gardener.—Particulars from the HEAD GARDENER, Heath End House, near Basingstoke.

FIRST-CLASS DUTCH FIRM wishes to buy Fruit for English Houses on commission base. —Letters sub. 1321 to BOEKHANDEL DE WEKKER, Apeddoorn, Holland.

NOTICE.

LONDON BRANCH, B.G.A., at Chandos Hall, Maiden Lane (near Charing Cross), on Thursday, September 25, at 7.30 p.m. All London Gardeners invited.

PARTNERSHIPS.

ADVERTISER with £100 wishes to meet Gentleman with view to working partnership in Tomato Nursery.—W. B., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

PLANTS, &c., FOR SALE.

PRIMULAS! PRIMULAS! PRIMULAS!
48th YEAR OF DISTRIBUTION.

OUR well-known Magnificent Strain CINERARIAS, OBCONICAS, CALCEOLARIAS. etc., 3s. 9d. per doz.; 25s. 100; list free; carriage paid. JOHN STEVENS & SON, The Nurseries, Coventry.

FERNS! FERNS!! — Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

BAY TREES, magnificent consignment Pyramids and Standards, for Sale, in all sizes.—Size and prices on application, ROBERT GREEN (1911), Ltd., 28, Crawford Street, London, W.

"ROCK GARDEN PLANTS, Where and in what soils to plant them." Incorporated with catalogue; 48 p.p., post free.—G. R. PHIPPS, Alpine Nursery, Barnham, Bognor.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinias, Lilies, Hydrangeas, etc.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.9.

ENGLISH BULBS, Dutch Bulbs, French Bulbs. MORLE & CO.'s new list now ready. Sent to any address with pleasure; established 50 years.—150-156, Finchley Road, N.W.

GERANIUM CUTTINGS, Paul Crampel 18s. 100, £8 1,000; Silver, Bronze and Gold Leaf, Marshal Valient, rich rose colour, all at 14s. 100; Salmon Crampel 20s. 100; carriage paid for cash.—WILLIAM DAY, Crowborough, Sussex

WALLFLOWER.—The Vulcan and Golden Monarch, clean and sturdy plants, 2s. 100, 8s. 6d. 500, 15s. 1,000, carriage paid.—P. AQUATIAS, The Nurseries, Stockport Road, Timperley, Cheshire.

FLOWERS AT XMAS. — MORLE & CO. offer DUTCH HYACINTHS, extra first size, named, specially prepared for Christmas flowering, 9s.; Roman Hyacinths, extra extra 1st size, 6s. and 5s.; Narcissi, P.W.G., 2s.; Freesias, extra 1st, 1s.; Hyacinths for Vases, etc., 2s. 6d.; all per dozen; full list free. Immediate delivery.—150-156, Finchley Road, N.W.

HYACINTHS FOR CHRISTMAS, Red, Pink, Blue, White, Yellow, 2s. 6d. doz. Immediate delivery; limited supply. Bulb Catalogue post free.—ELLISON, West Bromwich. Established 1898.

CINERARIAS.—Storrie's Invincible strains, strong seedlings, direct from seed-beds. Giant-flowered, mixed, 9d.; white, 1s.; rose, 1s.; scarlet, 1s.; Marguerite-flowered, mixed, 9d.; Cactus-flowered, 9d.; Starry-flowered, 6d.; all per doz. Cheaper by the 100. Advanced plants, fit for 4-in. pots: Giant flowered, mixed, 2s. 3d.; white, 2s. 6d.; pink, 2s. 6d.; scarlet, 2s. 6d.; Marguerite-flowered, 2s. 3d.; Cactus-flowered, 2s.; Starry-flowered, 2s.; all per dozen. Cheaper by the 100. Carriage paid on orders of 7s. 6d. value. Calceolarias, Primulas, etc., see Catalogue. STORRIE AND STORRIE, Glencarse, Perthshire.

ROMAN HYACINTHS, 3s., 4s. doz.; Paper White Grandiflora Narcissi, 10s. 6d.; Double Romans, 9s.; Freesias, 3s., 5s. 100; Bedding Hyacinths, 17s. 6d. 100; Catalogue free.—ELLISON'S, West Bromwich.

"ROCK GARDEN PLANTS, Where and in What Soils to Plant Them," a useful guide to garden lovers, with catalogue, 48 pages, post free. —G. R. PHIPPS, Alpine Nursery, Barnham, Bognor.

ORCHIDS for disposal; a small collection of several kinds, about 250 plants. — THOS. DENNY, Down House, Blandford.

BULB LIST for present season has been posted. If not received, please send postcard to T. SMITH, Daisy Hill Nursery, Newry.

CYCLAMEN PERSICUM.—We have to offer a grand lot in bud and forward bud in 3½ in., 5 in., and 6in. pots. H. B. MAY and SONS, Ltd., Chingford, E.4.

SPIRAEAS for winter flowering; good clumps for October delivery.

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Japonica / Astilboides floribunda	1s.	10s. 6d.
Peach Blossom / Queen Alexandra	1s. 6d.	15s.

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PLANTS, &c., WANTED.

WANTED, choice Fruit, Flowers and Vegetables, best market prices returned.—MORLE & CO., 150-156, Finchley Road, N.W.

WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free.—SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

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4 VOLUMES of *Cassell's Dictionary of Practical Gardening* and Beckett's *Book of Vegetables*, as new, 25s., or offer.—WAITE, 4, Lochaber Road, Lee, S.E.

WANTED, unbound copies of *The Gardeners' Chronicle*, for the first half year of 1917, complete or incomplete.—Write, E. F. B., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

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Hexagon Wasp Netting — the most Effective Protection for Vineries, etc.

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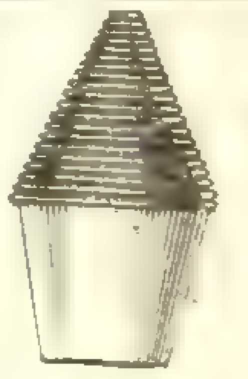

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Huge First Size	10/6	1/6
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Schizanthus Dwarf Hybrids	**per pot 2/- and 1/-**
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£11 10s. per ton, carriage paid.

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ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Makers for all kinds of Horticultural Buildings Heating Apparatus and Boilers.

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SOW NOW.

Schizanthus, Jefferies Wisetonensis Strain.
The best strain of Schizanthus in cultivation. Habit of plant, compact. Flowers large, of great substance, and with a lovely range of colours, containing many beautiful shades of pink, crimson, amber and gold.
Per packet **1/-** and **2/6.**

Calceolaria, Cotswold Hybrid.
A plant unequalled for giving a display of bloom during April, May and June. We have much improved the range of colours, and besides the glorious gold and lemon shades, our strain now contains a range of bronze, orange, pink and crimson colours.
Per packet **1/6** and **2/6.**

Schizanthus retusus. Pink Beauty.
Delicate rose pink. An excellent plant for decoration or for cut bloom, the blooms resembling a well-formed spray of a good Spencer Sweet Pea of this colour.
Per Packet **1/-**

Cineraria stellata.
Finest mixed shades of delicate pink, Oxford and Cambridge blue, pure white, etc. Per packet **1/-** and **2/6.**

Each of the above may be easily grown in just sufficient heat to keep out frost, and well grown plants will give a display of bloom unequalled by any other four plants in cultivation.

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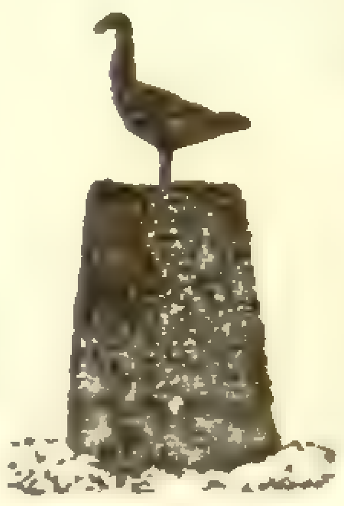

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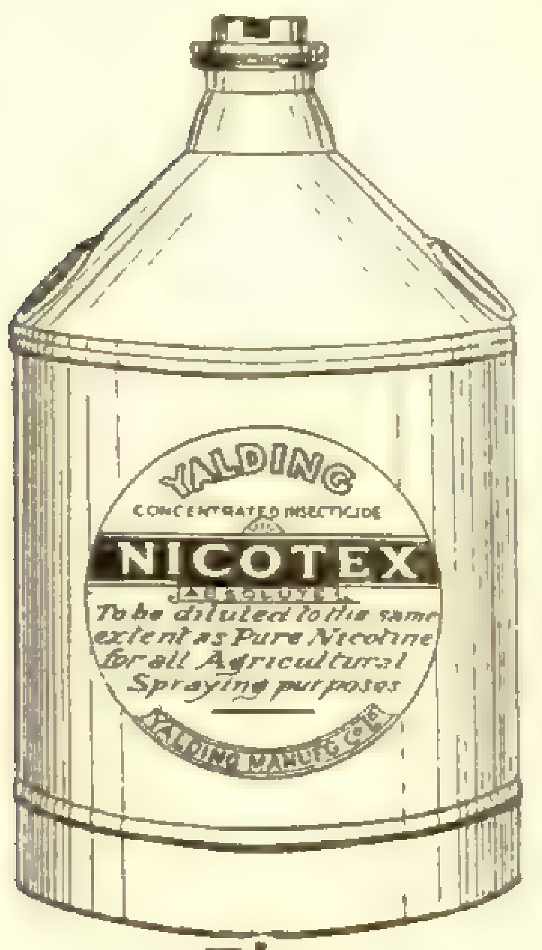

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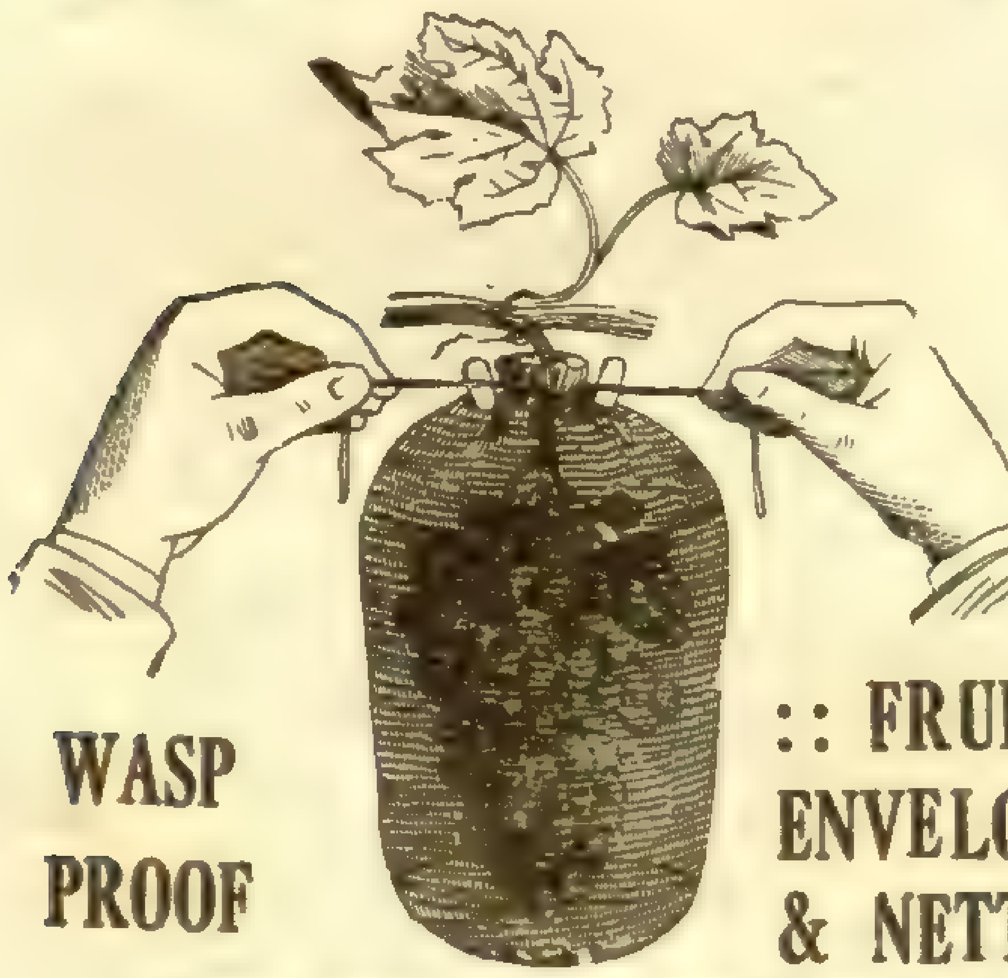

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THE
Gardeners' Chronicle
No. 1706.—*SATURDAY, SEPT.* 6, 1919.

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.*

No 6.—In the Valleys.

THE differences of conditions here are acute: there is only a walk of four hours between Primula bella and Dendrobium nobile, with Edelweiss all over the place, in the region, not of the Primula, but of the Dendrobium. On the Chinese side, the country, besides being very much drier and more cultivated (rain is said to be a rarity in the Salween Valley, immediately down below the Hpimaw Pass) is also very much more open and larger in its lines. On this side the mountains fall sharply in deep skirts of rain-forest towards hot, grassy valleys and hill-spurs clothed all over in Bracken, where, however much one may realise the tearfulness of this climate, the effect and look is of a Mediterranean dryness. These valleys, botanically, are dull; the park-like slopes are dotted with Oak and Alder and Pinus longifolia, but there is scant hope, down there, of either beautiful or hardy plants or shrubs.

The forest, too, up above, is surprisingly lacking in incident—a vast mantle of uniform green, deep and sumptuous, cloaking and concealing the pitiless depths of the ravines with which the range is cloven. The alpine zone yields most of the lovely Rhododendrons; the others lurk under the forest and cannot be seen from a distance. Only the Magnolias break the sombre uniformity of the view. Of these I have already mentioned the three early ones, but summer brings yet more to light. In the valley below is a small and very floriferous tree, which so far I know only by repute; and two more occur about the Fort. Both are tall trees; the one has small foliage, and rather small and flat Gardenia-scented flowers of creamy white, with very conspicuous dust-coloured anthers; the other has gigantic foliage and big, white flowers that exhale the Milan-soufflé scent of M. grandiflora. Both of these are rare, if not unique, specimens. More common, though never abundant, is the third and finest of all.* This is a tree-Magnolia that occurs in the forest at 8,000 feet, descending, rarely, as low as 5,000 feet. It should assuredly be hardy (for this climate is English, not tropical), and, blooming in May, it should be quite safe at home. I hope it may so prove, and that I may succeed with its seeds. The flowers are large and of the most perfect shape and scent, while their typical colour is of a clean, rich rose-red, quite free from the chalky tone that mars the roseate forms of M. Campbellii. Its buds, too, have a contrasting beauty, being of a bloomy, velvety black-purple; their segments persist, and largely retain their colour, stiffly reversing under the upstanding goblet of the blossom. Occasionally the flowers vary to paler pinks and creamy white; the petals have a tendency to flop as the bloom grows old; and the only other fault of this glorious tree is its production of abundant blossoms sporadically over a long period rather than in one unanimous burst of splendour.

Another race very well represented here is Vaccinium, which now solves the problem of the many Forrestian numbers labelled "Vaccinium sp." Indeed, they are of all shapes and sizes—the Whortleberries of these parts. The open, upper alps are sheeted, heather-fashion, in the bronzy shoots of a tiny species with charming Lily-of-the-Valley bells; while a little lower down its place is taken by a coarser, arching kind, of a foot or more in height, with bunches of pinky-white blossom. This ought to be admirable for covert; while yet others live parasitic on trees, in dense, glossy bushes. But the glory of the race are the tree-Vacciniums that begin at about 8,000 feet and descend to the valleys. One of these blooms very early, and one has very pure little Lilies-of-the-Valley; but the finest is a tree which dots the Brackened slopes of Hpimaw Hill, and carries stiff, flat sprays loaded with long tubes of white in dense ranks, while the most pleasant is another tree of much more irregular habit, with twisted, untidy boughs, bearing a profusion of snowy bells of delicious fragrance. The race, perhaps, is not one of overpowering interest; but if the best of these could be introduced, and answered to cultivation, they would certainly prove very notable additions to the shubbery.

I cease to trust the plants of this region as soon as I reach the valley-depths, but there is a Derris or Wistaria overhanging the beck below Hpimaw, which is a tantalising delight, with its curtain-fall of long, close, pale-purple tails which have a most intense and pervading scent. Yet what hope can one have of things that grow cheek by jowl with Dendrobium nobile? All the same, I think we might even dare be bolder with this Dendrobium, at least in the gentler regions of England, and on tree-branches open to the sun, yet not to the extremes of the furious winter's rages. In the lower Ngaw Chang valley hardly a tree is without its Dendrobiums; and on one series of bare precipices there were noble masses of it, showing a wide variation in size and colour. The Brambles, too, mostly belong to the valley region, and are now in fruit there—another fact which makes me sceptical of their fruiting well at home. None, however, beat Rubus Idaeus, so the loss is little. Several, though, are pleasant to the taste, and would be good additions to the kitchen garden, as also would be the universal Strawberry of these parts—a flattish fruit of pure white, which, though insipid when raw, keeps its shape admirably in jams and stews. Insipid, too, is the very handsome, great crimson fruit of the only Rubus here, that also owns handsome flowers; another is faintly sickening until dead ripe, but then delicious; and several more are yet to fruit.

The one diversion, though, in the general dulness up these hot green valleys is the unparalleled glory of Lilium Wallichianum. This stately Lily abounds all over the westerly facing Brackened slopes, just carrying its pure or ivory-white trumpets clear of the Fern, and providing a spectacle of exhilarating sumptuousness as you trudge the weary length of the track, with nothing else but Jasmines and Gesneras and Begonias and Rhododendron indicum, and other such hot-land stuff to cheer the way. Of two prevalent Lilies here, L. Wallichianum is the lower in range, not ascending beyond Hpimaw Fort (7,800 feet), at which point only L. nepalense, usually held the tenderer, may be said to begin. All the same, I should have good hope that home-raised seedlings of L.

Fig. 61.—Magnolia sp.; Farrer's No. 903.

* The previous articles by Mr. Farrer were published in our issues for June 21, June 28, July 12, August 9, and August 23.

* Magnolia sp. F. 903.

Wallichianum ought to succeed perfectly with us, and all the better, perhaps, if grown at home on some raking slope among fern or Bracken, planted deeply in a rich vegetable soil. The one drawback of this superb Lily is its scent, which is not only overpowering, but overpoweringly sickly and sickening. *Reginald Farrer.*

ORCHID NOTES AND GLEANINGS.

DISAS IN LEAF-MOULD.

We have read the interesting note on "Disas," by Mr. H. J. Elwes (pp. 101-102), and have pleasure in giving the following particulars of the culture of these Orchids as carried out by us. We grow our Disas in the north end of a span-roofed Odontoglossum house that runs north and south. Previously they were grown in the south end, and did equally well there. We used to pot them in turfy-loam, leaves, moss and A1 or Osmunda fibre, and they grew quite satisfactorily, but the loam seemed to be rather heavy, and the roots preferred to go round rather than through it, so we reduced the amount, and eventually eliminated it altogether from the compost used at successive repottings. We have grown our Disas in pure leaf-mould for two years, but do not say that they have grown any better than previously. They were in very good condition when we took them over from Messrs. Jas. Veitch and Sons in 1913, who used a mixture similar to the one described above.

The leaf-mould we use is collected locally in a dense wood, and is formed by the fall and decay of the leaves through many years, and is chiefly composed of Beech leaves, but with a sprinkling of Oak and Fir. This is a sweeter mould than that made by dumping swept leaves into a heap. We repot our plants every September, when we shake the plants from the old compost and grade the tubers, placing two or three of the larger ones that are likely to flower together in one pot. The smaller tubers that promise to make leaves only we grow more closely together. We pot very firmly and surface tightly with Sphagnum. To this firm potting in leaf-mould such success as we have with Disas may in a good measure be due. Loose potting in leaf-mould, followed by a loose surfacing with moss would be an impossible arrangement, as the first soaking—and soakings are necessary sometimes—would turn the mixture into a small quagmire that would take too long to dry out to prove healthy for the tubers and roots. We put in a moderate amount of drainage material and cover it with moss.

Our Disas have to put up with the temperature provided for the Odontoglossums, and we do not like to see this below 45° at any time—we endeavour to keep it at 50° during the winter—but we are satisfied that a much lower temperature would suit the Disas better. They receive no side ventilation. The house is ventilated at the top and in the brickwork over the pipes, and the plants seem to be satisfied with this. But here again it is the Odontoglossums that are considered first.

Mr. Elwes writes that Disas may gradually lose their constitution in this country and must be grown from seed, but our experience hardly points that way. It is too soon in this respect to speak of D. Blackii and D. Italia, as they are two of our novelties of recent date, but D. Luna gives no indication of losing its constitution, and it must be nearly 20 years since this was raised by Messrs. Jas. Veitch and Sons; we have not again raised it from seed, nor have we heard of its being raised elsewhere in this country. Our stock is in direct succession from the original D. Luna, and the conclusion is that a plant that preserves its vigour for 20 years, and one that is continually renewing and multiplying itself, will go on doing so, almost indefinitely, given the right kind of treatment. We have the experience of individual plants collapsing, and these not necessarily the weakest, but this we have always regarded as due to accidents attending the pot culture of any plant, although we have to admit that these "accidents" are more frequent among Disas than among our other plants.

We have distributed a good many Disas; in fact, our stock has been greatly reduced this season. But our correspondence with reference to Disas has not always been happy, and whether it is due to the grower or locality, or whatever it may be, there is no denying that Disas are capricious and fickle in the extreme. *Flory and Black, Orchid Nursery, Slough.*

With regard to Mr. H. J. Elwes' remarks on "Disas in Leaf-Mould" (see p. 101), and his statement that "no one as yet seems, so far as I know, to be able to succeed with them for many years together"—I wonder if he knew the late Sir Paget Bowman's collection at Joldwynds, Dorking? The gardener there, Mr. Cornish, grew Disa grandiflora for many years successfully from the same stock; I cannot say how many years, but certainly twenty. The plants showed no signs of deterioration in quality of bloom or in constitution. They were grown in a house which was naturally moist and a green growth would rapidly appear on the back wall, despite scraping and lime washing. The Disas were grown in pots placed on slate slabs. The cultural details were similar to those as stated to be the principal points by Mr. Elwes, but plants were generally repotted every year in the autumn, and the potting compost was mainly peat, no leaf-mould or loam, and the soil was surfaced with living Sphagnum moss. During the resting period, that is after flowering, the Disas were placed out of doors in cold frames, within the enclosure of a disused swimming bath, which was a very moist and shady position. I understood that some years before I went there as inside journeyman to Mr. Cornish, he grew some of the same stock in beds out of doors. *H. Millen, Osney Lodge, South Godstone.*

DISA BARELLII.

In repy to Mr. H. J. Elwes, who admirably sets forth the case of Disa culture in *Gard. Chron.*, August 23, p. 101, I can say that the form of Disa grandiflora (uniflora) called D. Barellii, was figured in the *Floral Magazine*, 2nd Series (1874), t. 104. The accompanying remarks state that it was imported by Mr. William Bull from the Transborck Mountains, Cape of Good Hope, and that the specimen illustrated was flowered by Mr. Vair, gardener at Dangstein, the seat of R. H. Nevill, Esq.

What appears to be a copy of the *Floral Magazine* figure, slightly reduced, was given in De Puydt's *Les Orchidees* (1880), t. 18, p. 275, with the remark that it differs little from D. grandiflora except in having a yellow base to the colouring of the odd, galeate, sepal, instead of whitish rose. I have imported D. grandiflora from several localities in South Western Cape Colony, and this form appeared with those imported from the Tulbagh locality. Colour variation in the odd sepal in the plants from all localities is very common. *Jas. O'Brien.*

ODONTIODA SMILAX.

A graceful inflorescence of twenty-three flowers, each two inches across, and produced by crossing the elegant, small-flowered Odontoglossum aspidorhinum and Cochlioda Noezliana, is sent by Pantia Ralli, Esq., Ashtead Park, Surrey (Orchid grower. Mr. Farnes). In this, as in many other instances, the dominance of the distinct species C. Noezliana, in colour and form, is well demonstrated, the narrow, linear segments of O. aspidorhinum, and the decided, dark markings being entirely suppressed, the comparatively broad sepals and petals, and the uniform light cinnibar scarlet of C. Noezliana prevailing. The distinctly three-lobed labellum with its yellow crest succeeds in overcoming the fimbriation of the basal part of the lip of the Odontoglossum, which, however, show slightly in the thickened substance of the side lobes. The inflorescence has one basal lateral, which indicates that when mature the plant will bear a branched spike.

NEW HYBRIDS FROM BLENHEIM.

Mr. J. T. Barker, Orchid grower to the Duke of Marlborough, Blenheim Palace, Woodstock, sends the first flowers of three worthy novelties raised at Blenheim. *Brasso-Laelio-Cattleya Sunstar:* Raised by crossing Brasso-Laelia Helen (B. Digbyana × L. tenebrosa) and Cattleya Fabia Leonora (Dowiana × labiata); the result is a flower eight inches across, cream colour, tinged with rose, the broad labellum being clear rose with a fine network of gold lines from the base to the centre. The only defect is the rather narrow sepals and petals inherited from the L. tenebrosa parent. *Cypripedium Capablanca:* This is the largest and finest of its class which we have seen. It was obtained between C. Milo (insigne × oenanthum) and C. Harrisianum superbum (villosum × barbatum). The flower, which is six inches across, has a fine dorsal sepal nearly three inches wide, chocolate-purple at the base, rose above, and pure white at the margin. The broad petals and lip are mahogany-red with dark spotting on yellow ground at the inner half of the petals, the margins being shaded with yellow. The substance of the flower is very thick, and the surface glossy. *Sophro-Laelio-Cattleya Exquisita:* This resulted from crossing S.-C. Atreus (C. Lawrenceana × S. grandiflora) and L.-C. highburiensis (L. cinnabarina × C. Lawrenceana) and the three-flowered inflorescence sent shows that C. Lawrenceana sets the colour which the L. cinnabarina, while checking the size of the flower, intensifies. Sepals and petals rosy-mauve; lip, claret crimson with yellow base.

TREES AND SHRUBS.

THE PENDENT SILVER LIME.

In early August there is probably no tree growing in our gardens that is so fragrant as the Pendent Silver Lime (Tilia petiolaris). For this alone it is worth its place, and when to this charm we can add those of a beautifully graceful habit and foliage of a vivid, silvery-white beneath, it becomes difficult to find a Lime with so much to recommend it. Never has the inferiority of the common Lime as a garden tree been more obvious than during the hot dry days of August this year. Many trees were already losing their leaves and nearly all the foliage was black with filth, whilst the foliage of T. petiolaris was perfectly fresh and clean. The origin of the tree is not definitely known and there appears to be no clear evidence of its existence in a wild state. Prof. Henry regards it is a sport from T. tomentosa, to which it manifestly has much affinity. Still, the differences in habit, length of leaf-stalk, and in shape of fruit, seem too marked to be accounted for by mere sporting. Probably the finest tree in the environs of London stands near the house at Aldenham, and there is also a good one near the Cactus House at Kew, from which the flowering twig now illustrated (see Fig. 65) was gathered. The flowers, some years perhaps more than others, are poisonous to bees, which are often to be found lying insensible beneath a tree in bloom, and frequently they do not recover. *W. J. B.*

CARYOPTERIS MASTACANTHUS.

Given a warm, sunny autumn, Caryopteris Mastacanthus is a delightful flowering shrub. It forms a bushy specimen of a deciduous nature, and the young shoots, leaf stalks, and the undersides of the leaves are clothed with a greyish felt-like material. The flowers, borne in rounded clusters from the axils of the leaves on the upper parts of the shoots, are of a pleasing shade of violet blue. C. Mastacanthus is a native of China and Japan, and was first introduced by Robert Fortune in 1844. After that, however, it would appear to have disappeared from British gardens until reintroduced by Mr. Charles Maries when he was travelling in the East on behalf of Messrs. Jas. Veitch and Sons. For its successful culture this Caryopteris needs an open, well drained soil, and a warm and sunny position. Propagation is readily effected by means of cuttings inserted in pots of sandy soil and placed in a close propagating case. This shrub formerly grew and flowered well on the slopes of Coombe Wood Nursery, and during my last visit there, several years ago, it was particularly noteworthy. There

is a form with white flowers, but this is not so attractive as the type. *W. T.*

HYPERICUM CORIS.

DESPITE the flood of introductions of new plants there are some species which have been in cultivation for years, yet still remain high in the estimation of those who know such flowers well. Included among the number of these old subjects is Hypericum Coris, which was introduced from the Levant as early as 1640, and has always been held in high esteem by those who delight in Alpine flowers.

It is a charming little plant indeed, growing about 6 inches high and carrying for some time in summer a number of beautiful, golden yellow flowers with the characteristic beauties of the best of the smaller St. John's Worts. H. Coris is not at all difficult to cultivate, so far as soil and position are concerned, but, like some others of its allies from the south, it is not absolutely hardy enough to withstand some of our winters. Possibly the damp and frost combined are too much for it, and it is always safe for those unwilling to lose it outright to keep a young plant or two in a frame if their gardens are not highly favoured in the way of climate. In seaboard gardens, even well north, and in the south and west of England and Ireland, it is generally hardy if grown in rather dry soil.

H. Coris is easily raised from seeds, sown, in the ordinary way adopted for raising hardy perennials, in pots under glass. Pricking out the seedlings ought to be performed as soon as they can be handled and the young plants may be wintered in a frame. I find H. Coris does quite well in either sun or shade. It is excellent in a wall garden. *S. Arnott.*

TAMARIX PENTANDRA.

THE common Tamarisk is a shrub of very accommodating nature and is justly valued as a hedge or screen plant for positions in close proximity to the sea. Regarded solely from a flowering point of view, one of the most attractive members of the genus is Tamarix pentandra, a native of South-Eastern Europe and Asia Minor. This has been distributed under the name of Tamarix hispida aestivalis, and another synonym is T. Pallasii. T. pentandra has the plumose habit of growth common to the other members of the genus. The flowers, which are borne in slender, branching racemes, are very small, but are produced in the greatest profusion during the month of August, or even later, when so few hardy shrubs are in bloom. The floral colouring is a very pleasing shade of rose-pink —an uncommon tint among flowering shrubs. When planted in a large bed, or in a mass, this Tamarisk is seen to greater advantage than as isolated specimens. If pruned hard each winter it will throw up those long, slender branches which yield such a glorious display when summer is on the wane. Like the common kind, T. pentandra is quite hardy and can be readily increased by means of cuttings. *W. T.*

THE BULB GARDEN.

PANCRATIUM ILLYRICUM.

THIS is the hardiest of the Pancratiums for the garden, and were it better known would be much more frequently cultivated. As it is, it suffers because it is one of a genus which possesses few really hardy subjects among its species. It is highly pleasing with its fine leaves and white flowers which are of more than usual beauty. It should have a light soil, but one not too dry underneath, so that its roots may reach some moisture if desired, though with the bulb rather dry. Still, it is not too particular, and will do well in sandy soil, if planted at a depth of six to twelve inches and covered with litter the first winter after planting. After that it will generally take care of itself, especially if the old foliage—its natural protection—is left on until danger from frost is past. It is not expensive to purchase, though more costly than P. maritimum, which is not so hardy. Both these Pancratiums make good pot plants for the conservatory. *S. A.*

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante pp. 64-70.)
(*Continued from p.* 116.)

MIDLAND COUNTIES.

NOTTINGHAMSHIRE.—There was a wonderful display of bloom on all fruits. Apples are the only good crop we have. Plums all fell off and very few Damsons are left. We had no bees and very few insects about at blooming time, so that pollination was probably defective and the dry weather in May caused much of the fruit to drop, especially in the case of Black Currants. In a few places there are fair crops of Victoria and Czar Plums. *J. R. Pearson and Sons, Lowdham.*

—— Apple trees were very beautiful when in bloom, and the weather was dry all the time, with no frost. However, the caterpillars started business before the fruits were set and did a great deal of damage before we could spray. *Thomas Simpson, The Gardens, Newstead Abbey.*

—— In this neighbourhood fruit trees were severely attacked by caterpillar when they were in flower, but a vigorous spraying with arsenate of lead saved the crops, although the first leaves on the trees were badly riddled. Where spraying was not done the crop is very poor. There were no frosts to interfere with the fruit crops. The district generally has suffered from the drought and crops of all kinds have suffered therefrom, *James Gibson, Welbeck Gardens, Worksop.*

OXFORDSHIRE.—I attribute the failure of our Plums to the severe weather when they were in bloom. Trees on the south wall suffered considerably more than those on the north wall—the latter being later in flowering. Apricots, Peaches and Nectarines all suffered from the same cause. Crops are somewhat light and very little thinning has been necessary. *E. C. Kinns, Blenheim Gardens, Woodstock.*

—— Apples in this district promise very well and will produce an average crop of good fruit. Plums and Pears seem to have suffered from the prolonged drought and the severe attacks of insect pests, but now we have the trees clean the fruit is swelling well. Cherries are a complete failure; Peaches and Apricots are giving about half a crop. Bush fruits were abundant and good. The drought had a very bad effect on Strawberries, which were small and soon over. *Ben Campbell, The Gardens, Cranbury Park, Charlbury.*

—— Apples, Raspberries, Currants and Gooseberries carry heavy crops. Late Strawberries failed to swell owing to the dry weather. Early Rivers Cherry has done well, and later kinds are promising well. Apricots flowered well but few fruits resulted. *C. E. Munday, Nuneham Park Gardens, nr. Oxford.*

—— Plums and Cherries (excepting the Morello variety) are a failure here this season. These set well (apparently), but all or most of the fruits dropped as a result of the dry weather. Pears are an uncertain crop, some varieties have failed entirely, whilst Durondeau, Beurré d'Amanlis, Beurré Hardy, Pitmaston Duchesse and Glou Morceau, are bearing fair crops. Apples generally are a good crop. Small fruits were abundant and good. Strawberries have been good and gave a much heavier crop than in 1918. *Frank J. Clark, Aston Rowant House Gardens, Wallingford.*

FIG. 62.—LILIUM WALLICHIANUM AT HOME (see p. 125).

—— With the exception of Pears, all fruit trees were a mass of flower last spring, but we have poor crops of Apples and Plums. This is probably due to two things, (1) the very dry hot weather when the trees blossomed, (2) the wood not being well ripened last autumn—as it will be remembered we experienced a cold, wet period. *A. J. Long, Wyfold Court Gardens, nr. Reading.*

WARWICKSHIRE.—The most satisfactory crops this season are Apples and Pears. The choicer varieties of Plums have set very badly although the trees were laden with blossom. Victoria Plums are bearing heavy crops. Apricots have the worst crop for some years. Small fruits were very plentiful and of good quality. *H. F. Smale, The Gardens, Warwick Castle.*

—— After the wealth of bloom and the generally good promise of the spring the fruit

crops are exceedingly dissappointing. *B. H. Martin, Moreton Paddox.*

—— Strawberries promised a good crop, but owing to the exceptionally dry weather they failed to mature. The soil is very light over a sandy subsoil. *Burton Gaiger, Wellsbourne House Gardens, Warwick.*

SOUTHERN COUNTIES.

BERKSHIRE.—Strawberries set abundantly, but the fruits failed to swell properly owing to the dry weather; our best late variety this year was Utility. Apples are clean, Cherries are good, and all bush and small fruits were good, Raspberries giving a very heavy crop. *A. B. Wadds, Englefield Gardens, Reading.*

—— The early promise of an abundant fruit crop has, in this district, scarcely been realised. Apples are generally a good average crop, but Pears and Plums suffered from the severe weather at their flowering season. Peaches and Nectarines are good and plentiful. Of small fruits Raspberries and Strawberries suffered from the prolonged drought. Gooseberries and Currants gave a good average crop.—*J. Howard, Benham Valence Gardens, Newbury.*

—— Owing to the severe weather we experienced in January, February and March, the flowering season of fruit trees was late. Fine weather was experienced in April, only 2° of frost being registered. Crops looked promising until the middle of May, when dry weather set in. The Strawberry crop had a severe check and only half the fruits came to maturity. Small fruit were plentiful, but the quality was under the average. *J. Minty, The Gardens, Oakley Court, Windsor.*

DORSETSHIRE.—The Apple crop is exceptionally good and the trees very clean; no variety has failed. Early in the season we had an attack of American Gooseberry Mildew, but it did not spread. *W. E. Axford, The Gardens, St. Giles, Salisbury.*

—— Apples promise a very good crop in very many varieties. Plums and Damsons are giving a rather poor crop. Pears are good, especially William's Bon Chretien, Beurré Diel, and Glou Morceau. Of Cherries Morello is good, the others have no crops. Gooseberries, Currants, and Raspberries were good and Walnuts are very promising. *Thos. Denny, Down House Gardens, Blandford.*

HAMPSHIRE.—We have a heavy crop of Apples and the fruits are clean and swelling well. We suffered little from caterpillar attacks; the most noticeable pest was the Lackey moth. Aphis is present, but only in a slight degree. The trees are making vigorous growth, and on the whole the crops are very promising. Plums are scarce as the blossom suffered from frost. *E. Molyneux, Swanmore Park.*

—— All fruit crops are good, and the trees especially clean and free from aphis and caterpillars. All small plants have cropped abundantly. Strawberries have been of excellent colour, finish and flavour; the varieties grown here are Royal Sovereign, Reward, International, British Queen, Utility, Givon's Late Prolific and Laxton's Latest. Ours is a particularly good Strawberry soil, being a retentive loam overlaying clay. The average rainfall is 40 inches per year, and the height of the garden above sea level is 550 feet. *A. W. Blake, Castle Gardens, Highclere, Newbury.*

KENT.—Apple trees are cropping well and the fruit is very clean owing to dry weather in May and June. Cox's Orange Pippin is remarkably fruitful here. *E. A. Bunyard, Allington, Maidstone.*

—— Early in the season the prospect of an average crop of most kinds and varieties of fruits was good, but with a rather severe attack of caterpillar, and a heavy fall of snow accompanied with cold winds, the outlook is very poor for hard fruit. Strawberries have been good, but a poor crop. Raspberries were a splendid crop and several tons of grand fruits were dispatched daily to London. Gooseberries and other small fruits have had heavy crops of splendid fruits. Peaches and Nectarines out-of-doors suffered severely from the effects of wind and snow when in full bloom. There are some really good crops of Apples in this district and on the whole I think the general average will be better than last year. Until the rain came our trees were carrying grand crops of Apples, but after heavy rains, following the period of hot and dry weather, they have "run down" (as we say in Kent) to such an extent that we shall have only a poor crop. I suppose the fall of small Apples about the size of a Walnut may be attributed to the rush of sap caused by a heavy fall of rain after the drought. *J. G. Woodward, Barham Court.*

—— The fruit crops are very erratic and in certain places there were no Black Currants, Strawberries, Gooseberries or Cherries. With us Sweet Cherries have never been finer. Apples are only half a crop. *J. T. Shann, Betteshanger Park Gardens, Deal.*

—— Apples of almost every variety are cropping very much in excess of average. Most

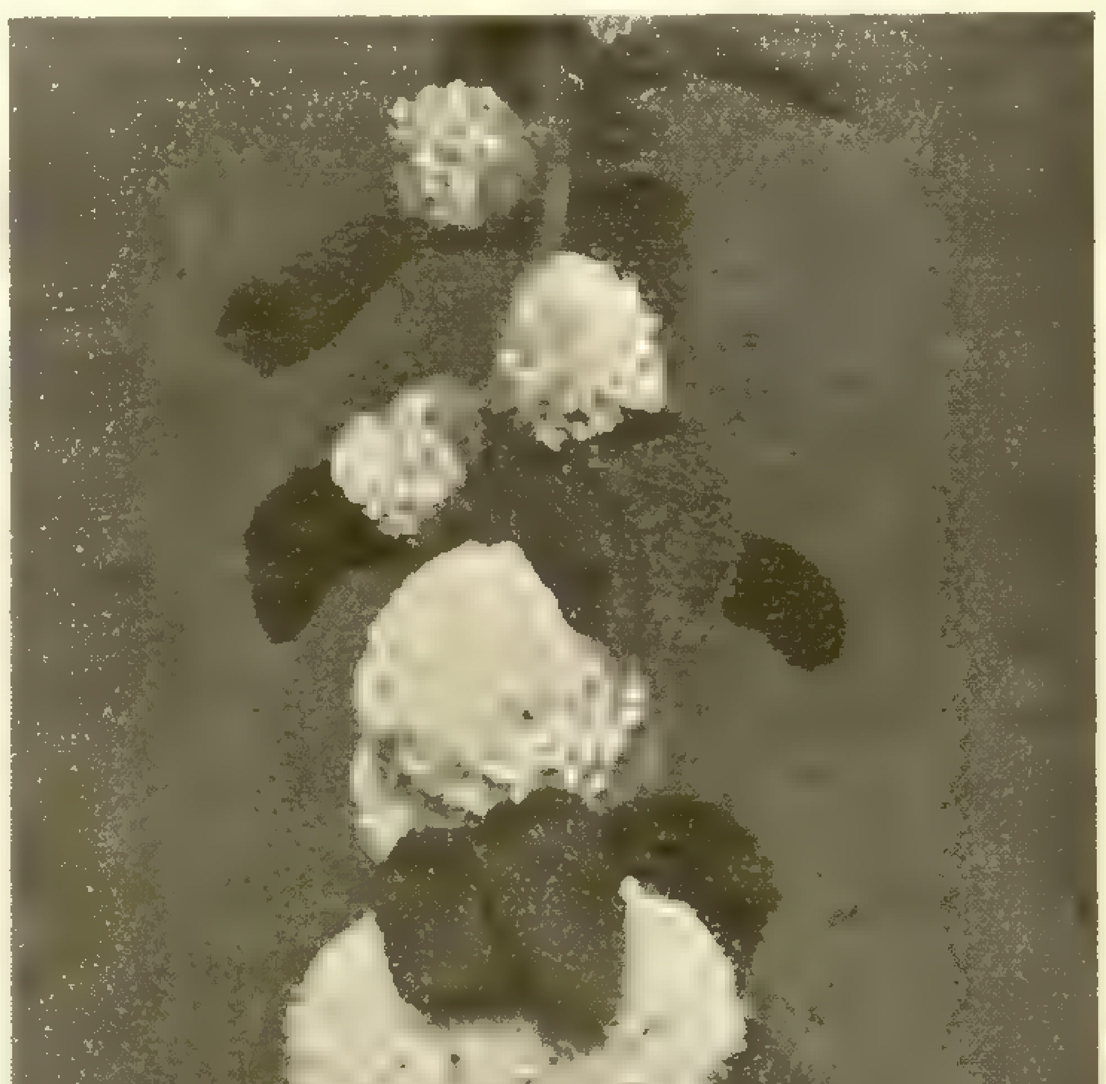

FIG. 63.—HOLLYHOCK LADY BAILEY
R.H.S. Award of Merit, August 26. (See p. 120.)

varieties of Pears have poor crops, but every tree of Doyenné du Comice carries a very large crop. Gooseberries were a record crop, and so were Red Currants but the crop of Black Currants was under the average. Strawberries, freely watered, gave a large crop but the fruits were not of good size. Damsons have a very poor crop. *C. E. Shea, The Elms, Foots Cray.*

—— The Strawberry crop was the best we have had for some years. The weather being hot and dry, the crop was picked in the best possible condition. The soil here is of a heavy retentive nature and withstood the drought better than light soils. Gooseberries gave excellent and bountiful crops. *J. G. Weston, Eastwell Park Gardens, Ashford.*

(*To be continued.*)

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Pleione.—These have finished their season's growth, and now that the leaves are decaying, scarcely any water will be needed at the roots. At the same time the potting material should not be allowed to become dust dry, but kept just moist until the flowering season is past. P. humilis is often a little later than the others in finishing up its growth, and may still need a fair supply of water at the roots.

Seedling Cypripediums.—Seedlings that have filled their pots with roots may with advantage be given a shift at this season. The cooler and more moist atmospheric conditions induce quick growth and free root action. Those plants that are fast approaching the flowering stage will benefit by having a more substantial compost than hitherto. Add a little more fibrous loam to the potting mixture, but sufficient peat, or A.1 fibre, and Sphagnum-moss must be mixed with it to give elasticity to the bulk, and so prevent it settling into a close and heavy mass. The pots must be well drained, and the crocks covered with a layer of moss, which will make it impossible for the soil to be washed down amongst them before the roots obtain a good hold of the compost, after which there is no fear. Small seedlings might also be removed from the beds on which the seeds have been sown, pricking these out separately, or several in a pot. The best rooting material for these is one consisting of equal parts of clean, chopped Sphagnum-moss and fibrous peat and loam, with all the fine particles shaken out. Place the soil moderately firmly in the pots, and to encourage the small seedlings to take root-hold quickly and without check they must be given a warm, moist and shady position, where the rooting materials will keep moist with infrequent waterings and spraying overhead.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Propagating.—No time should be lost in preparing the stock of cuttings to provide plants for next season. Sufficient cuttings may be taken from Pelargoniums without disfiguring the beds. Fill well-drained pots or boxes with sandy soil; press the latter firmly and insert the cuttings; give a thorough watering to settle the compost round the stems and stand the boxes of cuttings in a sunny position. Insert plenty of cuttings of Heliotrope, Verbena, Ageratum, Fuchsia, Petunia, Salvia and other summer-flowering subjects, and place them in close frames.

Herbaceous Borders.—Carefully examine all plants in the borders and remove decaying blooms and old flower stems. Stake and tie plants needing support, and keep Dahlias and all other tall growing subjects well supported in order to prevent breakage during windy weather. Most of these will be improved if given liquid manure at the roots, at intervals, during dry weather.

Carnations.—Rooted layers should be lifted carefully with ample soil about their roots, and transferred to open beds or planted in borders previously prepared for them. Land deeply dug, containing plenty of grit, suits Carnations if made moderately firm. Plant firmly after dressing the land with some fresh soot. Surplus plants should be planted in nursery beds, either for making good any losses that occur or for transplanting next spring; keep the varieties correctly named so as to prevent trouble and disappointment later on. Very choice varieties may be placed in small pots and wintered in cold frames.

Dwarf Roses.—These are promising a fine crop of late flowers, and as the rainfall has not been

sufficient to thoroughly moisten the roots, give large supplies of water without delay. Liquid manure will greatly benefit plants in poor, shallow soil. Guard against mildew, and spray the bushes with a suitable fungicide, or dust them with sulphur.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Radishes.—Winter Radishes, where appreciated, should be sown in light soil. Black Spanish and Sutton's Rose are excellent varieties.

Cauliflowers. — Autumn - raised Cauliflowers come into use earlier than those sown in spring, provided the seedlings are sheltered in frames during the late autumn and winter months. Seeds should be sown at once in well-prepared soil, and an open, sunny site. Dress the surface of the soil with lime rubble and burnt garden refuse, draw drills 8 inches apart, sow the seeds therein and cover them with fine soil. Water the drills if the soil is dry, and net the seed bed as a protection from birds. When the seedlings are large enough to handle, prick them out 3 inches apart, in the cold frames, in a bed of prepared soil 4 inches in depth, overlaying a base that is well drained. So long as the weather remains fine, keep the lights off the frames. The aim should be the production of small, sturdy plants that will stand the winter well, and that will be found quite large enough for planting out by the end of March and April. Good varieties for this sowing are All the Year Round, a good type of Walcheren, Early London, and Magnum Bonum.

Peas.—The seed crops of Peas are excellent this year, therefore every pod of specially selected varieties should be carefully picked and placed in boxes ready to be shelled on the first wet day, and stored in tins or in drawers where mice cannot reach them. In selecting Peas, it is a good plan to choose only the finest pods, thereby maintaining the high standard of the selections When storing seeds, always carefully label the variety.

Tomatos.—Plants to provide a winter crop of fruits will be ready for their final potting; 8-inch pots will suffice, and the compost should consist of three parts good loam and one part of mortar rubble, leaf soil and sand. Pot firmly and place the plants in a light house where air can be freely admitted to promote a strong, sturdy growth

Beans.—Both Runner and French Beans should receive constant attention. Pick the pods as soon as fit for use, remove worthless side growths and keep the roots moist.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Gathering Fruit.—The harvesting of Apples and Pears should be carried out with great care. It is most important that fruits of the long-keeping varieties receive no damage while being gathered and stored. Fruits which fall to the ground will not keep well, nor will those allowed to become over-ripe before they are picked. If Apples and Pears fall readily into the hand when they are lifted to the level of the footstalk, they are ready for harvesting. If the "pips" are black, this is a sign that the fruits are ready for gathering. Peaches and Nectarines will part freely from the tree if sufficiently ripe, but it is a good plan to put a net under the tree, in the form of a loose bag, and line it with wood wool, because, however careful one may be, some fruits will fall, and this method saves them from injury. Fruits of Apples and Pears will not keep well if picked too soon, therefore the crops should be examined frequently, because some fruits will be ready much earlier than the others on the same tree. Late Pears are often picked directly a light, early frost is experienced; this is a great mistake, as both Apples and Pears will not be harmed by a few degrees of frost. The less the fruits are handled, the better; the baskets in which the fruits are placed should be lined with soft material, and comparatively few fruits should be placed in each. Fruits should be gathered when perfectly dry and while they are cool. Fruits of choice Apples and Pears should have wasp-proof bags placed round them and, so far as possible, all fruits should be protected by nets to prevent damage by birds.

Storing Fruit.—As the fruits of Apples and Pears are gathered they should be carefully spread on the racks in the fruit room, and no fruits that are bruised or otherwise blemished should be stored with the sound ones. Openwork racks are best on which to store Apples, and where large quantities of these fruits are grown they will keep quite well if stored in layers five or six deep, provided they are sound. I have piled Apples 2 feet deep and they have kept well. Where a proper fruit room is not available, a shed that can be kept cool will serve, but strong light should be excluded and draught prevented.

FIG. 64.—GLADIOLUS WHITE BEAUTY
R.H.S. Award of Merit, August 26. (See p. 121.)

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Cyclamen.—One-year-old plants of Cyclamen give the best results, and are among the best and most lasting of greenhouse flowering plants. Those raised from seed sown last autumn and established in their flowering pots should be kept near the roof glass and shaded from bright sunshine during the middle of the day. For the present, remove all flower buds that appear. On bright days give plenty of ventilation, but close the house early in the afternoons and give the plants a syringing; in the evening a little air may again be admitted. Water the plants frequently with weak liquid manure, and to prevent thrip, fumigate them occasionally. Old corms that were planted out and are now growing freely should be potted into 7-inch pots, affording them similar soil and treatment to earlier plants. September is a good time in which to sow the seeds for producing next year's plants; sow in well drained pans filled with light sandy soil; cover the seed pan with a sheet of glass, and place it in a temperature 55° to 60°; some seeds germinate much more quickly than others, and allowance must be made for this peculiarity.

Gardenia.—Young plants should now be potted into 6-inch pots with a compost of fibrous peat and loam, with a little charcoal and plant fertiliser added. Grow them in a house with a temperature of 70°, and syringe them daily, fully exposing them to the light. As Gardenias are subject to attacks of mealy bug, care must be taken to check this pest. When the pots are filled with roots, water with weak liquid manure.

Richardia.—Arum Lilies planted out in trenches during the summer months should be lifted; shake all loose soil from the roots and pot the plants either singly in suitable sized pots or two or three together in larger pots. Arums are gross feeders, and should be potted in a rich compost of two parts fresh loam, one part decayed manure and one part sand. Stand the plants outside in a shaded place for a short time, and syringe them frequently. Plants that have been growing in pots all the season should now be shaken free from the old soil and repotted in a rich compost.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Melons.—A warm, dry atmosphere is necessary to give ripening Melons a perfect finish. Plants carrying ripening fruit should receive only sufficient water at the roots to keep the foliage from flagging; admit air, more or less, according to the weather, and maintain sufficient heat in the hot water pipes to keep up a night temperature of 65° and a day temperature of 75°. Later plants, with the fruits swelling, should receive every possible encouragement or the fruits will be small and faulty; where the root run is restricted, give weak liquid manure at each watering, but water only as necessary as an excess of moisture at the roots may cause serious harm. Endeavour to keep the bottom-heat as uniform as possible; moderate heat will suffice to promote healthy root action, but an excess will cause the plants to grow spindly. As the season advances, damping the plants should be considerably curtailed, a drier atmosphere being maintained when the weather is dull and the outside temperature low. Very little air need be admitted until the fruits commence to colour. If the plants are attacked by red spider, thoroughly syringe them on bright days, otherwise syringing may now be discontinued. Where the roots are showing through the sides of the ridges, apply light top dressings of rich soil to further encourage root action. Plants for supplying fruits during late November should now be flowering. Carefully pollenate the female flowers and maintain a dry atmosphere in the house, with a free circulation of air, until a good set is obtained. During dull weather it may be necessary to use more artificial heat to obtain the necessary temperature. It is not advisable to pinch the lateral growths too closely for late Melons, but they should be kept within bounds. Plants grown in frames or cold pits should be afforded slight protection on cold nights, and if the rooting medium is of fair depth, watering or syringing will hardly be needed. Admit air early in the morning, weather permitting, to dispel the moisture accumulated during the night.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the **PUBLISHER, 41, Wellington Street, Covent Garden, W.C.**

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, SEPTEMBER 6.—
London Gardeners' Guild's Victory Garden Fête and Horticultural Show, to be held at Lord's Cricket Ground, St. John's Wood, at 2 o'clock.

MONDAY, SEPTEMBER 8.—
United Horticultural Benevolent and Provident Society Committee meet.
International Horticultural Conference at Paris.

TUESDAY, SEPTEMBER 9.—
Royal Horticultural Society Meet; Autumn meeting of the National Rose Society in the London Scottish Drill Hall, Buckingham Gate, S.W. Annual meeting of the National Dahlia Society; Lecture by Mr. Vincent Bank, at 3 p.m., on "Bottling and Drying Fruits."

WEDNESDAY, SEPTEMBER 10.—
Needham Market Horticultural Society.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 59.65.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Sept. 3, 10 a.m.: Bar. 30.0; temp. 67°. Weather—Showery.

The Reclamation of Land.

One of the most valuable pieces of work undertaken by the Board of Agriculture during the war was the reclamation of land which only requires drainage to render it serviceable to agriculture. Thanks to work of this nature, a large area of fertile soil has already been restored to cultivation, and it is a matter of satisfaction to us, as we hope it is also to them, that German prisoners have contributed by their labour to this restoration. That is entirely as it should be; but now that peace is signed, the assistance of German prisoners is no longer possible. We hope, however, that the large schemes of reclamation now in course of operation, or under consideration, will nevertheless be carried out; and although it is to be hoped that employment will be so general that no large supply of labour will be available from the ranks of the unemployed, nevertheless, should unemployment become at all acute, there is in land reclamation a large means of absorbing it. For in spite of the work which has been done already, large acreages still await reclamation, and it will be a long time before the land reclaimer need turn his attention from land which only requires first aid in the form of drainage to be restored to agricultural health and fertility to such more difficult cases as those presented by peat moors and bogs which, however, have been shown by work in other countries to be also amenable to reclamation. The work of bringing great bogs into a state in which they can be cultivated has been carried out in Jutland, and a summary of the results may be found in a lecture by Th. Claudi Westh, published in Ingemioren.*

The nature of the problem of reclaiming a peat bog may be judged from a study of the physical properties of peat. This substance is light and very porous, weighing only 6 lbs. per cubic foot when dry. It is able to absorb twenty times its weight of water.

Although it lacks altogether three substances—namely, lime, potash and phosphorus, each of which is essential to plant-growth—it is a veritable store-house of nitrogen, and contains fifteen times more nitrates than are found in ordinary soil.

The method adopted in Jutland is to drain the bog to be reclaimed by means of ditches about 80 feet apart, to level the surface, and to give a dressing of quicklime at the rate of 4 tons to the acre and to leave it fallow for one or two years.

Mud is then spread on the surface to a depth of about $1\frac{1}{4}$ inches, and stable manure is also spread, together with a small quantity of potash and phosphates. After harrowing, Peas and Vetches or Red Clover are sown, and after this crop has been taken a second dressing of potash and phosphates is given, and the ground is sown down with Grass and Clover for pasture.

The cost of reclamation (in Jutland), apart from the cost of the land, is £10 per acre, and the profit on the reclaimed land has proved to be over a period of years £1 13s. 6d. per acre—which, taking the value of the land into consideration, gives 10 per cent. on the outlay. The Hay crop taken from the reclaimed land averages one ton to the acre.

Of course, with the present cost of labour and the existence of land more amenable to reclamation, work on the reclamation of moor and bog is out of the question. Nevertheless, it is useful to know that such work is practicable, for if pre-war conditions return, or if the world's demand for food outpaces the supply, it is by no means unlikely that at some future time—by no means remote—peat lands will be pressed into the service of food production.

Coloured Plate.—With our present issue we publish a supplementary coloured illustration of Gilia coronopifolia. This is a very old garden plant, and was introduced from South Carolina in 1726. It is a most interesting species, with elegant foliage, each leaf division being narrow and linear. The flowers, produced freely in a thysoid panicle, are brilliant red, with two white marks at the base of each lobe. The tubular flowers are from 1 in. to $1\frac{1}{2}$ in. long, and the five lobes are ovate. During recent years, and especially just before the war broke out, Gilia coronopifolia became very popular as a late summer-flowering plant, and also as a pot plant for flowering under glass earlier in the season. Under the best cultural conditions specimens will grow to a height of from $3\frac{1}{2}$ ft. to 4 ft., with the upper two feet carrying a large number of flowers. When Messrs. G. and A. Clark, Ltd., of Dover, exhibited flowering plants of Gilia coronopifolia at a meeting of the Royal Horticultural Society, held on August 28, 1906, there were very few people who recognised the plant. An Award of Merit was granted on that occasion. G. coronopifolia is a biennial; seeds sown in May will produce plants that flower in July and August of the following year.

Public Park, Playing Fields and Allotments for Shipley.—Mr. H. Norman Rae, Member of Parliament for the Shipley Division, Yorkshire, has presented a sum of £12,500 to the Shipley District Council for the purpose of purchasing 114 acres of ground, including 42 acres of woodlands. The wooded area is to become a public park, while the remainder of the estate will be utilised for the provision of playing fields and allotments. The Shipley District Council had an option of purchase on the estate, with the trustees of the late Lord Rosse, but Mr. Rae, after inspecting the site, was so charmed with it that he at once offered to provide the necessary purchase money.

Wart Disease of Potatos.—Owing to the prevalence of Wart Disease among Potatos in Montgomeryshire and Denbighshire, the Board of Agriculture has certified the whole of those counties as infected areas under the Wart Disease of Potatos Order of 1918, with effect from January 1, 1920. After that date occupiers of land in the infected areas must plant only those varieties of Potatos approved as immune from Wart Disease. For the year 1920 only the following exceptions will be allowed for planting only on land in which Wart Disease has not appeared at any time:—(a) It will be permissible to plant own grown seed of the first early susceptible varieties—Duke of York (including Midlothian Early), May Queen, Ninetyfold, Sharpe's Express and Epicure. A general licence authorising such planting has already been issued. (b) The Board will issue, on application being made to them, special licences to *bona-fide* market growers to plant fresh seed of first-early susceptible varieties.

Black-leg Disease of Potatos.—It appears from reports received by the Board of Agriculture that Black-leg disease of Potatos is spreading in this country. Inspectors of the Board have found that Black-leg is common in crops of King George, Great Scot, Majestic and Ally in all parts of England and Wales. It is possible that these newer varieties are more susceptible to this disease than those previously grown, so that the parasite has increased at a more rapid rate. In 1917 the disease was noticed in Scotland to be fairly common in many of the crops of Potatos, and it is probable that the more extensive use of Scotch seed during the past few years has distributed the disease over a wide area. The disease is very destructive in its habits and causes serious losses in the Potato crop. The leaves wilt and turn yellow, then shrivel and die, the disease starting low down on the stem, the uppermost leaves being the last to succumb. When the leaves begin to droop, the surface of the underground part of the stem bearing such leaves is more or less covered with brownish stains. This discoloration gradually extends up the stem, which finally becomes quite black and soon decays. Black patches also appear in the young tubers, and in a severe attack rotting of the tubers results. Potato plants showing signs of this disease should be lifted and burnt.

Mr. Nix's Gold Medal Fruit Exhibit.—The fine exhibit of fruit from the gardens of Mr. John A. Nix, Tilgate, Crawley, staged at the recent meeting of the Royal Horticultural Society, was an educational example of what may be accomplished in these days of shortage of fuel. A card placed on this exhibit stated that "These Grapes have been grown without fire heat since the end of April." The finest Grapes were bunches of Black Hamburgh, some dozen specimens being staged. These were perfectly finished examples and above the average in point of size, and well filled with large berries and, in the case of nearly every bunch, well coloured and carrying a heavy bloom. It would have been a hard matter to beat at least nine of these bunches at any exhibition. The bunches of Muscat of Alexandria were also of high-class quality and finish. Appley Towers was also set up in good condition. We noticed that the wood of all of these Grapes was well ripened; an excellent sign of good cultivation. Several fruits of Melons were also put up, and Mr. Neal, the gardener, stated they were grown in frames—as Melons used to be in years gone by. They were weighty specimens, some fully ripe, others not quite at that stage, but all examples of fine cultivation. Both Peaches and Nectarines

* Summarised in *Journ. Roy. Soc. of Arts*, Vol. 67, No. 3477, July 4, 1919, p. 553.

were of fine quality, and of these possibly the finest were the Rivers' Orange and Humboldt Nectarines, two of the very finest for flavour; the latter is not grown nearly so freely as it deserves to be. Of Figs, some well developed fruits of Brown Turkey were exhibited. The Pears were grown in pots; of these William's Bon Chretien was the finest, and just reaching the ripening stage. Fruits of Louise Bonne of Jersey, not quite so large, were also excellent. All the fruits were well displayed; most varieties were represented by several dishes or boxes. The Peaches, Nectarines, Figs and Pears had all been grown without any fire heat whatever. The whole exhibit demonstrated what may be accomplished by an enthusiastic and skilful cultivator, backed up by a keen employer. Both Mr. J. A. Nix and his gardener, Mr. Neal, are to be congratulated upon their combined efforts on this occasion. Such exhibits deserve all possible encouragement as they are not now so frequently seen as formerly.

Sulphate of Ammonia.—The Board of Agriculture has come to an agreement with the makers of sulphate of ammonia with regard to the maximum prices to be charged for this fertiliser for home agricultural use for delivery in the eight months October, 1919—May, 1920. These prices are appreciably higher than those ruling during last season, owing to the fact that the Government subsidy given to makers during the war has now been withdrawn. The agreed maximum prices are fixed on a commercial basis, which has to cover the substantial increases which have occurred since last year in the cost of coal, wages and raw materials. The Board considers that these prices are not more than are necessary to secure to the manufacturers a reasonable trade profit. For sale in lots of not less than 2 tons, for delivery by rail or water to purchaser's nearest railway station or wharf in Great Britain, less a trade discount to agricultural merchants, dealers and co-operative societies, the prices, per ton in bags, net cash, are: 1919—October delivery, £20 10s.; November, £20 15s.; December, £21; 1920—January, £21 7s. 6d.; February, £21 15s.; March, April and May, £22. In the case of deliveries to Ireland, Isle of Man, or Channel Islands, the above prices include delivery f.o.b. port in Great Britain. Orders should be given without delay.

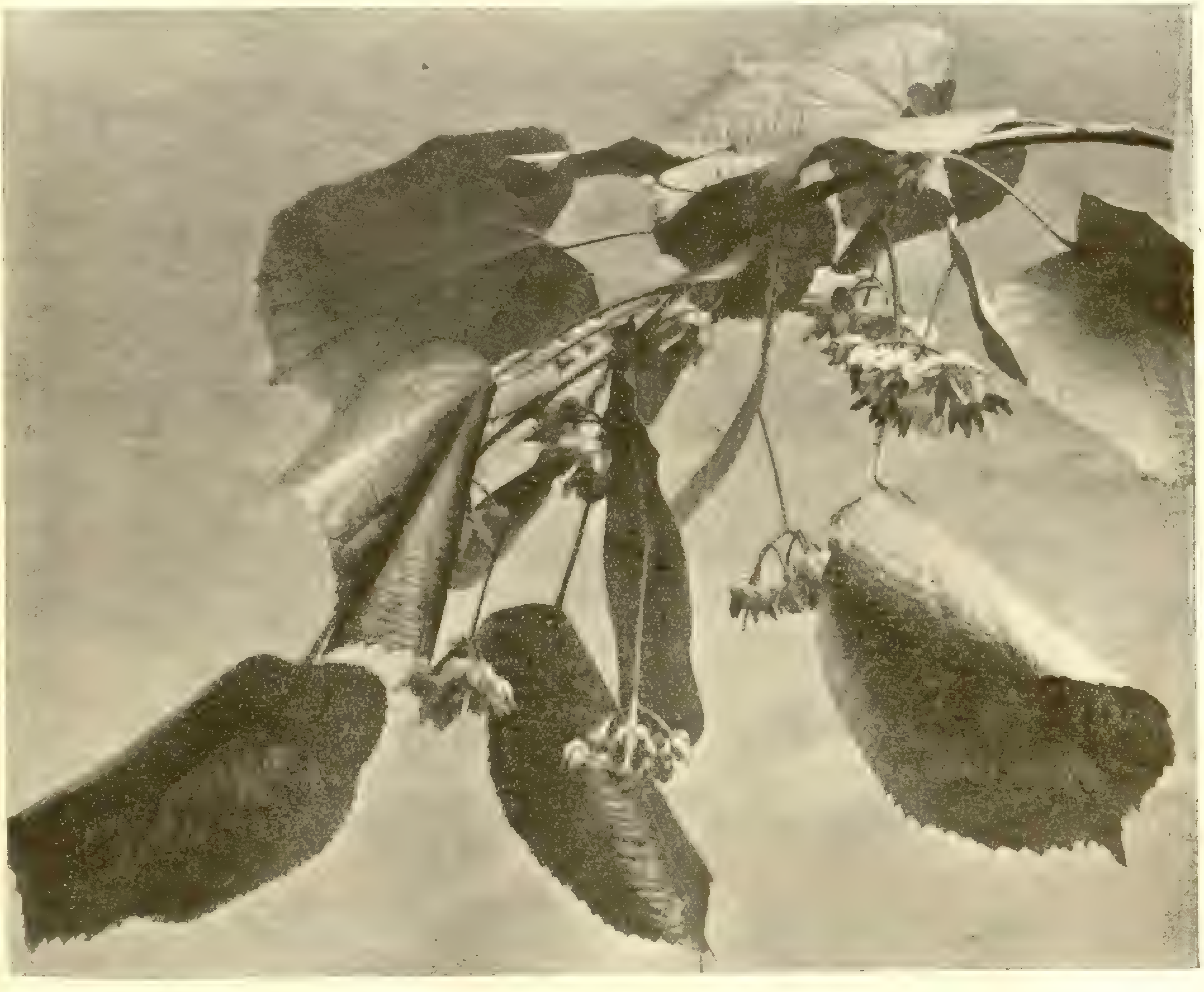

Fig. 65.—Tilia petiolaris (see p. 126).

HAMPTON COURT GARDENS.

In our last issue we briefly recorded the publication, as a White Paper, of the recommendations of the Committee appointed by the First Commissioner of Works to advise on "the proposed alteration of flower beds" at Hampton Court. This committee met at Hampton Court on June 13 last and their report is dated June 20, but it was not until the end of August that the result of their investigations and deliberations was made public. No doubt the First Commissioner has "taken time to consider," as the judges put it, but we understand that he has decided to adopt the Committee's recommendations, which, as a whole, must satisfy both the general public and the critics.

The agitation against the "vandalism" at Hampton Court was first raised in the pages of the *Surrey Comet*, and it soon became very widespread; so famous are the Hampton Court gardens and so great the regard in which they are held, not only in this country, but also abroad. In *The Gardeners' Chronicle* of March 1 last we gave a brief history of the gardens with a strong protest against any hastily considered alterations, and offered suggestions which seemed to us would be improvements without making such drastic changes as the public feared were contemplated.

Then for a time the agitation died down; but it sprung up again with increased vigour, and we referred once more to the feared desecration, pointing out in our issue of May 24 that there was no justification for the public alarm.

The recommendations of the Committee, which we append, will undoubtedly find general approval, and when carried out in full will bring back to Hampton Court the floral beauties of the past. Already some of the recommendations have been adopted—the thirty beds in the semi-circle are gay with flowering plants and shrubs have been planted in the King's Privy Garden. The placing of tubs with suitable flowering plants around the oval basin in the centre of the East Gardens, "as seems to have been done in William and Mary's time," is a great improvement, though we remember having seen similar tubs there some years ago. The flower beds along the broad walk cannot well be restored till next spring, and advantage will probably be taken of the opportunity to improve on the old arrange-

ment, while providing the generous display which the public demands.

The great herbaceous border is certainly too narrow in proportion to its length for full effect to be obtained, but as it could not well be widened without destroying the amenities of the gardens the Committee has shown wisdom in its recommendations :—

REPORT ON THE PROPOSED ALTERATION OF FLOWER BEDS.

The First Commissioner of Works.

20th June, 1919.

SIR,—In accordance with instructions the Committee met at Hampton Court on Friday, 13th instant, and had the advantage of going over the Gardens with the Secretary, Sir Lionel Earle, Mr. Peers, Major Hussey, and the Superintendent, Mr. Marlow, and of discussing the questions raised in full detail with them. We have also seen Mr. W. S. Watmore, and heard from him the opinions of the Conference of Local Authorities over which he presided. On the retirement of Sir Lionel Earle and Mr. Peers, the Committee further considered the question on the spot, and had the individual opinion of Major Hussey and the Superintendent, and in the afternoon met together and discussed the whole question.

The Committee desire to express their appreciation of the immense care that has been taken by the Department in considering the question of the future of the Gardens, and beg to report as follows :—

They recommend that the 28 beds in the circumference of the semi-circle be retained as shown on the plan, and be entirely devoted to spring and summer bedding, and that the Roses on iron rods be dispensed with.

They entirely agree with the suggestion that more attention should be paid to the plantations beyond the canal, and they recommend that the two lines of banks of the canal be distinctly preserved, and that the mown lawn on the Palace side be extended to the water-line without interruption.

They recommend that the shrubs on the far side, now growing at the water's edge, be largely thinned, and all common plants be removed and replaced with choice suitable shrubs and bold-habited plants, such as Gunnera, Spiraea, and Saxifrage peltata, etc., and that the water of the canal be kept scrupulously clear, with aquatics planted in it.

Some difference of opinion among the Committee was found to exist as to the advisability of the widening of the great herbaceous border, and, after a very full discussion, the Committee feel unable to recommend the widening of this border, but they recommend that the plants be confined almost entirely to hardy herbaceous plants and bulbs.

With regard to the centre semi-circular portion of the East Gardens, they entirely approve of the proposed omission of beds on either side of the radial walks and of the centre walk and round the fountain, as, in the opinion of the Committee, the general effect is greatly enhanced by the omission of these beds; but, in order to relieve what has been called the sombre appearance of the middle of the great semi-circle, owing to the concentration of Yew trees there, the Committee recommends that tubs with suitable flowering plants be placed round the oval basin in the centre, as seems to have been done in William and Mary's time.

They further recommend, in order to meet the strong public desire for flowers, that the first row of beds parallel to the Broad Walk be restored with the exception of four beds directly in front of the Palace, that the three poor Holly trees be removed, and that the beds between the Yews be restored throughout its length.

They further recommend that the second row of beds should be maintained to follow the disposition of the beds and Yews in the front row, and that the beds be planted with choice flowering shrubs and fresh Yews be put in to correspond with those in the front row.

Generally, the Committee strongly recommend that missing Yews be replaced throughout the whole of the East Gardens; and, though the Privy Garden has not been specially referred to them, the Committee cannot refrain from expressing a hope that this may shortly be renovated.

With regard to the Tudor Pond Garden, the Committee recommend that the centre and first plateau be relaid to the original level as shown by the old retaining walls, and that the grass on the first plateau be increased in width, that the general lines of the Garden be retained, and that the grass in the fountain be removed.

They also think that plants in tubs on the middle plateau would add to the interest and beauty of the Garden, and that the condition of the Garden should revert as far as possible to the original intention.

We are, Sir, yours faithfully,
(Sgd.) ASTON WEBB (Chairman).
ELLEN A. WILLMOTT.
F. R. S. BALFOUR.
ERNEST LAW.
ROBT. W. WALLACE.
W. WATSON.
HAROLD A. PETO.

GLADIOLUS PRIMULINUS.

IT may be desirable to place on record, before they are forgotten, the facts connected with the origin of the primulinus group of Gladioli, as it comprises some of the most beautiful and decorative flowers at present grown.

During the construction of the important railway bridge across the gorge of the Zambesi, in Rhodesia—of which Sir Charles Metcalfe, Bart., and Sir Douglas Fox and Partners were the engineers—the resident engineer, Mr. S. F. Townsend, found certain flowers, which were growing under the spray of the Victoria Falls, and which seemed to thrive notwithstanding the deluge of water which very soon soaked the discoverer to the skin during his efforts to obtain them.

Being a gardener, Mr. Townsend kindly sent, in 1902, four corms, by post, to Wimbledon, but not knowing what they were, he was unable to give any clue as to the treatment they required. As, however, they came from Central Africa, and were therefore accustomed to heat, and to almost continual moisture from the Victoria Falls, my Head Gardener, Mr. John Richards, and I decided that we would afford them a high temperature and wet treatment.

On December 1, 1903, we were rewarded by the appearance of three or four spikes of bloom of a delicate and beautiful form, with leaves very similar to those of Montbretia, the plants standing about 2 feet in height. The flowers were of a rich, butter yellow, self coloured, with five petals, the centre petal of which was bent down or depressed, forming a hood over the pistil and stamens and thus protecting the pollen from falling spray. It was evidently due to this peculiarity, and provision of such a remarkable character, that the plant thrived and increased under apparently most unpromising conditions. One of the spikes was immediately sent by messenger to the then Director of the Royal Botanical Gardens at Kew, Sir William Thiselton Dyer, and a letter was brought back from that gentleman of which the following is an extract :—

"December 1, 1903.—Your beautiful specimen arrived in perfect condition and gave us all much pleasure. It is a Gladiolus of a type which is rather widely spread in Tropical Africa and comes apparently very close to one named G. primulinus, but from a horticultural point of view it seems to us quite unique and a brilliant discovery. I hope, if you are disposed to part with any of them, you will give Kew the first chance. It ought to be the starting point of a new race of garden Gladiolus. I must congratulate you on the brilliant success of your cultural treatment, which could not have been surpassed here."

Some of the corms were then sent, not only to Kew, but to the Physic Garden at Chelsea, to the Botanical Gardens at Cambridge and Edinburgh, as well as to growers of Gladioli, such as Messrs. J. Kelway and Son, and R. Wallace and Co., in England; to Groff, of Simcoe, Canada; and also to Holland, Belgium, and the United States, as it was felt that it would be in the interests of horticulture and all flower-loving people that the widest publicity should be given this plant. This form of G. primulinus was illustrated in *The Gardeners' Magazine*, September 3, 1904, under the name of Gladiolus Maid of the Mist: and in the *Botanical Magazine*, t. 8080 (June, 1906).

Attempts were made at once to hybridise the plant, crossing it with Gladiolus gandavensis and others, and in about three years some of the most beautiful plants resulted, the flowers ranging from pure white to butter yellow, with rich carmine, reds, browns, and cream tints, and others with yellow segments streaked with red. The interesting fact that the hooded petal is retained, and that the lovely yellow of the African plant is the predominant colour, add greatly to the beauty of the flowers.

The vigour and physique of the English varieties were imparted to the following generations, with the result that certain plants have grown to a height of 8 feet.

For decorative purposes, I know of nothing to surpass these new additions to our flower garden; a few spikes in a suitable vase, placed in the centre of a table, with electric light falling on them, form an exquisite picture, and fully corroborates Sir William Dyer's prediction that G. primulinus would prove the commencement of an entirely new family of Gladioli.

From the above it will be seen that a period of seventeen years has elapsed from the date of discovery. *Francis Fox, Alyn Bank, Wimbledon.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Does the Potato Sport?—Some months ago I informed you that my Potato, which I considered was likely to be a "sport," had been sent to Ormskirk, with a view to discovering whether it could be named as of an existing sort. The endeavour has failed, as I had expected; the reason given is that it has not done well owing to the dry weather. Now, it has always been a weak grower, and Messrs. Sutton and Sons gave this weakness as a reason one year for their inability to name it. I have requested that the Ormskirk test be continued for another season. Probably Mr. Taylor may have some interesting facts to report now of his Potato "sports." *S. Jackson, Shrewsbury.*

Scented-leaved Pelargoniums.—I am pleased to observe a growing enthusiasm in the cultivation of scented-leaved Pelargoniums. These plants are easily grown. Cuttings should be made in spring, from the young growths, and placed in a propagating case or under a bell glass, where, if they do not receive too much moisture, they will soon root, and should then be potted. Whenever more root room is needed, provide pots only one size larger than those previously occupied. The soil should be a little lighter than that used for the general collection of Pelargoniums, but all kinds appear to appreciate bone meal and soot in the compost. Pelargonium crispum minimum, although perhaps needing a little more care than some varieties, amply repays the extra attention, and in my opinion it is one of the sweetest of scented-leaved plants, and the finely cut leaves, lightly set on slender stems, make the growths most useful for association with cut flowers. The dried foliage makes a delightful addition to the pot-pourri jar. *S. Capon, Apethorpe Hall Gardens, Peterborough.*

The Doubling of the Stock.—I asked Miss Saunders if she had studied the methods pursued by the Lothian growers of East Lothian Stocks for seed, and although she does not reply to this question it is evident from her letter (see p. 110) that she has no knowledge of the system adopted by these experienced florists. This is just where the lack of proper and thorough investigation arises, and in her article published in the *Journal of Genetics* (Vol. V.), she has apparently completely overlooked the work that has been done by Scottish raisers of East Lothian Stock seed. These men have outclassed the Germans; they are entirely independent of a "pure-bred strain of double-throwing singles," and reputable growers would never be satisfied with an average of 56 to 57 per cent. of double seedlings. They can rely upon 90 per cent. of doubles from seed, and secure this by a method which is evidently unknown to Miss Saunders. The Lothian growers do not base their percentages upon *the results of selection*, but on *the whole sowing.*

The more vigorous seedlings are only selected if and when singles are required to carry on the strain by getting seed. These singles are useless until they attain a certain size, but after a definite period every one will yield 90 per cent. of double-flowered seedlings, no matter whether they are pure-bred or not. I read with considerable interest and, I may add, amusement what is published in the last issue of the *Journal of the Royal Horticultural Society* by Mr. Chittenden, on the subject of "The Doubling of the Stock." I note what Miss Saunders writes in regard to the French grower, Chaté, who wrote somewhere about 1860. In the forties of last century, however, there was a considerable discussion in the gardening Press of the period in regard to the doubling of the Stock, and in the *Horticultural Magazine* for 1848 a grower gives his experience. After dealing very fully with the subject, he gives the following conclusions:—First, that the proximity of double ones would not have the least effect upon the seed of single ones placed there; second, that the disposition to go double is a confirmed habit, and the seed of the single ones that escape going double has all the character and habit inherent; third, that to keep up the stock well it is never safe to sow all the seed, but that you must expect now and then to miss the seed altogether; fourth, that the disposition to go double may be sometimes seen in a single stock with one or two extra petals, or the petals broader than usual, or inclined to crumble, but that these indications are not at all necessary when you are saving seed from your own stock which is already in a good strain. The writer concludes: "When you get into a good strain you may keep up a double habit for years, and even lose the sort for want of single ones to perpetuate them; but if you sow from single ones which have not the propensity to go double, you may work just as many years before you get a double one, for they just as obstinately come single." The above, be it noted, was written in 1848, and appears to agree for the most part with the conclusions arrived at by Miss Saunders. I am inclined to think, however, that the Lothian growers have evolved a much better system. I would recommend Miss Saunders to study this system; it is the result of long experience by really practical men. It is owing to this system that we now have strains which yield 90 per cent. of double flowers, and this is done by age, and age alone. There is absolutely no selection of singles. I shall certainly have great pleasure in sending Miss Saunders some unselected seed of the original East Lothian Stock, and she is most welcome to give it a thorough trial. It has been saved from single plants without any relation as to their derivation from a "pure-bred strain of double-throwing singles." I should just like to add that in regard to singles Miss Saunders states in her letter that "I would only add that this result (*i.e.*, if the strain is pure every single will yield 56 to 57 per cent. of doubles) may be expected every season that the plant flowers if no crossing with impure strains is allowed to occur." But is there really such a thing as crossing so far as the East Lothian Stock is concerned? I have been in many gardens where seed is saved, and the singles are never isolated as to colour. The plants for seed are grown in colour blocks alongside each other, and I am assured that inter-crossing is unknown. For example, seed saved from a crimson that may have a white on one side of it and a purple on the other will yield all crimson, the white all white, and the purple all purple. *George M. Taylor, Edinburgh.*

A Prodigious Bean.—Although no admirer of "monstrosities" in the way of vegetable products, I was much interested, and think your readers may be interested, too, in a huge Broad Bean which came under my notice the other day in this county. Measuring along the characteristic curve of this pod, I found it to be 17 inches in length and 2 inches in breadth, the number of seeds enclosed being ten. I could not ascertain the variety, beyond that it was one of Clarke's, of Carlisle. It is desirable to mention that this was a solitary bean borne by the stalk. Other stalks, however, bore a goodly number of good-sized beans. *Chas. Watts Mayhew, Northumberland County Horticulturist.*

SOCIETIES.

HORTICULTURAL TRADES' ASSOCIATION.

August 26.—About one hundred members attended the Annual General Meeting of this trade organisation at the Holborn Restaurant. Mr. Alfred Watkins took the chair, and amongst those present were Messrs. R. W. Wallace, A. Bide, W. R. Oldham, W. Cuthbertson, G. W. Leak, W. J. Jefferies, P. C. M. Veitch, A. E. Bunyard, A. G. Jackman, J. Brown, S. Mortimer, John Green, J. McKerchar, T. W. Piper, Chas. Stewart, H. S. Rivers, Amos Perry, L. Perkin, John Harrison, D. Ingamells, J. C. Allgrove, C. F. Cundy, W. C. Carter Page, E. W. King, C. E. Pearson, W. H. Page, H. Laxton, W. Easlea, Elisha Hicks, Geo. Monro, junr., and R. Wynne (Chamber of Horticulture), and two Dutch delegates.

The Annual Report, which was taken as read, and was adopted, shows that good work has been done during the past year, and that the membership now stands at 820. Mr. Watkins said he felt sure the members would realise that the Council has done its level best for the horticultural trade. It was then his pleasant duty to hand Mr. Chas. E. Pearson the sum of £311 2s., which had been subscribed by 248 members in appreciation of his great work as Hon. Secretary of the Association. Mr. Pearson was then elected President, and took the chair amid acclamation.

Mr. Pearson said that he really felt unequal to the task of expressing his great appreciation of the honour. He recalled the fact that on August 16, 1899, twelve members of the trade met and decided to form an Association. The first meeting proper was held at the Crystal Palace on September 28, 1899, when fifty-nine were present, and the first President was Mr. (now Sir) Harry Veitch. Since then the Association has grown till now it has a membership of over 800, and has brought the trade together both for business and social advantage.

An election by ballot to fill four vacancies on the Council resulted in Messrs. W. C. Carter Page, M. Allwood, and J. Harrison, junr., being elected to three places, and Messrs. Chas. Stewart and J. S. Baker tieing for the fourth place. It was unanimously agreed to place both of these gentlemen on the Council.

The President of the Boskoop Nurserymen's Association, on the invitation of the Chairman, addressed the meeting, and said that the authorities in his country were determined to do all they possibly could to stop dumping. Four-fifths of the nurserymen were members of his Association, and its rules forbade auction sales of stock. They were anxious to come to a working arrangement with England. Mr. Wallace suggested that a good arrangement would be for the Dutch Association to send to the H.T.A. a list of its members and for our traders to buy only from those who were pledged against dumping.

The question of imports generally was fully discussed, and it was agreed that the Government should be asked to consider the horticultural trade a "key" industry during the period of reconstruction, and to prohibit free and unbounded importations of horticultural produce. It was felt in this respect that the spirit of the Essex Hall meeting should be adhered to.

The new rules were discussed, and as they were long and untried, it was felt wise to give some latitude to the Council, so that for the next year it has power to revise them as may be thought fit. But it was explained that there would be no alteration in the principles of the rules.

Mr. R. Wallace felt that the time had now come when the Secretary should be installed in a London office, where he could more easily get into touch with other organisations and generally do better work.

The methods of the Agricultural Organisation Society in relation to the Agricultural Wholesale Society came up for discussion, and it seems that this important matter will be the subject of a deputation to be soon received by a Government Department.

The carriage of plants by passenger train on several railway lines was discussed, and the meeting then adjourned for the Annual Dinner.

WALLASEY HORTICULTURAL.

August 27.—The committee of this society have the full sympathy of the general public in connection with their 26th annual gala and horticultural exhibition arranged to be held in Central Park, Liscard. The entries received numbered over 400, in addition to a promise of generous support in the matter of non-competitive exhibits.

The preparations for the horticultural section were well in hand, when a strong gale came on which wrecked the large marquee, 240 feet by 40 feet, at one o'clock on the morning of the show day, breaking the poles and rending the canvas. As a consequence of this disaster the show had to be abandoned. Certain tents which were in a more protected position escaped, and, fortunately, but few of the exhibits were on the ground, but those which had arrived were destroyed.

The only competition carried through was the one for table decoration staged in the shelter room. The prize-winners, placed as named, were:—Mrs. Bailey, Liscard; Mrs. W. Bond, Formby; Miss Newsham, Aughton; and Mrs. Knight, Formby.

Gold Medals were awarded to the Garden Supplies Co., Liverpool, for a collection of vegetables and Sweet Peas, and to Mr. J. W. Burch, Sefton, for a collection of Potatos immune to wart disease. The weather improved during the afternoon, and crowds of visitors attended the gala.

SOUTHPORT HORTICULTURAL.

August 30.—This Society held its initial show in the King's Garden Promenade. Unfortunately, the tent was blown down early in the morning, but the exhibits escaped damage. Willing hands set to work, and before noon the competitors were able to get their staging done.

The Committee may be congratulated upon their first effort, and, although the display was only moderate in extent, the quality was good.

There were some fine exhibits in the class for eight kinds of vegetables, Mr. J. Goulbourne, of Formby, securing the leading award with well-grown Cauliflowers, Onions, Potatos and Carrots; Mr. E. Griffiths, second. For nine kinds Mr. W. Charters, of Formby, led with a good set.

Mr. J. Goulbourne was first-prize winner for six vases of Sweet Peas, and he was also successful for six kinds of cut herbaceous flowers. The allotment-holders' exhibits were excellent.

For produce from private gardens the first-prize winners were Miss M. Forbes, Mrs. Tomlinson, and Messrs. T. Mawdesley, E. Harrison, T. Marshall, J. Goulbourne, W. Lawson, E. Harrison, and R. Coop. Mr. Hathaway, superintendent of the parks and gardens, arranged an imposing display of border flowers. Mr. Townson sent a collection of ferns and Mr. K. Therkildsen showed Phloxes and fruit.

MESSRS. RYDER'S EXHIBITION OF VEGETABLES.

August 29 and 30.—A year ago Messrs. Ryder and Son, of St. Albans, held an exhibition of vegetables at their warehouse, which was so successful that the show was repeated this year, and a fine collection of vegetables from all parts of the country was on view on the above dates. Three prizes of £5, £2, and £1 were offered in each class for Runner Beans (1 pod), Broad Beans (1 pod), Haricot Beans (1 pod), Long Beet, Round Beet, Cabbage, Carrot, Cauliflower, Cucumber, Leek, Onion, Parsnip, Sweet Corn, White Turnip, Yellow Turnip, and Vegetable Marrow, making a total of £128 offered in prizes. The seeds from which the vegetables were raised need not necessarily have been obtained from this firm, and no entrance fees were charged. The result has been very gratifying and encouraging to the firm, who, in addition to providing the prize money, staged and numbered the exhibits—no light task when these run into thousands.

As was to be expected, the quality of the exhibits varied very much, but it is surprising that mere size should still be the point aimed at by many exhibitors, instead of clean, shapely, table specimens. This was specially noticeable among Beet and Turnips, some of the specimens sent

being both big and ugly, though a large proportion of the exhibits were of first-class quality. The Carrots were extremely good, both long and stump-rooted forms being well represented, the long ones varying from 18 inches to 30 inches in length, without a single blemish. Parsnips were equally good, some of the specimens being upwards of three feet in length, and perfectly shaped. Leeks were very good indeed, both in size and blanching; Vegetable Marrows were practically all young specimens of good size and weight; and Onions were well represented by exhibits varying from 2 lb. to 3 lb. 5 oz. (the heaviest). In the classes for Beans, the Broad Beans most in evidence were the Broadsword strain, with pods containing seven or eight beans of good size and colour; and Runner Beans were a foot or more in length with corresponding width and thickness. Haricot Beans were scarce, as also was Sweet Corn. Hardier strains of these two must be raised before they become popular as garden crops. Cauliflowers were of even size, not extra large, but beautifully white and solid. Cabbages formed a large exhibit, the best specimens being grown locally. On the whole, the exhibits were excellent, but their educative value would have been greater if the names of the varieties had been given.

Prize-winning exhibits were sent from Halifax, Willesborough, Dorking, Olney, Garstang, Easington Colliery, Durham; from Staines, Exmouth, Barnet, Keighley, Biggar, Ashford (Kent), Brecon, Skipton in Craven, Carshalton, Newbury, Tonbridge, Stranraer, Cambridge, Selkirk and St. Albans. The prize-winning Onion was exhibited by Mr. H. Wheeler, of Wenvoe Castle Gardens, Cardiff.

LIVERPOOL ALLOTMENT.

AUGUST 29 AND 30. — The exhibition was held in St. George's Hall, under the auspices of the Liverpool Corporation, which owns 3,000 allotments and rents ground for 2,288 others. It is estimated that a further 2,000 plots are under cultivation, thus making a total of over 7,000 plots, covering an area of 400 acres. The show had to be postponed for three weeks, the hall being occupied by soldiers during the period of the police strike.

The entries had not suffered from the adjournment, and numbered over 1,300, but owing to the torrential rain of the previous day many were not staged. The display as a whole was an exceedingly satisfactory one, and reflected great credit upon the parks superintendents who were responsible for the staging. The tables were draped with crimson baize, and the beautiful hall was decorated with palms and other foliage plants from the Botanical Gardens, while non-competitive exhibits made an instructive and interesting feature.

The Silver Challenge Vase was secured by the Walton Garden Association for the ten best-kept allotments.

The non-competitive exhibits were contributed by Messrs. W. Rowlands and Co., vegetables; Messrs. Middlehurst and Co., vegetables and Sweet Peas; The Garden Supplies Co., vegetables; Carbo-Limo Co., vegetables and fruit; Messrs. R. P. Ker and Co., plants; Covent Garden Co., vegetables; Mr. H. Middlehurst, cut Gladiolus. The Liverpool Corporation showed vegetables from their sewage farm. The arrangements were in the able hands of Mr. J. J. Guttridge, chief Superintendent of the Liverpool parks and gardens, who was assisted by a host of willing assistants.

TRADE NOTES.

THE PROFITEERING ACT, 1919.

THE Act designed to check profiteering has now received the Royal Assent, and it has therefore to be taken as it stands irrespective of any opinion as to whether it is workable or suited to the object at which its framers have aimed. The responsibility for working the Act is thrown upon the Board of Trade which, in its turn, may delegate its powers to lesser Tribunals as will appear later.

UNREASONABLE PROFIT.

The Board is given power to investigate prices, costs, and profit at all stages, and for that purpose may call for full information and production of documents (books of accounts would doubtless be deemed documents): the Board may also fix maximum prices, but so far as articles of food are concerned, all its powers must be exercised jointly or in agreement with the Food Controller.

The Board has also power to receive and investigate complaints that a profit is being, or has been, made or sought to be made since the passing of the Act (August 19, 1919), which is, in view of all the circumstances, unreasonable. Curiously enough, the Act does not appear specifically to give power to the Board to call for information and documents for the purpose of investigating complaints in the same way as is provided in the clause empowering it to investigate prices, costs, and profit as mentioned above. Presumably, however, this power will be implied as part of the necessary machinery for investigating complaints.

On the hearing of a complaint the Board may (1) declare the price which would yield a reasonable profit; and (2) require the seller to repay to the complainant any amount paid by the latter in excess of such a price. It is somewhat extraordinary that the Act should direct repayment to be made to the complainant and not to the purchaser, who would not necessarily be the same person. Possibly, however, if the complainant were not the actual purchaser the Board might exercise its power of dismissing the complaint.

PENALTIES.

The following penalties are imposed by the Act: (a) A fine not exceeding £200 or imprisonment for not exceeding three months, or both these penalties, if on investigation, undertaken either on the Board's own initiative or on complaint made to them, the Board takes proceedings against the seller before the magistrate, with the result that the profit made is found to have been unreasonable in all the circumstances. There is, however, an important proviso that a profit is not to be deemed unreasonable if it does not exceed the fair average rate earned by persons in the same way of business as the seller upon the sale of similar articles under *pre-war conditions.* It should also be noted that it is just as great an offence under the Act to *seek* to make an unreasonable profit, or to offer for sale at an unreasonable profit, any articles (whether wholesale or retail) to which the Act applies as it is to make such profit. (b) A fine not exceeding £50 or imprisonment for not exceeding one month, or both, if any person fails to comply with or infringes an order of the Board of Trade under Section 1 of the Act. The amount of the fine is recoverable summarily as a civil debt. (c) A fine not exceeding £50 or imprisonment not exceeding three months, or both, if any person at or for the purpose of any such investigation or complaint as is referred to above knowingly or recklessly furnishes any information or makes any representation which is false in any material particular.

For the purposes of the Act a limited company may be convicted as a person, and the chairman and every managing director and every officer concerned with the management of the company will be guilty of the like offence unless he can prove that the act which constituted the offence took place without his knowledge or consent. Although, therefore, a person or company will presumably be deemed innocent until proved guilty in accordance with the usual rules of law, it should nevertheless be noted that when once a company has been convicted, the officials referred to above will be deemed guilty unless and until they can prove their innocence of complicity in the offence. (d) The party convicted can be ordered to pay the costs of any proceedings to which the Board is a party. Similarly costs may be awarded against the Board.

Fines imposed by a Local Committee are to be applied in aid of the fund or rate which the Board of Trade may direct Local Authorities to impose for the purposes of the Act (the expenses of the Board under the Act up to an amount of £75,000 are to be paid out of money to be found by Parliament subject to the approval of the Treasury).

ARTICLES AFFECTED.

The Act does not apply to every article, but its provisions extend to any articles or class of articles to which it is applied by order of the Board of Trade, and declared by such order to be one, or one of a kind, in common use by the public, or material, machinery, or accessories used in the production thereof.

There are, however, four important exceptions. The Act does not apply to (1) any articles which are from time to time declared to be controlled articles or (2) the sale of any articles for export from the United Kingdom; (3) sale by public auction; or (4) sale by competitive tender.

TRIBUNALS.

As is already well known, the Board has power to delegate, with one exception, all its powers to Local or other Tribunals (called by the Act "Committees," and the order of a Committee will be equivalent to an order of the Board). The exception referred to is important—*i.e.*, the Board has no power to delegate the fixing of prices to any such Committee. Doubtless this refers to fixing of *reasonable* prices referred to earlier in the Act. Provision is made for payment to the Chairman and members of the Committees and Tribunals, not only of their travelling expenses, but also for their *loss of time.*

SAFEGUARDS.

There are certain limitations to the exercise of the powers under the Act, namely: (a) Every regulation of the Board must be laid before both Houses of Parliament as soon as possible after it has been made, and His Majesty in Council may annul the regulation, without prejudice to anything previously done under it, if an address praying for the annulment of the regulation is presented by either House within 21 days from the date on which the House has sat next after such regulation has been laid before it. (b) Any trade competitor of the person against whom the complaint is made is disqualified from acting as a member of the Committee investigating the case. (c) The seller has a right of appeal from the Local Committee to an Appeal Tribunal appointed by the Board, in respect of all matters other than a decision to take proceedings before a magistrate. Apparently no such right of Appeal is given to a purchaser or other complainant if his complaint is dismissed. (d) Provision is to be made for the inclusion of women on all Local Committees.

TRUSTS.

The Board of Trade is also charged with the duty of obtaining all available information as to the nature, extent and development of trusts, companies, firms, combinations, agreements and arrangements, connected with mining, manufactures, trade, commerce, finance or transport which have for their purpose or effect (1) the regulation of the prices or output of commodities or services produced or rendered in the United Kingdom or imported into the United Kingdom; or (2) the delimitation of markets; or (3) the regulation of transport rates and services, in so far as they tend to the creation of monopolies or to the restraint of trade.

MUNICIPAL TRADING.

The Board of Trade may authorise Local Authorities, subject to such conditions as the Board may impose, to purchase and sell any article or articles of any class to which this Act applies. The conditions to be imposed by the Board must as far as possible ensure that the Local Authority shall proceed on a commercial basis and not by way of subsidy at the expense of the ratepayers.

CONFIDENTIAL INFORMATION.

Proceedings before the Board of Trade or any Committee or Tribunal under the Act are to be held in public (unless in special cases the Board of Trade otherwise directs), where such proceedings are founded on a complaint. Any information and any documents required to be given or produced must, however, be treated as confidential, except in cases where (a) a person giving or producing the information and documents agrees to their being published; or (b) where legal proceedings are taken. These safeguards, however, are not to prevent the Board

or Committee or Tribunal from publishing their findings and decisions.

PROTECTION OF WITNESSES.

Any investigation under the Act is, for the purposes of the law relating to libel and slander, to be deemed in the nature of proceedings before a Court exercising judicial authority.

DURATION.

The Act is to continue in force for six months but no longer, unless Parliament otherwise determine. *H. Morgan Veitch.*

THE Board of Agriculture has arranged with the Coal Mines Department to assist coal merchants and dealers with extra supplies of steam coal to be used for agriculture upon their requirements being made known, and users of steam coal for this purpose are requested to make early application to their coal merchants for any steam coal that they will require for agricultural purposes before December 31 next. The same system of rationing and procedure for obtaining such coal as has been in force since December last will be continued during the coming autumn and winter.

WE understand that the firm of Messrs. Levavasseur and Fils has been dissolved, as from September 1, 1919, and that, in future, the establishment at Ussy will be managed by M. Norbert Levavasseur, and the establishment at Orleans by M. Ernest Levavasseur.

Obituary.

Mrs. Charles S. Sargent.—It is with very great sorrow we learn of the death of Mrs. Sargent, wife of Professor Charles S. Sargent, of the Arnold Arboretum, Boston, U.S.A. Mrs. Sargent shared her husband's love of nature, and accompanied him on trips to various parts of North America for the purpose of studying the foliage, flowers and fruits of native trees. She was a painter of considerable ability and formed a collection of about 400 water-colour drawings, which form an exhibit at the Museum of Natural History, New York. These paintings represent Mrs. Sargent's work between 1880 and 1890, and they are of great educational value. Mrs. Sargent, formerly Miss M. A. Robeson, was married on November 28, 1873, and ever since then she and her husband have resided at Holm Lea, Jamaica Plain, which has become one of the most delightful and well-known estates in America.

J. J. Foster.—We have received intimation of the death of Mr. J. J. Foster, of the Anmer Nurseries, Stanmore and Edgware, which occurred on Sunday, August 17, 1919, after a very short illness. The late Mr. Foster took a great interest in all horticultural matters, and was well-known in the Stanmore district. His son, Mr. Sidney R. Foster, recently returned from France, informs us that the business of the Anmer Nurseries will be carried on as usual.

Henry Vessey Machin.—Rosarians all over the United Kingdom will learn with deep regret of the sudden death of Mr. H. V. Machin, of Gateford Hill, Worksop, which occurred on Thursday, August 28. He was found dead in his chair, a pen in his hand, and an unfinished letter before him. Death was due to natural causes. The deceased gentleman was well known in agriculture circles and famous among horticulturists as an ardent amateur cultivator of Roses. His Rose garden at Gateford Hill was a great delight to him as well as to his many Rosarian friends, who were always welcome. Some years ago Mr. Machin was a frequent exhibitor of Roses, but he had not competed latterly. For many years and up to the time of his death, Mr. H. V. Machin was a honorary vice-president of the National Rose Society, and took a keen interest in this society's work.

CROPS AND STOCK ON THE HOME FARM.

ARRANGING FOR FUTURE CROPS.

DIRECTLY harvest is finished, the careful farmer makes preparations for the next season's crops. He will have arranged for the primary crops some time ago, leaving certain fields to be filled in as emergency or catch crops.

Wheat for 1920 first commands attention. Summer fallows on which Mustard is growing to be either ploughed in or eaten off by sheep, is quite one of the best of preparations. It is not yet too late to sow Mustard as some rain is due, and if the seed is sown broadcast at the rate of 20 lbs. per acre it is surprising how fast the plant grows, even with the aid of dews only. Summer fallow, with a dressing of farmyard manure at the rate of 10 to 20 tons per acre, cannot be beaten as a preparation for high quality Wheat. Where neither Mustard nor farmyard manure is available, basic slag sown evenly over the surface previous to sowing the Wheat, at the rate of 6 cwt. per acre, is an excellent substitute.

Second crop Broad Clover, if fed off by sheep, is held by most farmers to be second to none as a preparation for Wheat. Where the second growth is mown for hay or seed the land should receive some manurial aid. Wheat after Potatos and Mangold is to be recommended as the manure required for those crops is available for the Wheat plant also.

The smallholder who desires his plot of Wheat for the value of the straw, or tail Wheat for poultry, may sow this cereal after Onions, Peas, Beans, Potatos or any root crop. I would impress upon all cultivators the advantage to be obtained from early sowing.

The last days of September and the first half of October are ideal periods in which to sow Wheat provided the weather is favourable. Early sowing ensures a firm root hold before frost comes, a thicker plant, an increased yield and an early harvest.

Oats are generally considered to be second in importance among cereals. The corn is useful for the feeding of all animal stock and poultry, crushed Oats are an aid to milk production, and the straw is almost equal to hay for cattle, and certainly superior to hay of poor quality. Store cattle will winter well and grow fat on Oat straw if the winter quarters are warm.

From the first week in February to the end of March is an ideal time for sowing spring Oats, assuming, of course, that the season is good and the soil in a fit condition to receive the seed. Oats sown during this period get a firm hold of the soil before the growth can be checked by drought in May or June. Oats succeed after Wheat (if the land was in good condition and clean for that crop) without any manurial preparation, and also after Barley which followed Clover or sheep-fed roots. In the case of a late decision to plough up a worn-out plot of Sainfoin or the breaking up of grass, Oats may be sown with every chance of success. Turnips fed off by sheep in February or March provide a suitable dressing for an Oat crop.

Barley succeeds after Wheat, on suitable soil, especially where stubbles were early ploughed after harvest, and there is a good tilth in the spring. The soil for Barley should be light in texture, naturally drained and of a calcareous nature. The crop is well suited to thin soil in hilly districts, especially where sheep are close folded on Turnips or Swedes during the early months of the year. Fields that have been heavily manured recently are not suitable for Barley, as the resulting strong growth is so liable to be "laid."

For home use especially I have a high opinion of Barley; it is valuable for the feeding of pigs and poultry, therefore I always prepare a goodly acreage for this cereal. Barley giving 5 qrs. per acre and selling at 70s. per qr. is not a bad speculation. The main point that concerns this crop at present is the selection of suitable sites and the cleaning of the ground between now and March.

Peas are a popular crop in some districts, and certainly a profitable one where they succeed. From ten to twelve sacks is a good yield per acre. Peas succeed in fairly heavy soil, and should follow a clean straw crop.

Mangolds form the most important root crop on the farm, and should have a good site. Stiff, well pulverised soil will produce a better crop than soil of a light character. If Mangolds follow a straw crop there is ample time for soil preparation, which consists of liberal manuring in the autumn and extra deep ploughing, particularly where the soil is heavy and retentive. Turnips, Swedes, Cabbage and Rape and Vetches may all follow a straw crop, with the advantage of early autumn ploughing.

No time should be lost in sowing the seed of Trifolium incarnatum. Firm soil, with a fine surface tilth, is the chief requirement, with sufficient manurial aid to induce free growth during April and May. If the soil is not sufficiently rich, apply 6 cwt. superphosphate per acre previous to sowing the seed. Twenty pounds of seed sown evenly is ample for an acre. *E. Molyneux, Swanmore Farm.*

GUARANTEED CORN PRICES.

The prices guaranteed by the Government for 1919 grain crops are as follows:—(1.) Wheat, 71s. 11d. per qr. of 480 lbs. (2.) Barley, 61s. 6d. per qr. of 400 lbs. (3.) Oats, 44s. 1d. per qr. of 312 lbs. (4.) Rye, 71s. 11d. per qr. of 480 lbs.

As already announced home grown Wheat of the 1919 harvest may be sold to millers at prices which will produce on an average 71s. 11d. per quarter of 480 lbs. The market will be free and each sample of Wheat will be bought on its merits; if of milling value above the average it will be worth more than 71s. 11d. per quarter, while samples of inferior quality or out of condition will only be saleable at prices below the average. Every seller of Wheat will have to make the best terms he can as under the ordinary pre-war conditions of a free market, and will not have the right to call upon a miller to buy at 71s. 11d. per quarter or any other price.

So far as can at present be foreseen it is probable that the average prices obtained by growers for Barley, Oats and Rye of the 1919 harvest will exceed the prices guaranteed by the Government, but if the average price of any of the four corn crops should prove to be lower than the guaranteed prices, effect will be given to the guarantees by the method adopted in Part 1 of the Corn Production Act, 1917. This involves payment to growers of any differences between "average prices" and the above guaranteed prices.

For the purpose of this calculation the following yields per acre are assumed:—Wheat, 4 qrs., Barley, 4 qrs., Oats, 5 qrs., Rye, 3½ qrs., and payment is made in respect of the whole acreage of Wheat, four-fifths of the acreage of Barley and two-thirds of the acreage of Oats. Only the acreage of Rye which is harvested for grain may be reckoned.

The payment for each acre of corn will thus be calculated on the following basis:—Wheat: Four times the difference between the average and the guaranteed price. Barley: Four times four-fifths of the difference between the average and the guaranteed price. Oats: Five times two-thirds of the difference between the average and the guaranteed price. Rye: Three and a-half times the difference between the average and the guaranteed price.

All payments under the guarantee are subject to the provisions of Clause 1. (b) of the Corn Production Act, 1917, which states:—"If it appears to the Board that any such land has been negligently cultivated, the Board may either withhold altogether the payments to which the occupier would otherwise have been entitled or may diminish the amount of those payments to such extent as the Board think proper to meet the circumstances of the case."

LIQUID MANURE.

The Board of Agriculture has just issued a new pamphlet on "Liquid Manure," which can be obtained free of charge and post free on application to the Board of Agriculture, 3, St. James's Square, London, S.W.1.

After pointing out the value of liquid manure,

the leaflet goes on to discuss the reasons why liquid manure has not been used so much in the past as it should be :—

(1) It is inconvenient to have to empty the tank regularly. It has been found, however, that one man, one horse and one boy with a liquid manure cart can cover about four-fifths of an acre per day at a rate of 1,500 gallons per acre. This quantity would represent a month's supply, undiluted, from about 40 head of cattle and horses. Even if liberally diluted its distribution would not require more than a couple of days.

(2) The storing of liquid manure has been regarded as insanitary. With a properly constructed tank, however, this objection is entirely removed.

(3) It is objectionable to handle—but with proper distributing apparatus very little "handling" is required.

(4) It is liable to "burn" vegetation. This is true if the liquid is applied too strong, but a little experience will soon show how much water should be used to dilute it.

(5) Carts for distributing liquid manure are expensive, and if of iron are likely to corrode. Carts with iron fittings are expensive and the iron requires careful attention, but for practical purposes a wooden puncheon or barrel fixed on to a bogey is equally effective, distribution being obtained by means of a wooden trough with holes. This trough can be left in the field and fixed again when the cart returns. The length of the trough is generally a little more than the width between the wheels of the cart.

(6) Its value has not been sufficiently appreciated and its treatment not sufficiently understood. This is probably the true reason for the neglect of liquid manure.

Liquid manure is especially useful for application to the following crops:—Meadow hay, from autumn to May; autumn sown catch crops and young "seeds," especially Rye-grass, early spring; aftermath, after the first crop, and pastures, winter; Cabbages, spring; Mangolds, late spring; and root crops, before sowing. The rate of application will depend both on the strength of the liquid, and on the number of applications to be given in a season. If it is borne in mind that 1,000 gallons of average, undiluted, liquid manure contains nitrogen equivalent to 100 lb. of sulphate of ammonia it will be easy to regulate the amount.

GARDENING APPOINTMENTS.

Mr. H. S. Walker, for two years in munition works, and previously for three and a half years Gardener to the Right Hon. AUDREY LADY PETRE, at Hollanden Park, Hildenborough, Kent, as Gardener to W. J. Sharpe, Esq., at the same place.

Mr. T. H. Reeves, for two and a half years Gardener to F. W. GIBB, Esq., Keverstone Court, Bournemouth, as Gardener to J. W. BENSON, Esq., at the same place.

Mr. W. Pennifold, as Gardener to Sir ALEXANDER GIBBONS, Stanwell Place, Staines, Middlesex.

Mr. J. E. Palmer, recently with H. M. Forces, and formerly General Foreman to Major CYRIL DEWHURST, Silstone Lodge, Tarporley, Cheshire, as Gardener and Bailiff to the same gentleman. (Thanks for 2s. for R.G.O.F. Box.—EDS.).

Mr. George Leggatt, for nearly three years with H.M. Forces, and previously Gardener to Mrs. MARGETSON, 17, High Road, Streatham, as Gardener to A. BULL, Esq., St. Edmunds, Woodfield Avenue, Streatham, S.W.

CATALOGUES RECEIVED.

ROBERT VEITCH & SON, 54, High Street, Exeter—Bulbs and Flower Roots. Special list of Fruit Trees. Special list of Roses.

LEWIS E. BAILEY, Hucknall, Nottinghamshire—Seeds.

R. WALLACE & Co., LTD., Kilnfield Gardens, Colchester —Irises and Iris Gardens.

J. C. SOUTAR, 37, Berkeley Terrace, Glasgow, W.—Patent Moss Extractor.

SCHEDULES RECEIVED.

London Gardeners' Guild.—Victory Garden Fête and Horticultural Show, to be held at Lord's Cricket Ground, St. John's Wood, on Saturday, September 6, 1919, at 2 o'clock. Hon. Secretary, T. Winter, Chapel House, Wellington Road, St. John's Wood, N.W.8.

Exposition Régionale d'Horticulture, Jette St. Pierre, Belgium. Sept. 27, 28, and 29. Secretary, Monsieur Vossen, 8-10, rue de l'Eglise, Jette-St.-Pierre, Belgium.

Answers to Correspondents

BROWN SPOTS ON APPLES: *A. G.* The sunken, brown patches on the Apple fruits are due to the presence of the fungus Gloeosporium fructigenum. The disease is commonly known as Bitter Rot, or Bitter Pit. Diseased fruits should not be allowed to rot on the ground, but should be collected and burnt, unless they are very lightly attacked, when they may be used for cooking, if peeled thickly. Spray the trees with potassium sulphide, at the rate of ½ oz. to a gallon of water, at intervals, commencing in the middle of July.

CARROT MAGGOT: *W. W.* The Carrot fly lays its eggs in the ground near to the Carrot roots, and it is usually noticeable that the plants are attacked by the fly immediately after thinning, when the soil is unavoidably loosened about the roots. The soil should be so treated that the plants are able to make quick growth without check, and any thinning that is done should be carried out before the plants are 2 in. high, in damp weather, and as carefully as possible. If the weather is dry a good watering should be given immediately after thinning, followed by a light top dressing with guano or other approved manure. Watering attacked plants with water containing one ounce of petroleum to the gallon is often effective as a preventive measure. Another good preventive measure is that of rough digging the ground at the beginning of winter, sprinkling gas-lime over the surface until it is quite white, and then "pointing" in the lime about 4 in. deep. Vaporite may also be mixed with the soil.

DISEASES OF PLANTS: *H. S.* (1) Pear: The disease is Canker (Nectria ditissima); cut out and burn all diseased twigs. (2) Rose: Leaves so shrivelled that it was impossible to determine cause of trouble. (3) Hollyhock: The Hollyhock Rust (Puccinia malvacearum); remove and burn affected leaves; if the plants are badly infected there is no certain remedy, and they should be burnt to prevent the disease spreading to other plants. Spraying with a weak solution of potasium sulphide as soon as the leaves develop, and at intervals afterwards is a preventive. (4) Apricot: No fungus present on the specimen sent. (5) Plums: Brown Rot (Monilia cinerea); the diseased fruits should be removed as soon as possible to prevent the Rot from spreading to others; do not allow any diseased fruits to remain on the trees during the winter. (6) Apple Blossom: Wilt and Canker disease. (7) Cabbage root: Finger and Toe disease (Plasmodiophora brassicae); apply dressings of lime or gas lime. (8) Potato leaves: Specimens badly shrivelled; disease not determined.

MINIMUM WAGE FOR KITCHEN GARDENERS: *W. T.* There is no fixed minimum wage for a worker in a kitchen garden on a private estate, unless the garden is worked on commercial lines, *i.e.*, where the produce is sold.

NAMES OF FRUITS: *J. J.* Apple Golden Spire; Pear Beurré d'Amanlis.—*T. H. J.* 1, Gladstone; 2, Court Pendu Plat; 3, Alfriston; 4. Herefordshire Pearmain; 5, Duchess of Oldenburg. — *H. E. S.* 1, Williams's Favourite; 2, Gladstone; 3, King of the Pippins; 4, Irish Peach; 5, Calville St. Sauveur; 6, Green Chisel Pear.

NAMES OF PLANTS: *W. P.* Cistus laurifolius. —*L. H.* 1, Cryptomeria japonica elegans; 2, Polygonum baldschuanicum.—*A. N.* 1, Syringa Emodii; 2, S. japonica; 3, Diervilla sessilifolia; 4, Inula Helenium; 5, next week; 6, send new specimen; 7, Cimicifuga simplex; 8, Crataegus Carrierei; 9, Ligustrum ovalifolium; 10, Taxodium distichum; 11, Azara microphylla; 12, Ribes aureum.—*A.* 1, Solidago Virgaurea; 2, Solidago multibracteata; 3, Lythrum Salicaria; 4, Rudbeckia grandiflora; 5, Veronica spicata; 6, Tradescantia virginiana. —*F. S. F.* The Pea-flowered specimen is Dolichos Lablab, which varies considerably in the colour of its flower. In India, where it is common, the seeds are used as food, and the fresh stems as fodder. The small specimen is a Tradescantia sp.—*J. M.* Helianthus decapetalus.—*C. R.*: 1, Statice latifolia; 2, Hieracium, probably H. aurantiacum.

SWEET BRIAR HEDGE: *H. W.* In erecting your wire fence to keep out rabbits from your Rose garden the wire should be sunk 6 inches at least in the ground and turned outwards under the ground for a distance of 9 inches to a foot, in the form of the letter L turned outwards. The object of this is to prevent them burrowing underneath the fence. Sweet Briar Roses are eminently suitable for planting against the wire in order to hide it. The ordinary form of Sweet Briar makes shoots 5 or 6 ft. long and these can be trained and laid slantwise something after the style of a cut-and-laid ox fence, pruning out the older growths from time to time, and will make a thick fence if kept 3 or 4 feet high. There is however a much dwarfer form of Sweet Briar obtainable, probably nearly akin to Rosa agrestis, which would be preferable if you wish the fence to be conveniently kept as low as 2½ feet. The Penzance Briars are also suitable for the purpose but being stronger in growth than the ordinary Sweet Briar they would be better trained to form a fence about 5 feet high. The Sweet Briar Roses should be planted 1½ ft. apart, and the Penzance varieties 2½ ft. apart, while the dwarf form may be planted 1 foot apart. Alternatives worth consideration for this purpose are R. altaica, the Scotch Rose, in various colours, Stamwell Perpetual, Moonlight, and Zéphirine Drouhin.

TO RID A POND OF BULLRUSHES: *G.* Bullrush is a name generally applied to the Reed-mace (Typha latifolia). In Sussex, however, the more popular name denotes Scirpus lacustris, a strong-growing member of the Rush family. We do not know to which plant reference is made, but in both cases the plants are so tenacious of life that any mixture of copper sulphate strong enough to destroy them would probably kill the fish. There would be very little fear of injuring the bottom of the pond if the Bullrushes are cleared out with a rake or dung drag. If the water is not too deep for anyone to go into the pond with waders on, a clearance may be effected with a fork; indeed, it would be a comparatively easy matter to pull up the plants now they are at their full length. If the water is deep, means should be taken to lower it sufficiently to enable the workers to reach the plants. Neither of these water plants, as a rule, grow in water deeper than from 4 to 5 feet. If the case is a serious one as regards the quantity of Bullrushes, it would be advisable to drain away the water, catch the fish, and then make an entire clearance of all weedy growths. The mud cleared from such a pond would make a capital dressing for grass land, with the addition of lime.

WHITE, OR "SNOWY," FLY: *G. P.* Spraying with tobacco water will kill the flies, but will have no effect upon the larvae and pupae under the scales, therefore spraying must be carried out regularly so as to kill the flies as fast as they appear. It is probable that the persistent use of tobacco water will also have the effect of preventing the females from laying their eggs upon the sprayed plants. Another method is to spray with kerosene emulsion; this is made by boiling ½ lb. of soap in a gallon of water and pouring the boiling mixture into 2 gallons of kerosene. The whole of the mixture should be violently churned with a force pump or syringe for five minutes; the addition of 30 gallons of water is required to make the mixture of a suitable strength for spraying.

Communications Received.—E. H. W.—S. A.—W. K.—J. O. B.—W. E. M.—A. O.—E. B.—E. M. B.—A. R.—H. M. V.—H. G. P.—A. C. L.—E. G.—T. B.—H. P.—W. D. and Sons—F. M. H.—D. and Co.—G. P. J.—W. J. B.

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Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Fuchsias, 48's, per doz.	8 0–15 0
Asparagus plumosus	12 0–15 0	Heliotropes 48's, per doz.	9 0–18 0
—Sprengeri ...	12 0–18 0	Marguerites white	18 0–24 0
Aspidistra, green	48 0–72 0	Mignonette, 48's per doz. ...	18 0–21 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Palms, Kentia ...	18 0–24 0
Campanula isophylla	12 0–15 0	—— 60's ...	15 0–18 0
— — alba ...	12 0–18 0	—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Achillea, per doz. bun.	2 0– 3 0	Lilium speciosum album per bunch	6 0– 7 0
Alstroemeria, per doz. bun. ...	4 0– 6 0	—rubrum per bun.	4 0– 5 0
Asters, white, per doz. bun. ...	5 0– 8 0	Orchids per doz.:	
Carnations, per doz. blooms, best American var.	2 0– 2 6	— Cattleyas ...	18 0–24 0
Chrysanthemums—		Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
—white, per doz. blooms.. ...	4 0– 6 0	— white, per doz. bunches ...	6 0– 9 0
— —per doz. bun.	12 0– 15 0	Roses, per dozen blooms—	
—yellow, per doz. blooms.. ...	4 0– 5 0	— Frau Karl Druschki...	1 6– 2 6
— — per doz. bun.	10 0–15 0	— Lady Hillingdon	1 0– 2 6
Coreopsis, per doz. bun.	1 6– 2 6	— Liberty ...	1 6– 2 0
Cornflower, blue per doz. bun....	2 6– 3 0	— Melody ...	1 6– 3 6
Daisies, white, large, per doz. bun.	2 0– 3 0	— Mme. Abel Chatenay ...	1 6– 2 6
Gaillardia, per doz. bun.	2 0– 3 0	—Mrs. J. Laing...	1 6– 2 6
Gardenias, per box specials ...	8 0– 9 0	— Ophelia ...	3 0– 4 0
— ordinary ...	2 0– 3 0	— Richmond, var.	1 6– 2 6
Gladiolus, —Brenchleyensis, per doz. spikes	3 0– 5 0	— Sunburst ...	3 0– 4 0
Gypsophila, per doz. bun. ...	6 0–12 0	—White Crawford	1 –6 2 6
— paniculata, per doz. bunches ...	6 0– 8 0	Scabious, per doz. bun.	6 0– 8 0
Iceland Poppies, doz. bun. ...	2 0– 2 6	Statice, mauve ...	6 0– 8 0
Lapagerias, per doz. blooms ...	4 0– 4 6	— white... ...	6 0–10 0
Lavender, per doz. bun., large ...	15 0–18 0	— latifolia, per doz. bun. ...	12 0–18 0
Lilium longiflorum, per bunch ...	24 0–27 0	Sultan, white, per doz. bun. ...	3 0– 5 0
		— — mauve ...	4 0– 6 0
		Stephanotis, 72 pips	3 0– 3 6
		Sweet Peas, per doz. bun.—	
		— white	2 6– 4 0
		— coloured ...	2 6– 4 0
		Stock, Dbl. White	4 0– 8 0
		—Dbl. Pink ...	6 0– 8 0
		—Dbl. Mauve ...	6 0–10 0
		—Dbl. Purple ...	6 0–10 0
		Violas, per doz. bun.	3 0– 4 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	0 4– 0 6	Onions (Egyptian) per bag ...	10 0–14 0
—Scarlet per bus.	8 0–10 0	Peas, per bus. ...	10 0–14 0
—Broad, per bus.	3 0– 4 0	Parsley, per doz. bunches ...	3 0– 6 0
Beetroot, per bus.	6 0–10 0	Potatos, new, per cwt.	12 0–14 0
Cabbage, per doz.	2 6– 3 0	Radishes, per doz. bunches ...	2 0– 3 0
Carrots, New, per cwt.	8 0 —	Spring Onions, per doz. bunches ...	4 0– 6 0
Cauliflowers, per doz.	7 0–10 0	Tomatos, English, per doz. lbs. ...	6 0– 7 6
Cucumbers, per flat	22 0–26 0	— Dutch.. ..	3 6– 4 0
Garlic, per lb. ...	0 6– 0 8	— French ...	4 0– 4 6
Herbs, per doz. bun.	4 0– 6 0	— Outdoor Jersey	5 0– 6 0
Mint, per doz. bun.	9 0–12 0	Vegetable Marrows, per doz. ...	3 0– 4 0
Mushrooms, per lb.	3 6– 4 0	Watercress, per doz	0 9– —
Mustard and Cress, per doz. punnets	1 3– 1 6		
New Turnips, per cwt.	10 0–12 0		

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d.
Apples (English)		Melons Canteloupe	2 6– 8 0
—Worcester Pearmain per ½ bus.	5 0– 8 0	Nectarines, per doz. ...	6 0–18 0
—Quarrenden ..	4 0– 8 6	Nuts Brazils (new) per cwt.	110 0–115 0
—Lord Suffield per bus. ..	5 0– 7 0	Cob Nuts, per lb.	1 0– 1 3
—Keswick Codling per bus.	4 0– 6 0	Pineapples each...	2 6– 6 6
—Ecklinville Seedling per bus.	4 0– 8 0	Plums (English) per ½ bus.	
Aubergines; pr doz	6 0– 8 0	—Belle de Louvain	12 0–15 0
Bananas... ...	30 0–40 0	—Gages English	14 0–15 0
English Peaches per doz. ...	6 0–18 0	—Orleans ..	12 0–14 0
Grapes:—		—Victoria ...	10 0–15 0
— Alicante ...	1 6– 2 0	—Washington ...	15 0–16 0
—Blk Hamburgh,	1 6– 2 0	Worthing Figs, per doz.	3 0– 6 0
—Canon Hall	2 6– 7 0	Pears, French, Williams crates 48's ..	14 0– 17 6
—Muscats, per lb.	2 0– 4 0	—Bon Chretien ½ sieves ...	14 0–18 0
Melons, each ...	2 0– 6 0		

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(Registered No. 1,666 T.)

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GARDENER wanted at once, Children's home, Elstree; mostly kitchen garden, chicken yard; 30s. and cottage.—Apply by letter, Mrs. P., Tree Logs, Hampstead Heath, N.W.

WANTED, KITCHEN GARDENER married; must be well experienced; cottage and coals free.—State wages and experience; middle aged preferred, A. WOODS, Beamish Park Gardens, Beamish S.O., Co. Durham.

SINGLE-HANDED GARDENER wanted; good cottage.—State experience and wages asked, to J. RIPLEY, Esq., Ampney Crucis, Cirencester, Glos.

WANTED, experienced SECOND MAN (married), chiefly for Lawns and Kitchen Garden; wages 30s., with 5 roomed cottage and coals.—Apply, stating age, experience, and full particulars, to H. BURFOOT, Piper's Corner Gardens, nr. High Wycombe, Bucks.

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FOREMAN (INSIDE). — Wanted a practical man with first-class experience in Fruit and Plant Houses, age not under 27. State experience, wages expected, with bothy, attendance, etc., and copies of testimonials, F. J. COUTTS, Fairlawne Gardens, Tonbridge, Kent.

WANTED, FOREMAN for Houses; experienced Fruit and Plants.—Apply, Mrs. LOGIE PIRIE, Tottingworth Park, Heathfield, Sussex.

WANTED, OUTSIDE JOURNEYMAN; bothy, etc.; age about 22.—Apply, stating wages, to C. LIDDLE, Garnon's Gardens, Hereford.

WANTED, JOURNEYMAN for Inside and Out; wages 30s. per week, with bothy, etc.; duty paid.—Apply, C. FROUDE, The Gardens, Cusworth, Doncaster.

SECOND JOURNEYMAN and IMPROVER wanted for Glass department; wages and all particulars.—Apply to G. LOW, Lees Court Gardens, Faversham, Kent.

WANTED a good MAN, chiefly for Vegetable growing and Fruit Trees; state wages, with cottage and garden.—Apply, H. PARRISH, Oakover, Ticehurst, Sussex.

WANTED, MAN for Kitchen Garden (single); ex-soldier preferred; £2 5s. per week; take duty; 1 o'clock Saturdays.—Age and experience to RITCHIE, Newtown Hall Gardens, Newtown, Montgomery.

WANTED, MAN for Kitchen Garden; 32s. per week, bothy, etc.; also one for Pleasure Grounds, 30s. per week, bothy, etc. Experience, etc., to ARTHUR H. LAWLEY, The Gardens, Witham Hall, Bourne.

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WANTED, a YOUNG MAN to work under another on the Terraces at Hestercombe; wages 25s. per week, bothy and vegetables.—Apply, J. ARNOLD, Hestercombe Gardens, Taunton.

WANTED, YOUNG MAN for Kitchen Garden.—State age, wage and experience; good bothy.—A. SMITH, Parkwood Gardens, near Henley-on-Thames.

WANTED, SINGLE MAN for Pleasure Grounds; experienced in Ornamental Trees, Hedges, Roses, Climbers.—Apply, stating age, experience, wages, with bothy, to HEAD GARDENER, Ratton, Willingdon, near Eastbourne.

WANTED, capable MAN for Lawns and General Garden work; 34s. 6d. per week and cottage; wife to cook and clean for bothy, pay extra.—Apply, J. W. SEDEN, West Grinstead Park Gardens, Sussex.

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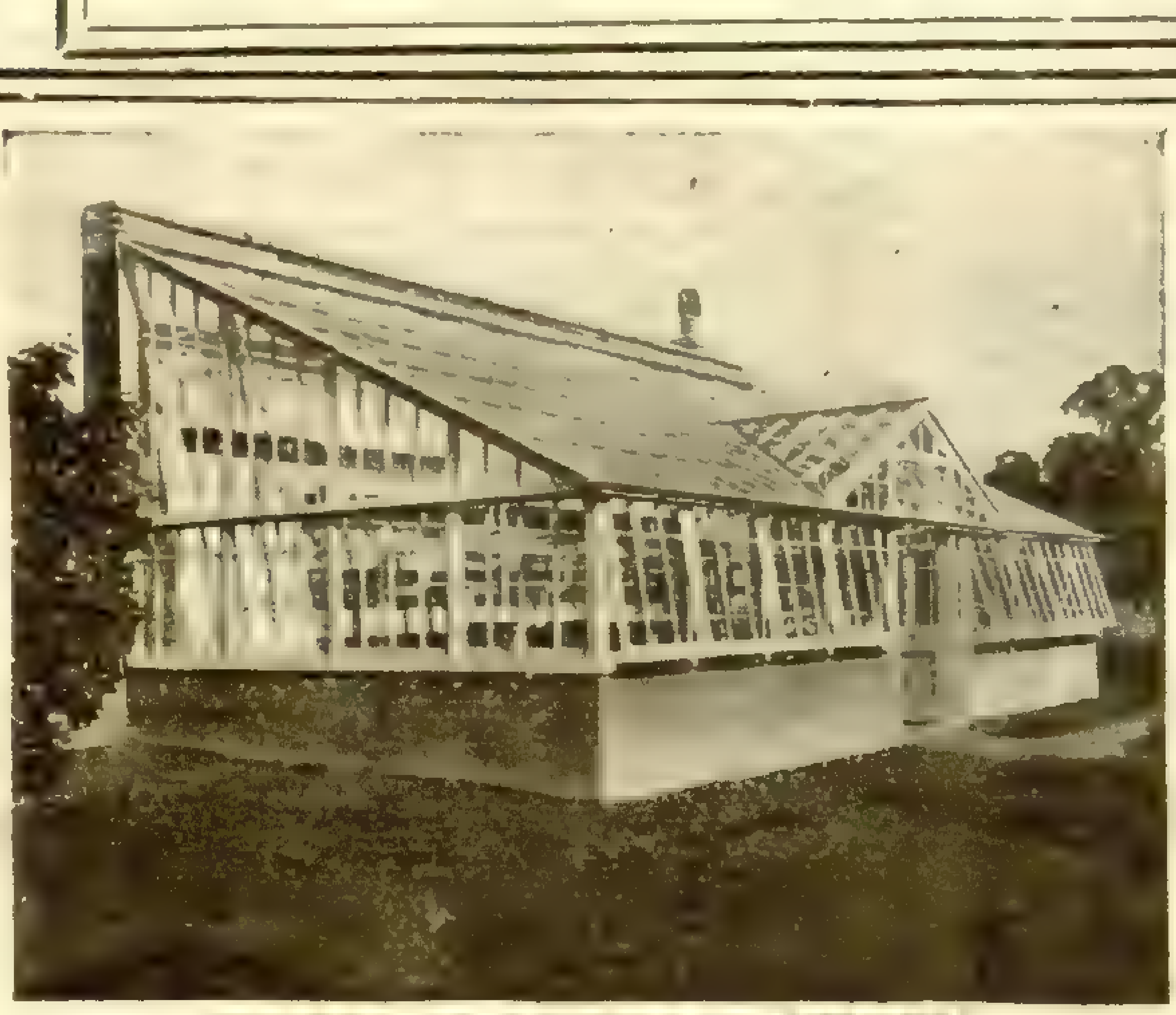

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MESSRS. PROTHEROE & MORRIS will sell the above by Auction, at Combe Bank Gardens, Sundridge, near Sevenoaks, by order of R. L. MOND, Esq., J.P.,

On WEDNESDAY, SEPTEMBER 17, at 12.30 o'clock.

On view two days prior and morning of Sale. Catalogues at Combe Bank Estate Office, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

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in variety, all Fruiting Specimens.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the premises, the West Hill and Pitt Corner Nurseries, Winchester,

On THURSDAY and FRIDAY, SEPT. 25 and 26, 1919, at 12 o'clock each day.

By order of MESSRS. HILLIER AND SONS.

May be viewed. Catalogues can be obtained at the Nurseries, at 95, High Street, Winchester, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.2.

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By Order of SAMUEL GRATRIX, Esq.,

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NOTICES.

LONDON BRANCH, B.G.A., at Chandos Hall, Maiden Lane (near Charing Cross), on Thursday, September 25, at 7.30 p.m. All London Gardeners invited.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W.14.

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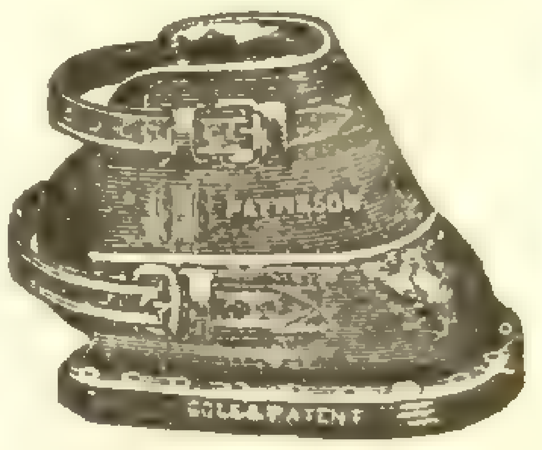

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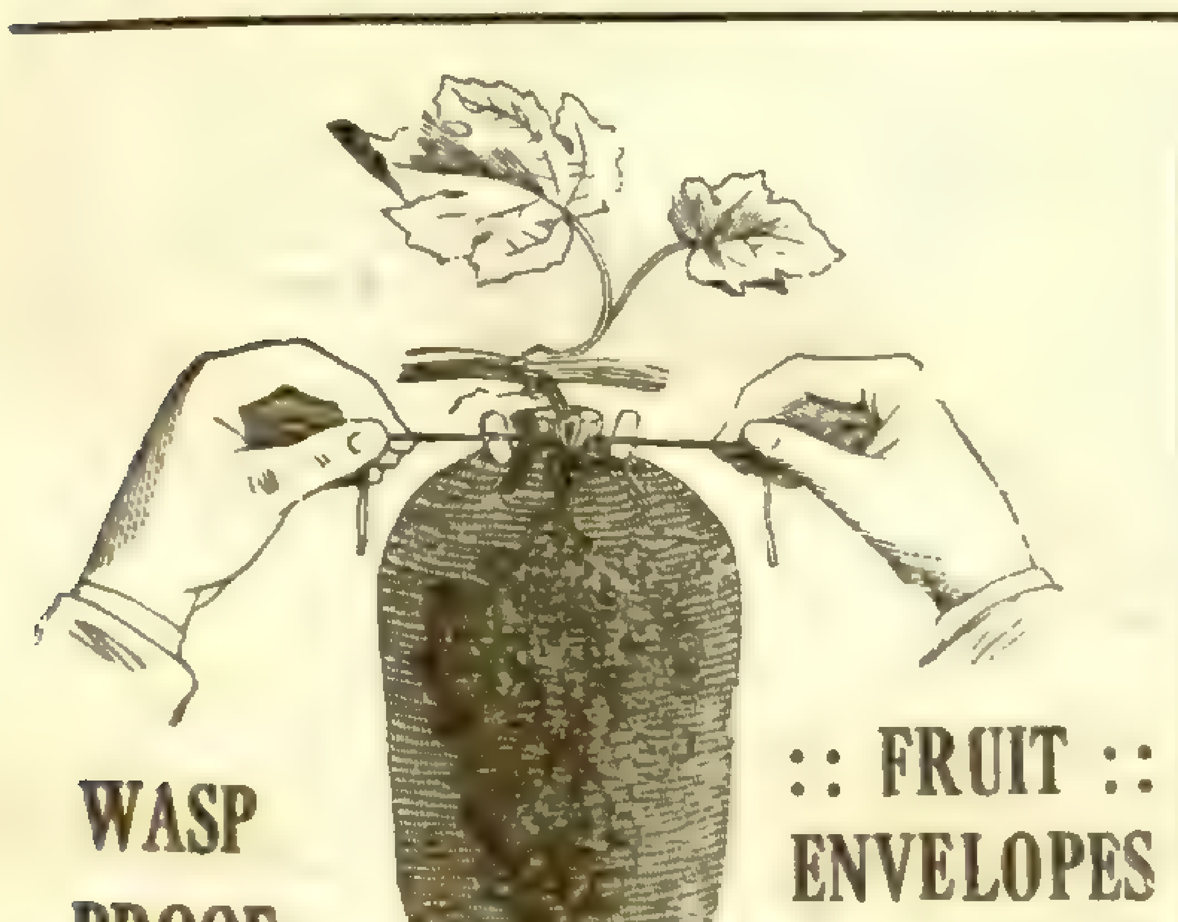

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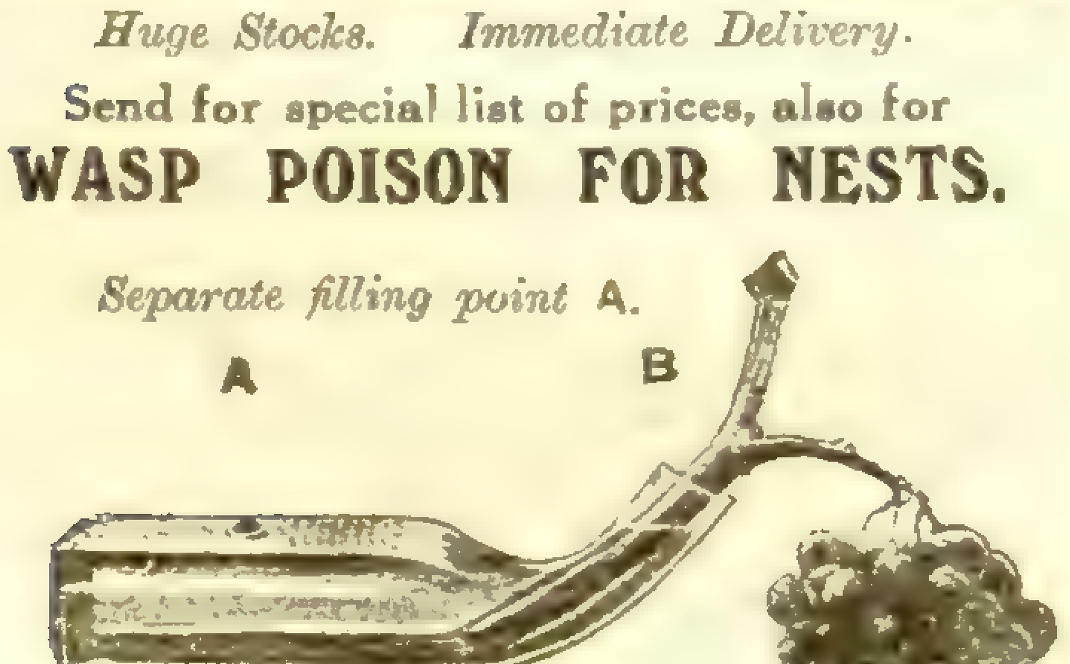

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THE
Gardeners' Chronicle
No. 1707.—SATURDAY, SEPT. 13, 1919.

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THE MARKET FRUIT GARDEN.

The first half of August was abnormally hot and dry. Up to and including the 17th of that month there was only one light shower, and the sun blazed down relentlessly day after day. As a result, early varieties of Apples and Plums ripened with a rush, so that it became difficult to cope with the picking and marketing. Early Rivers, Czar and Victoria Plums followed one another with scarcely a break, so that little time could be spared to deal with early and mid-season Apples. However, a heavy crop of Beauty of Bath was gathered and marketed in perfect condition, the colour of the fruit being most brilliant. Towards the middle of the month Apple trees that were carrying heavy crops began to show signs of suffering severely from the drought, the leaves turning yellow and in some cases falling, notably in Cox's Orange Pippin, the fruit of which is small in consequence. Many Apples also dropped for want of moisture. These troubles were worst in the orchard which is cropped with lucerne on the "sod-and-mulch" system, about which I wrote in rather glowing terms in my note of July 12 (see p. 19). This is an example of the way in which one is constantly forced to alter one's conclusions in fruit growing. Earlier in the season the trees on lucerne appeared to be standing the drought better than those on cultivated ground, but as the drought was prolonged matters were certainly reversed. However, the dry weather broke up with a vengeance towards the close of the month, and there should now be no danger of late Apples and Pears being undersized. On the four days from August 27 to August 30 inclusive 2.36 in. of rain were registered. Of this, 1.20 in. fell on the 28th, chiefly at night. Such a heavy fall on one day has been recorded here on only two or three occasions in the last nine years. Unfortunately, it was accompanied by high wind, which brought down many fruits. The varieties Duchess of Oldenburg, Norfolk Beauty, Lady Sudeley and Royal Jubilee were the worst sufferers, as they always are. Of the first two, quite half the crop is on the ground at the time of writing. However, there is seldom a season without its gales, with their resultant windfalls and temporarily glutted markets, and one learns to accept them as part of the ordinary routine. This year I am taking it very philosophically because I wanted the rain so badly. There are still plenty of Apples on the trees of most varieties, and they could hardly be cleaner and of better quality. With the exception of brown rot, pests and diseases are giving no trouble at all at present. Even wasps are scarce. The total rainfall for August was 3.17 in., which fell in nine days.

The Demand for Plums.

A pleasant feature of the season is the firm market for Plums. So far none of mine have been sold at less than 8s. gross per half-sieve of 28lb. Early Rivers ranged from 10s. to 17s., and Czars from 8s. to 12s. It was expected that these would be expensive, because the crops were light in most districts. The surprise, however, is the good market now being experienced for Victorias. Reports from most parts of the country indicated very heavy crops of these, and it was quite anticipated that returns would be low. Yet I have had none sold under 8s. per half-sieve, and the bulk has gone at 10s. to 11s. gross, after starting at 13s. This satisfactory state of affairs can be accounted for only by the very strong demand for Plums. People seem to be mad for them, even in a rural district like mine. The second issue of jam sugar coming just at the time probably has something to do with it. My highest return for Plums was, however, 16s. per half-sieve for Belle de Louvain. This also was a surprise, as it is unusual for a mid-season variety to beat the earliest. They were certainly a lovely sample and a light crop, and they came in just in the brief gap between Czar and Victoria, when the market was probably almost clear of Plums.

Cheap Apples.

If Plums are dear, Apples are cheap. So far only superb samples of Beauty of Bath have reached the maximum controlled wholesale price of 10s. 5d. per half-sieve of 20 lb., though very inferior grades have been seen in the shops at the maximum retail price of 9d. per lb. Apparently some shopkeepers prefer to buy low quality fruit in the hope of selling it at the maximum price and realising a bigger profit than if they bought the best. That is one of the evils of a controlled price. Mid-season cooking Apples are dirt cheap. Fine Grosvenors have sold at 3s. per half-sieve, and "seconds" at 2s.; and this is usually a favourite variety. No doubt the market will improve when Victoria Plums are finished and the windfalls are done with. It is only another example of the truth of the lesson learned in previous years, that if mid-season cooking Apples are grown at all they should be marketed whilst quite immature. They sell better then, and are picked before Plums need all the labour.

Silver-Leaf Disease.

Judging from my plantations, there is much less silver-leaf amongst Plum trees than in any recent year. This offers a good opportunity to destroy all affected trees or branches in the hope of stamping out the disease. I understand that the Board of Agriculture are about to issue an order enforcing this treatment, the work to be completed by all growers by a certain date—probably September 30. The idea is excellent, and should receive general approval, as the plan offers a good chance of stamping out a very destructive disease, which cannot be dealt with in any less drastic fashion.

Compulsory Spraying.

At the same time the Board have been sounding the opinion of growers on the suggestion of enforced spraying operations against pests and diseases. I understand that growers have expressed widely-varying opinions on this question. Some of the Kent growers who spray their orchards are strongly in favour of compulsion, as they consider that their trees are re-infested from the plantations of neighbours who do not spray. Possibly I should see the force of their argument if I were working in a regular fruit-growing district. Being practically isolated so far as commercial orchards are concerned, I am entirely against the proposal, although a strong believer in spraying. At present, I contend, we know too little about spraying, and results are far more often negative than is realised by those who do not make very careful tests. In the case of several insect pests, notably aphis, spraying is of no value unless done at exactly the right stage, and the weather does not always allow of this. It would be extremely irksome to be forced to spray when one's judgment declared that it would be useless. Then it is seldom that all varieties or all parts of the farm need spraying for any particular trouble in one season. There is no question in fruit-growing that calls for more judgment and on which it is so easy to throw away money. Take the case of summer spraying with a fungicide to prevent scab. This year I did hardly any of it, because the early summer was dry and therefore against the development of fungous diseases. I am very glad of this now, because there is practically no scab on either sprayed or unsprayed trees. Had I been compelled to spray all my trees, a considerable sum of money would have been thrown away. As for insect pests, the risk of infection from neighbouring growers is probably exaggerated. Here there are no commercial orchards within miles, and yet we get almost every pest that is known. Some of them—notably the caterpillars—are undoubtedly harboured by forest trees, such as the Oaks. Compulsory spraying would therefore be of little use unless it included woods, hedgerows, and gardens. I think that growers who favour the proposal would be very sorry if it came into force. The spraying operations to be adopted would no doubt be decided upon by entomologists and mycologists, who are unfortunately too fond of recommending an excess of spraying. We should probably be compelled to make numerous applications, many of which we should feel sure were useless, and to spend hundreds of pounds on the work. Surely it is more satisfactory to leave the matter to the judgment of the growers, so that those who spray with the most intelligence may reap the greatest benefit.

Double Grafting of Apples.

An interesting subject for investigation, which deserves more attention than it has yet received, is the double grafting of Apples. I have proved to my own satisfaction that it is useless to top-graft trees that prove unprofitable because of their persistent cankering. The tendency to this disease is certainly transmitted to the variety used as the scion, although the canker may be much less severe than in the original variety headed down to form the stock. For instance, Bramley's Seedling is practically immune from canker when grown in the ordinary way; but, if worked on to Gascoigne's Scarlet, it is much more liable to the trouble. Probably it is safe to assume that the converse would be true—that is to say, that a variety prone to canker would be healthier if grafted on an immune variety instead of directly on Crab or Paradise stock. If any reader can give evidence

of this being true, I should be very glad to have his experience. It will be worth much to a market grower to find a stock on which Cox's Orange Pippin, for instance, could be grown without cankering. But other characteristics besides immunity from diseases are influenced by double grafting. A Kent grower is reported to have found that Lane's Prince Albert worked on Worcester Pearmain takes on a brilliant colour; and he plants Worcester on purpose to treat in this way. Investigations of double grafting would not be complete unless they took into consideration the length of the intermediate stock, for it is possible that this might have some influence. The matter is, I understand, to form the subject of investigation at the Wye College Experiment Station at East Malling.

COST OF PICKING AND PACKING.

With the increase in agricultural wages the picking and packing of fruit naturally costs considerably more than it did. Presumably, if picking is done by piece-work, the price set must be high enough to allow the pickers to earn not less than the minimum day wage, which for women in this district is 6d. per hour, or 4s. for an eight-hours day. Before the war they were paid 2s. 6d. per day. I find that they cannot do much good for themselves in picking a moderate crop of Plums if the price set is less than 5d. per half-sieve. In the old days they were commonly picked for 3d., and the hands were eager for piece-work. Now they are not at all anxious for it. Early Rivers were gathered this year at day wages, because the trees are high and the fruit is difficult to reach. Several men with ladders were employed to reach the top branches, the usual women pickers getting all they could with their steps. This made the picking very expensive, working out at about 9d. per half-sieve. Such rates are not of much consequence whilst Plums sell at good prices; but they would never do if returns got down to 1s. 9d. per half-sieve, as they have done in years of heavy crops. Black Currants are the most expensive crop to gather. This year the yield was very light and picking consequently slow. Even at 1s. 9d. per half-sieve none of the hands got very rich. They have often been picked at 9d., and sometimes at 7d. Apples here are always harvested at day wages, because there is no particular hurry to get them off the trees, and they cannot be weighed and marketed just as they are, but need grading and packing properly. With perishable fruit like Plums and Currants piecework is almost a necessity, because condition soon deteriorates if the crops are not dealt with rapidly; and they are certainly picked twice as fast by the piece. *Market Grower.*

ANTHOLYZA PANICULATA.

THE reference to the use made by Sir Herbert Maxwell of this pretty plant, in *Gard. Chron.*, August 23, p. 110, reminds me of a curious experience with it some years ago. A spike with leaves and bulbs, as pulled up, was sent me to name. I planted the specimen in my garden and it grew and flowered satisfactorily, although usually late in the year. Ultimately it became a weed, coming up in the border and gravel walk, and I did my best to eradicate it, but without avail. At present it is still a thing of beauty, but threatening to exceed its bounds. The thought which arises is why so many of the coveted Irideae which I and others have imported, only to lose, cannot do the same. *Jas. O'Brien.*

ORCHID NOTES AND GLEANINGS.

ANGRAECUM SCOTTIANUM.

This extremely rare and distinct species is flowering in the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. H. Thurgood). Angraecum Scottianum was first obtained by Sir John Kirk in 1878, from Johanna, one of the Comoro Islands, and was described by Reichenbach, in the *Gardeners' Chronicle*, X. (1878), p. 556, from a specimen which flowered with Mr. R. Scott, Cleveland, Walthamstow, Essex. A First-Class Certificate was obtained for it by the late Sir Trevor Lawrence when it was but sparsely represented in gardens, but in 1885 Monsieur Leon Humblot and Messrs. Sander imported it in quantity, and it was generally distributed. Time has again made it a rare plant, although, as shown by Mr. Pitt, it is not difficult to grow if placed in a warm house and carefully tended. Its terete leaves on slender stems, furnished with gracefully arranged, wax-like, white flowers with long, brownish spurs, make it an attractive object, and the fragrant flowers last a long time.

HYBRID ORCHIDS.

(*Continued from July 12, page 20.*)

Hybrid.	Parentage.	Exhibitor.
Brasso-Laelio-Cattleya Sunstar	B.-L. Helen × C. Fabia Leonora	Dnke of Marlborough.
Cattleya Bridesmaid	Brenda × intertexta alba	Mrs. Gratrix.
Cattleya Dela	Venus × Warscewiczii Fr. M. Beyrodt	C. J. Phillips, Esq.
Cattleya Dene	Acis × O'Brieniana alba	C. J. Phillips, Esq.
Cattleya Bronacha alba	Gaskelliana alba × Myra Peeters	Pantia Ralli, Esq.
Cypripedium Capablanca	Milo × Harrisianum superbum	Duke of Marlborough.
Cypripedium Rosslyn	Godefroyae leucochilum × Rolfei	H. T. Pitt, Esq.
Laelio-Cattleya Brightness	C. fulvescens × L.-C. Martinetii	Sanders.
Laelio-Cattleya Clovis	C. Dusseldorfei Undine × L.-C. Ophir	R. W. Rickards, Esq.
Laelio-Cattleya Muriel	C. Kienastiana × L.-C. callistoglossa	Hassall and Co.
Laelio-Cattleya Rhodope	C Rhoda × L.-C. Dominiana	Flory and Black.
Laelio-Cattleya Zoe	L.-C. Baroness Schröder × C. Schroderae	Duke of Marlborough.
Odontioda Black Prince	Odm. Queen Alexandra × Oda. Charlesworthii	Stuart Low and Co.
Odontioda Bridesmaid	Oda. Coronation × Odm. Pescatorei	Stuart Low and Co.
Odontioda Dictune	Oda. Thwaitesii × Odm. crispum	C. J. Phillips, Esq.
Odontioda Dodeham	Odm. crispum × Oda. Joan	C. J. Phillips, Esq.
Odontioda Dovere	Oda. Diana × Odm. illustrissimum	O. J. Phillips, Esq.
Odontioda Gatton Ruby	Devossiana × Bradshawiae	Sir J. Colman.
Odontioda Hallworth	Odm. Hal'ioxanthum × Oda. Charlesworthii	De B. Crawshay, Esq.
Odontioda Hemworth	Odm. hellemense × Oda. Charlesworthii	De B. Crawshay, Esq.
Odontioda Nobworth	Odm. Pescatorei × Oda. Charlesworthii	De B. Crawshay, Esq.
Odontioda Zenworth	Odm. Zena × Oda. Charlesworthii	De B. Crawshay, Esq.
Odontioda Smilax	Odm. aspidorhinum × C. Noezliana	Pantia Ralli, Esq.
Odontioda Meteor	Odm. Edwardii × Oda. Vuylstekeae	Stuart Low and Co.
Odontioda Donna	Odm. illustrissimum × Oda. Leeana	C. J. Phillips, Esq.
Odontonia Corona	M. Warscewiczii × Odm. Harryanum	Charlesworth and Co.
Odontoglossum Alexanossa	Queen Alexandra × Ossulstonii	De B. Crawshay, Esq.
Odontoglossum Nessa	Nerissa × Harryanum	De B. Crawshay, Esq.
Odontoglossum Regace	regale × Dirce	De B. Crawshay, Esq.
Odontoglossum Triumillus	triumphans × illustre	De B. Crawshay, Esq.
Odontoglossum Waltonillus	Waltonense × illustre	De B. Crawshay, Esq.
Odontoglossum Vulpecris	Vulpex × crispum	De B. Crawshay, Esq.
Odontoglossum Excelsum	excellens × triumphans	Sanders.
Odontoglossum Danitone	luteo-purpureum Vuylstekeanum × Fascinator	C. J. Phillips, Esq.
Odontoglossum Dela	Thais Georgius Rex × coeruleum	C. J. Phillips, Esq.
Odontoglossum Dene	illustrissimum × Crawshayanum	C. J. Phillips, Esq.
Odontoglossum Dictune	amabile × Her Majesty	C. J. Phillips, Esq.
Odontoglossum Dodeham	harvengtense × Phillipsianum	C. J. Phillips, Esq.
Odontoglossum Dovere	crispo-Harryanum × Lambardianum	C. J. Phillips, Esq.
Odontoglossum Darenden	ardentissimum xanthotes × Phillipsianum	C. J. Phillips, Esq.
Odontoglossum Delce	luteo-purpureum Vuylstekeanum × Leonidas	C. J. Phillips, Esq.
Sophro-Laelio-Cattleya Exquisita	S.-C. Atreus × L.-C. highburiensis	Duke of Marlborough.
Sophro-Laelio-Cattelya Saxon	S.-C. Saxa × L.-C. Dominiana	Flory and Black.
Sophro-Laelio-Cattelya William Pitt	S.-L.-C. Dorila × C. Hardyana	Flory and Black.

NOTICES OF BOOKS.

The Strawberry in North America.*

THE student of horticultural history in the old world is so often handicapped by the fact that his subject takes him back to the time when records fail that he will view with a certain envy the pleasant task which Mr. Fletcher has undertaken, namely, the history of the Strawberry in North America. Even here this work is beset with some difficulties, lacunae exist in the records, and the *ipse dixit* of a century ago needs some adjustment to the knowledge of to-day. Nevertheless, the author has produced an extremely interesting work, which will be studied from many aspects. The biologist will learn something of adaptation, the gardener much of culture, and even the psychologist might study the tenacity of the preconceived notion. The evolution of the Strawberry in Europe has been so largely dependent upon the two American species, Fragaria virginiana and F. chiloensis, that we might expect that it would have run a course in its own country, independent of European varieties.

The author makes a good case for such a history, but it is interesting to note that the British Keen's Seedling, which occupies a place in Strawberry history similar to that of Eclipse among thoroughbred horses, has in all probability had great influence in the production of the American varieties. Hovey's Seedling was the first "super" Strawberry of America, and its origin, through a mishap with labels, is not entirely clear, but there is a great probability that Keen's Seedling was one of its parents. It is a remarkable fact, and one which has been noted before, that the British varieties do not do well in the United States, and the converse is also true. In Mr. Fletcher's preceding book, *Strawberry Growing*, in which commercial and cultural matters were exhaustively treated, no British variety occupies a front place. The Strawberry seems to be peculiarly influenced by its environment, and even in this country it is quite possible for a variety to be good in some soils and positively nauseous in others. Experiments at Long Ashton have also shown that plants from certain soils do consistently better when transplanted than others. A curious problem lies here to be explored, and one which does not seem capable of the simple explanation which is brought forward in the case of Potatos from northern climes.

Mr. Fletcher discusses at some length the part that Fragaria chiloensis has played in the American Strawberries, and also refers to its European history. The crucial question of the origin of the Pine variety he also discusses, and he leans rather strongly towards its origin as a chiloensis-virginiana cross.

The varieties, however, which we have seen in the country show but little evidence of F. virginiana, and corroborate Duchesne's opinion that it is a "degeneration" or a smaller edition of F. chiloensis.

The chief interest of the book lies in its very careful record of the growth of Strawberry culture in North America and the work of those who have produced new varieties, and it is a model of what such a record should be. The amount of research for such work must have been amazing, and the writer has just reason to be proud of the record of his country, and his slight tendency to overlook the contribution of the old world is a pardonable and natural feeling. It must be pointed out, however, that his accuracy in dealing with European history is not always quite impeccable. For instance, he tells us that the Strawberry does not appear in English writings before Lydgate's *London Lickpenny* in 1430. This is quite wrong, and is one of those statements which are copied from one author by another, and therefore needs to be corrected. It is only necessary to refer to Aelfric's Vocabulary, of the eleventh century, where the name occurs. We have also a discussion as to the origin of the name, but a reference to Murray's Dictionary would have

* *The Strawberry in North America.* S. W. Fletcher. 334 pp., illustrated. The Macmillan Co.

demonstrated that the "straw" origin is now quite discredited, and Strawberries had their name long before any straw was used in their culture. It is rather amazing to read that the French name "fraise" comes from Frezier, the Frenchman who first introduced the Chilian variety to Europe! Readers might wonder what the native fruit was called before his arrival.

These, however, are small points which the author will doubtless correct in a future edition, and we mention them only for this purpose, and in an endeavour to stop the propagation of inexactitudes which, once having taken wing, are so difficult to bring to earth. The proof reader might also seize this opportunity of correcting the spelling of several French names.

No student of the history of fruit culture can afford to neglect this work, and we hope it will be the forerunner of others from America, where the conditions are so favourable to its study. The interbreeding of native with introduced varieties having taking place comparatively recently may give us many useful hints on the more complicated question of the origin of European varieties which so often, as they say in France, "lose themselves in the night of time."

TWO PESTS OF THE ROSE.

NEPTICULA ANOMALELLA

The Rose-Leaf Miner.

The larvae of this small tineid moth make long irregular galleries in the leaf of the Rose, and though the actual damage to the plant is usually not very serious, considerable disfiguration results. The grub is very small, yellowish in colour, and measures only 4 mm. or about $\frac{1}{6}$th inch when full grown. It is provided with short stiff hairs on each segment, which aid the insect in moving about the inside of the leaf. It is quite clear that a large number of stiff hairs give a very much higher degree of friction to the slippery interior of the leaf than would a comparatively few legs such as the normal form of moth caterpillar possesses. To make use of a rather mixed metaphor, the insect has already adopted the "caterpillar" system of traction, but has improved on it.

There are two generations in the year, larvae being found in July and also in September and October. The moth appears in May and August, and is about 5-6 mm. ($\frac{1}{4}$ inch) across the outspread wings. It belongs to the large group of the Tineidae, a group containing large numbers of small, inconspicuous moths, many of which are leaf miners. The fore-wings are greenish-bronze in colour, becoming lighter towards the apex and rounded off by a well-defined purple border. The hind wings are grey, and both wings are fringed with long hairs or cilia.

Since the caterpillar feeds inside the leaf it is clear that spraying would be useless to check its ravages, but much may be done by picking the infested leaves regularly or, more simply still, by pinching the leaf between finger and thumb at that point where a slight hump in the gallery marks the position of the larvae. By this method the leaf is still left to function.

TORTRIX BERGMANNIANA.

This pretty moth is a common pest of the Rose all over the United Kingdom, but is especially common in the south. It measures about half-an-inch across the expanded wings and in general coloration is a bright yellow merging into orange and rust red. The fore-wings are ovate with blunt angles, and are orange-red in general colour, the basal patch near the body being a clear yellow. Just beyond this patch is a line of silver grey, often, however, only recognisable as a greyish spot near the costa. There are two other better marked transverse grey lines, one strongly curved, just beyond the middle, the wing and the other nearly at the edge almost parallel to the outer margin of the wing. Each is outlined by reddish brown. The hind wings are a smoky grey. The moth appears at the end of June and continues to fly during July.

The larva, which is found in May and June on the Rose, is at first pale greenish grey, but as it grows older and larger it becomes a well-marked yellow. In its first stages it spins the edges of a young leaf together and lives in the interior, but later on it lives amongst the shoots, drawing down the leaves by silken strands so as to form a sort of tent. When fully grown it pupates amongst the twisted foliage. This pest is capable of doing considerable damage to the Rose and should be attacked either by hand picking or by spraying with lead arsenate. *A. H. Lees.*

Fig. 66.—Insect enemies of the rose.
Rose-leaf miner (Nepticula anomalella), rose grub (Tortrix bergmanniana).

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante pp. 64-70.)

(*Continued from p.* 128.)

SOUTHERN COUNTIES.

Middlesex.—The continuous hot dry weather had an injurious effect upon crops. Gooseberries and Red Currants were abundant, but Black Currants suffered so much that very few of the first fruits remained to ripen. Strawberries were shrivelled almost beyond recognition. *W. Swan, The Gardens, Jamnagar House, Staines.*

—— The crops are a great improvement on those of 1918. The great blizzard on Sunday April 29 frightened the great majority of Plum growers, as the snow and icy winds threatened to ruin the crop. The snow, however, saved a good deal of fruit, and some varieties like Czar carry a full crop. Most of the others have fair crops. Pears are about a quarter crop, Apples, Gooseberries, Red Currants and Raspberries, are good. My trees are free from caterpillars, but in some places the pest has been troublesome. *John Weathers, Park View, Isleworth.*

—— Gooseberries, Raspberries, Strawberries, and Cherries were very heavy crops—the best I have had for some years. Several standard Apple trees in the orchard are bearing freely, but espaliers are poorly cropped. Peaches and Pears are satisfactory, but Plums and Damsons are scarce. All the trees are now growing freely —although caterpillars were very troublesome and did much damage. *H. Markham, Wrotham Park Gardens, Barnet.*

—— Fruit trees are very clean and free from blight, considering the drought they have with-

stood. *A. R. Allan, Hillingdon Court Gardens, Uxbridge.*

—— This has been a remarkable season. Practically all tree and bush fruit blossomed profusely, but unfavourable weather prevailed during the whole period, excepting whilst Apples were in flower. During the six weeks' drought large quantities of the fruit fell, and instead of a heavy one, we had about an average crop. Insect pests have been very troublesome. *G. H. Head, The Gardens, Fulwell Park, Twickenham.*

SURREY.—All hardy fruit trees blossomed well, and, until the severe frosts and cold east winds came early in May, the crops bade fair to be phenomenally heavy. But the May frosts thinned the blossoms very severely, and the heat and drought which followed during the latter part of May and in June, caused large numbers of fruit to fall. The crop of Apples in this district is far below the average. Plums and Pears are also very scarce. Bush fruits such as Gooseberries, Black and Red Currants, and Raspberries were very plentiful. The crop of early Strawberries was satisfactory, but the late kinds suffered a great deal from the drought. *J. Collier, Gatton Park Gardens, Reigate.*

—— The Apple crop is satisfactory; Cox's Orange Pippin, Ribston Pippin,

FIG. 67.—CELERY ALDENHAM PINK SEEDING.

Charles Ross, Lane's Prince Albert, and Wellington were exceptionally good crops. Strawberries suffered severely from drought and the fruits were rather small, but of good flavour. *J. A. Kirkwood, The Gardens, Sutton Place, Guildford.*

—— The snow storm we experienced on April 27 did much damage, and the lack of labour for spraying the trees has meant further destruction of crops by insect pests. *Jas. Lock, Oatlands Lodge Gardens, Weybridge.*

—— Fruit crops here are considerably larger and of better quality than last year. Apples are an average crop, Pears are over the average and both promise to be good. Peaches and Plums are under the average but are clean and good. All small fruits have cropped heavily. Cherries in the orchards about here are above the average in quantity and quality. At one time the trees were almost stripped by caterpillars, but quickly recovered when rain came. *F. Jordan, Ford Manor Gardens, Lingfield.*

—— The promise of fruit of all kinds was excellent, but drought in May and June, and a very severe attack of the small cockchafer—locally known as the June Bug—reduced the crops considerably. *S. T. Wright, R. H. S. Gardens, Wisley, Ripley.*

—— The flowering period gave promise of abundant crops. The fertilisation of the blossoms was affected, but cold nights over a long period adversely affected the fruit, while the arid conditions which prevailed during May and June fostered an epidemic of blight, so that quite two-thirds of the crop fell to the ground. *T. Smith, Coombe Court Gardens, Kingston-on-Thames.*

SUSSEX.—The fruit crops are fairly good this season. The long spell of dry weather has affected them in certain districts, but where copious supplies of water have been given fruits are looking well. Apples and Pears are very promising, but Apricots and Plums failed to stone and all their fruits dropped. Strawberries gave an enormous crop of very fine fruit, and Gooseberries, Currants and Raspberries carried heavy crops that swelled up well. All our trees have kept wonderfully free from caterpillar attacks. The soil is light on chalk. *J. J. Thompson, Compton Place Gardens, Eastbourne.*

—— Fruit crops generally are satisfactory, Cox's Orange Pippin, Allington Pippin, Lane's Prince Albert, Peasgood's Nonesuch and Lord Suffield Apples carry very heavy crops. King George and Royal Sovereign Strawberries were specially good. Fruit trees are looking well. We have had little trouble with caterpillar since spraying and little sign of fungus. *F. C. Legge, Castle Gardens, Arundel.*

—— Apples are very clean and swelling nicely, in spite of the drought. There was a severe plague of caterpillars, but where these have been killed by spraying the trees now look unusually healthy. Absence of aphides is a feature of the season, and fungous diseases (notably scab) are not troublesome at present. Nearly all varieties of Apples have a fair crop. Only mid-season Plums are plentiful; early kinds are light and late very scarce indeed. Strawberries gave a short crop owing to drought, which has also affected other small fruits. *Ernest M. Bear, Magham Down, Hailsham.*

—— Fruit crops generally are good, but small fruits have suffered through drought. Strawberries were firm and of excellent flavour. Pears flowered well, but owing to a long spell of cold winds and occasional frost the blooms set very badly. Although the Apple crop is good, the fruit is not proportionate to the wealth of bloom. I think excessive flowering weakened the fertility of the flower. *Lewis Squibbs, Stonehurst, Ardingly.*

—— The main feature in these gardens is the Apple crop. The majority of the trees (both large and small) are laden with good clean fruit, whilst many young trees growing in poor grass land—and which hitherto have produced very little fruit—are well cropped. Pears are above the average—especially on open standards from 12 to 14 years old; Marguerite Marillat, Beurré Hardy, Jargonelle, Doyenné de Mérode, Fondante des Bois, etc., cropped profusely. *Ernest Markham, Gravetye Manor Gardens, East Grinstead.*

—— All fruit trees here blossomed splendidly and we had a good set of fruit on Apples, Pears, and Plums. Pears and Plums seem to have suffered very much from the early drought, and crops are under the average. The quality in all kinds of fruit is very good, Cherries, Raspberries, Currants, and Gooseberries were well over the average, and Apples are up to the average. Caterpillars appeared on several trees, but were promptly checked. *J. W. Buckingham, Milland Place Gardens, Liphook.*

(*To be continued.*)

VEGETABLE SEED-SAVING.

I HAVE not one word to write or say against the seeds supplied by our leading seedsmen, whose stocks are, as a rule, true to name and of the best quality. I am, however, a great believer in the advantages which accrue—when one is in the happy possession of any special stock, whatever it may be—if steps are taken to retain it by saving one's own seed. As a result of selection and re-selection, not only can the high quality be maintained, but, oftentimes, a great improvement effected.

I have practised seed saving for special stocks of vegetables for well over half-a-century, with the best results. Few things are more annoying and disappointing than, after weeks and months have been spent in doing one's best to bring to perfection a particular vegetable, to find at the last it is absolutely worthless.

The majority of vegetables can be easily grown for seed purposes in this country, including Celery, Leeks, Onions, Peas, Beans of all sorts, Parsnip, Beet, Tomatos, Cucumbers, Vegetable Marrows, all kinds of the Brassica family, and many others. It must not be forgotten that the greatest care is necessary in saving the seeds of the Brassicas; the varieties should not grow near each other, but if they have to be so grown then they should be protected against bees and other agents which affect cross-pollinisation. One very important point must be observed, viz., that in nearly every case it is necessary to plant and grow the stocks in a sunny, open position.

The illustrations in Figs. 67 and 68 depict Celery Aldenham Pink, and my new Turnip, Aldenham Victory, respectively, in seed. *Edwin Beckett.*

The Week's Work.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Orchard House. — Pot trees which have ripened their fruits should be placed out of doors, and their roots should be protected against sun and drying winds by surrounding the pots with litter or plunging them in suitable material, but do not put the trees in a shaded position. If insect pests are troublesome the trees should be cleansed with an insecticide at the time of their removal. Where Peaches, Nectarines and Plums are required as late in the autumn as possible, the trees should, for the present, be kept in an airy position. Fruits liable to the attacks of wasps, earwigs and flies should be protected by enclosing them in muslin bags. Earwigs may be trapped in short lengths of Beanstalks. Wasps should be tracked home and their nests destroyed with cyanide of potassium. Cyanide may be used either in the solid or liquid form; in the latter case, a small wad of cotton-wool should be well soaked in the liquid and then placed in the entrance to the nest; after a few hours the nest can be dug out and destroyed. Shorten

all unnecessary lateral growths upon fruit trees, so as to fully expose the swelling fruits to the sun, and to assist the ripening of the wood which will bear next season's crop. Do not allow the roots to suffer for lack of water.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Violets.—The pits or frames, preferably those that can be heated, in which these plants are to be grown and flowered through the winter months, should now be got ready for planting Violets. The frames should be filled, so that the Violet plants will be close to the glass. Provide an ample depth of good, well-enriched soil; lift and transplant the plants carefully, and keep the frames fairy close for a few days; afterwards afford plenty of air, and during fine weather syringe the foliage in the afternoons to check red spider.

Tree Carnations.—Stock plunged in pits or frames during the summer fully exposed should now be removed to a suitable greenhouse that is well ventilated and where an intermediate temperature can be maintained during cold weather. Stand the plants on a dry, hard base. On bright days admit sufficient air and provide a fairly high temperature. As the foliage is very subject to attacks of red spider, care must be taken to prevent attacks by almost daily spraying of the foliage in the early mornings. Frequent spraying with a weak solution of salt and water strengthens the foliage and prevents attacks of red spider. Plants that have filled the pots with roots should be liberally fed with liquid manure. To provide cuttings for next year's stock of tree Carnations, which should be inserted next month, a number of strong, healthy specimens should be selected and grown for this purpose only.

Poinsettia.—Poinsettias now established in their flowering pots should be placed in a cold frame or pit and openly exposed to the sunshine in fine bright weather. This exposure will harden the growth and help to retain the foliage in health right to the base of the stem. Much care must be taken in watering them, and occasional supplies of liquid manure should be afforded. Stand the plants thinly and syringe them on bright days. Late struck plants should now be potted into 5-inch pots and placed in a warm frame or house to hasten their growth.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Potatos.—All crops of Potatos should be ready for digging and storing in the southern counties. Choose favourable weather and allow the tubers to remain exposed for a few hours; then convey them to dry sheds, where they can be graded during inclement weather and eventually stored for the winter.

Endive.—The early raised Endive plants will now be ready for planting in frames. Place the frames on a hard ash or cinder base, proceed to plunge the Endive plants, which should have good balls of earth attached to their roots, close together and work some soil between each row. Take care, however, that the soil does not reach the hearts of the plants. Later batches of Endive may be planted on a south border and in garden frames, 10 inches apart. The above remarks apply to Lettuce also, particularly those growing in cold localities.

Mushrooms.—New beds should be made in the Mushroom house or cellars, where an equable temperature can be maintained. Collect horse droppings, with short straw combined, in as short a time as possible (not longer than two weeks), and turn the heap regularly to bring the whole bulk into a uniform degree of heat and moisture. When a steady temperature of 80° has been reached place the manure in position firmly, not less than 15 inches in depth. Spawn the beds when the temperature recedes to 78°, and place the pieces of spawn—the size of hen's eggs—at a depth of 2 inches and 1 foot apart. Level, and again make the surface firm, then place an inch of sifted loam over the bed and make it firm also.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Single Dahlias.—Some of these are especially good, and useful for many purposes. Those who admire single-flowered varieties should select a few of the best, after seeing them in full flower. Varieties of the Crawley Star type are very pleasing and much admired.

Delphinium.—Plants raised from seed sown in the spring, and which were duly pricked off and transplanted in nursery beds on a suitable border, should be kept free from weeds. Plant them early, where they are intended to flower next year, in deeply worked soil, and a good display of bloom should follow. Old plants, now that the ripe seed has been gathered, should have their flower stems removed. In suitable weather these plants may be lifted, divided and replanted; by planting early good results may be obtained.

Bulbs.—Narcissi should be planted freely in the open ground, in the shrubberies, under trees, and in the wild garden. Good clumps should be planted early, and some of the old clumps, which have grown into masses, lifted and replanted.

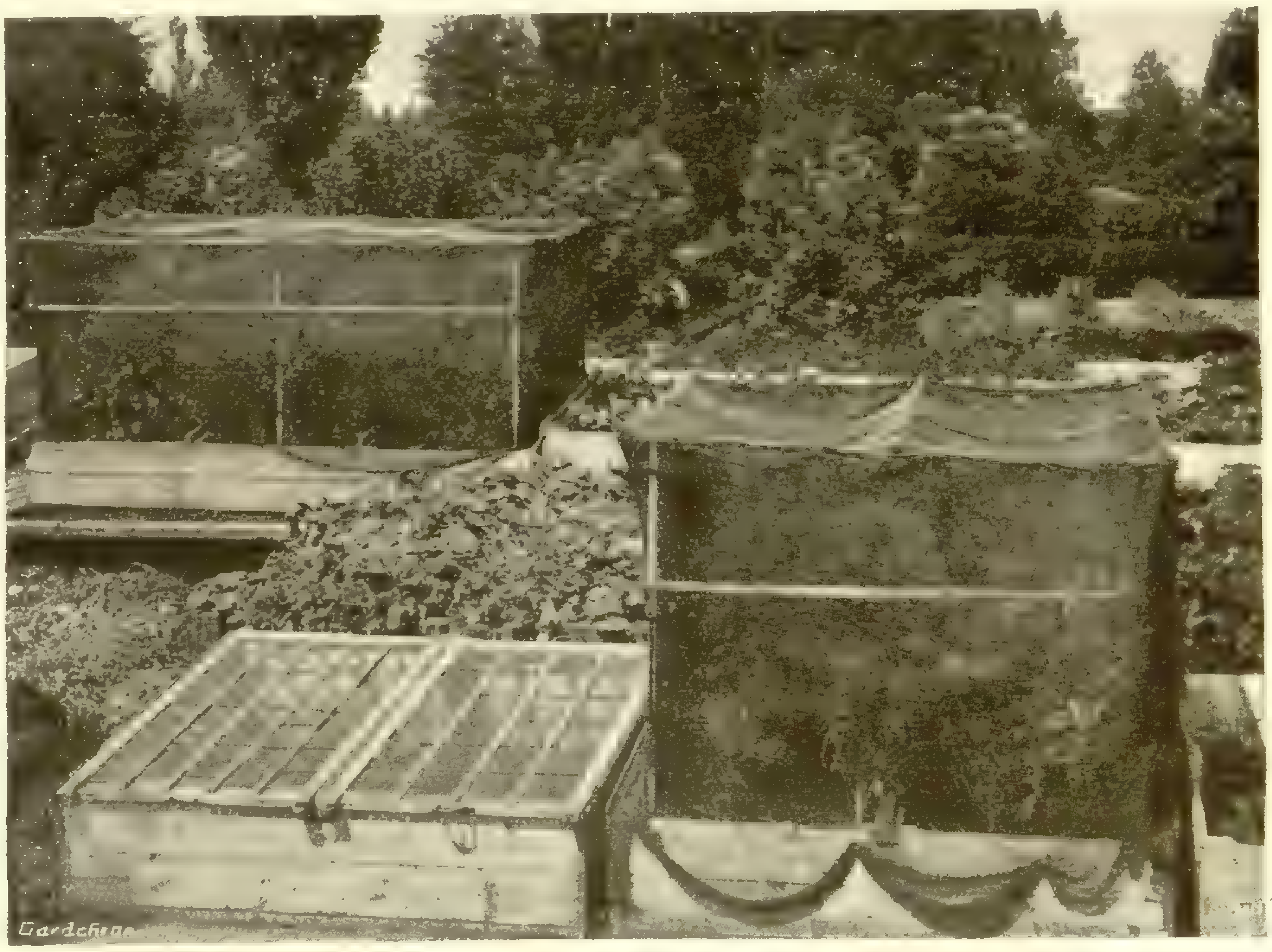

Fig. 68.—Saving seed of Turnip Aldenham Victory.
The nets are used to prevent cross-pollination by insects (see p. 140).

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Oncidium olivaceum and O. microchilum.—These and other cool house Orchids which bloom during late spring and early summer are now growing anew. The work of repotting, if necessary, should be carried out without further delay, as new roots readily push forth from the base of the young growths. The usual compost should be employed over good drainage, and for a time any newly-potted plants should be staged together under extra shade, and given every encouragement to quickly re-establish themselves. Careful watering must be practised, gradually increasing the supply as growth advances and the roots permeate the soil. An occasional dewing overhead on bright sunny days will be advantageous to the plants.

Cypripedium.—The flower-buds are now showing in the new growths of many of the late-autumn and early-winter blooming Cypripediums. Healthy established plants extend their roots freely at this stage and require liberal supplies of water, and in the case of root-bound specimens that have been in the same pot a year or more, these should receive alternate waterings of weak, liquid, farmyard manure until the flowers commence to expand, thenceforward clear water only should be given. As the days shorten, these Orchids should have all available light, shading them only when strong sunshine prevails. Plenty of fresh air should also be admitted whenever the conditions are favourable, leaving the top ventilators open a little at night time in fine weather, so that the leafage may develop a firm texture, and be thus able to pass more safely through the dull days of winter.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

American Blight.—This pest should be treated as recommended in a previous issue; if preventive measures are not taken now it will soon spread from tree to tree and infest the whole of the orchard.

Red Spider.—The hot, dry weather has been favourable to this pest, and the withholding of the hose during the time the fruit is ripening allows it to multiply. As soon as the fruits have been gathered the trees should be syringed with a mixture made of 4 ozs. of soft soap and a wineglassful of paraffin to 3 gallons of water; this should be done in the evening and repeated 2 or 3 times until the pest is destroyed. Follow with a syringing with clear water.

Vines on Walls.—Lateral growths should now be cut back close to the bunch, as this will allow the wood to ripen. Make all the shoots secure to the wall, and put the bunches of fruit into bags to keep wasps and flies from them.

Strawberries.—Alpine varieties should be well watered to keep the fruits swelling; watering is best done directly after ripe fruits have been gathered. Runners should also be kept pinched off to throw all the vigour into the plants. Where late Strawberries are needed a bed of both ordinary and Alpine varieties should always be made under a north wall. In such beds fruits of Givon's Late Prolific, Latest of All, and Waterloo may be picked in September. The plants should be put out as early as possible after layering so that they may be well established before winter commences.

Labels for Fruit Trees.—The names of fruit trees often become lost or obscured, and it is a good plan to examine the labels before the fruits are gathered, and re-label when necessary; at the same time see that the wires attached to the labels are not cutting into the wood. I prefer to use the Stratford labels and fix them to a flat piece of iron stood in front of the tree.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the **PUBLISHER, 41, Wellington Street, Covent Garden, W.C.**

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 58.41.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Sept. 10, 10 a.m.: Bar. 30.3; temp. 66°. Weather—Sunny.

The Influence of Stock on Scion. The question of the extent to which a scion is influenced in its characters by the stock on which it is budded or grafted, is one of first class importance to horticulturists, and one also of great interest to plant physiologists. Speaking generally, the former is apt to attribute to the stock a considerable power for influencing the growth or modifying the development of the scion; the latter is inclined to doubt whether such power exists except in so far as growth and development are affected by water supply or excess or deficiency of food materials. Yet it would appear that there is nothing in our present knowledge which makes it improbable that a stock should influence in a very important degree the scion grafted upon it. Particularly is this the case in fruit trees and other subjects in which the scion has originated as the result of a cross between two varieties. In such cases the scion is heterozygous for a large number of characters, and it is at all events conceivable that the scion may determine which of the alternative possibilities with respect to any character may be developed. It would be interesting to test this view by grafting, say, Sweet Pea heterozygous for Acacia-leaved character on an ordinary Pea.

The curious results obtained by Mr. Lucien Daniel at Rennes were given in the Report of the Horticultural Congress of 1898*, and this investigator has more recently announced a no less curious result which he has obtained by grafting the Haricot de Soissons gros on the Haricot noir of Belgium. Among the seed obtained from the grafted plants of the former, some give rise to plants which unlike those of either parent, had swollen and fleshy roots like those of the Scarlet Runner. (Phaseolus multiflorus).

Mr. Daniel refuses to entertain the view that chance hybridisation may account for the phenomenon, for he was careful to carry them out side by side with non-grafted cultures of the scion plant, to save seeds from these and satisfy himself that they gave no similar result. The method is of course, not absolutely safe, but having regard also to the infrequence of crossing between Phaseolus species, it may be taken that there is strong presumption against hybridisation. Mr. Daniel has continued to follow the history of the fleshy rooted plants†. They proved perennial in the way that Scarlet Runners are. One root was wintered in a cold house, another under a cloche in the open. They in turn gave rise to seed, which to the number of 100 produced plants resembling the original scion plant Haricot de Soissons in all respects so far as their aerial parts were concerned, but of which 99 had swollen roots, one only bearing roots of the Haricot de Soissons type.

The chief horticultural interest of these experiments is of course their suggestiveness. If results of this kind are actually to be obtained in the case of Phaseolus—and it is an easy matter to verify them experimentally—may not similar and more results of economic importance be obtained in the case of fruit trees and other plants usually grafted or budded?

In a later note (op. cit. p. 71) Mr. Daniel describes the subsequent strange behaviour of the perennial fleshy rooted plants obtained from the annual (grafted) Haricot de Soissons. One plant has thrown out a horizontal rhizome which creeps below the surface of the ground.

Mr. Daniel proposes to follow the future career of this rhizomatous runner Bean of curious origin.

* Journ. de la Soc. Nat. d'Hortic. de France, 1898.
† L'Heredité chez la Haricot Vivace Travaux Scientifiques de L'Université de Rennes XI. 2. 1912.

Sale of Wood Norton.—Wood Norton, Worcestershire, has been sold by Sir Charles Swinfen Eady, Master of the Rolls, to Mr. George Swift, a large market gardener of Hampton, Evesham. Wood Norton was the sanctuary of the Bourbons when they were exiled from France, and Sir Charles Swinfen Eady purchased it from the Duke of Orleans in 1912. Ex-King Manuel of Portugal and his mother also found refuge there after the loss of the throne of Portugal.

Sale of Moor Park.—This famous Hertfordshire mansion and estate has been sold by Lord Ebury to Lord Leverhulme. For many years Moor Park was one of the most important gardens in the country and many successful gardeners received part of their training there. Fruit cultivation, both under glass and in the open, was extensively carried out and the pleasure grounds were particularly interesting and well cared for. We owe one of our finest Apricots to Moor Park, though it would appear that the variety which bears the name Moor Park was not raised there, but was probably introduced to those gardens from the continent by Lord Anson, the victor of Finisterre, who died at Moor Park in 1762. Other famous owners of Moor Park were Archbishop Nevil, Cardinal Wolsey, King Henry VIII, and the Duke of Monmouth, but it was later, in the time of Lord Anson, that the famous gardens which were made under the direction of Lucy Countess of Bedford, at the time the fine Corinthian mansion, by Giacomo Leoni, was built, were modernised by Brown. The park, which is said to be 3,000 acres in extent, formerly contained many fine old trees of Oak, Ash, Elm, and Lime.

The Chinese Privet.—Following the correspondence on flowering Privets, the accompanying illustration (Fig. 69) of a Chinese species (Ligustrum sinense), which was introduced by Fortune nearly seventy years ago, will be of interest to our readers. The example figured grows at Kew, about 150 yards south of the Victoria Gate, near the path that leads thence towards Richmond. Whatever the new species—of which there is now a goodly number—brought from China in recent years may develop into as garden plants, there can be no doubt that as a flowering shrub L. sinense is the handsomest of those whose capabilities are known. In stature and in beauty of leaf it is, however, surpassed by L. lucidum, and both are very well worth cultivation. L. sinense flowers in July, L. lucidum in September, and both, if given some attention when young, can be made to form clean trunks and assume the form of small trees. The plant illustrated is about 15 feet high and 18 feet wide. In some seasons the flowers are followed by a great crop of fruits, which are globose, black-purple, and about the size of large shot.

Blue Lobelias at Birkenhead.—In the Central Municipal Garden at Birkenhead most effective use is made of light and dark blue-flowered Lobelias. The two varieties favoured are Mrs. Clibran (dark blue) and Waverley Blue (light blue). Wide bands of the two colours are planted side by side in the beds, with an edging of white Alyssum and a central belt of scarlet Pelargoniums.

Village Clubs' Association.—At an Executive meeting of the Association (Sir Henry Rew in the chair), a scheme for mutual co-operation between the Soldiers' Clubs Association, the Federation of Women's Institutes, and the Village Clubs' Association was discussed. A sub-committee from each of the above organisations has been formed to further this object. Meetings have been addressed lately in Berkshire, Staffordshire and Wiltshire; and great interest is being shown in the Association in the country districts generally. A large number of inquiries from all parts of England and Wales have been received during the past six weeks. Over 300 existing clubs and institutes have been written to, and a circular setting forth the advantages of affiliation to the Association has been sent to these clubs. Arrangements have been made to supply lecturers to address village audiences on subjects of general interest. Plans and estimates for building village clubs of steel and concrete are being considered. It is suggested that club premises could be built of this material, in three different stages, commencing with a main hall, to which wings could be added at a later date, as funds became available, the price quoted for the hall only, size 40 ft. by 25 ft., being about £450. Further information on the subject is to be obtained.

War Horticultural Relief Fund.—The fund has recently sent a quantity of seeds and implements to France, Serbia and Roumania, as well as contributing £5,000, through the Belgian authorities, for the purchase of straw mats (paillassons). The success of the Floral Fête, held at Chelsea last June, enabled the Committee to enter into negotiations for the purchase of a large quantity of fruit trees. Lady Clementine Walsh has recently held successful fêtes in Radnorshire, realising £258; and the Countess of Sandwich, who has motored through the devastated areas, has just held a fête at her country residence in Huntingdon, her eloquent appeal resulting in the fund being augmented by £1,200.

The Royal Home Canner.—The Board of Agriculture gives notice that the Board has ceased to supply the Royal home canner and cans for fruit preserving. The remainder of the Board of Agriculture's stock of these articles will be offered for sale shortly by the Disposal Board.

National Rat Week.—It is proposed to inaugurate a special autumn campaign against rats, and the Board of Agriculture suggests as a suitable period the week beginning October 20 and ending October 27. Every local authority is invited to co-operate in this general attack upon the rat evil, and the Board urges rat officers, and others concerned, immediately to consider the best method of procedure. The military authorities are in warm sympathy with the movement, and are already engaged on a campaign of intensive rat destruction in camps, barracks, and other places occupied by soldiers. A close working arrangement between the military and the local authorities for the carrying out of the rat week is most desirable; and, if the week is to prove thoroughly effective, no time should be lost in organising every locality for the purpose. Last winter enormous damage was done by rats, and the large amount of corn which had to remain in stack for a long period provided a generous supply of food, with the consequent heavy increase of the rat population in many districts. It is very important that a simultaneous effort should be made to reduce the pest before the winter migration and breeding season set in.

THE HARDINESS OF PLANTS FROM CENTRAL AND WESTERN CHINA.

In the *Journal of the Royal Horticultural Society* (vol. XLIII, parts 2 and 3) dated February, 1919, and just to hand, there is an article on "The Effects of the Frosts of the Winter of 1916-17 on Vegetation." It is not so complete as one could wish for but its instructive value is immense, and the compiler, Mr. E. A. Bowles, deserves the hearty thanks of the gardening community in general. The so-called hardiness of plants is something we know very little about when all is said and done. Statements based on one's limited experiences are easily made, but we are too often faced with exceptions, the why and wherefore of which we know nothing.

The summer season's growth and its proper ripening in autumn have important bearing on the behaviour of plants during the winter's cold. Here in Boston, Mass., where the summers are hotter, the autumns drier and the winters much colder than in the British Isles, many northern deciduous woody plants thrive better than in Great Britain. The native Cornus florida is an example. In Mr. Bowles' list at Dawyck, Plagiospermum (Prinsepia) sinense is recorded as killed and Berberis Mouillacana as badly injured at Aldenham. Neither of these plants has ever been injured here. Of course, in the British Isles can be grown a far greater variety of woody plants out of doors than here in New England. In the Arnold Arboretum we can grow nothing from this southern hemisphere, and of broad-leaf evergreens virtually none is hardy save Kalmia latifolia, and three or four other natives. Our list of hardy conifers is much more restricted, and the only hardy Yew is the Japanese Taxus cuspidata.

Fig. 69.—Ligustrum sinense in flower. (See p. 142.)

Carefully checking over Mr. Bowles' list I find 305 Chinese plants of my introduction listed, nearly all woody. Of these 86 suffered from slight to fatal injuries in one or another locality given. Among these 86, thirty-four are recorded as killed, but only seven of them (Buddleia asiatica, B. variabilis superba, Clerodendron mandarinorum, Corydalis thalicitrifolia, Rhododendron Harrovianum, R. hypoglaucum R. Watsoni), in all places cited; the Rhododendrons being at Dawyck. These 305 plants represent about one-fifth of the plants it has been my privilege to introduce to European and American gardens, and in every sense of hardiness and vigor may be regarded as the average. Their behaviour during the severe winter of 1916-17 should be an encouragement to those who desire to plant woody plants in variety.

The winter of 1917-18 was the severest in New England of which there is any record. In December, when the ground was without a covering of snow, the thermometer did not rise in the Arnold Arboretum from above zero Fahrenheit for about a week with a minimum of 17° below (49° of frost). There was a little snow at any time during the winter, and the ground, which froze to a depth of from five to seven feet, was not clear of frost until after the first of April. The Chinese deciduous woody plants came through this ordeal as satisfactorily as they did through that of 1916-17 in Great Britain, while groups like Cotoneaster, Spiraea, Roses, Berberis, and Spruces were unscathed. In fact, native things suffered as badly as the rank and file of the new introductions.

The Chinese plants have proved their high average hardiness in both Great Britain and New England, and are fully entitled to be classified as hardy, a term as ambiguous as it is comforting to those who love their outdoor garden. Further, all concerned in the ventures which give them to western gardens may feel that their efforts and confidences were merited. Men like Professor C. S. Sargent, Mr. W. J. Bean, Mr. J. C. Williams, Mr. Vicary Gibbs, Sir Harry Veitch, and a few others, including Miss Willmott, who, in simple faith went boldly ahead and added every one they could get to their collection, are entitled to the pleasurable satisfaction and content which fittingly crowns successful enterprise. *E. H. Wilson, Arnold Arboretum.*

Publications Received.—***The Gardener's Bulletin, Straits Settlements.*** Singapore, the Botanic Gardens. ***Fossil Plants.*** By A. C. Steward. Volume IV., Ginkgoales, Conifers, Gnetales. London: Cambridge University Press. Price £1 1s. net. ***Days in My Garden.*** By Ernest Ballard. London: Cambridge University Press. Price £1 1s. net. ***Citrus Growing in South Africa.*** By R. A. Davis. Pretoria: The Government Printing and Stationery Office. Price 1s.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Gardeners' Hours and Wages.—As it is considerably over half a century since I embarked on a horticultural career the standard of hours and wages adopted by the British Gardeners' Association (see page 118) was of especial interest to me. Concerning the wages for private gardeners I will say nothing, as my work has always been in the commercial side of horticulture. The scale of wages referred to is drawn up strangely, especially for the nursery manager. For this position, which entails a good deal of foresight and worry, a man is valued at £3 12s. 6d. per week, only 12s. 6d. more than the veriest tyro, providing the latter is over 21 years of age. Between the two comes the nursery foreman, whose work is of a decidedly exacting kind, and yet his knowledge and responsibility is valued at only 7s. 6d. per week above the ordinary nursery hand. So far as I can make out the stokers appear to be regarded as deserving the best rate of pay, i.e., £3 10s. per week, for overtime is to be paid for at the rate of time and a half during the week, while for Saturdays, Sundays, and Bank Holidays, he is to receive double pay. It is, of course, necessary for a stoker to work, more or less, at all times. If the 44-hour week is insisted on it will be impossible to carry out the work of a garden or nursery in a satisfactory manner. Provided a person has any love for plants, which a true gardener should have, he would rather work an hour or two longer than that his crops should suffer. The man who thinks more of the clock than his work will never rise to a prominent position in his calling. *An Old Stager.*

Apple Devonshire Quarrenden.—This Apple appears very plentiful this season. Excellent, well-coloured fruits are to be seen in shops and also on the coster's stall throughout South-East London. Generally speaking, a full crop of Devonshire Quarrenden is only obtained in the alternate years. A thinning of the branches now and again is preferable to hard pruning yearly, because the variety fruits at the tips of the short branches, as does Cornish Gillyflower, another excellent Apple, but a very shy bearer. It is remarkable how the name of the Devonshire Quarrenden has been, and still is, rendered by town and country folk alike. In its native country the fruits are usually called "Quarrenders," in Herefordshire as "Quinin" or "Quindin," while in Woolwich Borough market they were entitled "Quarantines." I wish grading of the fruit was combined with Government control as to price, then buyers would share the front row fruits so generally staged to attract would-be purchasers. *James Mayne, Eltham.*

Beets and Sparrows.—With the exception of the leaf-mining maggot (Anthomyia betae) which may occasionally do considerable damage to the foliage, the Beet is singularly free from insect and fungus pests; but, as if Nature begrudged us this immunity, sparrows for the past three seasons have been a constant source of annoyance here in respect to this vegetable, so much so that the rows of Beet have had to be protected from these mischievous birds during the summer. When the Beets are quite young the sparrows go to the length of severing the crown of leaves from the root, thus ruining the plants so mutilated. When they are older, the birds pinch the stalks of the mature leaves, with the result that they wilt and die: such loss of foliage naturally weakens the plant and retards root-swelling. Apparently these birds resort to this form of depredation for the sake of the abundance of sweet juice contained in these plants. They are especially troublesome in dry weather, and, of course, for this reason, Beets this summer have been particularly attractive to them. I am unaware as to this being a practice with sparrows. In a garden three miles away they cause no trouble in this respect. No doubt birds, and markedly sparrows, are continually alighting upon new sources of joy for themselves which, unfortunately, often entail new causes of sorrow for the gardener. They probably carry over in their "memory" to the following season such freshly acquired tastes and convey them by example to the young birds. In the garden referred to above blackbirds for the last few years have been very persistent in their attacks on Plums, and this year have commenced to peck them long before they were ripe; in fact, they were barely coloured. Plums here, on the contrary, have in past years, and so far this season, remained untouched, though blackbirds are plentiful enough, judging by the attention they bestow on soft fruits. Sparrows and blackbirds are our associates all the year round, and those frequenting any country homestead may not move far from its vicinity, consequently habits newly acquired by these birds in a restricted area may remain, for a time at least, localised. Students of bird life may, however, have some criticism to offer on this point. *J. P., Carlisle.*

Mentha piperita of Linnaeus.—In 1799 Sir James Edward Smith wrote a paper entitled "Observations on the British Species of Mentha," in which he announced that the British M. piperita was not the M. piperita of Linnaeus. He admitted that the latter was the Peppermint of the north of Europe, and a cultivated plant. The specimen described by Linnaeus was grown in the garden at Upsala. Sir James wrote that it differed but little from the common M. hirsuta, "except in being rather more slender, of a paler hue, and the leaves somewhat less hairy. Its principal difference consists in its Peppermint flavour." Elsewhere he wrote that it could be at once known from our Peppermint "by its very hairy flower stalks and calyx. It is merely a variety of the M. hirsuta of Linnaeus with the flavour of Peppermint." He, indeed, described it as a variety of Mentha hirsuta, but that was where he wished to place M. sativa and its forms. In his day, and for several generations of botanists afterwards, the idea of hybridity never entered the minds of botanists, otherwise that would have explained the mixture of the characters of two species. In 1915 I collected one stem of Mentha in a colony of M. piperita in Aberdeenshire, and, owing to the hairiness of all parts of the plant and the bluntness of the spike of flowers, I described the plant as a hybrid between M. aquatica and M. piperita. I now prefer to say it is M. hirsuta × M. piperita, or the reverse cross, for it does not matter which. I reject M. aquatica, Linnaeus, for the simple reason that the plant described by him was a verticillate Mint, and most probably a hybrid. M. hirsuta of Linnaeus, Hudson, and other botanists is our Water, or capitate, Mint, so that my opinion remains unchanged as to the parentage. In May, 1917, I collected young specimens from the same colony and have cultivated them, finding two or three forms of the hybrid amongst them. The broader, shorter leaves, shorter spikes, and the hairiness of the leaves, stems, flower pedicels, calyx and corolla leave no doubt of the M. hirsuta parentage. The smell, flavour and habit of the plant are those of M. piperita. Two forms agree precisely with Sir James' description of the Peppermint of North Europe. *J. F.*

The Pendent Silver Lime (see p. 126).—It may interest your correspondent, *W. J. B.*, to know that a good specimen of this tree grows upon a lawn in these gardens. It is a perfectly formed tree, upwards of 80 ft. in height, with a spread of branches, sweeping the ground, of 55 ft. in diameter. A fine tree of Fraxinus oxyphylla parvifolia (Syn. F. lentiscifolia) of greater height than the Lime is growing on the same lawn. Each of these trees has been grafted at some eight feet from the ground, upon a foreign stock, and in each case the scion has swelled more freely than the stock. Though these species, or varieties, as the case may be, are elegant, ornamental trees, which in reference to the Lime has been clearly illustrated by *W. J. B.*, they nevertheless appear to have been commonly overlooked by planters of this description of tree. *Thos. Coomber, The Hendre Gardens, Monmouth*

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 9.—The fortnightly meeting of the Royal Horticultural Society was held on Tuesday last in the Drill Hall of the London Scottish, in conjunction with the autumn show of the National Rose Society and the annual show of the National Dahlia Society. The combined shows included many interesting exhibits, and during most of the afternoon the hall was crowded with visitors.

Roses and Dahlias naturally predominated, but many Orchids, with sprays of cut shrubs, in flower and in fruit, and herbaceous flowers helped to make an interesting display.

The Orchid Committee recommended one Award of Merit to a novelty and awarded three Medals to collections. The Floral Committee recommended one Award of Merit to a new species of Gentian and awarded four Medals to collections. The joint R.H.S. and N.D.C. Committee bestowed Awards of Merit to several new Dahlias.

Floral Committee.

Present: Messrs. W. B. May (in the chair), W. G. Baker, John Green, John Heal, G. Reuthe, J. W. Moorman, C. Dixon, H. J. Jones, Chas. E. Pearson, A. Ireland, S. Morris, E. F. Hazelton, J. T. Bennett-Poë, George Paul, John Jennings, Wm. Howe, H. Cowley, Jas. Hudson and E. H. Jenkins.

AWARD OF MERIT.

Gentiana Farreri.—This prostrate Gentian has Cambridge-blue flowers and is described by the exhibitor as being a perennial with thick roots and spreading shoots and stolons, thick, opposite, small leaves and terminal short-stalked tubular flowers over two inches long and fully 1½ inch across. The long throat is white with regular spotting. Before the flowers open the pointed buds are of striking appearance by reason of the uncommon purplish marking. It appears to be a robust plant which would spread quickly, forming handsome, prostrate tufts of pale green foliage. Shown by Mr. W. WELLS, Jun.

GROUPS.

Silver Flora Medals were awarded to Messrs. ALLWOOD BROS. for a fresh and bright collection of cut Carnations, principally of perpetual flowering varieties, but also including several good vases of the very useful Allwoodii hybrids; to Mr. G. REUTHE for a collection of rare shrubs and alpines, Lapageria rosea, presumably from the open in a favoured district, and hardy Fuchsias were among the many fine things in this exhibit; and to Mr. L. R. RUSSELL for a splendid collection of handsome stove and greenhouse plants.

A Silver Banksian Medal was awarded to Messrs. J. CHEAL AND SONS for cut shrubs, which included very fruitful branches of various ornamental Crabs, Buddleias and other flowering shrubs. In another place Messrs. CHEAL had vases of their well-known Star Dahlias and herbaceous perennials. Mr. G. W. MILLER had handsome spikes of Tritomas and a selection of other border flowers.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (chairman), W. Poupart, Owen Thomas, A. W. Metcalfe, W. Bates, W. Pope, G. Reynolds, J. C. Allgrove, E. Beckett, G. F. Tinley, H. S. Rivers, George Woodward, W. H. Divers, W. Wilks and Geo. Kelf.

Messrs. BUNYARD AND CO., Maidstone, again exhibited varieties of hardy fruits in season, including excellent Apples—Queen Caroline, William's Favourite, Worcester Pearmain, Wealthy, Colonel Vaughan, Rev. W. Wilks, Autumn Rouge, Ben's Red and Kerry Pippin; Plums—Shropshire Prune, Grant Prune and Pond's Seedling; Pears—Dr. Jules Guyot, Colmar d'Été, Roosevelt, Petite Marguerite and Mme. Treyve.

Several seedling Apples were submitted for award, and the Committee desired to inspect the trees of two varieties, the one named Owen Thomas, raised from Cox's Orange Pippin × Mr. Gladstone, shown by Messrs. LAXTON

Bros., Bedford, and the other, an un-named seedling, exhibited by Mr. Arthur Sutton, Reading. The former variety somewhat resembles Irish Peach in appearance, being dull red on the side next to the sun and of small size. The flesh is soft, juicy and very sweet. Mr. Sutton's variety somewhat resembles Lane's Prince Albert in appearance, but the flavour is superior and the fruit would be useful for either dessert or culinary purposes.

Sir Albert Rollit, St. Anne's Hall, Chertsey, Surrey, showed two dishes of ripe Figs.

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Jas. O'Brien (hon. secretary), William Bolton, Arthur Dye, Fredk. J. Hanbury, Walter Cobb, A. McBean, Fred Sander, Stuart H. Low, and J. Charlesworth.

Award of Merit.

Laelio-Cattleya Miranda exquisita (*Dominiana* × *St. Gothard*).—From Messrs. Charlesworth and Co., Hayward's Heath. A grand hybrid superior to L.-C. St. Gothard, being larger and darker in colour. The sepals and petals are deep purplish-mauve. The lip is broad, ruby purple in colour, with gold lines from the base.

Preliminary Commendation.

Laelio-Cattleya Canary (*L.-C. Thyone* × *C. Fabia alba*).—From Pantia Ralli, Esq., Ashtead Park, Surrey. The plant shown was a seedling with its first flower, which was of good shape and substance, clear yellow in colour, with red markings at the base of the lip.

Other Exhibits

Messrs. Charlesworth and Co., Hayward's Heath, were awarded a Silver Flora Medal for an effective group with good examples of white Odontoglossums at the back; a varied selection of Cattleyas and Laelio-Cattleyas, with the dark-coloured Miltonia spectabilis Moreliana and Odontoglossum grande in front. A fine novelty was seen in Brasso-Laelio-Cattleya Lilian (C. Iris × B.-L.-C. Cooksonii). In shape it follows C. Iris and in effect resembles a good C. Venus. The sepals and petals are light orange yellow. The lip is cherry-red with lighter margin. The column white. L. C. Maudiae (C. Dowiana aurea × L. C. Neleus) has a good yellow flower, with purplish crimson lip.

Messrs. Stuart Low and Co. were awarded a Silver Flora Medal for a showy and interesting group in which was a good display of species, including the yellow Laelia xanthina, which has played such an important part in the production of yellow hybrids. Laelia crispa, Cattleya Gaskilliana, and white varieties of it; the yellow Cyrtopodium Andersonii, and various species of Oncidium. The showy part of the group was composed of hybrid Cattleyas, including the new C. Mogul (Hardyana × Elvina), a large, bright rose flower with showy purple-veined lip. Cattleya Dupreana superba and other hybrid Cattleyas were included in the collection.

Messrs. McBean, Cooksbridge, were awarded a Silver Banksian Medal for a group of excellently well flowered hybrids, the best of which was Cattleya Hardyana alba, McBean's variety, with pure white sepals and petals and rich crimson purple lip, with yellow disc. C. Prince John and other fine Cattleyas, C. suavior alba, C. Cowanii alba and good C. Dowiana aurea were others noted.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), showed Cattleya Jules Gerard (Miss Harris × Hardyana), a pretty white flower with pink veining on the lip.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), showed Cypripedium Mary Beatrice, a larger form of that previously given an Award of Merit, and C. Felicity, which had also previously secured an award.

Mr. C. F. Waters, Deanland Nursery, Balcombe, showed Cattleya Albion, Waters' variety (S. Hye de Crom × O'Brieniana alba), with a fine wax-like white flower.

Pantia Ralli, Esq., showed a good form of Brasso-Cattleya Olympus (B. C. Madame Chas. Maron × C. Hardyana).

NATIONAL ROSE.

Autumn Exhibition.

September 9.—The Autumn Exhibition of the National Rose Society was held on Tuesday last in the Drill Hall of the London Scottish, Westminster, in conjunction with the fortnightly meeting of the Royal Horticultural Society. The show was a great success; the many outstanding exhibits from both traders and amateurs were remarkable in a season when the majority of gardens are almost dried out for want of rain with baking sunshine from day to day. Plenty of novelties were forthcoming, and three were awarded the Society's Gold Medal.

Seedling Roses.

The novelty, which was no doubt most original in character, was one which was disqualified from any award owing to the exhibitor having forgotten to bring with him a complete plant of the variety, which the judges rightly consider essential in order that they may form some idea of the habit of growth of the plant.

This was the Rev. J. Pemberton's Hybrid Musk called Vanity, a single pink Rose somewhat of the shade of the common China, which the foliage somewhat resembles. The raiser, however, states that, so far as he knows, there is no China blood in it, though, curiously enough, it has some connection with Rosa lutea, which would not have been suspected from an examination of the flowering spikes. These are extremely elegant, the flowers being produced in great profusion on long peduncles, which gave the inflorescence a very light and graceful effect. The plant is a bush growing about 5 ft. or 6 ft. in height and nearly as broad.

Messrs. Bees, Ltd., secured a Gold Medal for *Independence Day*. This is a Rose of the colouring of Golden Emblem, but has the merit (as shown) of having a more highly pointed centre. It is doubtless connected with the group which bears the well-known name of Pernet Roses. These, as originally introduced by M. Pernet Ducher, were somewhat primitive in form, in the sense that the centre was almost always flat or rounded; A. R. Goodwin is a typical example. The form has gradually improved, and Independence Day is interesting as showing the centre petals beginning to take a pronounced pointed shape.

Martha Drew, shown by Messrs. C. McGredy and Son (as were all the following Roses), received a Gold Medal. This is a large exhibition Rose of the colouring of Mrs. Theodore Roosevelt. Dorothy, a crimson flower, perhaps not shown at its best, was decidedly the most sweetly scented of the new Roses shown, and in a day when we are regretting crimson Roses devoid of fragrance, this is worth remembering.

Irene Thompson (see Fig. 70) was awarded a Gold Medal. This is a large, globular flower of orange yellow, described as suitable for exhibition or garden decoration, but the use to which it will ultimately be put must remain at present uncertain.

Sweetness received an Award of Merit. This is a Rose of the colouring of Mrs. E. Powell, but of slightly better form as shown. A similar award was given to Una Wallace, a

Fig. 70.—Rose Irene Thompson.
National Rose Society's Gold Medal, September 9, 1919.

rounded pink Rose with a few nicely formed flowers which must have chiefly obtained notice from its colouring.

Groups of Roses.

The many generous collections of cut Roses were a pleasant feature of the show, and well illustrated the number of modern varieties which flower well again in the autumn, after having already given splendid displays earlier in the year.

Messrs. A. DICKSON AND SONS gave special prominence to large stands of K. of K., Ophelia, Chas. E. Shea and similar varieties, and also had a number of smaller vases of excellent Roses (Gold Medal).

Mr. ELISHA HICKS had the most attractive arrangement in the hall. The central stand of Ophelia was a particularly valuable contribution, while the examples of Madame Edouard Herriot, Danaë and Ophelia were also of much more than average merit (Silver-gilt Medal).

Messrs. F. CANT AND Co. included a vase of brilliant blooms of the Duchess of Wellington in their neat collection of Roses. The vases of Ophelia and General MacArthur also attracted much admiration (Silver Medal).

Messrs. B. R. CANT AND SONS specialised in such free-flowering varieties as Orleans and Jessie, though the larger-flowered Roses were also well represented (Silver Medal).

The Rev. J. H. PEMBERTON had many large stands of such of his delightful varieties as Moonlight, Sammy, Pax and Vanity (Silver Medal).

Mr. T. P. EDWARDS had a magnificent stand of Flaming Zep, a bright orange sport from Madame Edouard Herriot, and many standard varieties (Silver Medal).

Messrs. G. and W. BURCH and Mr. HENRY DREW set up small but attractive collections, and were also awarded Silver Medals.

Mr. G. HICKS exhibited baskets of Joanna Bridge, Isobel and Red Letter Day, for which he received a Silver-gilt Medal.

Messrs. WM. PAUL AND SONS had a most attractive display of the beautiful single Rose, Mermaid, flanked by masses of Paul's Scarlet Climber. Walter C. Clark, shown in a large vase, was the most fragrant Rose in the show.

In the amateurs' classes very creditable groups were set up by Mrs. MACKAY, Mrs. OAKLEY FISHER and Mr. H. R. DARLINGTON, who were awarded Silver Medals.

The decorative section was very successful and attracted some well-known exhibitors. Silver-gilt Medals were awarded to Mrs. F. CHARLTON for a beautiful bowl of Mme. Abel Chatenay Roses, and to Mrs. COURTNEY PAGE for a chaste and tasteful arrangement of Ophelia.

Silver Medals were awarded to Mrs. COURTNEY PAGE, Mrs. OAKLEY FISHER, Mr. H. R. DARLINGTON and Mr. G. HICKS for charming bowls of Roses, and Mrs. OAKLEY FISHER received a Bronze Medal for a well-arranged basket of Roses.

INTERNATIONAL HORTICULTURAL CONFERENCE IN PARIS.

On Monday, September 8th, a conference was opened in Paris, in the Council room of the Société Nationale d'Horticulture de France, for the purpose of reviving the old, or starting a new, International Horticultural Association for the purpose of maintaining pleasant relations between professional horticulturists in different countries, and the consideration, and, if possible, the removal of difficulties that may arise as between different countries.

In the unavoidable absence of M. Radiet, (Mayor of Orleans), M. Graindorge presided. He was supported by Mr. Geo. Monro, M. and M. Turbat, and others invited to sit at the President's table were M. Pynaert (Belgium), M. Barbier and M. Sauvage (France), Mr. Wynne and Mr. Brunton (Chamber of Horticulture), Mr. C. H. Curtis (*Gardeners' Chronicle*), and Mr. Leak (British Florists' Federation); Mr. DuCann and Mr. A. E. Bunyard (Horticultural Traders' Association). Others attending the Conference were:—British: Messrs. Alex. Dickson, A. Dickson, jnr., W. Seabrook, J. Artindale, W. E. Wallace and E. Laxton, jnr. French: M. M. L. Levavasseur, Cayeux, Croux, Curtine, Mestioier, Gauthier and N. Levavasseur.

Proceedings commenced at 9 a.m. and a considerable part of the morning's session was taken up by a consideration of the general question. Finally the Conference agreed that an International Professional Horticultural Union be formed and subsequently a sub-committee was formed to draft general regulations on the model of the French International Association of Nurserymen. There was also a general agreement that the Union at present consist of France, the United Kingdom, Belgium and Italy, with the other allied nations. At present America has not expressed a desire to join, as it waits for further information and is at present largely cut off from Europe, horticulturally, by its own laws, recently enacted. That neutral and enemy countries be admitted as and when the annual congress shall decide.

The question of the protection of raisers of novelties was discussed at great length and all were agreed on the general principle, though there were differences of opinion as to the best manner of carrying it into effect. The British position in this matter, as so far considered, was placed before the Conference.

Mr. George Monro presided over the afternoon session as well as over the Committee appointed to consider the rules of the International Horticultural Union.

Not all the business was carried through the first day as the "luncheon amical" given to the delegates by the members of the Federation Nationale of the Syndicate Horticoles de France —including Mrs. G. Monro and Miss Wynne and Mr. Donald Monro—occupied some time and the Rules Committee conferred for about two hours.

Regarding the prohibition of the importation of horticultural produce it appeared that the French trade agreed to the prohibition of certain subjects and approached its Government, but the suggestion was not accepted. As the British delegates had no instructions on this point, seeing that their Government had swept away prohibition, they felt that a discussion of the subject would be of little value, pending representations to the Government.

The programme of the Conference was as follows:—

(1) To enquire into the present conditions of the International Horticultural trade.

(2) The resumption of trade with (a) neutral countries, and (b) enemy countries.

(3) The desirability of establishing periodical horticultural conference (a) by the revival of the International Horticultural Union, and (b) by the creation of a new association.

(4) The protection of raisers of new varieties.

(5) American Prohibition Order.

(6) Transport troubles.

(7) Other business.

NATIONAL DAHLIA.

SEPTEMBER 9.—The annual exhibition of this Society was held on Tuesday last at the Drill Hall, Westminster, in conjunction with the fortnightly meeting of the Royal Horticultural Society. The season has been most unfavourable for the cultivation of the Dahlia, the cold, dry weather of July rendering the majority of the plants late in flowering. However, the show compared very favourably with its predecessor, except in the classes for show and fancy varieties, which were not represented in the open classes.

CACTUS VARIETIES.

Messrs. JAS. STREDWICK AND SON, Silverhill Park, St. Leonards-on-Sea, were the only exhibitors in the premier class for 18 varieties in bunches of six blooms each. The blooms were remarkably even throughout, the most conspicuous varieties being Carmonia, yellow; Patriot, crimson; F. W. Fellowes, apricot; Mrs. M. Stredwick, pink; John Riding, crimson; Pennant, terra cotta, Curlew, deep rose; Sir Douglas Haig, pale pink; Climax, crimson. The first prize and a Gold Medal were awarded the exhibit. Messrs. STREDWICK AND SON were equally successful in the class for 48 varieties distinct—a difficult class to fill. The flowers were large and deep, while the colours were bright and fresh. The best blooms were Pierrot, buff tipped white; Fred. Wenham, yellow-tinged pink; Washington, crimson; A. R. Perry, bright brick-red; Curlew, rose pink; Planet, pink striped crimson; Gigantic, old gold; and Pathfinder, pink. The 1st prize was awarded. In the class for six blooms of one variety there were only two contestants. The 1st prize was awarded to Mr. S. T. WHITE, Northend, Eastleigh, Hampshire, for a crimson variety named Valhalla; 2nd, Mr. G. I. E. PRYOR, Preston, Hitchin, with Dreadnought, a deep amber, which must not be confused with the old crimson variety of the same name.

GARDEN CACTUS DAHLIAS.—Messrs. CHEAL AND SONS, LTD., were the only competitors for twelve bunches of garden Cactus Dahlias, and were deservedly awarded the 1st prize. The blooms were arranged with grasses, Acer, Asparagus, and Prunus foliage. The most prominent varieties were F. W. Fellowes, New York, Mary Purrier, Edith Carter, and White Ensign.

SINGLE VARIETIES.—Messrs. J. CHEAL AND SONS, Crawley, Sussex, were the only exhibitors in this section in the open classes, and their exhibits were admirable. In the class for 24 varieties distinct, they were awarded the 1st prize for a remarkably well-chosen set of flowers. The most striking sorts were Lady Bountiful, pink, with a crimson centre; Doris, fawn; Brilliant, crimson; Owen Thomas, red, edged yellow, a very showy form; Wm. Parrot, white, banded red; and Leslie Seale, lilac, with a crimson central band. The same firm were equally successsful in the class for fancy single Dahlias, securing the 1st prize with clean, fresh flowers. The best blooms were Tommy, yellow, striped red; Stromboli, crimson, tipped white; Ellen, lilac, striped crimson; Owen Thomas and Leander, crimson, edged maroon.

COLLARETTE VARIETIES.—In the open class for these flowers, Messrs. J. CHEAL AND SONS, Ltd., were most successful, securing the 1st prize for twelve varieties. The best vases were: Holyrood Cadet, a dark crimson; Scarlet Queen, Colleen (white), Lucien (very dark), Bonfire, and Primrose Queen. In the Amateur Section, Mr. H. BROWN was awarded the 1st prize for six varieties arranged in vases. The best blooms were Diadem, Scarlet Queen, Bonfire and Admiral; 2nd, Messrs. S. T. WHITE; 3rd, A. F. TOFIELD.

AMATEURS' CLASSES.

The competition for the premier class, consisting of nine varieties, three flowers in each bunch, proved too great a task for several exhibitors who had to withdraw their entries at the last moment. Mr. G. I. E. PRYOR, Preston, Hitchin, won the 1st prize and the Dean Gold Memorial Medal. His flowers were remarkably fine and well staged. The best varieties were British Lion (copper coloured), F. W. Fellowes (bright apricot), Meridian (pale yellow), H. H. Thomas (bright red) and Known (a bright fawn).

For six bunches of Cactus varieties, three blooms of each variety, Mr. S. T. WHITE, Northend, Eastleigh, Hants, was deservedly placed first with handsome examples of A. R. Perry, Dazzler, Alabaster and Sir Douglas Haig; 2nd, Mr. E. G. BULL, 51, Althope Street, Bedford, with fine examples of John Riding and Miss Stredwick.

There were three entrants in the class for twenty-four varieties distinct, in which Mr. G. I. E. PRYOR won premier honours with a good display, his best flowers being Alabaster, F. W. Fellowes, Phenomenal, Mary Purrier, Pennant, Sydney Jones, A. R. Perry and Mrs. M. Stredwick. Mr. CHAS. LUCKIN, Makehamr Place, Pulborough, was placed 2nd, for flowers rather on the small size, but they were beautifully bright and fresh; 3rd, Mr. R. C. UNWIN, Histon, Cambridgeshire.

There were four exhibitors in the class for twelve Cactus blooms distinct. Here Mr. A. F. TOFIELD, West End, Southampton, proved the victor with his examples of Fascination (rose pink), Pierrot (buff, tipped white), Miss Stredwick (pink) and Ivory White.

Mr. H. BROWN, Dahlia Dene, Havelock Road, Luton, Beds., was a good 2nd, though his blooms were slightly weaker in build; while Mr. R. BURGIN, 23, St. Mary Street, Bedford, secured third position with nice, compact flowers.

The smaller class for six distinct varieties resulted in a better competition. Mr. S. T. WHITE led, his finest flowers being Favourite (pale yellow), Red Chief and Dazzler. Mr. M. HOWARD, 41, Red Lion Street, Chesham, was 2nd, and Mr. E. G. BULL 3rd.

An interesting class was for four varieties of Cactus Dahlias, three blooms of each sort. Mr. A. F. TOFIELD won well in a close competition, his varieties being F. W. Fellowes, Pierrot, Basilisk and Fascination. Mr. R. C. UNWIN followed, with Patriot and Oceanic as his best specimens. Mr. H. BROWN was placed 3rd.

POMPON VARIETIES.—These were not so largely represented as usual, though the quality of the exhibits was excellent. Mr. H. BROWN won with bunches of flowers that were rather on the large size in the opinion of some critics, but they were of fine form and colour. The best were Bacchus (scarlet), Glow (terra cotta), Little Beeswings (yellow, edged crimson), Nerissa (pink), Darkest of All (maroon), and Censor (plum). The second winner was Mr. D. B. CRANE, Woodview, Archway Road, Highgate, with well selected flowers.—In the smaller class for six bunches in distinct varieties, Mr. A. BROWN, Ianthe, Grange Road, Leagrave, Beds., won 1st prize with bright, fresh flowers of Queen of Whites, Glow, Emily Hopper (yellow) and Nora Reynolds (brick red).

SINGLE VARIETIES.—The single section was sparsely represented, Mr. A. BROWN winning the first prize with good examples of Leslie Seale, Marjory Chowne (a rosy crimson flower with a yellow disc), Fred Brown (deep red), Sunset and Ada Dickens. Mr. CHAS. LUCKIN was the only competitor for six varieties, staging young blooms of perfect form. Star Dahlias were staged by Mr. D. B. CRANE, who secured the 1st prize with the following varieties: White Star (still the best), Morning Star, Crawley Star, Sussex Star and Eastern Star. Mr. J. A. JARRETT secured the premier award in the class for decorative varieties with Hortulanus Witte, Delice, Loveliness (pink) and Anerley (yellow). The same exhibitor was equally successful in the vases of Paeony flowered varieties, staging bright examples of J. A. Jarrett (bright red with a distinct yellow zone), Chrome Queen, Harlequin and Mrs. J. A. Jarrett.

DECORATIVE CLASSES.—This section was particularly admired, though the competition should have been better. For two vases, Mr. M. HOWARD proved the victor with Richard Box (pale yellow) and Mary Purrier (red). Mr. S. T. WHITE was second with well-arranged vases, Mr. A. F. TOFIELD being third.

SHOW AND FANCY VARIETIES.—There was no representative of this section in the open classes, and but few in the amateur division. Most of the varieties staged were old, well-known sorts. Mr. R. BURGEN was the only competitor for twenty-four distinct varieties, and won the 1st prize, his best examples being Mrs. C. Noyes, Fred Smith, Roy Seale, Mabel, Goldfinder, R. T. Rawlings, Duchess of York, Gloworm and James Cocker.—Mr. E. G. BULL won the 1st prize for twelve varieties distinct with a fair exhibit, and Mr. C. LUCKIN won 1st prize for six distinct sorts.—Mr. J. A. JARRETT was also successful for six vases of decorative Dahlias, the varieties that were most prominent being Ballon (old gold), Anerley Yellow, (clear yellow), Warneford (white) and Queenie.

AWARDS.

The awards to novelties were made by a joint committee from the Floral Committee of the Royal Horticultural Society and the Floral Committee of the Dahlia Society, and in each case the R.H.S. Award of Merit and the National Dahlia Society's First-class Certificate were awarded.

Mrs. D. B. Crane (*Cactus*).—A pure white seedling with good length of floret curled towards the centre. There is a suspicion of green at the base of the florets. The flower is of full exhibition size, while the stems are stiff and support the flower well. First-class Certificate N.D.S. and Award of Merit R.H.S., also Gold Medal as the best Cactus seedling in the show.

Royal Sussex (*Cactus*).—A beautiful variety of carmine red colour; the florets are long and curl slightly at the tips. The flower is of full exhibition size.

Jazz (*Collarette*).—A variety of good form, with a rather full collar. The florets are pale lemon yellow and the collar a little paler still. A very good stem.

These three varieties were shown by Messrs. J. STREDWICK AND SON.

Raider (*Pompon*).—A pale yellow variety, with perfect florets; a well-shaped flower, the blooms appeared to be a trifle large, but this may be due to its early flowering stage. Shown by Mr. A. BROWN, Havelock Road, Luton.

Nanette (*Star*).—A typical form, with a good stem; the flowers are white edged with yellow. A good addition to the class.

Cassiope (*Decorative*).—An effective variety of medium size, semi-double, white, edged crimson. Both these shown by Mr. CHAS. TURNER, Slough.

Adallus (*Decorative*). — A medium-sized flower, ruby red in colour, with a silvery tip to the florets. The variety has a fine stem and is apparently very free in flowering.

Iliad (*Paeony-flowered*).—This variety has flowers a pretty shade of salmon, with a yellow suffusion. The blooms, of medium size, are carried on tall, stiff stems. Both these varieties were shown by Messrs. J. BURRELL AND Co., Cambridge.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.

AUGUST 26, 27, 28.—The autumn show was held in conjunction with the Horse Show at the Royal Dublin Society's premises, Ballsbridge, Dublin, on August 26, 27 and 28. A spacious hall was devoted to the flower show, but the wind caused draughts which brought some trouble to exhibitors' top heavy vase subjects, otherwise the show was generally satisfactory both in quality, quantity and attendance over the three days.

The first six classes of the schedule (comprising 107 classes), consisting of groups and collections, with some excellent non-competitive trade exhibits, unfortunately restricted to Irish growers, no cross-Channel exhibitor venturing to face present transport trials, were the main features of the show. The champion class, open, for a group of foliage, flowering, and decorative plants and cut flowers, on a space of 300 feet super, found but one entrant in Messrs. Chas. Ramsay and Son, Royal Nurseries, Dublin, who with a bright, representative collection won the first prize of £15. For a similar group arranged on a space of 200 ft. by Sir Stanley H. Cochrane, Woodbrook, Bray (gardener, Mr. G. Bower), Major Kelly, Montrose, Donnybrook (gardener, Mr. J. McDermott), and Ed. Lee, Esq., Bellevue, Blackrock (gardener, Mr. O'Connor) were placed in the order given. Chief interest in this section centred in the open group class for hardy, flowering, ornamental shrubs, trees, and plants arranged for effect on a space of 200 feet; the first prize, a silver cup presented by the President, the Marquis of Headfort, with cash, was won by the Donard Nursery Co., Newcastle, Co. Down, Mr. G. N. Smith, Daisy Hill Nursery, Newry, and Mr. W. E. Trevithick, gardener to the Marquis of Headfort, Headfort House, Kells, Meath, following in the order named. In a similar but smaller class Mrs. Raymond Stephenson, Cranford, Stillorgan Road, Dublin (gardener, Mr. M. Buggle), led.

Hardy cut flowers were splendidly shown, the class for a collection in vases on 24 by 6 feet tables with 1st prize, silver cup and £4, 2nd prize £4, 3rd prize £2, found winners in Mrs. Geo. Mitchell, Ardlui, Blackrock (gardener, Mr. W. Baker), Capt. Riall, D.L., Old Conna, Bray (gardener, Mr. T. Webster), and Capt. Bernard Daly, Templeogue House, Co. Dublin (gardener, Mr. Murtagh), who were thus placed, a smaller class of 12 vases being won by Mrs. Williams, Prospect, Co. Kildare (gardener, Mr. J. Cuffen), and Mr. Justice Wylie, The Elms, Blackrock (gardener, Mr. W. Taylor). Amateurs' Roses were weak, the winners being Capt. Daly and Miss Osborne, Drogeda, for a table 12 by 4 feet, and G. C. Stapleton, Esq., Wyvern, Killiney (gardener, Mr. P. J. Clinch), for a smaller table, all in vases arranged for effect. In four trade classes for Roses Messrs. Hugh Dickson, Ltd., Belfast, had it all to themselves. Major Hamilton Stubber, Moyne, Durrow, Queen's Co. (gardener, Mr. P. Flanagan), won the Lord Ardilaun challenge cup for Cactus Dahlias (24), and Tuberous Begonias, 24 single blooms, superbly shown by Mrs. J. G. Toner, Monaghan, Major Stubber, and Lord Carew, Castleboro', Co. Wexford (gardener, Mr. C. Coppen) winning in order named. The last named (Lord Carew) won the Westby ten guinea challenge cup for 18 Gladioli, distinct. The best exhibit of 12 Gladioli was shown by Major Stubber; 2nd the Rev. J. J. Griffin, C.F., Clontuskert Rectory, Co. Galway. For a collection of annuals on a space 6 by 4 feet, the 1st prize was won by V. Westby, Esq., Roebuck Castle, Dundrum (gardener, Mr. F. Simmons), and 12 vases of Carnations were best shown by G. C. Stapleton, Esq. For six vases of Carnations Ed. Kelly, Esq., Rosebank, Kingstown, and Dr. Harris, Saintbury, Killiney, showed best, the former further receiving a certificate of merit for some good seedlings of his raising. Viscount Powerscourt, K.P., Powerscourt, Enniskerry, Co. Wicklow (gardener, Mr. W. H. Lee) proved *facile princeps* with Sweet Peas, winning with 18 bunches, distinct, the ten guinea challenge cup presented this year by Mrs. R. B. Maloney, Bray, 2nd Mr. J. J. Hennerty, Cork, 3rd Miss Osborne. Viscount Powerscourt again excelled in the class for 12 bunches, 2nd Mr. J. Hennerty, 3rd Major Stubber, and for 6 bunches, 1st R. F. Cruise, Esq., Rathmoyle, Queen's Co., 2nd Rev. J. J. Griffin, C.F.

In the non-competitive section a gold medal was awarded to Messrs. Alex. Dickson and Sons for a collection of Roses, and certificates of merit were granted for the new seedlings, Sir Douglas Haig, Lady Inchiquin, Mrs. Hutchinson Swanson (highly perfumed), and Sunstar, the latter of very pronounced colouring. Gladioli were splendidly shown in collections comprising over eighty varieties by Mr. S. A. Jones, who had also a collection of Violas (silver medal). A very fine collection of Gladioli was set up by Messrs. Hogg and Robertson (silver medal).

Very distinct, but equally attractive in its own way, was a fine group of 2 and 3-year old Apple trees laden with exceptionally fine fruit, set up by Messrs. Wm. Watson and Sons, Ltd., who further showed baskets of gathered fruit in perfection (silver medal). A silver medal was awarded to Mr. G. N. Smith, Daisy Hill Nursery, Newry, for an overflow group of choice hardy subjects from his exhibit in class 4. Other exhibitors were Messrs. Chas. Ramsay and Son, floral designs; Messrs. Bradshaw, cut flowers and plants; Messrs. Pennick and Co., ornamental shrubs and hardy flowers; Miss FitzGerald, Lady Principal of the Ladies' School of Gardening, St. Gatien's, Rathfarnham, an interesting collection of fruit and flowers.

Fruit in the competing classes was scarcely so plentiful as was anticipated, that is, referring to Apples, grand crops of which in high quality are noticeable in most of the Co. Dublin gardens. Mr. W. Roberts returned to the arena with his Grapes, from Charleville, King's Co., the residence of Lady Emily Howard Bury, albeit he brought with them signs of the railway porter's disrespect for show boxes; in spite of this he was first with Black Hamburgh Grapes, though he had to take second place to Sir Stanley H. Cochrane for white Grapes. Mr. Roberts was first for Peaches and Nectarines; the Marquis of Ormonde, Kilkenny Castle (gardener, Mr. E. Sutton), had the best Plums in several classes, and was second only to Mr. Hennerty with his fine Co. Cork samples in the collection of 6 dishes of early Apples. Thirty single dish classes of various fruits completed the section.

The premier class for a collection of vegetables shown on a space 12 by 4 feet, open to all, was admirably filled by Mr. W. H. Lee, Powerscourt, each kind and variety being in perfection and tastefully staged; Mr. Hennerty's produce from Cork was a long way behind, although placed second. Capt. Daly, Mr. Justice Wylie, Capt. Fowler, Rahinstown, Enfield, Meath, and Miss Rothwell, Meeanee, Terenure, Co. Dublin, were winners in smaller classes.

The plotholders' section comprising 19 classes was admirably filled. The collection of six kinds for which Mr. C. H. Milner, Merrion Road Plots, Dublin, was awarded first would have done credit to a professional, and Onions in two classes were very fine. The Herald Cup presented by Messrs. Griffin, of Bray, for the best field of allotments in South County Dublin having been won for the third time by the Tivoli allotment gardens, Kingstown, and now won outright, was presented to the winners' representative at the close of the show by Mr. V. Brew-Mulhallen. Mr. Wm. Field, M.P., Miss S. C. Harrison, Hon. Secretary of the Vacant Land Cultivation Society, and others, gave the plotholders a few complimentary and encouraging words.

SELFRIDGE STAFF HORTICULTURAL.

SEPTEMBER 2 and 3.—The third annual exhibition of vegetables grown by the staff of Selfridges was held in the Palm Court on September 2 and 3, and was on view to the public. The exhibition has proved a great success amongst the members of the staff, and there was a large number of competitors.

The judges commented on the quality and variety of the Potatos exhibited, this being one of the chief features of the exhibition.

Mr. POWELL headed the prize list, Mr. MALDON coming second and Mr. MOORE third, each competitor having some exceptional exhibits. Mr. POWELL won the Challenge Cup (kindly presented by Mr. Selfridge) for the second year in succession, on the aggregate number of points in the competition.

All the competitive exhibits were grown by the staff of Selfridges, and no one outside was permitted to enter the competition. A splendid collection of fruit and vegeables was sent from Mr. Selfridge's grounds at Highcliffe Castle, and similar collections were sent by Mr. P. A. Best and Mr. A. E. Cowper (directors). These, of course, were not for competition. There were several lady exhibitors, and Miss PURSEY, of the clerical staff, took two prizes, one for Potatos and one for Onions.

All the exhibits were forwarded to St. Dunstan's Hostel after the close of the exhibition.

Obituary.

G. Shaw Scott.—A correspondent in South Africa sends us news of the death of Mr. G. Shaw Scott, lecturer in horticulture at the Glen College of Agriculture, Cape Province, South Africa. Mr. Scott joined the Civil Service of the Orange River Colony eleven years ago, and did much valuable work as horticulturist at Tweespruit Government Farm. When the Union of South Africa came into being in 1910 Mr. Scott was appointed to Glen College, and he filled the office of horticultural instructor with great ability until his death. Some three years ago Mr. Scott had a serious illness at Bloemfontein, and he never fully recovered from the effects of it.

Answers to Correspondents

BLOTCHED ROSE LEAVES: *D. F.* The large spots are caused by the Rose Leaf Blotch disease (Actinonema rosae); the smaller ones are caused by the Rose Leaf Rust (Phragmidium subcorticatum). The diseased leaves should be removed and burnt, and those which fall to the ground should also be collected and burnt.

BOTTLING PEAS: *M. T. S.* Probably the most unsatisfactory vegetables to bottle are Peas, as even when every care is exercised they frequently go bad; in fact, a successful bottle is apparently a case of luck rather than judgment. Some preservers use chemicals in the water in which the Peas are bottled, but we cannot recommend this method, as there is always the possibility of such ingredients adversely affecting the consumer. The best treatment when bottling is, when the Peas are shelled, to plunge them into boiling water containing a small portion of bicarbonate of soda, green Mint, and two teaspoonfuls of borax and one of salt to each quart; leave them in the water for three or four minutes, and then place them at once into cold water and rinse thoroughly. After this pack the Peas into the bottle as tightly as possible without risk of damage, fill to the top with cold water, and then, after fixing the ring, sealing cap and clips, place the bottles in the heating vessel (containing sufficient cold water), and bring the water gradually to the boiling point (212° Fahr.). Maintain this temperature from 2 to 2½ hours, after which stand the bottles in a cool, draught-proof place to cool off. Two or three days later repeat this heating-up process. This is the most likely method by which to obtain success with bottled Peas. Where Peas can be canned there is a better chance of successful results.

CRACKED POTATO TUBERS: *F.H.* The irregular cracks on the Potatos submitted are the result of what is known as "secondary growth." This phenomenon is usually most marked when rain follows a considerable period of drought, and the Potatos are already advanced towards maturity. The effect of this sudden water supply, coming when the outer tissue of the tubers is becoming firm and rigid, is to bring about unequal growth, which may cause cracks to develop, as in the examples submitted. In certain cases secondary growth may produce "supertuberation," in which some or all of the eyes of the Potato may develop into small secondary tubers, or in other cases the tuber itself may become elongated by renewed growth in length.

DISEASED TOMATOS: *P.* The plants are suffering from a light attack of Cladosporium fulvum. (See reply to *H. H. G.*, in *Gard. Chron.*, August 16, 1919.) The erratic colouring of the fruits is due, in some measure, to lack of potash in the soil.

LAWNS: *J. T. D.* The correct quantity of sulphate of ammonia to use for your purpose would be 2 ozs. per square yard.

MAHONIA BERRIES: *T. M.* The fruits of Berberis aquifolium may be utilised for jam and wine making in the same way as the Barberries (*i.e.*, the fruit of Berberis vulgaris), which are often preserved, especially in crystallised form. We see no reason why the fruits of other species of Berberis should not be similarly used.

MOUNTAIN ASH-FRUITS: *W. H. P.* Although the fruits of this tree afford abundant food for birds, they are not very palatable to the human tongue, and are really only useful for ornamental purposes.

NECTARINE DISEASED: *W. G. H.* The specimen was so badly decayed that the cause of the trouble could not be determined.

NAMES OF FRUITS: *Homerton College.* Apples; 1 and 3, Red Astrachan. 2, Decayed. 4, Worcester Pearmain. 5, Duchesse of Oldenburg. 6, Stirling Castle. 7, Peasgood's Nonsuch. 8, Devonshire Quarrenden. E.8, Cox's Pomona. Pears: 9, Beurré Sterckmans. 10, Jargonelle. 11, Beurré Diel. 12, Prince Bismarck. Plums: 13, Yellow Magnum Bonum. 14, Mann's Imperial. 15, Prince Engelbert. 16 and 17, Autumn Compôte. *J. K.* 1, Mr. Gladstone. 2, Decayed. 3, Kerry Pippin. 4, Ribston Pippin. 5, Lady Sudeley. 6, not recognised, a local variety. 7, James Grieve. 8, Worcester Pearmain. 9, Golden Noble. 10, Domino. 11, The Queen. 12, The Golden Spire. 13, Downton Pippin. *S. and E. W.* 1, Peasgood's Nonsuch. 2, Barnack Beauty. 3, French Crab. 4, Winter Hawthornden. 5, Potts's Seedling. 6, Bedfordshire Foundling. 7, Bess Pool. 8, Alfriston. 9, Curl Tail. 10, Wealthy. 11, Yorkshire Greening. 12 and 13, Lane's Prince Albert. 14, Mank's Codlin. *E. J. P.* Plum: Overall. *C. H. B.* Irish Peach. *F.* Yellow Siberian Crab.

MARKET GARDENING: *R. M.* As you possess good practical experience, both as a private and a nursery gardener, we think that you would make a good living by growing Tomatos, Cucumbers, bedding plants, Chrysanthemums, etc., in a nursery of about half an acre, and fairly well covered with glass. Such a nursery may be obtained on a rental basis, unless you have enough capital to purchase it outright. Good prices are now realised for Tomatos and Cucumbers, and there is very little danger of prices dropping down to pre-war standards. In regard to market gardening, you would require from three to five acres of land to make a living, and then it would be necessary to work pretty hard. In addition to such crops as Apples, Pears, Plums, Gooseberries, Currants and Raspberries, if you could devote an acre or so to what are known as "roots" you could turn over a pretty fair revenue. You would also save on the coke and coal bill, which is now such a heavy expense wherever glasshouses have to be heated. A good deal, of course, will depend upon your own intelligence and tact, and assuming that you are prepared to throw your whole energies into your work you ought to make a success of it. It would be well to have enough spare capital to live on for about twelve months, after making provision for rent, rates, and taxes.

NAMES OF PLANTS: *W. H. Hall.* 1 and 5, Fraxinus excelsior, var. heterophylla laciniata. 2, F. e. var. monstrosa. 3 and 4, F. e. var. heterophylla. 6, F. e. var. aurea. *W. H. S.* 1, Cupressus obtusa, var. erecta. 2, Sequoia sempervirens, var. albo-spica. 3, Cupressus Lawsoniana, var. gracilis. *H. P.* 1, Berberis vulgaris var. 2, B. aristata. 3, Euonymus radicans, var. variegatus. 4, Prunus lusitanica, var. azorica. *T. J. H.* 1, Abies Pinsapo. 2, Pseudotsuga Douglasii, var. glauca. 3, Cedrus Libanii. 4, Rhus Cotinus. 5, Neillia opulifolia. *H. F. W.* The double Pomegranate, Punica Granatum. *J. W. F.* 1, Meconopsis nepalensis. 2, Senecio clivorum. 3, Eupatorium purpureum. 4, Senecio tanguticus. 5, Lythrum Salicaria. 6, Aster acris var. linifolius; Chelone Lyoni. (Both numbered 6.) 7, Aster Amellus. 8, Physostegia virginiana var. speciosa. *Sir A. B. H.* Allium pulchellum. *A. N.* 5, Senecio tanguticus.

ONION BULB ROT: *O. F. F.* and *F. W. B.* The Onions are affected by the Onion Bulb Rot (Sclerotinia sclerotiorum). The method you have adopted for dealing with the disease is the best. For next year's crop, select ground where the disease has not previously occurred.

ORCHIDS: *N.* Reference is continually being made in our "Week's Work" columns, under "Orchid Houses," to the various kinds of Orchids you name. If, however, there is any special point upon which you desire information, we shall be pleased to help you at any time.

POTATO FOR NAMING. *A. C. L.* The variety is Edgcote Purple.

SELF FERTILE APPLES: *W. B.* It is probable that there are few, if any, varieties of Apples that are absolutely self-sterile, but at the same time it is to be remembered that all, probably even the most self-fertile, are more fruitful when they are pollinated with pollen of a different variety. Among the varieties most self-fertile are Beauty of Bath, Mr. Gladstone, Irish Peach, Lord Derby, Stirling Castle, Potts's Seedling, Duchess of Oldenburg, Golden Spire. There are several others, but these appear to be the most reliable.

THE CAPER SPURGE: *C. R.* We are not surprised that you failed to identify your plant with the Caper (Capparis spinosa) as it is the Caper spurge, Euphorbia Lathyris, and has very little in common with the true Caper.

Communications Received.—H. C. B.—J. T. W.—J. M.—W. H.—V. F. G.—H. J. W.—I. S. C.—E. G. H.—J. F. H.—T. H. C.—A. W. S.—F. W. L.—C. C. and Co., L. C.—Miss P.—C. W.—M.—H. H.—F. N.—H. P.— Rev. G. H.—J. C.—O. S.—C. F. M.—D. J. D.—I. B.—F. R. S. B.—I. P. B.

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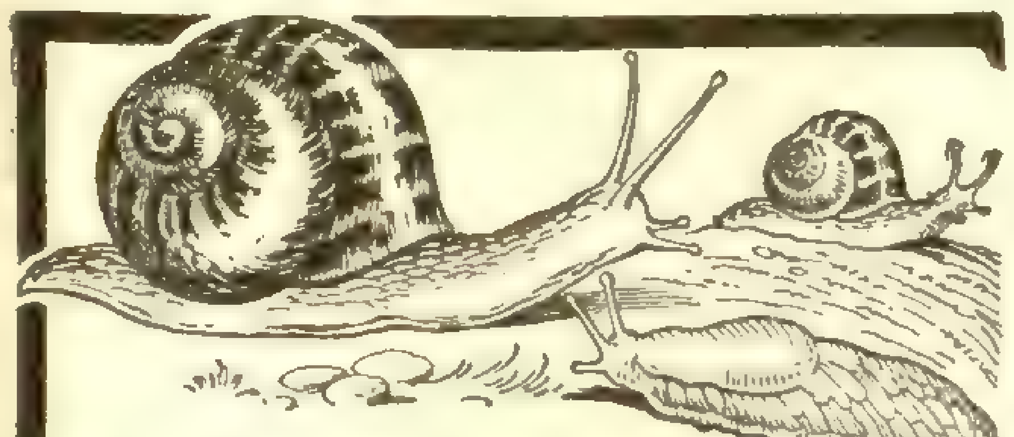

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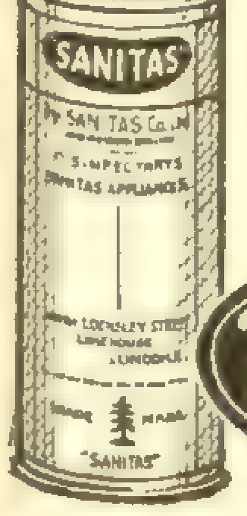

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MARKETS.

COVENT GARDEN, September 10

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	— — alba ...	12 0–18 0
Asparagus plumosus	12 0–15 0	Heliotropes 48 s, per doz.	9 0–18 0
—Sprengeri ...	12 0–18 0	Marguerites white	18 0–24 0
Aspidistra, green	48 0–72 0	Mignonette, 48's per doz. ...	18 0–21 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	Palms, Kentia ...	18 0–24 0
Campanula isophylla	12 0–15 0	—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–18 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–30 0
Asplenium, 48's per doz.	15 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	21 0–24 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium. 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Asters, coloured, per doz. bun. ...	4 0– 8 0	Michaelmas Daisies in variety ...	9 0 15 0
single. ...	3 0– 6 0	Orchids per doz.:	
white ...	6 0 10 0	– Cattleyas .	24 0–30 0
Bouvardia white	15 0–18 0	Cattleya Harrisoniae per doz. blooms.	8 0·10 0
Carnations, perdoz. blooms, best American var.	3 0– 4 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Chrysanthemums—		— white, per doz. bunches ...	6 0– 9 0
—White, per doz. blooms	3 0– 6 0	Roses, per dozen blooms—	
—Yellow ,,	3 0– 6 0	— Frau Karl Druschki...	1 6– 2 6
—Pink ,,	4 0– 6 0	— Lady Hillingdon	1 0– 2 6
—Bronze ,,	3 0– 5 0	— Liberty ...	1 6– 3 6
—White per doz. bun.	10 0–15 0	— Melody ...	1 6– 3 6
—Coloured ,,	9 0–12 0	– Mme. Abel Chatenay ...	1 6– 3 0
Coreopsis, per doz. bun.	1 6– 2 6	—Mrs. J. Laing...	1 6– 2 6
Gaillardia, per doz. bun.	3 0– 3 6	— Ophelia ...	3 0– 4 0
Gardenias, per box speciale ...	8 0– 9 0	— Richmond, var.	1 6– 2 6
— ordinary ...	3 0– 4 0	— Sunburst ...	3 0– 4 0
Gypsophila, per doz. bun. ...	2 0–26 0	—White Crawford	1 –6 2 6
Heather white		Scabious, per doz. bun.	6 0– 8 0
— —per doz. bun.	12 0–10 0	Statice, mauve ...	6 0– 8 0
Lapagerias, perdoz. blooms ...	4 0– 4 6	— white... ...	6 0–10 0
Lilium longiflorum, per bunch ...	24 0–27 0	— latifolia, per doz. bun. ...	12 0–18 0
Lilium speciosum album per bunch	7 0– 9 0	Stephanotis, 72 pips	4 0– 6 0
—rubrum per bun.	4 0– 5 0	Stock, Dbl. White	4 0– 8 0
		—Dbl. Pink ...	6 0– 8 0
		—Dbl. Mauve ...	6 0–10 0
		—Dbl. Purple ...	6 0–10 0
		Violas, perdoz. bun.	3 0– 4 0

REMARKS.—The market is well supplied with Asters, both white and coloured sorts; large supplies of the single varieties of fine quality are offered. Chrysanthemums are getting more numerous, and there are good disbudded blooms of white, pink, yellow and bronze varieties. The above colours are also obtainable in bunches. There is a good supply of Roi de Blanc and prices throughout are lower for all grades of the flower. Carnations, which have been very scarce during the past week, appeared to be more plentiful this morning, but most varieties are only of medium quality. All Liliums are a very short supply, and their prices remain firm, especially for L. longiflorum. Sweet Peas are now practically finished and good blooms of Roses are scarce. The newest arrivals are Michaelmas Daisies and Honesty. All foliage is fairly plentiful, with the exception of Adiantum (Maidenhair) Fern, which is much below requirements.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	0 6– 0 8	Peas, per bus. ...	14 0–16 0
—Scarlet per bus.	8 0–10 0	Parsley, per doz. bunches ...	3 0– 6 0
Beetroot, per bus.	6 0–10 0	Potatos, new, per cwt.	10 6–13 0
Cabbage, per doz.	2 6– 3 0	Radishes, per doz. bunches ...	2 6– 3 0
Carrots, New, per cwt.	8 0 —	Spring Onions, per doz. bunches ...	4 0– 6 0
Cauliflowers, perdoz.	7 0–10 0	Tomatos, English, per doz. lbs. ...	6 0– 7 6
Cucumbers, perflat	18 0–23 0	— Dutch.. ..	3 6– 4 0
Garlic, per lb. ...	0 6– 0 8	— French ...	4 0– 4 6
Herbs, per doz. bun.	4 0– 6 0	— Outdoor Jersey	5 0– 6 0
Mint, per doz. bun.	9 0–12 0	Vegetable Marrows, per doz. ...	3 0– 5 0
Mushrooms, per lb.	2 0– 3 0	Watercress, per doz	0 9– —
Mustard and Cress, per doz. punnets	1 3– 1 6		
New Turnips, per cwt.	10 0–12 0		
Onions (Egyptian) per bag ...	10 0–14 0		

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)		Nuts Brazils (new) per cwt.	110 0–115 0
—Worcester Pearmain per ½ bus.	3 6– 7 0	Cob Nuts per lb.	1 0– 1 3
—Quarrenden ..	4 0– 6 0	Pineapples each...	2 6– 6 6
—Lord Suffield per bus. ..	4 0– 6 0	Plums (English) per ½ bus.	
—Keswick Codling per bus.	3 6– 5 0	—Belle de Louvain	12 0–15 0
—Ecklinville Seedling per bus.	4 0– 7 0	—Gages English	15 0–16 0
Aubergines, pr doz	2 0– 3 0	—Pond's Seedling	14 0–15 0
Bananas... ...	30 0–40 0	—Victoria ...	10 0–14 0
English Peaches per doz. ...	6 0–18 0	—Bush ...	10 0–12 0
Grapes:—		Damsons	12 0·13 0
— Alicante ...	1 0– 2 0	Worthing Figs, per doz.	3 0– 6 0
—Blk Hamburgh,	1 0– 2 0	Pears, French, Williams crates 48's ..	14 0– 17 6
—Canon Hall	2 0– 4 6	—English per ½ bus. Willaims' Bon Chretien	7 0–12 0
—Muscats, per lb.	1 6– 4 6	— Dr. Clapp's Favourite	6 0–10 0
Melons, each ...	1 6– 3 6	— Dr. Jules Guyot	7 0–12 0
—Canteloupe ...	2 6– 8 0	— Hessle, bus...	7 0–10 0
Nectarines, per doz. ...	6 0–18 0		

REMARKS.—All produce continues in heavy supply, Apples in particular exceeding the demand, and prices in consequence are lower than hitherto. Several kinds of Hothouse Fruits are available, and the prices ruling are very reasonable. Tomatos are inclined to be cheaper. This is mainly due to heavy shipments from Holland. Cucumbers are in steady demand, with small variation in price. The sale of green vegetables continues to be good, and prices for all sorts are comparatively high. Potatos are in rather better supply, and show a slight decrease in price.

GARDENING APPOINTMENTS.

Mr. William Allum, for the past fourteen months Gardener to H. H. C. HORSFALL, Esq., at Pinn's Hall, Erdington, and previously at Backwell Hill House, West Town, Bristol, as Gardener to the Earl of AYLESFORD, Packington Hall, near Coventry.

Mr. H. W. Dudman, for four years Gardener to W. M. G. SINGER, Esq., Norman Court, Salisbury, and previously nine and a half years Gardener to F. N. HORNE, Esq., Colley Manor, Reigate, and during the war at work on munitions, as Superintendent of the Central Park, Dartford.

Mr. F. W. Tidman, for five years Gardener to GOODWYN HALL, Esq., Manor House, Alton, Hampshire, and previously Foreman at Mote Park, Maidstone, as Gardener to Captain W. H. SAMUEL, Sunrising, near Banbury.

Mr. Frank L. Westron, for two years and seven months with H. M. Forces and previously Gardener to Mrs. PALMER, at Marlston House, near Newbury, as Gardener to R. MOND, Esq., Comber Bank, Sevenoaks, Kent.

Mr. Wm. Hodson, who has served in H.M. Forces in India, Egypt, Palestine, France and Germany, and previously for nine years Gardener to Mrs. CLEMSON, Hordle House, Milford-on-Sea, as Gardener to W. E. WARDER, Esq., Earlswood Court, Warwickshire.

Mr. E. W. Wakeham, after nearly four years with H.M. Forces, previously Horticultural Instructor at School of Handicrafts, Chertsey, Surrey, and previously Gardener to Mrs. C. BETHELL, Cheam Park, Surrey, as Gardener to Miss F. DE TENAC, Bentley Priory, Stanmore, Middlesex. (Thanks for 2s. for R.G.O.F. Box.—EDS.)

Mr. W. L. Powell, for four and a half years with H.M. Forces, previously Foreman at Belton Gardens, Grantham, and having held the same position since he was demobilised in March, as Gardener to Major FLEETWOOD HESKETH, Stockton Hall, Stretton, Oakham. (Thanks for 2s. for R.G.O.F. Box.—EDS.)

SCHEDULE RECEIVED.

Kent Commercial Fruit Show Association.—Annual Show, to be held at the Agricultural Hall, Maidstone, on Tuesday, Wednesday and Thursday, October 28, 29 and 30, 1919. Secretary, Mr. W. Miskin, The College, Wye, Kent.

THE WEATHER IN SCOTLAND.

The prolonged summer drought was continued well into August. Slight showers occurred up to the 24th, yielding in all 0.83 inch of rain. On the 25th we had the heaviest fall for the year of 1.22 inch, and these with showers during the following days give a total for the month of 2.22 inches. August was a month of bright sunshine; there were only three days on which no record was made, and the aggregate number of hours was 230. This gives an average of 7.6 hours per day, and a percentage of 48.7. The highest maximum temperature was 79° on the 10th, and the lowest minimum 36° on the 24th, giving an absolute range of temperature of 43°. On the 28th we had the lowest maximum of 55°, and on the 13th the highest minimum of 57°. With a mean maximum of 67° and a mean minimum of 47° we get a mean temperature of 57° and a mean range of 20°. On the grass the mean minimum was 42°, with a lowest of 30° on the 24th, this being the only night of ground frost. At 1 ft. deep the soil temperature first fell from 59° to 58°, then rose to 61°, and fell again to 54°, the mean for the month being 58°. Brilliant rainbows were observed on the 16th, 23rd and 24th. There was a sharp thunderstorm on the 16th. A gale occurred on the 17th, but the winds during the month were generally light and chiefly from the south and west. *James Malloch, Director of Studies, Training College Gardens, Kirkton of Mains, near Dundee.*

SITUATIONS VACANT.

Twenty words (or three lines including headline) 3s., and 6d. for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office, 6d.

PRIVATE.

BRITISH GARDENERS' ASSOCIATION.
(Registered No. 1,666 T.)
HEAD OFFICE—
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THE NEW STANDARD of WAGES and HOURS formulated by the BRITISH GARDENERS' ASSOCIATION is now ready, and copies may be obtained by forwarding stamped addressed envelope to the Head Office. Discharged soldiers and sailors, before accepting new situations, should write for a copy of the Wage Standard.

CYRIL HARDING, General Secretary.

THE PRINCESS LOUISE SCOTTISH HOSPITAL, ERSKINE, BISHOPTON.

COMPETENT MAN, to give lectures to and to train limbless Sailors and Soldiers in Gardening and Pig and Poultry keeping; applicants should have thorough knowledge of all three branches.—Applications to be sent to the Secretary, MAJOR T. A. HARVIE ANDERSON, C.B., 201, West George Street, Glasgow.

FOR SUFFOLK.—SINGLE-HANDED GARDENER, good all-round man, to live in; wife to cook, etc.; one other maid kept; grounds 1¼ acres. Write, stating wages required, with references.—A. B. WALTERS, 26, Cheapside, London, E.C.

WANTED, good SINGLE-HANDED GARDENER with help; married; no family preferred; cottage found; state age and wages.—Mrs. TURBUTT, Hinchley Wood, Ashbourne, Derbyshire.

EXPERIENCED GARDENER or Lady Gardener required for Putney, end of September; Glasshouse, Flower and Kitchen Garden. Write fully, stating wages. No rooms.—WHIFFEN, 69, West Hill, S.W.15.

GARDENER, SECOND of five, wanted immediately; Inside and Out; wages 35s., bothy, milk and vegetables; 1 o'clock Saturdays.—State age and experience, A. CLARKE, Swanston, Whitchurch, Oxon.

GARDENER (SECOND), married, chiefly for Outside, with thorough knowledge of Vegetables, Flowers, and Fruit; good cottage and garden.—State age, experience, and wages, to G. DYMOTT, Tracy Park, Wick, near Bristol.

SECOND GARDENER of two required; cottage if married.—Write particulars to WEST, The Gardens, Rockley, Marlborough, Wilts.

SECOND GARDENER required to occupy new lodge, suitable for two. State salary, experience, when free (two, occasionally three kept).—GALLAHER, Argyle House, Whitton Park, Hounslow.

WANTED, a Young Man as UNDER-GARDENER in Private Garden.—Apply WILLIAM McCALL, Woodlands, The Forest, Walthamstow.

WANTED, October 1st, WORKING FOREMAN, to take charge of gentleman's fruit plantation (mainly Apples); must be thoroughly experienced in the production of fruit for market; state previous experience with references also age and whether married or single.—Address, MEMBER 5959, c.o. "G. A." Employment Dept., Letchworth, Herts.

WANTED, FOREMAN (single) for Fruit and Plant Houses, etc.—State full particulars, with copies of references, to ANDERSON, Close House Gardens, Wylam-on-Tyne

WANTED, good GENERAL FOREMAN (married); chiefly Outside; used to Herbaceous borders, rock plants, etc.; state experience; wages expected; with rooms in house in grounds.—Apply, J. GREENLEES, Lingholm Gardens, Keswick, Cumberland.

WANTED, an experienced JOURNEYMAN for Inside; wages 35s. per week; bothy and vegetables; duty alternate weeks.—Apply with full particulars to H. KEMP, Priory Gardens, Reigate.

WANTED, JOURNEYMAN, Glass Department.—Apply, stating wages and all particulars, to A. CHANDLER, Coton House Gardens, Rugby.

WANTED, JOURNEYMAN for Fruit and Plant houses; also one for pleasure ground with knowledge of Herbaceous plants and Roses; wages 32s. per week, bothy etc.; duty 5s. State age and experience.—WM. TURNHAM, Greenlands, Henley-on-Thames.

WANTED, a JOURNEYMAN for the Houses; must be well recommended as a good plantsman; good wages paid, with bothy, vegetables, and attendance; Sunday duty and overtime paid.—State wages and experience to W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, JOURNEYMAN for Outside, capable of taking Sunday duty; bothy, milk and vegetables; 1 o'clock Saturdays; good references essential. State wages required.—WILLIAM KEMP, The Gardens, Appleby Hall, Doncaster.

WANTED, JOURNEYMAN for Plant Houses; 35s. weekly, bothy, vegetables; duty paid, one week in five.—J PITTS, Grittleton, Chippenham, Wilts.

WANTED, JOURNEYMAN for Houses; experienced Fruit and Plants; no bothy; duty once a month.—Apply, stating wages and particulars, to GEO. BROWN, Eartham House Gardens, Chichester.

JOURNEYMAN and IMPROVER for Kitchen Gardens and Pleasure Grounds; must be thoroughly recommended; to take duty; 1 o'clock Saturdays; wages, bothy and attendance.—HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, married man as LEADING MAN; one used to Garden Construction and to assist generally with a very choice collection of flowering shrubs and hardy plants.—Please state wages required, with cottage, and send copies of testimonials, to J. L. MARWOOD, Fernlea, Updown Hill, Windlesham, Surrey.

WANTED, good MAN (single) for Kitchen Garden work and to assist in other departments when required.—State full particulars, with copies of references, to W. ANDERSON, Close House Gardens, Wylam-on-Tyne.

WANTED, a good MAN for Pleasure Grounds; well up in Herbaceous plants, Roses and Shrubs, etc.; Write stating wages required; cottage provided.—C. MOORE, Wargrave Manor Gardens, Berks.

WANTED, good MAN for the Houses, Orchids, Plant and Fruit; 50s., no bothy; single preferred.—Letters only, GARDENER, Feltham Lodge, Feltham.

WANTED, YOUNG MAN for Inside and Out; wages £2 weekly; duty, alternate Sundays, paid extra; no bothy.—Particulars to G. HEARN, Womersley Park, near Doncaster.

WANTED, YOUNG MAN for Lawns, Rose and Herbaceous borders; also Young Man about 18 years of age, for Lawns, etc.—State experience, and wages with bothy, to T. F. STANNETT, Houndswood Gardens, Radlett, Herts.

WANTED, reliable man for Kitchen Garden and Pleasure Grounds; Protestant, single; wages 45s. per week.—Apply, with references, H. SINCLAIR, Gyrn Castle Gardens, Llanasa, Holywell, N. Wales.

HEAD GROUNDSMAN required for large Tennis Club, capable of making first rate turf and managing hard courts; £5 weekly; permanent post.—Apply by letter WHEELOCK, Old Broom Hall, Teddington.

TRADE.

CAMBRIDGESHIRE
EDUCATION COMMITTEE.

WANTED, a HORTICULTURIST experienced in COMMERCIAL FRUIT GROWING, to advise growers on methods of cultivation, treatment, grading, packing, marketing, etc., all kinds of fruit. Experience in lecturing will be an advantage. Commencing salary £250 a year (which may be increased for special qualifications and experience) together with allowance for travelling expenses. Applications setting forth age, full particulars of previous experience, and at least three references should be sent as soon as possible to the EDUCATION SECRETARY, County Hall, Cambridge. 9th September, 1919.

PRIVATE GARDENERS awaiting situations can have temporary employment and good wages by applying to JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill, N.W.3.

WANTED, for Birmingham district, a thoroughly experienced Propagator and Grower of Decorative and Bedding Plants, Alpines, etc., including raising Vegetable Plants under Glass; Single Man preferred owing to house shortage.—Apply by letter, giving age, experience, wages, to F. O., Cadbury Bros., Ltd., Bournville, Birmingham.

WANTED, GARDENER, thoroughly experienced in Intensive Culture, to take charge of French Garden in Midlands, also assistant Gardeners; may suit two Lady Gardeners.—State experience and wages required, to live out, E. G. FALCON, 10, Linden Road, Bedford.

WANTED for London, thoroughly experienced Palm Grower, used to the trade; permanent position for suitable man.—Write PALM, c/o Gould's, 54, New Oxford Street, W C.

FARMER near Edinburgh requires first-class MAN as Grower of Out-door Vegetables for Market trade; 30 to 40 acres good land available, close to station; excellent water supply, telephone installed, every encouragement to suitable man, or if wishing to invest part capital interest given.—Write No. 437, Keith and Co., Advertising Agents, Edinburgh.

FOREMAN WANTED for Forest, Ornamental and American Trees and Shrubs; must be experienced in growing and handling large stocks, and accustomed to the control of labour.—State full particulars of experience and wages required (including house), CLIBRANS, Altrincham.

FOREMAN required (single preferred) for nursery, where cut flowers and fruit are grown for market; good place to trustworthy, conscientious man; must be good grower. Wages and reference to J., Box 23, 41, Wellington St., Covent Garden, W.C.2.

NURSERY PACKING SHED FOREMAN.—Wanted, HEAD PACKER, accustomed to checking off orders; must have sound general knowledge of trade.—State age, previous experience and wages required, with copies of testimonials, etc., to DANIELS BROS., LTD., Norwich.

WANTED, FOREMAN (WORKING) for Market Nursery, Grapes, Tomatos, Cucumbers, Hardy Fruits, Vegetables, Cut Flowers, etc. State wages (cottage and garden provided), age and references.—J. W. LAWSON, Harby, Lincoln.

WANTED, two practical Outside NURSERY HANDS; good wages and share of profits.—Apply J. SLATER, Nurseryman, Skipton.

SHOP MANAGER.—Wanted, smart, up-to-date pushing Man to take sole charge of Garden Seed, Bulb and Sundry Department; knowledge of Farm Seeds preferred; highest references essential.—Apply, stating age, salary required, and if married, to T. L. S., Box 17, 41 Wellington Street, Covent Garden, W.C.2.

POSITION VACANT.—Wholesale seed firm; country; MANAGING CLERK, correspondence and general (not ledger) office; staff of 20; organising ability and trade experience essential.—Apply, with full particulars and references, S. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FOR IRELAND, HEAD SHOPMAN, assistant Counter Hand, Invoice Clerk and Correspondence Clerk.—Reply, stating salary, experience, and when disengaged, to D. H., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, competent SEEDSMAN to take charge of a Seed, Bulb and Florist Business in small country town; good opening for a reliable and trustworthy man.—R. N., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—Wanted, experienced COUNTER HAND, with good knowledge Garden and Farm Seeds and Bulbs, for old established firm in North of Ireland. Apply, with references, stating age, experience, and salary expected.—J. M., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, JUNIOR COUNTER ASSISTANT, for Bulb and Seed Trade; previous experience essential.—Apply, stating salary required, to JOHN PEED AND SON, Seedsmen, West Norwood, S.E.27.

WANTED, two YOUNG MEN as IMPROVERS; principally Inside; wage to commence, 45s.—W. TRESEDER, LTD., The Nurseries, Cardiff.

WANTED for Scotland, YOUNG MAN to take charge of extensive Rock and Valley Garden; fine opportunity for good man.—Apply, R. WALLACE & CO., Colchester.

WANTED, experienced, intelligent MAN, take charge of vegetable department, must be accustomed to marketing vegetables; able to instruct students; good wages to suitable man; single preferred. —Apply, MARTIN, Horticultural College, Swanley.

WANTED at once, YOUNG MAN for Budding, Training and General Nursery work.—Full particulars, stating wages, to JOHN PEED AND SON, Morden, Surrey.

WANTED, YOUNG MAN with knowledge of Alpines; good Potter; also experienced Packers.—Apply, stating wages, etc., JOHN WATERER, SONS, AND CRISP, LTD., Hare Hatch, Twyford.

MEN wanted for Landscape work; 11d. per hour.—Apply by letter, stating age and experience, to JENSEN AND MILNE, Finchley Lane, Hendon, N.W.4.

WANTED, FLORIST'S ASSISTANT, some knowledge of Seed and Bulbs. State experience and wages.—Apply R. TUCKER AND SONS, Florists, Oxford.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

HEAD GARDENER.—A. HARRIS, Nurseryman, West Haddon, Rugby, has several first-class men on his books and will be pleased to communicate with any Lady or Gentleman requiring same.

GARDENER (HEAD).—Major H. E. Wilbraham, J.P., can with confidence highly recommend GARDENER, who is thoroughly experienced in the management of a large establishment; life experience in all branches, including Estate work; good manager; age 30; married when suited; excellent references; demobilised.—Full particulars to J. THOMPSON, Delamere House Gardens, Northwich, Cheshire.

GARDENER (HEAD of two or three); Vines, Stove and Greenhouse, Veg.; 25 years' experience; ref. from Lady Duncan.—W. CHRISTOPHERS, 7, Worcester Terrace, Newton R.S.O., Swansea.

GARDENER (HEAD) seeks re-engagement; life experience in all branches; good testimonials; age 35; married (no family).—Apply W EAST, 17, Broomfield Road, West Ealing, London, W.

HEAD GARDENER; life thorough practical knowledge all branches of Horticulture; choice Fruit and Plant culture, under glass, Vegetables, Salads, Pleasure Grounds, Rock and Flower Gardens; excellent credentials; age 46; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton

GARDENER (HEAD) seeks re-engagement; thoroughly experienced in growing large crops of Grapes, Peaches, Melons, etc., early and late forcing, Stove and Greenhouse Plants, hardy Fruits and Vegetables; capable of the management and upkeep of gentleman's estate; highest references.—C. J. DANN, The Gardens, Hauteville, Harrietsham, Kent.

HEAD GARDENER thoroughly skilled in every branch; up-to-date in making and remodelling any class of Garden; must be several or more under; three years Head of a Wiltshire Nobleman's place; first class references; age 35; married (no family).—Apply B. G., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

HEAD GARDENER; life experience in all branches; eight years in present place; good references; married; age 53.—W. PEARCE, Manor House Gardens, Stoke Poges, Slough, Bucks.

GARDENER (HEAD), demobilised, 19 years' experience, Inside and Out, can be well recommended; age 37; married.—H. JENNINGS, 10, Sunnyside Terrace, Knaphill, Woking, Surrey.

GARDENER (HEAD); life experience in large establishments, private and commercial; experience with stock and electric light; good testimonials; married; aged 44.—JONES, Glenleith, Bushey Heath, Herts.

GARDENER (HEAD) or good SINGLE-HANDED life experience in all branches; good references; married (one child, 6 yrs.); age 38.—W. MUZZELL, Hope Cottage, Braywick, Maidenhead.

MRS. STANLEY ARNOLD can thoroughly recommend F. CLARK as GARDENER (HEAD WORKING); lifetime experience, Inside and Out; excellent references.—CLARK, Barton House, Moreton-in-Marsh.

MR. SEARLE, Castle Ashby, recommends his late Foreman as GARDENER (HEAD WORKING); life experience; married; no family; age 31.—FAIRCHILD, Cornish Hall End, Braintree, Essex.

MR. TOMALIN, Gardener to the Earl of Bessborough, Bessborough Gardens, Co. Kilkenny, wishes to highly recommend his late Foreman as GARDENER (Head Working); thoroughly experienced; age 32; married.—WILKS, Ashcroft, The Green, Southgate, N.14.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, Inside and Outside: experienced in marketing produce; age 46; abstainer.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

LORD ASHCOMBE, Denbies, Dorking, highly recommends G. ALLAN as HEAD WORKING GARDENER; life experience in all branches; excellent references gained in first-class establishments.—Apply, 40, Leamington Street, Crookes, Sheffield.

HEAD WORKING GARDENER. — Mrs. FARQUHARSON can with confidence recommend an excellent man; thoroughly experienced all branches; Inside and Outside; very reliable and energetic; excellent references; at liberty any time.—FISHER, Tilshead Lodge, Tilshead, Wilts.

GARDENER (HEAD WORKING). — Mr. D. ROBERTSON, Head Gardener to Earl Brownlow, Ashridge, Berkhamstead, can with confidence recommend his General Foreman, W. GRANT, to any Lady or Gentleman requiring a reliable good Gardener; age 34; served 4½ years in the Army.

GARDENER (HEAD WORKING) where two or more are kept; Mrs. Clowes, Burton Court, Eardisland, Leominster, can highly recommend her late HEAD GARDENER; life experience in all branches; age 41; married (one child, age 8); demobilised.—R. BROWN, Lower Burton, Eardisland, Leominster, Herefordshire.

SIR ROBERT McALPINE, Bart., wishes to highly recommend A. EVERITT as Gardener (Head Working) where four or more are kept; life experience in all branches of gardening, Inside and Out; age 45; married (no family).—Address A. EVERITT, 3, Claremont Villas, Hare Lane, Claygate.

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GARDENER (HEAD WORKING) seeks situation; good references; life experience; age 32 years.—A. CHANT, "The Rest," Tilford, Farnham, Surrey.

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HEAD WORKING GARDENER seeks situation; life experience; good all-round; Fruit speciality; excellent references; age 40; married (no children).—A. SOUTHALL, 8A, Baker Street, Reading.

GARDENER (HEAD WORKING) seeks situation; married; abstainer; age 54; disengaged.—WARBURTON, Potterne, Devizes, Wilts.

GARDENER seeks situation (HEAD WORKING or good Single-handed where help is given); well experienced in all branches; good references; married (two children); age 40; ex-soldier.—M. DIBBEN, The Cottage Gardens, Fernhurst, near Haslemere, Surrey.

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GARDENER (HEAD WORKING); thoroughly experienced in all branches; good references; age 35; married (one child); demobilised.—W. GRIFFITHS, Ty Cerrig, Tanlan, Llanwrst, N. Wales.

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WOMAN requires work in garden, any capacity; some experience Kitchen Garden and under Glass; quiet and reliable; no objection to Poultry.—C. L., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

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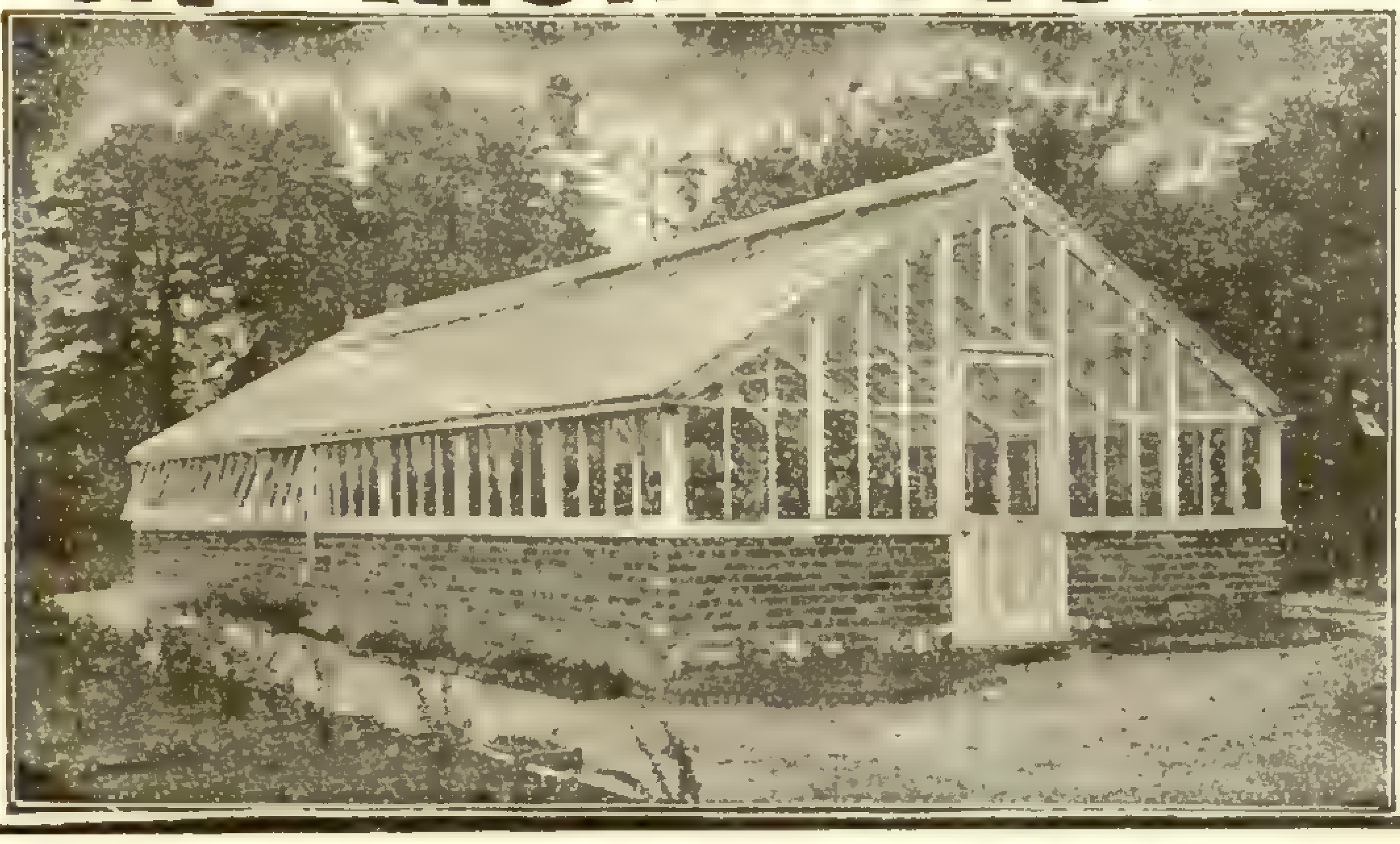

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for 1919.

(Upwards of 100 Illustrations.)
NOW READY.
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COMPLETE Descriptive lists of the best varieties of Hyacinths, Tulips, Narcissi, Crocus, etc. All Bulbs of soundest quality.

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BAND YOUR FRUIT TREES NOW with McDougall's OSTICO and save next year's crop. The most scientific and effective means of preventing the attacks of caterpillars. In tins at 7s. 6d. and 2s. each. Paper Bands—packets, for use with 7s. 6d. tin, 2s. each; for use with 2s. tin, 6d. each. Sold by Nurserymen, Seedsmen and Ironmongers. Sole Manufacturers.—McDOUGALL BROS., Ltd., Port Street, Manchester.

SANDERS, ORCHID GROWERS,
St. Albans.

RIVERS' FRUIT TREES, Roses, Vines, Figs, Oranges and Orchard House trees are of first-class quality, and a large and select stock is always on view. Inspection invited. Price list post free on application.—THOS. RIVERS & SONS, The Nurseries, Sawbridgeworth, Herts.

GOOSEBRRY LANCER.

THIS fine variety, which was figured recently in this paper, and which was awarded a first-class certificate by the Fruit Committee, can be supplied by us at 18s. per dozen.
GEORGE BUNYARD & CO., LTD.,
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EVERY MONDAY AND FRIDAY.

Hyacinths, early and late Tulips, Narcissus and Daffodils, Freesias, Snowdrops, Spanish Iris, Scillas, Crocus, &c.

In convenient lots for private buyers.

MESSRS. PROTHEROE & MORRIS conduct sales as above at their Central Sale Rooms, 67 and 68 Cheapside, London, E.C., at one o'clock each day. Catalogues on application. Commissions executed.

WEDNESDAY NEXT.

Trade Sale of

BRITISH, FRENCH AND DUTCH BULBS,

comprising Hyacinths, early single and double Tulips, Sacks of Narcissus and Polyanthus Narcissus, Snowdrops, Freesias, Spanish Iris, Scillas, Crocus, &c. Also a consignment of Bay Trees, Azaleas, Aspidistras, &c., from Belgium.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.2, on Wednesday, September 24 at 12 o'clock.

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Important Sale of Choice Specimen Trees and Shrubs, Conifers, etc.

Sale of a large quantity of

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comprising Specimen Trees and Shrubs for immediate effect.

New and Choice Trees and Shrubs.

Conifers in variety, Flowering Shrubs, Standard Ornamental Trees, also Standard, Half-standard, Cordon, Bush, Pyramid and trained

FRUIT TREES

in variety, all fruiting specimens

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the premises, the West Hill & Pitt Corner Nurseries, Winchester, on Thursday and Friday, September 25 and 26, 1919, at 12 o'clock each day. By order of Messrs. Hillier & Sons.

May be viewed. Catalogues can be obtained at the Nurseries, at 95, High Street, Winchester, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.2.

THE "ROSEFIELD" COLLECTION OF ORCHIDS.

Without Reserve,

MESSRS. PROTHEROE & MORRIS have received instructions to sell the above by Auction upon the premises,

"ROSEFIELD," SEVENOAKS,

By Order of DE BARRI CRAWSHAY, Esq.

on Tuesday, October 7, 1919, and two following days, at 11.45 each day. Amongst the many fine varieties to be sold will be:-

Odontoglossum triumphans Lionel Crawshay.
Odont. crispum Seraphim.
Odont. crispum Mrs. de Barri Crawshay.
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Odont. Cleopatra Rosefield var.
Odont. eximium Memoria Lionel Crawshay.
Odont. Harvengtense Crawshayanum.
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also numerous other fine named varieties of unblotched old Pacho crispums, hybrids, bloomed and unbloomed seedlings, also Cymbidium hybrids and a batch of unbloomed seedlings raised upon the very rare blue Zygopetalum brachypetalum.

THE WHOLE COMPRISING 3,000 PLANTS.

The plants may be seen at any time by appointment with de B. Crawshay, Esq., Rosefield, Sevenoaks.

Catalogues of the Auctioneers—
67 and 68, Cheapside, London, E.C.2.

SALE OF ORCHIDS AT WARRINGTON.

MESSRS. PROTHEROE & MORRIS have been instructed by WILLIAM BOLTON, Esq., to sell by Auction on the premises,

WILDERSPOOL, WARRINGTON,

On Wednesday, October 15, 1919,

A further portion of the choice and valuable Orchids from this well-known collection. Plants may be viewed by arrangement with Mr. W. Cain, the Gardener. Catalogues on the premises, or of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

IMPORTANT SALE OF VALUABLE ORCHIDS.

By Order of SAMUEL GRATRIX, Esq.,

MESSRS. PROTHEROE & MORRIS have received instructions to Sell by Auction at

THE COAL EXCHANGE, MARKET PLACE, MANCHESTER,

On WEDNESDAY, OCTOBER 1, 1919,

A selection of

RARE AND VALUABLE PLANTS

from the well-known

WEST POINT COLLECTION,

Including some of the very finest albino and other Cattleyas, choicest Cypripediums and Odontoglossums.

The plants may be viewed at "West Point," Whalley Range, Manchester, by appointment with the Gardener, Mr. J. Howes.

Catalogues of the Auctioneers,
67 & 68, Cheapside, London, E.C.2.

HAMPTON, MIDDLESEX.

WILL TAYLER'S entire stock of well-grown FRUIT TREES, true to name, including the trained Peaches and Nectarines, which are probably unequalled, will be Sold by Auction in October, unless the business is previously sold.

BUSINESSES FOR SALE.

NURSERY FOR SALE, 8 miles from London; all at £2,500.—For particulars write to T G., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

BUSINESS OF FRUIT TREE, Rose Grower, and Nurseryman. Exceptional opportunity to acquire lucrative and far-famed Nursery in full working order, on freehold land. Failing health demands immediate disposal.—WILL TAYLER, Hampton, Middlesex.

STOKE NEWINGTON (London, N.). — Old-established (over 50 years) FLORIST'S and NURSERY BUSINESS, particularly suitable for Market Trade. 765 feet of Glass, dwelling-house, buildings, etc. Lease 38 years; exceptional opportunity. Ill-health cause of sale. Immediate possession. Price £1,300 or offer.—Particulars of Messrs. PROTHEROE & MORRIS, 67 and 68, Cheapside, London, E.C.2.

SMALL FREEHOLD RETAIL NURSERY for sale, chiefly glass (5), good dwelling house, Showhouse, shop; well situated in populous district; good going concern; £1,000, with stock.—A., 44 Marlow Road, Beckenham.

PROPERTY WANTED.

WANTED TO RENT, small House and three or four acres, about 30 miles from London.—Particulars, S., 50, Waterside, King's Langley, Herts.

WANTED TO RENT, SMALL NURSERY, with view to extension; southern counties; must be good Rose-growing soil; some glass and house.—ALLENSPACH, 70, Sherwell Hill, Chelston, Torquay.

WANTED TO RENT A SMALL NURSERY, with about 200 feet run of glass and cottage.—REYNOLDS, Wyedene, Tintern, Chepstow.

BUSINESS CARDS.

FIRST-CLASS DUTCH FIRM wishes to buy Fruit for English Houses on commission base.—Letters sub. 1321 to BOEKHANDEL DE WEKKER, Apeddoorn, Holland.

R.H.S. GENERAL EXAM.—Correspondence Class conducted by a practical gardener.—Particulars from the HEAD GARDENER, Heath End House, near Basingstoke.

PARTNERSHIPS.

YOUNG MAN wishes to join Fruit or Flower Grower with a view to partnership.—VINCENT, 27, Creffield Road, Ealing, London.

NOTICES.

BRITISH GARDENERS' ASSOCIATION.

(REGISTERED No. 1666T.)

MEETINGS have been arranged as follows to protest against the exclusion of Land Workers from the Hours of Employment Bill:—

Monday, September 22—
LEICESTER, Engine Hotel, Queen's Street, 7.30 p.m. Speakers: Cyril Harding, Gen. Secretary, and others.

Tuesday, September 23—
GUILDFORD, 7.30, Labour Exchange. Speaker: Cyril Harding.

Wednesday, September 24—
COLWYN BAY, Great Labour Demonstration. Speakers: Rt. Hon. J. R. Clynes, M.P., Cyril Harding, and others.

Thursday, September 25—
LONDON, Chandos Hall, Maiden Lane, Charing Cross, at 7.30 p.m. Speakers: R. B. Walker, Gen. Secretary, Agricultural Labourers' and Rural Workers' Union, C. Fletcher, Vice-President, B.G.A., and Cyril Harding. Chairman: A. E. Cresswell.

Friday, September 26—
BATH, Sessions Court, Guildhall, at 7.30 p.m. Speakers: R. B. Walker, Cyril Harding, and others.

Saturday, September 27—
WALTHAM ABBEY, The Market Square, 7 p.m. Speakers: Cyril Harding, C. Fletcher, J. W. Craig, J. Young and C. Tullett.

Every Horticultural Worker in the above districts should make a point of attending the meetings and thus help the cause of the Gardener.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

APPROVED SECTION 229.

AMENDMENT TO THE NATIONAL HEALTH INSURANCE ACT, 1918.

ALL PERSONS whose salary does not exceed £250 per year must now be insured. This Society, which has paid out over £2,750 in Sickness and Maternity benefits, and has invested Funds of over £4,000, is open to all Gardeners, Seedsmen and Nursery Workers.—Forms of application may be had from A. C. HILL (Secretary), 35, Alexandra Road, West Kensington, W.14.

LOO THOMSON, Ailsa Craig, Formby, would be glad to receive schedules for forthcoming Chrysanthemum shows.

PLANTS, &c., FOR SALE.

FERNS! FERNS!! — Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinas, Lilies, Hydrangeas, etc.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.9.

ENGLISH BULBS, Dutch Bulbs, French Bulbs. MORLE & CO.'s new list now ready. Sent to any address with pleasure; established 50 years.—150-156, Finchley Road, N.W.

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ROMAN HYACINTHS, 3s., 4s. doz.; Paper White Grandiflora Narcissi, 10s. 6d.; Double Romans, 9s.; Freesias, 3s., 5s. 100; Bedding Hyacinths, 17s. 6d. 100; Catalogue free.—ELLISON'S, West Bromwich. Early Flowering Tulips, 12s. per 100.

BULB LIST for present season has been posted. If not received, please send postcard to T. SMITH, Daisy Hill Nursery, Newry.

SPIRAEAS for winter flowering; good clumps for October delivery.

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Japonica; Astilboides floribunda	1s.	10s. 6d.
Peach Blossom; Queen Alexandra	1s. 6d.	15s.

G. and A. CLARK, Ltd., Hardy Perennial and Fruit Tree Specialists, Dover.

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DARGILL EARLY, new early immune variety, Scotch seed, grown for and obtained through Board of Agriculture. Book now. Limited supply. 14lb. 4s., 28lb. 7s. 6d., 56lb. 14s., 112lb. 26s. Bags free.—ELLISON'S West Bromwich.

AZALEA INDICA, good sorts, well budded, 16 to 18in. diameter, 42s. per doz. Cash with order.—H. COPPITTERS & SON, 51, Granville Road, Childs Hill, London.

BULBS.—100 trumpet Daffodils, Emperor, Golden Spur, 11s.; 100 Narcissi, Sir Watkin, 11s.; Barrii Conspicuus, Cynosure, 5s. 6d.; cash with order.—Apply, MAJOR GRIFFITHS, Llwynduris, Llechryd, Cardiganshire.

FOR SALE, quantity of Hardy Deciduous and Evergreen Shrubs, growing on chalk; 8 large Agapanthus in tubs; 8 Golden Euonymus in 18-in. pots, and 30 Hydrangeas in 9-in. pots. Inspection invited.—HEAD GARDENER, Ratton Gardens, Willingdon, near Eastbourne.

ALPINES, 100,000 to offer; sample dozen 3s., 50 10s. 6d., named; carriage paid. Catalogues free.—TAYLOR'S NURSERIES, New Eltham, S.E.9.

"ROCK GARDEN PLANTS, Where and in What Soils to Plant Them," a useful guide to garden lovers, with catalogue, 48 pages, post free. —G. R. PHIPPS, Alpine Nursery, Barnham, Bognor.

BAY TREES, magnificent selection, Pyramids and Standards for Sale, in all sizes.—Sizes and prices on application, ROBERT GREEN (1911), Ltd., 28, Crawford Street, London, W.

BULBS! BULBS! BULBS!—Buy direct from Grower. Mixed—all best sorts—Daffodils and Pheasant's-Eye Narcissi, £2 2s. 6d. per 1,000, 4s. 9d. 100, carriage paid.—Apply, L. BEDDOES, Aston-on-Clun, Salop. Cash with order.

FOR SALE.—Dwarf Polyantha Rose, Orleans. Offers wanted for about 300 nice bushes.—OLIVER, The Beeches, Harpsden, Henley-on-Thames.

CYCLAMEN PERSICUM.—We have to offer a grand lot in bud and forward bud in 3½in., 5in. and 6in. pots. Also Cineraria grandiflora grand strain, in 3in. pots.—H. B. MAY AND SONS, LTD., Chingford, E.4.

FOR SALE, large plants of Agapanthus; also large Palms in tubs, about 15 feet high; in splendid condition.—Apply, GARDENER, Bill Hill, Wokingham, Berks.

PLANTS, &c., WANTED.

WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free.—SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

WANTED, unbound copies of *The Gardeners' Chronicle*, for the first half year of 1917, complete or incomplete.—Write, E. F. B., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

ASH SEEDLINGS wanted, two years old; also Ash Plants.—State price and quantity to T. W., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

GERANIUM CUTTINGS.—Will send cash, on offers of Crampel or other cuttings. Per 100 or 1,000.—R. BULLOCK, Florist, Roundhay, Leeds.

WANTED, GERANIUM CUTTINGS. Price per 100 or 1,000. Also Carnations, Borders and Trees. Price per dozen or 100; and Violets.—H. PENGOLD, Market Gardener, Aberpergwm, Glynneath, Glam.

WANTED, trade lists of all kinds, also stock of Summer flowering Mums., named vars.—BENWELL AND MUSSEL, Fleeman Grove, West Bridgeford, Notts.

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IRON AND WIRE FENCING for gardens, tree guards, gates, arches, espaliers, rose stakes, and ornamental garden iron and wire work of every description. Send for illustrated catalogue. Also kennel railing and poultry fencing. Ask for separate lists.—BOULTON AND PAUL, Ltd., Manufacturers, Norwich.

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PEAT (Brown) 10s. 6d., second 7s. 6d. bag, on rail; Gravel, as dug, on rail, in 5 ton trucks, or sifted into stones, screenings, or sand, for building or concrete.—W., Beaumont, Pine Woods, Camberley, Surrey.

4 UNUSED IDEAL BOILERS for 8,000 ft. 4-inch pipe each; 2,000 Corrugated Galvanised Sheets; 2,000 Uralite Boards, 8ft.×4ft.×¼in.; 2,000 yds. Light Rails; 50,000ft. Glass; 50,000ft. ¼ to 4in pipes; quantity H.W. Fittings; Glasshouses, various sizes; Boilers; Portable Buildings, etc. Price against specification.—C. A. CHRISTIANSEN, Southall. 'Phone 63

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OLD YORK STONE PAVING for Garden Paths, Rose Walks, Terraces, Lily Ponds, etc.; Rectangular or Crazy as required.—H. BROOK, Quarry Owner, 40, Valley Road, Streatham, S.W.16.

HEATING APPARATUS for Greenhouses, Conservatories, Vineries, etc., supplied with various arrangements of pipes; Vanguard, Conical and Sectional Boilers, Fittings, Pipes, etc.; illustrated list free.—THOS. JEAVONS, Silver Street Works, Brierley Hill, Staffordshire.

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THOMSON'S *Gardeners' Assistant*, complete, in good condition, £1.—GARDENER, Rosemundy, St. Agnes, Cornwall.

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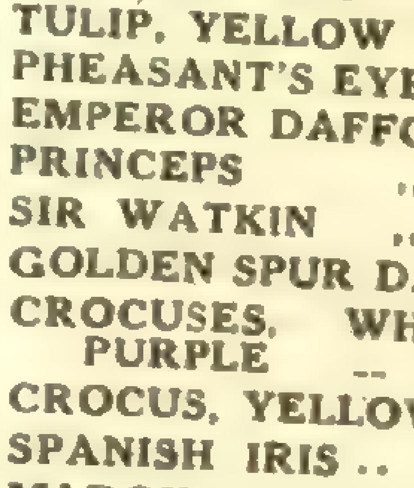

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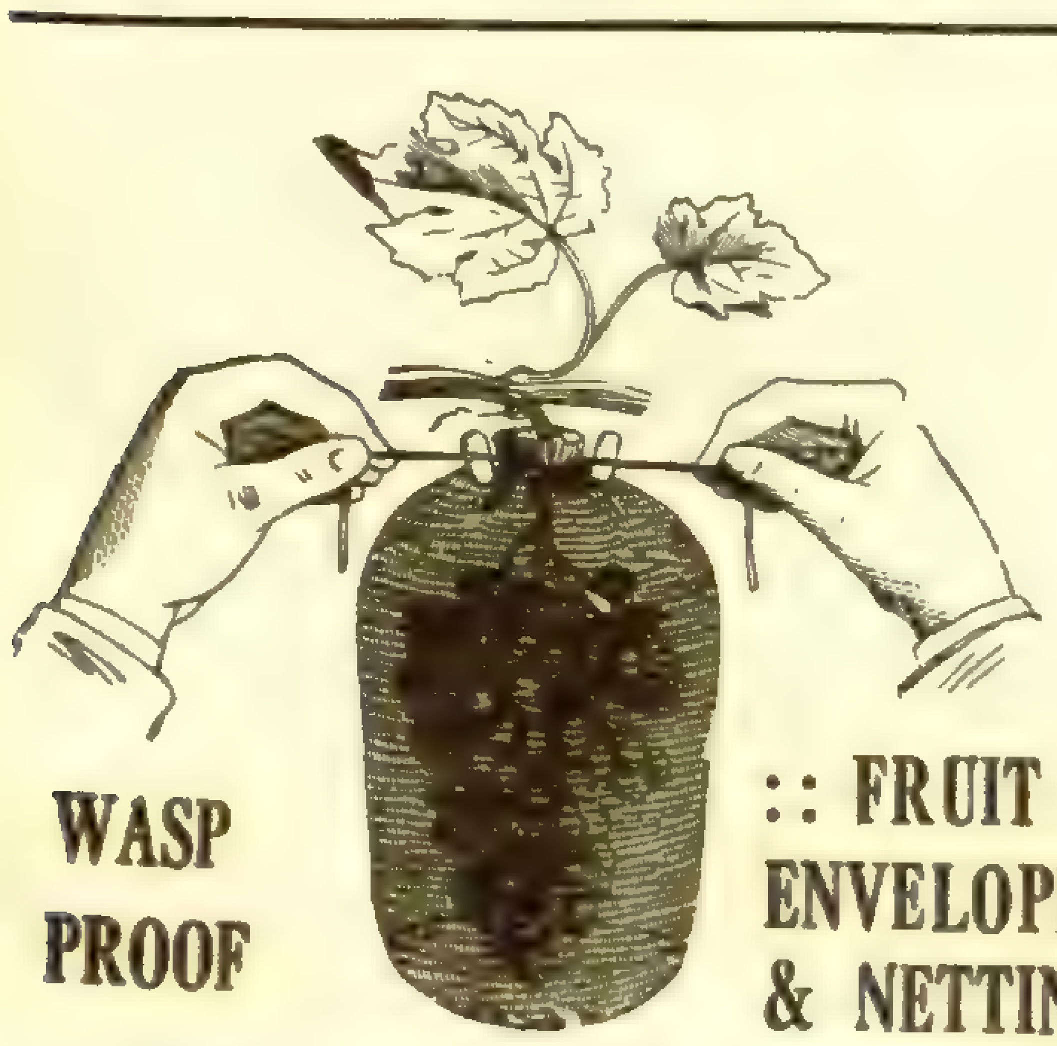

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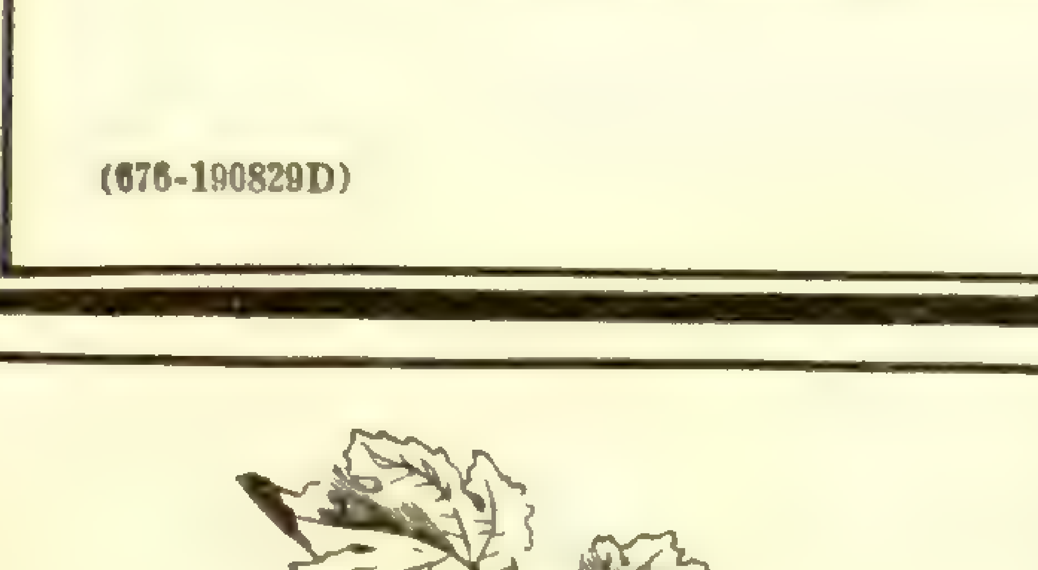

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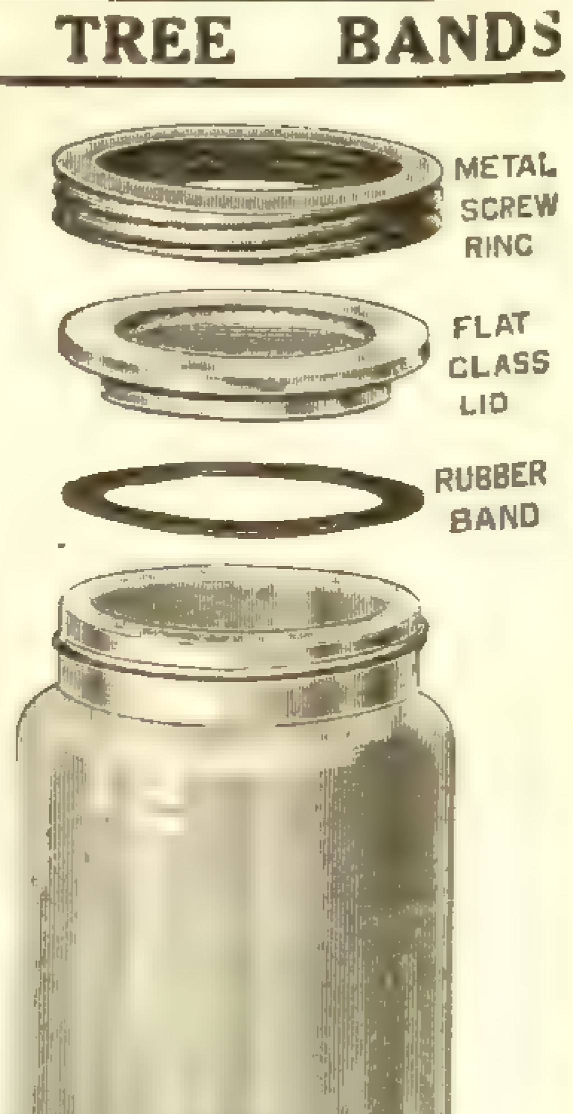

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THE
Gardeners' Chronicle
No. 1708.—*SATURDAY, SEPT.* 20, 1919.

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ROSE HEDGES.

THOSE designing a Rose garden or indeed any kind of a garden, would do well to consider the propriety of introducing one or more hedges of Roses. Rose hedges lend themselves to great variety of treatment. According to the varieties selected and the purpose they are intended to fulfil, they may vary from low dividing lines of 1 ft. 6 in. or 2 feet high to tall fences or screens 6 feet to 8 feet in height.

Almost any site may be used for a Rose hedge that is not actually under tall trees. The more open it lies the better for the success of the hedge, but it is very important that it should never be chosen aimlessly or the plants dumped down just for the sake of making a hedge and without some definite purpose which the latter is intended to serve. Thus a Rose hedge may be employed as a screen to shut out some unsightly object, or to form a background for some particular group of plants, or scheme of arrangement, or to fence in some part of the garden, as the Rose garden, or divide one part of the garden from another, or again, with the dwarf fences, to produce some rather formal effect, but whatever be the position chosen its object should be definite and the varieties selected to make the hedge be chosen to accord with it.

The matter of soil has also to be given some consideration. While some Roses, such as many rambling or climbing varieties, the rugosas and the Scotch Roses will do well in comparatively poor soil, there are other and quite rich hedge Roses which need a fairly good rooting medium if even tolerably satisfactory results are to be expected.

Few Roses are more readily adaptable for forming a good hedge than the Wichuraianas and a few of the ramblers. Of the former it is only necessary to take the strong growing types, Dorothy Perkins and Chatillon Rambler (pinks), Lady Godiva, Gerbe Rose, and Evangeline (pale pinks), Hiawatha, Excelsa, and Coronation (crimsons), Gardenia, Shower of Gold (yellows), Sander's White, or White Dorothy; whilst of the ramblers, the best for the purpose are Blush Rambler, Tea Rambler, and American Pillar.

These, or any of them, will make a good hedge from 4 ft. to 8 or 9 ft. high, so that they may be used either as screens or dividing hedges at will.

A convenient plan is to put iron hurdles along the line of the fence of the height desired and to train the plants to them fanwise. Wooden sheep hurdles are even better, provided a rot-proof standard is inserted between each to which the hurdles are tied. A good standard may be made from an old piece of gas pipe cemented into a 4-in. drain pipe to give it a solid foundation.

Of the Roses I have named, Coronation, though not a specially well-shaped flower, looks very bright in the garden, and Evangeline should be included if possible on account of the delicious scent it imparts to the air when in flower.

If perpetual flowering Roses are desired, the following may be employed trained against hurdles as above described:—Alister Stella Gray, Mme. Alfred Carrière, Lina Schmidt-Michel, A. Papa Gontier, Reine Olga de Wurtemburg or Papillon. For Roses of this kind it is best to aim at a hedge from 5 to 7 ft. in height. For a rather lower hedge, Moonlight, Zéphirine Drouhin, or Trier may be employed.

All the above-named Roses require careful training, and thinning annually, if a good effect is to be produced.

If it is desired to form a Rose hedge without any artificial support, resort must be had to Roses of a different character. One of the most beautiful Rose hedges for the short time it is in flower may be made of Rosa altaica, a species with large creamy, single flowers, and almost equally good and much longer in bloom is Stanwell Perpetual, with creamy-blush, double flowers, which are very sweet scented. Either of these will make a fence of 3½ ft. to 4 ft. in height. Most of the rugosas will also make good hedges of from 4 ft. to 6 ft. high, and I would specially mention Blanc double de Coubert (white), and the dark single atropurpurea, while the variety, Mrs. Anthony Waterer, is delightful for its sweet fragrance. The plants may be put in about 2 ft. 6 in. apart, and, if carefully attended to, they will soon make a thick fence. These Roses are by no means particular as to soil.

For a low, thick hedge, the Scotch Roses are very useful. They may be obtained in various colours of cream, yellow and pink, and will do well in the poorest of soils.

Last, but perhaps most important, are the Sweet Briars. The ordinary Sweet Briar forms shoots 5 ft. or 6 ft. in length and makes a good thick hedge, and if it be by any means practicable, a site should be found for a hedge of this Rose somewhere to the windward of the Rose garden. There is also a much dwarfer form that can be obtained from some nurserymen, but I do not like it so well as the ordinary form unless the circumstances make a dwarf hedge essential.

Taller again are the Penzance Briars. The foliage is quite fragrant, and they have the advantage of much better and larger flowers. A hedge of Penzance Briars may, with a little trouble, be grown without support, but the plants are much more easily managed if planted on either side of an iron or wooden fence. They readily lend themselves to considerable differences in treatment and may be kept to 4 ft. or 5 ft. in height or allowed to make a high screen of 9 ft. or more. The copper-coloured forms, Lord Penzance and Lady Penzance, are not so strong in growth as the pink and crimson forms.

When the hedge is used as a boundary for the Rose garden, it is very important to see that it is not placed too near the beds and borders of garden Roses, particularly if strong-growing varieties are planted, and this is particularly objectionable if the hedge is on the south or south-west of the Rose garden. Not only do these strong-growing varieties extend their roots into the rich and well-made soil of the beds, but, unless vigorously retained at a low height, they keep off much of the sun which is badly wanted for the garden varieties. Nevertheless, it is a rather common fault to plant it too near. The plants perhaps look small when they are put in and trained perhaps in their second year, but the vigorous growth of the following seasons is not allowed for.

Another mistake more frequently made by amateurs than professional gardeners is that of allowing the shoots to become too dense and sometimes too long. A much more graceful and pleasing effect is produced if the stems retained to form the fence are allowed sufficient room to display their flower shoots and bunches without encroaching on the space allotted to other branches.

The distance apart at which the plants are to be arranged must vary greatly with the height of the proposed hedge. In the case of the Wichuraianas and ramblers, if the height is to be kept 4 ft. or 5 ft. each plant, when well established, will nearly cover a couple of hurdles, and may be placed near the junction of any two of them. If, on the contrary, the hedge is intended to attain a greater height, the individual plants may be put in at one-third of that distance. *White Rose.*

ORCHID NOTES AND GLEANINGS.

CATTLEYA PICTURATA.

A NINE-FLOWERED inflorescence of a Cattleya imported with C. intermedia, but which is evidently a natural hybrid between that species and C. guttata, is sent by J. Ansaldo, Esq., Rosebank, Mumbles, who desires the name. The flowers are fairly intermediate between the species named and the habit of the plant (we are informed) and the arrangement of the inflorescence very much like C. guttata.

The ligulate sepals and petals are pale greenish-yellow with sparsely distributed small, brownish spots inherited from C. guttata, the base of the lip being blush-white and the front lobe purple.

The plant was described by Reichenbach in *Gard. Chron.*, 1877, p. 584, from a specimen raised by Messrs. Jas. Veitch and Sons. Later, natural hybrids and home-raised specimens of the same cross appeared, varying considerably, and causing errors in nomenclature, what appears to be the same cross appearing among others as C. hybrida picta, C. flaveola (Rchb. f. *Gard. Chron.*, October 27, 1898), and C. Scita (Rchb. f. *Gard. Chron.*, October 17, 1885), named from an imported specimen.

CATTLEYA VIRGO.

A FLOWER of this new cross between C. Harrisoniana alba, Stanley's variety, and C. O'Brieniana alba is sent by Mr. John Cowan, manager to Messrs. Hassall and Co., Southgate, who calls attention to the fine form of the flower, and especially the broad development of the lip, consequent on using the best form of C. Harrisoniana alba, which secured a First Class Certifi-

cate at the Royal Horticultural Society's meeting in 1908 in its production.

The flower, which is wax-like in substance, has equally broad, pure white segments, with a sulphur-yellow shade on the disc of the lip. There are now several good white crosses with C. O'Brieniana alba, and in all the flowers remain fresh for a considerable time.

ORCHIDS FROM WARNHAM COURT.

A charming selection of flowers of hybrids chiefly raised in his collection is sent by C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan). Cattleya Sunset, raised between Dowiana aurea and Tankervilliae (bicolor × Rex), is a very fine apricot-yellow flower with showy crimson labellum, the base and elongated middle bearing orange lines. C. Tankervilliae, with canary-yellow flower, having the front of the lip purplish rose, is sent to show the extraordinary manner in which the C. bicolor in its parentage has influenced the form of the lip of the variety. C. Loddorado (Loddigesii × Eldorado), is a pretty rose-coloured flower, the lip having much of the form of C. Eldorado and its deep orange-yellow disc. Laelio-Cattleya Duncanii is supposed to result from crossing L.-C. Gottoiana and C. Hardyana, which would make it a form of L.-C. St. Gothard, but it differs greatly in being near to L.-C. Gottoiana in form. The long sepals and petals are rose-coloured, and the labellum almost entirely dark claret colour. Laelio-Cattleya Dorothy Strachan (C. Eldorado × C. Dayana), a good L.-C. Phryne, L.-C. Golden Wren, and a richly-coloured Cattleya Iris were also sent. The last named is a very distinct form of unusual colouring, the sepals and petals being orange with a light buff shade, whilst the lip is purple changing to violet in the front.

Fig. 71.—Aconitum Hemsleyanum; a climbing species with blue flowers.

NEW OR NOTEWORTHY PLANTS.

ACONITUM HEMSLEYANUM.

A Climbing Species from China.

When an Aconite of the common Monkshood type as we know it in Central Europe, and particularly if it is one of the tall paniculate forms, grows up in the shade of a shrub, it happens sometimes that the stem becomes elongated, weak and flexuous, twisting here and there among the branches which serve it as support, whilst the flowering is poor or altogether suppressed. A similar tendency may be observed in A. paniculatum, even in exposed situations. Here, however, the flowering is not interfered with; it may even be profuse. I have seen A. paniculatum ramble among the branches of Alnus viridis, and on emerging from them throw its beautiful, pendulous panicles like trusses over the rich foliage of the Alder. Such and similar states have been distinguished as A. cernuum. Whilst this habit is more or less casual in those species, a step further in the same direction has led to typically scandent growth in a number of Chinese and Siberian Aconites, in which the stems have taken to twining, and the petioles become so sensitive as to act as tendrils. One of them, A. volubile, has been known for a long time. Discovered by Pallas in the Altai region in 1771, it was introduced into this country by Loddiges in 1799, but seems to have soon gone out of cultivation. Other species of this group inhabit the woodlands of Manchuria, and others again are characteristic of the wood and grasslands of Central, Western and South-west China. Among them must be classed Aconitum Hemsleyanum (see Fig. 71). It was first collected by Dr. A. Henry in the neighbourhood of Ichang, Province Hupeh, about 1885, and subsequently in other localities in the same province; then again by Wilson, also in Hupeh, and later on in Szechuan, as far west as Mt. Omei (1905) and Wa-shan (1908). Tubers received from him by Messrs. J. Veitch and Sons in 1903 produced flowering shoots for the first time in 1905. It ranges in its native area from 4,000 to 9,000 ft., and is perfectly hardy in this country. It was described by Dr. E. Pritzel (in *Engler's Bot. Jahrb.*, xxix., on p. 329), and named after Dr. W. Botting Hemsley.

Aconitum Hemsleyanum reproduces itself after the fashion of A. Napellus from biennial tubers. They are relatively small, half an inch long, and, tasted in minute quantities, do not produce the peculiar tingling sensation on the tongue so characteristic of the poisonous species of the section Eu-Napellus. The slender stems twine usually to the left (clockwise) in tall grass or in shrubs, and climb sometimes up to 12 ft. They are, like the whole plant (excepting parts of the flower), glabrous. The leaves below the inflorescence, which are not shown in the illustration, are handsomely 5-lobed (not divided to the bases as in A. volubile), the middle lobe being rhomboid, conspicuously acuminate and boldly crenate or doubly crenate above the cunate base, while the lateral, although similar, are asymmetric and oblique and united higher up. The floral leaves are as delineated in the accompanying figure, but usually more acuminate. The pendulous panicles are often over 1 ft. long, with the slender pedicels early curving so that the flowers are always in a more or less erect position. The latter are beautifully blue, and in good specimens 1–$1\frac{1}{4}$ in. long. The glabrous hood is $\frac{3}{4}$—1 in. high, and $\frac{1}{2}$—$\frac{3}{4}$ in. wide, with the dorsal line almost straight and the frontal slightly sloping into a short, or almost obsolete beak. The lateral and basal sepals are loosely hairy on the upper (inner) side. The erect nectaries have a broad, rounded head, with a stout recurved spur. The five follicles are glabrous and spread out almost in star-fashion when quite mature. The blackish seeds are neatly marked with wavy, transverse lamellae. *O. Stapf.*

ROSE INDEPENDENCE DAY.

The new Rose illustrated in Fig. 72 was awarded the National Rose Society's Gold Medal on the 9th inst. The variety had previously received a Certificate of Merit from the same Society on July 4, 1919, when shown by the raisers, Messrs. Bees, Ltd. It is a small Hybrid Tea variety of free, vigorous, bushy growth, producing a profusion of small, shapely blooms of a rich orange-tinted yellow, the unopened buds being stained with red. The foliage is small and glossy and provides a pleasing setting to the attractive flowers, which are more highly pointed in the centre than others of the type, such as Golden Emblem. In his remarks on the autumn exhibition of the National Rose Society in the last issue our reporter stated that it is doubtless connected with the group which bears the well-known name of Pernet Roses and that Independence Day is interesting as showing the centre petals of this type of Rose beginning to take a more pronounced pointed shape.

CULTURAL MEMORANDA.

ANNUALS FOR PRESENT SOWING.

Annuals for greenhouse and conservatory decoration during winter and early spring should be sown at once. If they are liberally treated the following varieties will provide a fine display of bloom from early in the New Year until May and June. Nemesia Suttonii is a magnificent subject for growing in pots—those of 5-inch diameter being quite large enough for the final shift. Nicotiana affinis hybrids well repay good cultivation, and may be flowered in 6-inch pots. The Schizanthus is a beautiful plant when well grown, and is useful both for supplying cut blooms and for conservatory decoration. Specimens potted finally in 7 or 8-inch pots in rich compost will make plants from three feet high; I have had them six feet tall and well branched. Chrysanthemum "Morning Star" does remarkably well; the flowers are of an attractive primrose colour, and they last well when cut. Phlox "Purity" should not be overlooked; it may be had in bloom at almost any time of the year. The flowers open creamy white, turning to pure white. *Wm. Hodson, Earlswood Court Gardens, Warwick.*

HARDY FLOWER BORDER.

Michauxia campanuloides.

Of the six species of Michauxia recognised by the *Index Kewensis*, the earliest to be introduced is still by far the best known, although one or two of the others have been in cultivation in this country. This is M. campanuloides (see Fig 73), a biennial which always attracts notice when seen in gardens, although it is but rarely cultivated. It was introduced by l'Heritier, from the Levant in the year 1787, and was figured in the *Botanical Magazine*, Vol. VII, tab. 219. The plate gives a good idea of an individual flower with two unopened buds on the stem, together with a leaf, but this does not, of course, show the stately habit of this effective and interesting plant. When the plate was published in 1793 it was described as being a "biennial greenhouse plant," and the editor speaks of having seen a fine plant in July, 1792, in the "collection of Messrs. Grimwood and Co., Kensington; although in a small pot, it grew nearly to the height of six feet, was branched to the bottom and loaded with a profusion of blossoms, such as are represented on the plate and which bore some distant resemblance to those of a Passion Flower." Coloured plates of this Michauxia are not frequently seen, but there is a fairly good one of the flower alone in Mrs. Loudon's *Ladies' Flower Garden of Ornamental Perennials*, Vol. II, plate 60. Maund does not seem to figure it at all. One of its allies, M. laevigata, was figured in *Bot. Mag.* tab. 3128.

The biennial habit of M. campanuloides has greatly militated against its popularity, possibly aided also by the fact that it does not appear to ripen seeds freely in this country. Biennials do not usually retain the favour of professional or amateur gardeners. It has also to be observed that plants do not always flower before their third or fourth year. Yet the Michauxia is a striking plant when well grown and flowered, and a few good specimens in the border or a conservatory command much admiration.

While formerly grown as a greenhouse biennial, it is really a hardy plant and is finer when treated as such provided that it can be cultivated in a good, sandy loam of considerable depth, and well manured. Well developed specimens are sometimes as much as eight feet in height and, if well branched, have a handsome appearance. The plant likes a warm situation and a sheltered one, wherever this can be given, and will always repay any care it may receive. Seeds are best sown early under glass, the seedlings pricked out as soon as they can be handled and planted out in the end of May or early June. They may be put in nursery beds, but make finer specimens if allowed to remain where they are to bloom.

The flowers are white, tinged with purple, and bear a considerable resemblance to those of a Passiflora, as suggested in the quotation above.

A good plant will branch out from the base and a succession of the singular-looking flowers will be maintained for a long time. Such a bold and effective plant as the Michauxia deserves the consideration of those who seek to grow flowers not seen every day. *S. Arnott.*

Fig. 72.—Rose Independence Day.
(National Rose Society's Gold Medal, September 9, 1919.)

NOTICES OF BOOKS.

The Kitchen Garden.

We gather from the introduction that the object of Mr. Garnett's book* is to make known to a wider public the general principles of vegetable culture as set forth in Professor Gressent's French work.

One of the main differences between Prof. Gressent's system and that of the normal British garden lays in the water supply. If an abundant supply of water is available all may go well, but if, as in many small gardens, not to say allotments, only a limited quantity is obtainable, the beginner who attempts to follow Prof. Gressent's system will come to grief. For example, one cannot repeatedly transplant seedling vegetables, nor is it advisable to put stable manure mainly in the surface layer of the soil, unless one can water freely. The point is vital, and we think the author should have drawn the reader's attention to the matter in the final chapter, which is entitled "General Principles."

The first sentence in the book is: "Cultivate the smallest possible area," but further on an area of 40 sq. rods is deemed the minimum area from which five people can be kept supplied with vegetables. The two things do not seem compatible.

* *The Kitchen Garden and its Management.* Abridged and adapted from Prof. Gressent's French work, with additions, by David Garnett. 90 pp. Selwyn and Blount, London. 1s. net.

Some of the methods described are unlikely to find favour with British gardeners. For example, a diagram is given illustrating the trenching of a garden consisting of four square plots, and it is shown how one may avoid the necessity for barrowing any soil by trenching the plots in succession, commencing each one at a corner and working diagonally across to the opposite corner. In our view the advantages of such a system are easily outweighed by the

This may be all right in France, but even in Cornwall it is rarely advisable to spray before the 15th June. On the same page it is stated that failing a knapsack sprayer or fine syringe "a birch broom dipped in the mixture and violently shaken may be used to apply the mixture." That, of course, is perfectly useless. In the chapter on Potatos we read that the author "finds it difficult to name the best varieties," and in the tabulated scheme at the

FIG. 73.—MICHAUXIA CAMPANULOIDES: FLOWERS WHITE.
(See p. 151.)

resulting difficulty in keeping the surface level. Nor can we agree that when converting a new piece of ground into a garden "it is very important to mix the upper and lower spits together." Indeed, we should strongly advise the exact opposite in most instances.

Potato disease ("Blight") is referred to in several places (the name Phytophthora being invariably spelt wrongly), and on page 83 it is recommended that Potatos should be sprayed with Bordeaux mixture "in late May or June."

end of the book we meet with Epicure at the head of a list of maincrop varieties.

There is a useful monthly calendar of operations commencing with August, which the author considers begins the garden year. This, together with chapters on the succession of crops and interplanting, and notes on the cultivation of the most important vegetables, constitutes the second part of the book.

The book is interesting in so far as it gives some idea of French methods.

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Onions.—The bulbs are harvesting well, and should be finally ripened ready for storing for winter. If room permits, Onions may be stored on airy trellis shelves, otherwise they should be roped or bunched 6 in number and hung from the roofs of dry sheds. Treated this way, they keep remarkably well, and the system saves shelf room. Bulbs of pickling size should be selected and placed in boxes for ultimate use.

Winter Onions.—Seedling Onions germinated well, and the soil should be hoed frequently and dusted with soot. Where the seedlings are too thick thin such patches partially, and make the soil firm.

Celery.—The recent rains have greatly benefited Celery plants. Earth up the stems on fine days; if this work is done single-handed, the heads should be tied a foot from the ground, all side suckers and the smaller leaves pulled off then earthed up to a point just below the heart. The ties should then be cut. The same procedure in tying must be carried out at all subsequent earthings. Give the soil regular dustings of soot or lime.

Leeks.—These plants are growing splendidly, and need regular earthings as they "draw" until the desired height is attained. Make further plantations of late-sown Leeks, placing them in holes 6 inches in depth.

Turnip.—Continue to make sowings of Turnip, because if edible bulbs are not obtained valuable green food will be provided in the spring.

Various Crops.—Thin late sown Carrots to 2 inches apart, Parsley, in frames, to 6 inches apart; Lettuce and Endive, to 4 inches. Transfer the alternate plants to other frames as these become unoccupied. Ply the hoe between all crops and apply surface dressings of soot at intervals of three weeks.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Pineapples.—Arrange the plants according to their condition. The fruiters may be arranged in a separate structure, but where separate houses are not available the only course is to grade them into batches and place the most forward at the warmer end. The plants should be replunged as near the glass as is consistent with safety. Those intended for starting in the early part of next year need cooler conditions and less moisture, and after a course of this treatment they will readily respond to more generous conditions when the proper time arrives. As the days shorten overhead syringing should only be done in bright weather and during the morning, so that no water may lay in the axils of the leaves during the night. Water must be carefully supplied to the roots; it will be safer to keep the plants somewhat dry rather than give them too much water. Plants showing fruit should be top-dressed, and a slight shift to pot-bound plants will enable them to grow without check during the winter. See that the ball of soil is thoroughly moist before repotting, and, provided the potting compost is moderately moist, no water will be required for some considerable time; allow ample drainage and pot firmly. Where tan bark is used to supply bottom heat it may be necessary to add a quantity of new bark to maintain the desired warmth. If hot-water pipes are used there will be no difficulty in regulating the temperature. Air should be admitted freely on mild, sunny days to well-established plants, but the house should be closed early to conserve as much sun-heat as possible. Maintain a night temperature of 65°

to 70°, allowing a rise to 80° during the day. Newly potted suckers should be kept in a warm, moist atmosphere for a month or five weeks after being potted.

Pot Vines.—If their foliage is still green, Vines which were rooted in the spring should be permitted to remain indoors for some time to come; others that show signs of maturity may be placed out of doors in order that exposure may arrest growth and complete the ripening process. If any shortening of the rods is necessary, this should be done now, as this will lessen the danger of bleeding when the vines are started. Fruiting vines produced from cut-backs should be sufficiently forward to be placed out of doors to complete their ripening. Place them in a sunny position where they will be protected from strong winds. The canes should be secured to stakes or lightly fastened to a wall. In the event of heavy rain falling, means must be taken to prevent the soil becoming saturated; on the contrary, the roots must not be allowed to become dry.

Tomatos.—Plants intended to furnish winter fruits should be setting their first flowers and growing vigorously. By applying light top-dressings of fresh compost, the roots will be kept active. Pollinate the opening flowers daily, either by tapping the stems sharply at mid-day, or by the use of a camel hair brush. Pot on succession plants, and fruit them in 10-inch pots. Allow ample space in the pots for future top-dressings, and do not over-stimulate the roots with manures, either natural or artificial; these are better applied at a later stage. Plants out-of doors or in cold pits should be placed indoors where fire-heat is at command. Air should be freely admitted by day during mild weather, and, with a little warmth from the pipes, it may be afforded by night. Train the plants as near to the roof-glass as possible. They should be kept to one stem, removing the secondary growths as they appear.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Calceolaria and Pentstemon.—Where a goodly number of these useful plants are grown for summer bedding, cuttings should now be inserted. A cold frame is the most suitable receptacle for the cuttings, but the glass must be clean, and the frame in a sheltered position. Put a layer of decayed manure or leaf-mould, patting it firm, in the bottom of the frame; on this place about a 3-inch depth of sweet sandy soil, and cover with a dressing of sand. Make all firm, select young, flowerless growths for cuttings, trim them and dibble them in about two inches apart; finally water them by means of a fine rose can, to settle the sand round the cuttings. Keep the lights closed, afford shade in sunny weather, and spray the cuttings lightly on bright afternoons to keep the leaves fresh until roots are formed, afterwards afford air more or less, according to the weather.

Bedding Arrangements.—No matter how beautiful or how greatly admired a summer display may be, a change should be adopted at intervals. Now that the beds are at their best, notes should be made as a guide to any alterations desired. The present is also the right time to make notes of any errors in height and colouring, especially among annuals, as many of these, when suitably arranged, make a very pleasing show for several weeks and at a small cost.

Herbaceous Borders.—Where it is intended to plant new borders with hardy perennials, I would strongly recommend digging and preparing the soil as early as possible in order that the ground may settle ready for planting to be completed as far as possible next month. Set out the borders the desired width and thoroughly trench the whole of the soil, adding well-rotted manure and other suitable material. Trench the ground two feet deep, and break up the subsoil in order that water may pass away readily in winter. Prepare a rough plan and make a list of the plants required.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Conservatory and Greenhouse.—In the case of climbers all weak and useless growths should be removed, but young shoots that will make strong growths for another season should be retained. Roses trained under the glass roof should be similarly treated, and to aid the ripening of the growths afford less water to the roots. Other plants, such as Camellias planted out, should be kept well watered at the roots and fed with liquid manure. Syringe them frequently with insecticide to keep the foliage clean and healthy.

Carnation Souvenir de la Malmaison.—Rooted layers should now be carefully severed from the old plants. Lift the layers with plenty of soil attached to the roots and pot them in well-drained pots in a compost of fresh, heavy loam, mixed with decayed cow dung, some charcoal and sand. Pot firmly, place pots on a layer of ashes in a frame or greenhouse. If green fly appears spray the foliage with an insecticide; a weak solution of salt water is a good specific.

Chrysanthemums.—The large-flowering varieties, having been disbudded, are now liable to injury from early frosts or cold weather. Whilst it is desirable to keep them out of doors for as long as the weather permits, a house should be prepared in case of need for shelter at any moment. The growths should be staked and tied carefully against high winds at this season. Feed the roots frequently with manure water. An occasional syringing with Quassia extract will keep the growths clear of insects and benefit the foliage. The bush or decorative varieties should remain out of doors until severe frost sets in, disbudding them according to requirements. See to the staking of the growths and feed the roots.

Calceolaria.—The present is a suitable time to sow seed of greenhouse Calceolarias to raise plants for flowering early next summer. Sow the seed in well-drained pans, filled with fine-sifted mixture of loam, leaf-mould and sand; soak the soil thoroughly before sowing the seed, and sow on a smooth surface. Do not cover the seed with soil. Place a sheet of glass over the pan and cover the glass with brown paper. Germinate the seeds in a cold house or frame and, when the seedlings appear, remove the coverings. Place the seed-pan on a shelf near the roof-glass until the seedlings are ready to prick off into boxes.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Masdevallia.—Beautiful and interesting as Masdevallias are, they do not seem to be popular with present-day growers. The best kinds are deserving of a place in any collection, and they well repay the trouble needed in their cultivation. The chief thing is to provide protection from cold droughts and excessive light, and a position affording such conditions is usually to be found for them in the cool house where Odontoglossums are grown. During the period of most active growth, Masdevallias revel in continuously moist conditions both atmospherically and at the roots, and even in winter the plants must not be allowed to remain dry for any length of time, although, perhaps, there is even a great danger of giving them too much water. The members of the Chimaera secton, which is a very fascinating group, require similar treatment and conditions, but the plants like a somewhat higher temperature, especially in winter. From the end of October to March these should be accommodated in a house where the temperature does not fall below 50°; during the rest of the year the Odontoglossum house will suit them. Masdevallias, and the Chimaera kinds especially, are subject to attacks of red thrip and scale, which if neglected soon disfigure the foliage. These insect pests should be destroyed by dipping the plants in an insecticide.

Repotting.—February or March is the best time to repot these Orchids, but the present time is suitable also, and the work should be no longer delayed, so that the plants may have time to become re-established before winter sets in. Healthy, root-bound plants should be transferred to larger receptacles with as little root disturbance as possible. Specimens that have become bare in the centre should be divided and have all old material and dead roots removed. Place the best portions in pots just sufficiently large to accommodate them for one season. Well-drained pots, or pans, are best for these plants, except the Chimaera kinds, which should be grown in shallow, teak baskets, and as the scapes frequently take a downward direction potsherds should not be used for drainage. The potting compost should consist of two-thirds Osmunda, or A1 fibre, one-third clean Sphagnum-moss, with some crushed crocks and charcoal, and a little coarse silver sand. Some growers mix a small quantity of partly decayed leaves in the compost, but when this is done extra care is needed in watering. Potting should be done moderately firm, keeping the base of the plant on a level with the rim of the pot, and neatly surface the compost with a thin layer of chopped Sphagnum-moss. Water must be applied with great care to newly-potted plants and they must be afforded more shade than those that are established.

Miltonia.—The Brazilian species of Miltonia, including M. spectabilis, M. Clowesii and M. Regnellii, that bloom during late summer and early autumn, should, after flowering, provided the plants have finished growing, have less water at the roots, reducing the amount gradually. During the winter—that is, the resting time—the roots should receive only sufficient moisture to maintain the pseudo-bulbs in a plump condition.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Mulberries.—The fruits of the Mulberry are occasionally used for dessert, but are best for use in pies or puddings, and they make good jam. The fruits should not be gathered until they are on the point of dropping, which they will do when ripe, with a slight shake of the tree. The easiest way is to place clean mats under the trees and shake the fruit on to them. Birds are very fond of Mulberries, and they should therefore be netted before they are ripe as the birds will eat them as soon as they begin to colour. The branches of Mulberry trees should be well thinned, and this may be done as soon as the fruits are gathered. The branches are very subject to splitting and falling if allowed to become too heavy with the weight of foliage and fruit. In the case of very old trees it is a good plan to chain the branches together, as this helps one branch to support another.

Cob Nuts and Filberts.—These nuts should not be gathered until they are quite ripe, for if harvested before they will not keep, and go mouldy. They should be thoroughly dry when picked. When they are ripe the husks are brown and the nuts will easily separate from them. The nuts should be gathered so that if wanted for keeping they can be packed with the husks on. It is a mistake to shake the fruits from the trees, for without the husks they must be used at once. After they are gathered they should be laid out to dry for a few days. They should then be stored in large jars or cans, made air-tight, and placed in a cool, dry place. Squirrels, mice and rats are very destructive to nuts, and if not watched will carry them off and store them for winter.

Root Pruning.—Trees which require to be root pruned should be marked for the purpose now. Some trees may need severe and others light root-pruning.

General Remarks.—Push on with the work of summer pruning fruit trees to complete it as soon as possible. The new shoots of Raspberries and Loganberries should be tied to the supports as soon as possible. The planting of Strawberries should be hastened, as the sooner they are planted the better will be the prospect of a good crop of fruits next season. Fruit trees with heavy crops likely to break the branches should be supported or the fruits thinned.

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Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

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Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, SEPTEMBER 22—
National Chrysanthemum Society's Floral Committee meet at Essex Hall at 3 p.m.

TUESDAY, SEPTEMBER 23—
Royal Horticultural Society's Vegetable Exhibition Lecture by Mr. Ronald G. Hatton, at 3 p.m., on "Fruit Tree Stocks"

THURSDAY, SEPTEMBER 25—
Meeting of the London branch of the B. G. A. at Chandos Hall, Maiden Lane, at 7.30 p.m.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 57.12°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Sept. 17, 10 a.m.: Bar. 30.4; temp, 60°. Weather—Sunny.

"Shot Hole" Disease of Cherries. The disease known as Shot Hole or Cherry Leaf spot causes serious damage to the foliage, and hence limits fruit production. The damage to the leaves may cause almost complete defoliation, with consequent loss of crop. Even when the fungus does less damage, the fruit which is formed does not mature but hangs on the tree in a semi-mature condition throughout the season.

The disease is caused by the fungus formerly known as Cylindrosporium Padi Karst, but now—since the discovery of the ascospore stage — called Coccomyces hiemalis Higgins. The first symptoms of the disease are small purplish spots which later turn brown. The spots are usually circular in outline, but may become irregular owing to several originally distinct spots running together. The shot-hole effect produced by the falling out of the diseased patches which has given the popular name to the disease is produced by the healthy tissue surrounding each spot forming a layer of cork and thus cutting the diseased tissue off from the water supplies contained in the leaf. As a consequence the diseased leaf-tissue dries, withers, and falls away, leaving a circular hole, so that a badly affected leaf presents the appearance of having been riddled with shot.

It is now known that the fungus which is responsible for the disease passes the winter in the fallen diseased leaves of the previous growing season. On these dead leaves ascospores (resting spores) are formed, and in the following spring at the time of new leaf formation the ascospores are shot out from the cases (asci) in which they were formed with sufficient violence to reach the leaves. These they infect, and the fungus established in the leaf tissue proceeds to form summer spores, which are carried by wind and rain to other leaves, and thus progressive infection of the foliage takes place.

Experiments described in Farmer's Bulletin 1,053 of the U.S. Department of Agriculture, and carried out in Michigan, show that it is possible to control the disease by systematic spraying. The fungicides which have been used with success are lime sulphur and Bordeaux mixture; but it is necessary to apply the spray-fluid thrice. The first application is given as soon as the blossom falls, the second about three weeks later, and the third after the fruit has been picked. The strength of the Bordeaux mixture used is 3 lbs. of copper sulphate, 4 of lime, to 50 gallons of water, and that of lime sulphur is 1½ gallon to 50 gallons of water. In order to provide for control of insect pests 2 lbs. of arsenate of lead-paste to each 50 gallons of spray fluid is added in the first two applications. In the case of sweet Cherries there is risk of damage to the foliage if the above strengths of spray fluids are used; but if lime sulphur of the strength of 1 gallon to 50 gallons of water is employed no damage is done to the foliage, and the disease is checked. Bordeaux mixture should not be used on sweet Cherries, because of the risk of injury to the foliage.

In the case of the large trees of Kentish and other Cherry orchards, when spraying may be impracticable, it is evident that the systematic collection and destruction of the fallen leaves will do much to prevent the spring infection and hence to control the disease.

The Kew Flagstaff.—Scaffolding and a derrick over 100 feet in height are being erected preparatory to lifting the Douglas spar in position. Messrs. Coubro and Scrutton, mast makers and riggers, of Billiter Street, E.C., the contractors, anticipate that arrangements will be completed and the flagstaff placed in position during the coming week.

Small Holdings.—Up to the week ending September 13, 17,898 ex-Service men had applied for 316,729 acres of land for small holdings in England; and 7,473 civilians had applied for 114,716 acres—a total of 25,371 applications for 431,445 acres. Of the 12,383 applicants interviewed by 47 County Councils, 10,799, or 87 per cent., have been approved. These approved applicants comprise over 10,000 who require small holdings amounting to upwards of 184,000 acres, and 715 who require Cottage Holdings amounting to only 2,430 acres.

Honour for a French Nurseryman's Son.—M. René Cayeux, son of M. Ferdinand Cayeux, of the well-known Paris firm of Cayeux et Le Clerc, has recently been awarded the Croix de Guerre for services with the Allied Armies in the East.

Welsh Office of the Board of Agriculture.—The President of the Board of Agriculture has established a Welsh office of the Board at 24, Marine Terrace, Aberystwyth. The Board's business in Wales and Monmouthshire relating to agricultural education, that part of the work of the Agricultural Executive Commitees (except claims for compensation) which is now dealt with by the Land Division, and the provision of facilities for land settlement by county councils, will be conducted in the Welsh Office. Communications relative to these matters should be addressed to the Board of Agriculture, Welsh Office, 24, Marine Terrace, Aberystwyth.

Paris Autumn Show.—The Paris Autumn Show will be held from the 29th October to the 7th November, both inclusive, on the old site on the Cours-la-Reine. The schedule and regulations have been published. Entries must reach the secretary by the 1st prox. The following are briefly the classes provided for: (i.) Chrysanthemums, new seedlings; (ii.) Groups in pots; (iii.) Cut blooms; (iv.) Flowering plants; (v.) Orchids; (vi.) Floral art; (vii. and viii.) Fruit; (ix.) Fruit trees; (x.) Ornamental shrubs; (xi.) Vegetables; (xii.) Fine arts; (xiii.) Horticultural industries.

Trial of Sweet Pea in 1920.—The National Sweet Pea Society will conduct a trial of Sweet Peas in 1920. The seeds will be sown this autumn, and must be sent to reach the Secretary, Mr. Henry D. Tigwell, Greenford, Middlesex, on or before October 1. The seeds, 30 of each variety, should be enclosed in a plain packet, this packet to be placed into an outer packet, upon which is written name or number of the variety; the colour section and the sender's name and address. The varieties will be registered by the Society and the plain packets will be sent to the Trials Superintendent, Mr. Reginald Christy, Boyton Hall, Roxwell, Essex.

R.H.S. Meetings.—It will be seen from the R.H.S. *Book of Arrangements* for 1919 that there will be special competitive classes for vegetables on Tuesday, the 23rd inst., whilst the Society's twenty-third annual exhibition of British-grown fruit will be held on Tuesday, October 7. Only those who have had special permission, seven days previous to the show, will be permitted to stage groups of flowers, fruits or vegetables not included in the schedule, at the vegetable exhibition on the 23rd inst., whilst on the occasion of the fruit exhibition only fruit may be staged, and the Floral and Orchid Committees will not meet. At the meeting of the Orchid Committee on the 9th inst. the Hon. Secretary read a letter from a correspondent regretting that the Orchid Committee was not sitting for a whole month. The same correspondent asked the Committee to waive the rule by which awards are given to cut spikes, owing to the difficulty of bringing plants to London from a distance. The Committee decided to reply that the next meeting of the Orchid Committee will be on September 23, but that at the meeting on October 7 fruits were the only exhibits allowed, and that there would be no meeting of the Orchid Committee on that day. The Committee, however, has referred the matter to the Council with the wish that the accommodation required for the Orchid Committee should be provided in the future in the new arrangements. The Committee decided to adhere to their rule that cut flowers should not receive awards except in very exceptional cases.

M. Henri Fatzer.—M. Henri Fatzer, who has many friends and acquaintances in England, was lost sight of ever since his establishment was surrounded by Germans after the battle of the Aisne. We are glad to learn that in spite of the danger and vicissitudes to which he has been subject for so long that he is back again in France and as well as can be expected, considering the injuries he received behind the German lines.

The South Sea Island Cotton.—Several plants of Gossypium, the Cotton Plant of commerce, are bearing pods freely planted out in one corner of the house containing the Victoria Regia tank at Kew. The moist heat of this house provides obviously suitable conditions for their growth. While brightly-hued flowers are attractive to visitors, very considerable interest is also evinced in the Cotton, Eucalyptus, Coffee, Banana, Tea, Sugar Cane and other economic plants in the building.

The Peruvian Lily.—Zephyranthes candida is most usefully and effectively employed at Kew as an edging to several long borders. Being an evergreen this Zephyranthes is a pleasing alternative to the orthodox edgings, such as Box, for gravel walks. Two desirable conditions are a warm, sunny position and good drainage. At present the lines of dark green leaves are topped with white, Crocus-like flowers.

French Horticultural War Memorial.—The Société d'Horticulture Pratique du Rhône, and it may be other French societies, too, is compiling a Tableau d'honneur in which the names of all its members and their sons who have fought in the war are to be inscribed and thus commemorated.

Registration of a Trade Mark.—A judgment has just been issued by Mr. W. Temple Franks, the Controller-General of Patents and Registrar of Trade Marks, by which permission is refused to Messrs. James Carter and Co., of Raynes Park, to register the word "National" as the distinctive trade-mark of their seeds. Messrs. Carter and Co. based their application partly on the fact that in certain cases, notably that of the "National Cash Register," the word "National" has been permitted to be used in a special and proprietary sense; but it was pointed out that in the instance cited, the word had been used for many years before registration; indeed, its use was begun as far back as 1885. Much opposition had been shown to the use of the word exclusively by Messrs. Carter's by other seedsmen, notably Messrs. Sutton and Sons, Messrs. Ryder and Son, Ltd., and Messrs. Toogood's, Ltd. Mr. Franks also points out in his statement that the National Institute of Agricultural Botany at Cambridge, which is under the auspices of the Board of Agriculture, was establishing a seed testing station, and that application had already been made for the registration of a mark for the National Institute in respect of seeds. He concludes by remarking that to confine the word "National" in connection with seeds to one particular trader would be against public policy, and would tend to confuse and deceive persons who would purchase seeds for food production and other purposes. At the hearing Mr. McKenna appeared as solicitor for the applicants, and Mr. Trustram as solicitor for the opponent, Mr. Reginald Walter Barker, patent and trade mark agent.

Fund for a Belgian Nurseryman.—The many friends of Mr. Bouckenooghe in this country are raising a fund to assist him to re-establish his home at Ypres. Mr. Bouckenooghe was a nurseryman of that unfortunate town, and in the early days of its bombardment he lived with his wife and family for six weeks in the cellars of his house. His nurseries, immediately behind his dwelling house, included about five acres of glass houses. Not a vestige of the green-houses remains, and the nurseries generally are a wilderness from end to end. Mr. Bouckenooghe is an old Kewite and was the first continental member of the British Carnation Society, several members of which have promised to send him fresh stock, but judging by the picture of his establishment and home before us, it will be a long time before he will be able to grow such plants again. His house is a mere wreck, and his first concern is to obtain a wooden hut with the necessary furniture for habitation. Mr. J. S. Brunton, who has opened the fund, will publish a list of the subscribers in due course. In the meantime we shall be pleased to receive donations from readers on behalf of this very worthy object.

British Sugar Beet.—The British Sugar Beet Growers' Society has completed its first year's operations of its estate at Kelham, near Newark. After providing for interest on capital invested in the estate, there is a substantial surplus based on an independent professional valuation on conservative lines. This must be regarded as very satisfactory, in view of the foul state of the land when bought, and the expenditure incurred in deep ploughing and in the preparation of large fields with the view of introducing sugar beet as the main crop The estate comprises 5,603 acres. About one-half of this is being farmed with the ultimate object of introducing sugar beet as the main crop after the factory is erected. In the meantime, it is devoted to cereals and stock, with a small area of sugar beet for feeding and for seed production. The remainder is to be planned out as a land settlement scheme on the lines of the farm colonies of the Board of Agriculture, thus assisting in drawing additional labour to the sugar beet industry in its double aspect of field and factory.

Railwaymen as Gardeners.—According to *The British Gardener*, it is the custom of some railway employees to occupy their spare time in jobbing gardening. The professional horticulturists contend that railwaymen are well paid, and, having secured the benefit of the eight hours day, should not use their leisure time for the purpose of other remunerative employment. It is only fair to add that many railwaymen strongly object to the conduct of their colleagues.

A Large Melon.—Mr. A. J. Hartless, The Gardens, King's Walden Bury, Hitchin, informs us that he has recently cut a Melon which turned the scale at 12¼lb. Mr. Hartless also states that the majority of the seed was sterile, having only empty cases—due, probably, to imperfect fertilisation. The largest Melon of which we have an entry in our "record" book is 24 lbs., of the Rock variety. A specimen of Sutton's Universal, weighing 14lb., was grown by Mr. H. G. Bloxham, gardener to C. E. Gunter, Esq., The Gardens, Tongswood, Hawkhurst, as recorded in *Gard. Chron.*, June 26, 1919, p. 418.

Pomological Conference at Metz.—The first conference of the Société Pomologique de France was fittingly held at Metz on the 4th and 5th inst., under the presidency of M. Viger, late Minister of Agriculture for France, and M. Gabriel Luizet. A large gathering attended the opening ceremony, which included M. Miramar, the Commissioner of the Republic in Lorraine, General Maud'huy, M. Jaques Vilmorin, M. Abel Chatenay, and representatives from England, Switzerland, Belgium and Holland. Very many interesting questions were debated, and those arousing the greatest interest were the new "Clef Pomologique," devised by the Secretary, M. Chasset, by which he claims it is possible to "run down" any Pear, an elaborate system of which experience only can determine the utility; and a good résumé of the arguments for the protection of new fruits by M. Nomblot. The usual work of reporting upon the newer varieties of fruits, a system which might well be adopted in this country, was of great interest, as delegates from all parts of France were able to give their experiences. At the "banquet familiale" the return of Alsace-Lorraine to the Mother Country was naturally the principal subject of the speeches, and M. Luizet was presented with a handsome bronze, as a slight testimony to his arduous work on behalf of the society for so many years.

FOUR PROMINENT ROSARIANS.

The portraits of the four gentlemen reproduced in Fig. 74 will be readily recognised by rosarians, for they include the President, two former Presidents and the Secretary of the National Rose Society.

The Rev. F. Page-Roberts has been for many years a prominent rosarian. Educated at St. John's College, Cambridge, he proceeded to a curacy first in Yorkshire and afterwards at Holy Trinity, Coventry, where he married, the name of the lady being Miss Ratcliffe. In 1875 he was appointed to the Rectory of Scole, in Norfolk, where he began his career as a Rose exhibitor, obtaining many awards, especially in the classes for Tea Roses, with the cultivation of which he was particularly successful. These were the days of the giants Dean Hole, Newdigate, Foster-Melliar, Orpen, Pemberton and Burnside, who produced magnificent show blooms from Souvenir d'Elise Catherine Mermet and Maréchal Niel, which if we grow at all nowadays, we grow only in the greenhouse.

Fig. 74.—prominent rosarians.
Back, Standing: E. J. Holland, Courtney Page. Seated: H. R. Darlington, Rev. F. Page-Roberts.

After some twenty years at Scole Mr. Page Roberts removed to Halstead, in Kent, and three years later to his present living, the Rectory of Stratfieldsaye, where in delightful surroundings he has continued to enjoy the charm of a first-class Rose garden. In 1909 he was elected President of the National Rose Society, an office which his courtesy and kindly sense of humour singularly adorned. For many years he has been the chairman of the New Seedling Rose Committee of that Society, and a member of the Floral Committee of the R.H.S. He has been awarded the Dean Hole Medal of the N.R.S.

Mr. E. J. Holland is well known to members of the National Rose Society as the author of several articles in the *Rose Annual*, more than one of which is on growing Roses under glass. On this subject he is a past master, as he has fully demonstrated by the magnificent flowers he has from time to time exhibited at the Spring Show of that Society.

He is a justice of the peace for the county of

Surrey and member of the Surrey County Council. He has long been an influential member of the Council of the N.R.S. and undertook the treasurership of that Society at a somewhat critical period in its history. He became President of the Society on the death of the late Mr. Edward Mawley, and held that office during the two last years of the war—a trying and difficult period for all horticultural societies, when wise direction at the head of affairs was of first importance. That he has brought the Society through this period practically without loss of membership is in itself an achievement, which was fitly recognised by the award of the Dean Hole Medal at the conclusion of his term of office.

Mr. Courtney Page became Secretary of the National Rose Society when the late Mr. Edward Mawley was elected President in 1915. About that date the headquarters of the Society were removed to London, and Mr. Page has ever since presided at the office of the Society in Victoria Street, Westminster, where he has shown himself an able and efficient administrator.

To take over the work of a society of upwards of 5,000 members, with correspondents in all parts of the world, is no sinecure, and it has been by hard work and the continuous energy that he has devoted to the affairs of the Society that Mr. Page has secured the popularity which he has attained. Mr. Page is the raiser of several new varieties of garden Roses, some of which are of considerable interest. In addition to his other duties, he now edits the *Rose Annual* published by the Society.

Mr. H. R. Darlington was educated at Harrow and Trinity College, Cambridge, and was afterwards called to the Bar, practising on the Equity side. He is a Justice of the Peace for the counties of Middlesex and Hertfordshire, and has been a member of the Middlesex County Council for upwards of 15 years, and is now chairman of the Elementary Education Sub-Committee for Middlesex. At Cambridge he came under the influence of the late Sir Michael Foster, from whom he imbibed a taste for gardening, and shortly after coming to London he became and remained for several years a member of the Narcissus Committee of the Royal Horticultural Society. He has won many prizes for Roses, showing chiefly in the decorative classes, and perhaps nearly as many for Daffodils, for which he has received the Barr Cup twice and the Silver Medal of the Midland Daffodil Society also on two occasions. He is the author of a book on Roses and several articles in the *Rose Annual* and in this journal. He was elected President of the National Rose Society at the beginning of this year. He is a member of the Floral Committee of the R.H.S. and Fellow of the Linnean and Botanic Societies of London.

BOTANY AND THE EMPIRE.*

AFTER an interval unprecedented in the history of the British Association we meet once more under its high authority so that the leaders in science and men of affairs with wide and deep experience may take council together and discuss the latest results of scientific investigations. We have everything to gain from a free exchange of experience and ideas. This is a time when science does well to renew its touch with daily life both for its own sake no less than for the sake of true progress. It is recognised that the enormous advance in the material comfort and the prosperity of our race during the last century has been due to the application of science. Nevertheless, in the newer times which we are now entering upon we shall require all our energy and all available scientific knowledge to win through to success. It is encouraging to realise that since we met at Newcastle in 1916 there has been a truly remarkable progress in every branch of science. Also, a fuller recognition of the value of science and education as means whereby the material interests of the world may be enlarged.

My distinguished predecessor, whose work has been largely concerned with the systematic and philosophical side of Botany, has rightly expressed the general desire for a more cordial understanding between botany and its economic applications. "It is certain," he said, "that our outlook must be widely different after the war, and the changed environment must find us ready to respond in the interest of our country and mankind."

With your permission, and acting on a suggestion made by my Committee, I propose to travel a little outside the usual scope of previous addresses and review the many efforts that have been made, and are still being made, to promote the interests not only of the home land but of the Empire as a whole. My own activities have been more or less intimately connected with the Tropics. Their productions are daily in increasing demand, and are becoming more and more necessary to the inhabitants of temperate countries. Before the war it was estimated there were about three million square miles of British territory within the tropical zone. A portion of this area, including India, was already producing commodities of the estimated value of 230 millions sterling.

It is, therefore, in the national interest to keep closely in touch with the conditions and prospects of our tropical possessions, in order that we may render them still more capable of supplying the raw material so necessary to the maintenance of our commercial prosperity.

In recent times one of the most important steps taken in this connection was the establishment, on the recommendation of a Royal Commission, appointed by Mr. Joseph Chamberlain, of an Imperial Department of Agriculture in the West Indies. The provision for the upkeep of the Department, approved by Parliament, was at the rate of £17,400 per annum. From the first special efforts were made to bring the resources of science to bear on all matters relating to the welfare of the Colonies concerned. The laboratories and the headquarters of the Department were established at Barbados, together with a staff of University men with special qualifications for research. The latter carried on their work in co-operation with officers of a like standing at British Guiana, Trinidad, and Jamaica.

When fully organised the Department made grants for teaching science at colleges and secondary schools, and for the maintenance of agricultural schools, botanic gardens, and experiment stations. Special attention was devoted to research work in raising new varieties of sugar-canes and other plants, in the investigation of diseases affecting crops, and the general amelioration of the conditions under which they were grown. Further, by means of an efficient staff of travelling agricultural instructors and an abundant supply of literature the Department was brought into intimate touch with all classes of the community. At the end of ten years of strenuous effort it was noticeable, owing to the expansion and improvement of old industries and the introduction of new industries, that general conditions in the West Indies were greatly improved. This may be illustrated by the fact that the public revenue of the Colonies had increased from £2,546,724 in 1894 to £3,914,434 in 1911, while the total trade during the same period had increased from £16,270,474 to £26,949,086. There was thus an increase of 65 per cent. in the total revenue and of 60.5 per cent. in the total trade. In reviewing the situation in the West Indies, as the result of the activities of the Imperial Department of Agriculture, and those associated with it, the late Prime Minister said "the work of the Department was universally and gratefully acknowledged by the planters to be largely responsible for the improved state of affairs in all branches of agriculture, and he believed—and he spoke with some experience—it would be difficult to find a case in which any analogous experiment made by the Home Government had attained such speedy and satisfactory results."

(*To be continued.*)

*British Association for the Advancement of Science. Address to the Botanical Section by Sir Daniel Morris, K.C.M.G., M.A., D.Sc., D.C.L., LL.D., F.L.S., President of the Section.

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante pp. 64-70.)
(*Continued from p.* 140.)

ENGLAND—NORTH WEST.

CUMBERLAND.—There never was a finer display of blossom on all kinds of fruit trees and bushes, but a snowstorm and frost on April 26 and 27 destroyed the greater part of the crops. Caterpillars have also been numerous and destroyed much embryo fruit, whilst the long-prevailing drought caused a lot of fruits to drop. *James Tait, Justicetown Gardens, Carlisle.*

LANCASHIRE.—Fruit trees and bushes all developed a remarkable quantity of bloom and the season of fertilisation was favourable, but the long-continued dry weather imperiled the crops, which were on the verge of disaster when rain fell, with the result that there are fair crops generally. *W. Upjohn, Hall Gardens, Worsley, Manchester.*

WESTMORELAND.—Apples and Pears set well, but very cold weather followed by excessive dryness caused these fruits and Cherries to drop. Plums did not set, with the exception of Victorias, which are good. Gooseberries, Currants, also Raspberries were very good crops. Loganberries were damaged by frost when they were starting into growth. *Richard F. Lambe, Witherslack Hall Gardens, Grange-over-Sands.*

—— Caterpillars were a great plague; everything, including dry weather and few birds, were in their favour, but timely spraying with lime sulphur, "Katakilla," arsenate of lead and hand-picking saved a sprinkling of Apples. Trees of Bismarck, Lane's Prince Albert, Lord Grosvenor, and Golden Spire, are carrying good crops. *W. A. Miller, Underley, Kirkby Lonsdale.*

ENGLAND—SOUTH WEST.

CORNWALL.—Peaches and Nectarines are very good crops. Apples an average crop, though the trees of some familiar varieties are entirely bare of fruit. The same is true of Pears. Gooseberries and other small fruits were abundant. We experienced a violent gale towards the close of the flowering season of Apples and Pears. *Harry Williams, Tolveau, Redruth.*

DEVON.—Stone fruits are in every case light crops, owing to adverse weather conditions when the trees were in flower. The yield of Strawberry was affected by drought. Apples are the best crop, and these fruits are so numerous they require severe thinning. Pears are very patchy and badly attacked by the pear-slug. *Robt. F. Fitt, Endsleigh Gardens, Milton Abbot, Tavistock.*

—— Apple, Pear, and Plum trees blossomed freely, but Apples are badly infested with caterpillars. The best crops are Bramley's Seedling, Newton Wonder, Tom Putt, King of the Pippins, and Stirling Castle. Pears set well, but subsequently dropped owing to the drought. Peaches and Plums are almost failures. Small fruits did fairly well with the exception of Gooseberries, which were only half a crop. *Gilbert Sleep, Hartland Abbey, Hartland.*

GLOUCESTERSHIRE.—The Apple crop is a very good one and most sorts are bearing heavily. Good Pears are very scarce. Black Currants were almost a failure in this neighbourhood, although the bushes look in the best of health. *W. Keen, Bowden Hall Gardens.*

—— The majority of fruit trees flowered profusely, but suffered with the snow, hail, and frost we experienced on April 26. Blight has been very prevalent, and though the trees were sprayed, very few Plums remained on the trees. Standard trees of Victoria that blossomed later are laden with fruit. There are a few Damsons on some of the sheltered trees. Pears are plentiful on some trees and require thinning, but many of the espalier trees are bare of fruits. Apples are a good average crop. The trees were considerably damaged by caterpillars and blight. Peaches and Nectarines are good average crops and the trees are clean and free from blister. Apricots are a failure. Strawberries and bush fruit were good average crops. *A. Chapman, Westonbirt Gardens, Tetbury.*

(*To be continued.*)

INTERNATIONAL HORTICULTURAL TRADERS IN CONFERENCE.

The Conference held in Paris, to which reference was made on page 146, came to an end on September 9, at 1 p.m. The session on the closing day was presided over by M. Pynaert, of Ghent. The draft rules dealt with in detail by a sub-committee the previous day were adopted, and it was agreed that a new association be formed under the title of The International Federation of the Horticultural Trade. M. Turbat (Orleans), was unanimously elected secretary, and M. René Barbier promised to assist him for the first year. M. Sauvage (Lachaume and Co.) was appointed treasurer; Mr. Arthur De Smet, president, and Mr. George Monro, jun., vice-president. It was unanimously decided to hold the next annual conference in Ghent. May, 1920, was fixed as a general date.

The question of protecting raisers of horticultural novelties provoked considerable discussion, and no satisfactory conclusion was arrived at that would serve internationally, because of the differing laws of various countries. It was finally and very sensibly agreed that the delegates from each country should have before them the schemes already existing in all the allied countries; an effort should then be made to co-ordinate these schemes, accept points of agreement, and endeavour to come to an arrangement on other points by correspondence, so that a workable international scheme should be ready for the consideration of the conference next year.

All allied countries will be admitted to the Federation including the new countries—at a fee of 500 francs a year; neutral countries may be admitted, if they desire, provided the conference agrees. The admission of former enemy countries will be a matter for future consideration.

The conference agreed that the horticultural trade of each country should endeavour by diplomatic means to secure the repeal or revision of the American Prohibition Order. The Belgian section of the trade dealing with ornamental plants—Palms, Bays, Azaleas and the like—has already prepared a memorandum disproving the American contention that many insect pests and diseases are imported with Belgian stock.

An agreement was arrived at that the horticultural trade Press be admitted to the annual conference of the Federation. M. Turbat was thanked for bringing the conference into being. M. Pynaert thanked the British horticulturists for the generous help extended to the Belgian and French sufferers during the war by means of the R.H.S. War Horticultural Relief Fund. Mr. George Monro, jun., and M. Turbat suitably replied to the compliments and thanks, and everyone agreed that the conference had laid anew the foundations of a better understanding between the horticultural traders of different countries an understanding that can hardly fail to create and maintain good faith, esteem and friendship.

The conference then ended and most of the British delegates spent a few days inspecting nurseries at Versailles and Orleans, Messrs. Vilmorin's establishments in Paris, Neuilly and Verrières, the palace and grounds at Versailles, the Bagatelle, Tuileries, and other public gardens, and some part of the British battle front.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Does the Potato Sport?—I think Mr. Jackson may take it that the answer to his question is in the affirmative. So far as I am concerned I have no doubt on the subject at all. The Scottish Horticultural Association is holding a Scottish National Potato Exhibition and Conference in the Waverley Market, Edinburgh, on October 22 and 23, and I am giving a paper on "Seed Variation in Potatos" on that occasion. It may be, of course, that my remarks will not be so widely disseminated as were those of the speaker on the subject at the Ormskirk Conference last year, but I shall reply fully to that gentleman at the forthcoming meeting here. *George M. Taylor, Edinburgh.*

Gardeners' Wages.—With regard to the standard of wages recently adopted by the Executive Council of the British Gardeners' Association, I wish to compare the minimum rate of wages of foremen and that of head gardeners and nursery managers. When one compares the responsibilities of a head gardener, where five or more men are kept, and those of a foreman, and then the wages of both, one wonders whether a head gardener's post is worth while. Ought he, all things carefully considered, to be paid so little more than a foreman? In what other profession are head men paid so little more than their subordinates. Again, why pay so much more to park superintendents? Some head gardeners are superintendents in all but name. With reference to overtime, it would be almost impossible for head gardeners to put down the extra time they give to their work, and most employers would never consent to pay the amount thus due to their head gardeners. I would like it to be clearly understood that I am greatly in favour of all under gardeners receiving a higher rate of wages than they have hitherto received, but I do think that the distinction between head and under gardeners' rate of wages ought to be greater than the British Gardeners' Association proposes. *W. E. M.*

Poplar Leaves.—I do not know whether anyone has noticed the curious behaviour of the leaves of the Poplar when a strong breeze sweeps across the tree, for the leaves flap up and down with extraordinary rapidity. But when the wind subsides the blades of the leaves come to rest suddenly. There is no "slowing down" process. The reason of the flapping is accounted for by the petiole of the leaf, though rounded at each end, having the middle part flattened horizontally. *George Henslow.*

Prizes at Flower Shows.—I have been to several floral fêtes and horticultural exhibitions this year, and have been very surprised at the very small value of the prizes offered. I have a schedule before me in which a first prize of 5s. is offered for six stove or greenhouse plants. Who would lower their dignity to compete for such a prize! Gardeners go to a great deal of trouble to grow say, Onions or various exhibits, and get a paltry 4s. or 5s. as a prize, when the exhibitor is really the maker of the show. Where would the secretaries and committees be without the exhibitor? There should, in common fairness to the growers, be better prizes, especially at a time when 5s. has only the pre-war value of 2s. 6d. Next season we shall probably be having large floral fêtes, and I would appeal to the committees to be a little more generous to the exhibitors and benefit thereby. *C. Vickers, Leicester.*

The late Mrs. Sargent.—There are many English friends and admirers of Professor Sargent who will feel deep sympathy for him in this grievous loss. Few scientific men have received more splendid help and support in their life work than Mrs. Sargent has given to her husband for the past 46 years. Married in 1873, she shared with him a keen interest in and knowledge of trees and shrubs. She accompanied him in many of his botanical expeditions. Her skill as an artist and observer are manifest in the exceedingly interesting and beautiful collection of 400 botanical water-colour drawings which she made between 1880 and 1890, now in the Museum of Natural History in New York. Surely there can be few such hostesses even in that land of hospitality. No one who has been a guest at Holm Lea will forget her kindness and the warm-hearted welcome which always awaited her husband's friends, of whom there are a very large number in this country who have enjoyed this hospitality for the past 40 years. Professor Sargent has had to mourn the loss of a son and a son-in-law during the past 18 months, and the sympathy of his many friends on this side of the water will be with him and his son and daughters in their bereavement. *F. R. S. Balfour, Dawyck, Stobo, Tweeddale.*

Zonal Pelargoniums.—In the Liverpool parks, where the Zonal Pelargonium is still regarded as the most effective bedding plant, the comparatively new variety, Maxim Kavolsky, is proving a valuable and distinct addition. The colour is perhaps best described as orange-scarlet, but it is a distinct shade, and a most effective contrast to other red varieties. As a greenhouse variety Maxim Kavolsky is distinct and valuable. A long, sloping bank in one of the greenhouses at the Liverpool Botanic Garden is composed of nearly a hundred plants of this variety. The colour is most effective in all lights, and notably so on dull days. *A. O.*

Prices for Fruit Trees.—Widespread attention has been drawn to a statement appearing in the *Gardeners' Chronicle* of July 19, under "Answers to Correspondents," in reply to an enquiry as to the cost of fruit trees and their planting. The reply is considered most inaccurate (especially with regard to the rates for Currant bushes and Gooseberries) and has been much commented upon throughout the Trade.

I am instructed by my Executive Council to write pointing out this inaccuracy and to send you a copy of the minimum retail prices for fruit trees published by them. *C. G. L. Du Cann, General Secretary, Horticultural Trades Association.*

[The reply was furnished by a well known commercial fruit grower to whom we have shown Mr. Du Cann's letter. He states:—"The prices quoted in my reply are those at which several well-known nurserymen supplied me, as a market grower, last autumn. Retail prices have nothing to do with it, the reply being to an enquirer who wished to plant fruit trees commercially." Eds.]

"The Doubling of the Stock" (see pp. 44, 82, 110, 133).—The saving of seed from single flowered plants without selection, which Mr. Taylor states the Lothian growers practise with such successful results in obtaining doubles, does not seem to bear out with what is stated in gardening literature, as the following will show. In *The Gardener*, a book published 44 years ago, there appears under the title of a paper "Sowing and Saving Seeds," pages 453 and 454, these lines:

"In the case of double flowered plants, if we except Fuchsias, the seed has necessarily to be gathered from either single or only partly double flowers; and it is best to gather the seed of such flowers as are semi-double, as this shows their tendency towards the desired quality. Thus from the seed-beds of Stocks, all perfectly single varieties are carefully weeded."

I will also quote from *The Gardeners' Chronicle* on "Seeds of Double Stocks," which appeared in the issue for October 30, 1915, page 284. Here it is stated, bearing out what has been printed in *The Gardener*, that "to obtain a large percentage of plants with double flowers it is necessary to save seeds from the plants which have the greatest number of petals, together with pistils and stigmas. That is to say, you must select as seed bearers the singles which have the most petals, because true double flowers have no reproductive organs. If the selection is well done the next generation will contain a large proportion of double flowers, so large, in fact, that it will be difficult to obtain any quantity of seed from them. If, therefore, you require seed regularly it will be necessary to save a stock of seed from plants nearer the single type."—*D. A., Midlothian.*

SOCIETIES.

HORTICULTURAL EDUCATION ASSOCIATION.

SEPTEMBER 4 AND 5.—The annual summer meeting of the Horticultural Education Association was held at Preston on September 4 and 5. Over thirty members attended, including the Chairman, Mr. F. J. Chittenden, Director of the Royal Horticultural Society's Gardens, Wisley.

The programme for the two days had been arranged by local members of the Association.

A visit was made to the County Farm and Horticultural Station at Hutton. The party, which was conducted by Miss Stubbs and Miss Dearden, first visited the dairies at the farm. Great interest was shown in the processes of the manufacture of various cheeses, including Lancashire, Cheshire, Cheddar and Stilton. The members were next conducted over the farm experimental plots by Mr. May, Assistant Lecturer in Agriculture. They then proceeded to the poultry farm where they were met by Miss Arthur, who gave them an interesting summary of the work which was being carried out.

The horticultural station was next visited, and considerable time was spent in inspecting one of the best planned horticultural stations in the country. Mr. A. J. Sowman, Horticultural Instructor for the County of Lancashire, here took charge of the party and ably demonstrated the highly interesting work which is being carried out. It was evident from the fruit plots that Apples of the highest quality can be produced to perfection in Lancashire. Special note was made of the excellent crops of Allington Pippin and Bismarck.

The manurial plots clearly indicated the great advantage accruing from the use of farmyard manure on fruit trees.

A series of experiments had also been carried out to attempt to combat attacks of Onion fly. Mr. A. J. Sowman stated that the most successful preventive measure was the spraying of the plot with paraffin emulsion every other day. The use of arsenical fly papers and arsenate of soda and treacle were found to be of no avail against the pest.

Numbers of very excellent seedling Potatos were inspected, and it was suggested by Mr. J. Snell, Board of Agriculture, that several of these varieties should be grown for commercial purposes. Amongst the vegetables especially noted as being of merit were Veitch's Standard Pea and a new Broad Bean of Messrs. Sutton and Sons'.

The station had this year taken up the work of re-stocking the county with bees. The work which is being done along these lines was explained by Mr. H. L. Jones, Assistant Lecturer in Horticulture. Through the Board of Agriculture and Fisheries, fourteen stocks of Dutch bees and thirty Italian Queens had been obtained. These have been worked up into fifty-two stocks of hybrids, thirty-nine of which have already been sent out to various parts of the country. Mr. Jones stated that so far, no symptoms of Isle of Wight disease had been observed.

At a later stage in the proceedings, Mr. Gibson, of Guelph College, Ontario, read a highly instructive paper on Horticulture and Horticultural Education in Ontario.

ANNUAL GENERAL MEETING.

The annual general meeting was held in the evening at the County Offices, Preston. Mr. F. J. Chittenden was in the chair. The following officers were elected for the ensuing year:—Chairman, Mr. A. J. Sowman; Vice-Chairman, Mr. F. J. Chittenden; Secretary and Treasurer, Mr. W. P. Wright; Assistant Secretary, Mr. C. F. Lawrence.

An address was given by Mr. G. P. Berry, Board of Agriculture and Fisheries, outlining the horticultural policy of the Board and appealing to the members of the Association to support that policy. He stated that the Board was in favour of better salaries for Horticultural Instructors. He also indicated that it was the desire of the Board that the formation of County Horticultural Committees should be proceeded with forthwith. It was the hope of the Board that commercial horticulture should receive more attention than it does at present. Counties that have received financial support from the Board have, as a rule, made great advances in horticulture. Horticulture should be thoroughly represented at Farm Institutes and scholarships in horticulture should be offered. It was important that boys leaving school should have an opportunity of attending organised courses in commercial horticulture. In those counties where commercial horticulture was an industry, an attempt should be made to train men as fruit-growers. Bee-keeping also should receive great attention.

With reference to school gardens, it was the opinion of the Board that at present too much of the time of the horticultural instructors was taken up with this work. A special assistant should be appointed for school garden work, thus leaving the horticultural instructor free to devote himself to commercial work. The Board consider it of the utmost importance that the financing of horticultural schemes should be on a liberal basis.

In the discussion which followed it was considered that in each county there should be a horticultural superintendent, two full-time instructors, and two part-time instructors. It was also thought that the expenses of the representative to the meetings of the Association should be defrayed by the country authorities.

Mr. Goaring (Sussex) then proposed the following resolution, which was carried unanimously:—"That the President of the Board of Agriculture and Fisheries be asked to sanction the reimbursement by the local authorities of the necessary expenses of the members when attending meetings of the Association."

On Friday morning members of the Association journeyed to Ormskirk in order to inspect the Potato Trials of the Board of Agriculture and Fisheries. The members were shown round by Mr. John Snell, who explained the investigations that were being carried out. Approximately one thousand stocks were being tested, in addition to a thousand seedlings raised on the trial grounds this year. It was noticed that many of the newer immune varieties crop excellently. Especial interest was taken in Dargill Early, Arran Comrade, Tinwald Perfection, Roderick Dhu, Kerr's Pink and Seedling U.15. Mr. Snell indicated what was being done with reference to soil fungicides and soil sterilisation.

ROYAL CALEDONIAN HORTICULTURAL.

SEPTEMBER 10 AND 11.—After an interval of four years, the autumn fruit and flower show of this Society was resumed, the exhibition being held in the Waverley Market, Edinburgh, on these dates. Although the entries did not amount to much over 50 per cent. of those of pre-war shows, the quality was very good; but the greatest decrease was in the classes for plants and cut flowers. An additional feature of interest on this occasion was the show of allotment produce by the members of the Garden Allotment Federation (Edinburgh and District), which made an excellent display.

FRUIT (Open).—The leading class in this section was for a collection of 12 dishes of fruit. There were two entrants, and the 1st prize of £5 5s. was awarded to J. NEILSON, Esq., of Mollance, Castle Douglas (gardener John M. Stewart). Mr. Neilson's collection consisted of Grapes (Buckland Sweetwater and Black Hamburgh), Melon (Universal), Peaches (Sea Eagle and Prince of Wales), Nectarine (Spenser), Fig (Brown Turkey), Plum (Magnum Bonum), Pears (Souvenir du Congres and Williams' Bon Chrêtien), Apples (Charles Ross and Peasgood's Nonesuch). The 2nd prize was awarded to the Rt. Honble. A. J. BALFOUR, M.P., of Whittingehame (gr. Geo. Anderson), for a collection which ran Mr. Neilson's very closely.

The Thompson Challenge Trophy for Grapes (to be won three times), £4 and a gold badge were offered as the 1st prize for 6 bunches of Grapes, not fewer than 3 varieties, and not more than 2 bunches of any variety. The trophy was won by the Rt. Honble. SIR HERBERT MAXWELL, Bart., of Monreith (gr. Samuel Gordon). There were six entrants in the class, and the 2nd and 3rd prizes were awarded to CHARLES WM. FORBES, Esq., of Callendar, Falkirk (gr. John Middleton), and J. NEILSON, Esq., of Mollance, respectively. The Challenge Trophy is presented by Messrs. Wm. Thomson and Sons, Ltd., Tweed Vineyards, Clovenfords, and it has now been won twice by Sir Herbert Maxwell.

The points awarded to Sir Herbert Maxwell's bunches were as follows:—

	Points awarded.	Maximum points.
1. Black Hamburgh	8½	9
2. ,, ,, ...	8	9
3. Muscat of Alexandria	6½	10
4. ,, ,, ...	8	10
5. Madresfield Court	7	9
6. Buckland Sweetwater	7	10
	45	57

For 4 bunches of grapes, distinct varieties, there were 2 entries, and the 1st and 2nd prizes were awarded to CHARLES H. SHAW, Esq., Edenhall, Cumberland (gardener, Wm. Scott), and The Right Hon. the EARL OF STAIR, Oxenfoord Castle, Midlothian (gardener, A. C. Scott). LADY VIOLET ASTOR, Meikleour House, Perthshire, was placed 1st for 2 bunches of Muscat of Alexandria, the Right Hon. SIR HERBERT MAXWELL was 1st for 2 bunches of Black Hamburgh; LADY VIOLET ASTOR for 1 bunch of Muscat of Alexandria; SIR HERBERT MAXWELL for 1 bunch of Black Hamburgh; J. NEILSON, Esq., of Mollance, for 1 bunch of Alicante, and LADY VIOLET ASTOR for 1 bunch of Madresfield Court.

J. NEILSON, Esq., excelled for 1 green or white fleshed Melon, and the Right Hon. the EARL OF MAR AND KELLIE, K.T. (gr. W. J. Buchanan), for 1 scarlet-fleshed Melon.

In the single dish fruit classes, SIR HERBERT MAXWELL was placed 1st for Figs; the EARL OF STAIR for Peaches; SIR R. T. GRAHAM, Bt., Netherby, Carlisle (gr. Geo. F. Hallett), for Nectarines: the MARCHIONESS OF TWEEDDALE, Yester, Haddington (gr. A. McLeod), for Apricots; A. D. FORBES GORDON, Esq., Langlie House, Galashiels (gr. J. Cochrane), for Gage Plums; J. A. HUNTER, Esq., Inchmartine, Inchture (gr. J. Benvie), for Yellow Plums; the Right Hon. A. J. BALFOUR for Red Plums and Purple Plums, and Mr. BALFOUR also excelled for the collection of culinary Plums in 4 varieties.

CAPTAIN C. L. GORDON, Threave House, Castle Douglas (gr. Jas Duff), was awarded the 1st prize for a collection of Apples, 12 varieties, and also for a similar collection of Apples grown in Scotland, and for 6 dessert Apples, 2 varieties, 3 of each, grown in Scotland. He also carried off first honours in eleven of the seventeen single dish classes, and for 6 Culinary Apples of any other variety than those named in the list, grown in Scotland.

The Right Hon. the EARL OF HOME, The Hirsel, Coldstream, excelled for a collection of Pears, 6 varieties, grown in Scotland, and also for single dishes of Beurré d'Amanlis, Doyenné du Comice, and Durondeau Pears.

PLANTS.—The plants formed a small section. The 1st prize for 9 dwarf, hardy Ferns was won by Mr. A. ARCHIBALD, Leith; for 3 single tuberous Begonias by JOHN TURNER, Esq., Inveralmond, Cramond (gr. J. A. Sword), and the same competitor also excelled for 1 double and 1 single variety of the same plants. Mr. Turner was also placed 1st for 2 Fuchsias and 1 Fuchsia respectively.

CUT FLOWERS.—In the cut flower section, Mr. J. RICHARDSON, Crossgatehead, Polmont, excelled for Phloxes; Mr. A. GRANT, Bo'ness, for Collarette Dahlias; W. HART, Manor House, Dunbar, for Perpetual-flowering Carnations. Mr. Richardson also took first place for hardy, herbaceous perennials (6 bunches), and for Montbretias, and Messrs. G. HALL AND SON, Prestwick, excelled for Gladioli.

Mr. J. PAUL, Drumbeg, Killearn, excelled in the Sweet Pea classes. Mr. L. BLACK, Kinglassie, Fife, and Mrs. RUSSEL, Rosegarth, Newton Mearns, in the classes for Roses.

CUT FLOWERS (open).—Messrs. G. HALL AND SON, Prestwick, were awarded 1st prize for 24 Gladioli; Mr. A. GRANT, Bo'ness, for 6 vases of Collarette Dahlias; Messrs. HUGH DICKSON, LTD., Belfast, for 36 Roses, 18 H.T. Roses, 12 any red or crimson Rose, 12 any pink Rose, 12 any

white Rose, 12 vases of exhibition Roses and 12 vases of decorative Roses.

VEGETABLES.—Mr. JOHN GRAY, Duddingston, won the 1st prize for a collection of vegetables in a space of 4 feet by 4 feet, and the 2nd prize was awarded to Captain HAIG, Blairhill, Fife (gr. H. Cummings). Mr. GRAY was awarded 61½ points out of a possible 76.

AWARDS TO NOVELTIES.

A First-Class Certificate was awarded to *Collarette Dahlia Glenshee*, and an Award of Merit to *Collarette Dahlia Glencoe*, both exhibited by Messrs. DOBBIE AND CO.

NON-COMPETITIVE EXHIBITS.

Gold medals were awarded to Messrs. DOBBIE AND Co., Edinburgh, for Dahlias and Begonias; STORRIE AND STORRIE, Glencarse, for fruit trees in pots, etc.; ED. WEBB AND SONS (Stourbridge), Ltd., for vegetables; ROBT. LAWRIE, Carnforth, for Double Begonias; CORPORATION OF THE CITY OF EDINBURGH, for a collection of 235 dishes of vegetables; JOHN WATERER, SONS, AND CRISP, LTD., Bagshot, for ornamental shrubs.

Silver Gilt Medals were awarded to Messrs. T. TILLIE, WHYTE AND CO., Edinburgh, for vegetables, etc.; W. WELLS, JR., Merstham, for Delphiniums; JOHN FORBES (HAWICK), LTD., for Stocks. Phloxes and Pentstemons; JOHN DOWNIE, Edinburgh, for Begonias; the MARCHIONESS OF TWEEDDALE, Yester, for fruit; the DUKE OF BUCCLEUCH, Dalkeith, for fruit.

Silver Medals were awarded to Mr. H. N. ELLISON, West Bromwich, for Ferns and Palms; Messrs. HARKNESS AND SONS, Bedale, for Herbaceous flowers, and LAIRD AND DICKSON, Edinburgh, for Conifers.

DUMFRIES AND DISTRICT HORTICULTURAL.

AUGUST 30.—This society during the war held annual gift sales of flowers, fruit, and vegetables for various charitable objects. The termination of the war has, however, enabled the society to resume its annual shows, and that held in the Drill Hall, Dumfries, on August 30, proved the wisdom of the enterprise. The number of entries was large, the exhibits generally of high quality, and the attendance of the public showed the interest being taken in gardening by many of the community. By arrangement with the society the shows of the Dumfries Burgh Allotments Association and the South of Scotland Beekeepers' Association were held in conjunction therewith, and these associations had also capital exhibitions. The show was opened by Captain Hope, Summerhill, Maxwelltown, and Sir James Crichton Browne presented the prizes and gave a short address. There was a good attendance, presided over by Provost S. Arnott, Maxwelltown, president of the society.

Trade exhibits were fewer than usual, the dislocation caused by the war having prevented several nurserymen from exhibiting. Mr. John Croall, Dumfries, exhibited a large stand of plants and flowers with a centrepiece of a fine floral design commemorating the deeds of the 52nd Lowland Division. Messrs. Learmont, Hunter and King, Ltd., Dumfries and Maxwelltown, exhibited bulbs of various kinds and honey appliances. Messrs. E. Fairbairn and Sons, Edentown, Carlisle, showed superb Phloxes and other flowers.

In the competitive classes much interest centred in the gardener's classes as Mr. R. A. Grigor, gardener to Major Rankin, Dalswinton, had previously won the Challenge Cup presented by Mrs. Ross twice. He was again the winner of the greatest number of points, and the cup now becomes his property.

The "Standard" Challenge Cup, for the best collection of vegetables grown by an allotment holder or cottager, was won by Mr J. BURNIE, Graings Road, Dumfries, for an excellent collection, well-grown and arranged. Messrs. Learmont, Hunter and King's Cup for Cactus Dahlias was awarded to C. E. GALBRAITH, Esq., Terregles (gr., Mr. D. Airdrie). The Dumfries Burgh Challenge Cup for best allotment in the burgh was awarded Mr. T. DOUGLAS, Briar Bank, Greenbrae, the Secretary of the Dumfries and District Horticultural Society. Councillor Mitchell's cup for the largest collection of vegetables was won by Mr. JAS. INMAN, Wallace Street, Dumfries.

A new feature was a stand of flowers, fruit, and vegetables given on behalf of the Royal Gardeners' Orphan Fund, and a substantial sum was secured from the sale.

In the open section the competition was good in many of the classes. The principal exhibitor here was Major RANKIN, Dalswinton (gr., Mr. R. A. Grigor). From this garden came the best decorated dinner table, the best Phloxes, annuals, Pentstemons, Asters, Roses, Chrysanthemums, and Sweet Peas. The best table of flowers cut from the open border was exhibited by C. E. GALBRAITH, Esq., Terregles (gr. Mr. D. Airdrie). The best Gladioli, very fine, came also from Terregles, and from the same garden several other prizes were gained in this section. N. MENZIES, Esq., Newtonairds (gr. Mr. W. Smith); H. S. GLADSTONE, Esq., Capenoch (gr., Mr. D. Campbell) and Mr. DOUGLAS, Sanquhar, were the leading winners in the other cut flower classes. Major RANKIN carried off several of the leading prizes with pot plants; Mr. LOGAN, Gribton (gr. Mr. C. E. Arnold, and C. E. GALBRAITH, Esq., were also successful. Fruit was exceptionally good and for the collection of nine dishes H. S. GLADSTONE, Esq., Capenoch, led with very fine fruits. For black Grapes Major RANKIN led, and for white Grapes J. PRIMROSE, C. E. GALBRAITH, Esq., and H. S. GLADSTONE, Esq., Arundel (gr. Mr. J. Allan), won 1st prizes.

ELSTREE & DISTRICT HORTICULTURAL.

AUGUST 30.—The Elstree and District Gardeners' Annual Show was held on the 30th ult. in Aldenham Park, by the kind permission of Lord Aldenham. The show was very successful, the number of visitors constituting a record. Permission was granted those present at the exhibition to ramble through the gardens and grounds of Aldenham Park.

The exhibition suffered from the fact that the original date was arranged for July 19, but peace celebrations intervening, it was found necessary to postpone the event until the later date.

The schedule included 79 classes and embraced sections for gardeners, under-gardeners, jobbing gardeners, amateurs, cottagers and ladies. Vegetables predominated, as might be expected, and the principal class was for six dishes distinct. A Silver Challenge Cup, with money, was offered as the 1st prize. The trophy was again won by Mr. J. A. PAICE, gardener to the Rev. Edgar Stogden, Aldenham Vicarage, with an exhibit of much merit. Onions, Tomatos, Peas and Cauliflowers were exceptionally meritorious. Prizewinners in other classes were: Mr. J. THATCHER, gardener to Lady Pritchard Jones, Summerfield, Elstree; Mr. EGGLETON, gardener to Major Edgcumbe, Aldenham Grange; Mr. E. N. KENT, Aldenham Cottage, Letchmore Heath; and Mr. H. ELLISON, gardener to A. Copson Blake, Esq., Underbank, Elstree.

Non-competitive exhibits added much to the attractiveness of the display. Messrs. CUTBUSH AND SON, Barnet, had a grand bank of hardy flowers, their Penstemons being especially fine. Mr. W. WELLS, Jun., Merstham, showed Delphiniums, and Mr. G. HERBERT, Duck's Hill Nurseries, Northwood, an exhibit of Sweet Peas. A magnificent collection of vegetables was staged by Mr. E. BECKETT, V.M.H., gardener to Hon. Vicary Gibbs. The exhibit comprised 113 dishes, and was almost a counterpart in variety of his exhibit at the R.H.S. meeting in July 15. Leeks, Celery, Potatos, Cauliflowers, Tomatos, Peas, Beans, Vegetable Marrows and Radishes were outstanding features. The hon. secretary's duties were ably carried out by Mr. W. Pritchard. *A Yorkshireman.*

ST. HELEN'S COURT HORTICULTURAL.

AUGUST 30.—The annual London Show of the above Society took place on Saturday, August 30, in the Dining Hall at St. Helen's Court. The President of the Society, Mr. H. W. A. Deterding, was unavoidably absent, but Mr. H. Colijn acted in his stead and opened the Show.

The display of vegetables was very satisfactory, and, considering the circumstances under which they were produced, and that the growers had but little experience in the cultivation of their allotments, was most creditable.

Mr. Whittingham won a special prize for Potatos which were deserving of the highest commendation, and Mr. W. A. Chapman obtained second prize for excellent tubers of "Arran Chief." Mr. Manley was also a successful exhibitor, and won first prize for kidney Potatos that were much admired by the judges.

In the Garden or B Class the Potatos were not quite so good.

For white kidneys Mr. Cumella was a successful exhibitor, and won a special prize as well as a first prize in this class. Mr. Cumella also secured a special prize for Cabbages, and Mr. Watson, of the Stores Department, was successful with Cauliflowers which were awarded first prize. Good Beetroots were exhibited by Mr. Warwick, who won first prize. Winter and spring Onions made a fine display, and in this class Mr. Maurice, of Portishead, was a very successful contributor, winning a special prize. Tomatos proved an exceptionally good class, especially those shown by Mr. Assheton, who obtained first prize. Other vegetables, such as Carrots, Turnips and Marrows, were up to the average quality. Mr. Bartholomew won the first prize for a collection of vegetables.

The show of fruits was not a strong feature, but though the quantity was somewhat limited there were a few very excellent exhibits, notably the cooking Pears shown by Miss Fox, which secured first prize. For Apples Mr. C. J. Brodie was successful in gaining the first prize, and among the other winners in this section were Mr. Cumella and Mr. Philip N. Evans. Mr. Mehling won first prize for culinary Apples.

All the vegetables, fruit and flowers staged were sent to the London Hospital.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

SEASON 1919-20.

JULY 3.—Committee present: Dr. F. T. Paul (in the chair), Dr. Craven Moore, Messrs. A. Burns, D. A. Cowan, J. C. Cowan, S. Davenport, J. Evans, J. Howes, A. Keeling, D. McLeod, W. Pickup, W. Shackleton, E. W. Thompson, J. Thrower, and H. Arthur (Secretary).

AWARDS.

FIRST-CLASS CERTIFICATE.

Laelio-Cattleya Canhamiana alba The Premier, Cattleya Mabel var. Peace, and Odontoglossum amabile splendens, from S. GRATRIX, Esq.

Cattleya Dupreana Heathfield var., from J. J. BOLTON, Esq.

Miltonia Charlesworthii var. Peerless, from P. SMITH, Esq.

AWARDS OF MERIT.

Cypripedium niveum var. Colossus, from Mrs. S. GRATRIX.

C. bellatulum var. Beryl, from Dr. F. T. PAUL.

Odontoglossum crispum var She, from P. SMITH, Esq.

At the meeting held on Thursday, July 17, the members of committee present were:—Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, A. Burns, J. C. Cowan, A. Keeling, E. W. Thompson, and H. Arthur (Secretary). The following awards were made to novelties:—

FIRST-CLASS CERTIFICATES.

Arachanthe Lowei, from Mrs. BRUCE and Miss WRIGLEY.

Cattleya Judah magnifica (C. Lord Rothschild × C. Hardyana), from P. SMITH, Esq.

AWARD OF MERIT.

Cattleya Caduceus (C. granulosa × C. Gaskelliana), from Messrs. KEELING AND SONS.

CROPS AND STOCK ON THE HOME FARM.

PREPARING FOR WHEAT.

Mustard sown on July 14 is now quite ready to plough in as a preparation for Wheat. Considering that the seed has only been in the ground eight weeks, this goes to prove what a valuable catch crop Mustard is. If sheep food was scarce, this Mustard crop would indeed be a boon to the sheep farmer; my 28 acre plot would suffice for at least a month, and then the land could be ploughed, the sheep droppings forming manure for the Wheat. In my case, the Mustard plant is not required for sheep, therefore it will be ploughed in, drawing a three-wheel pressure behind the three ploughs to make the soil firm and to effectively bury the Mustard plant which, apart from its manurial value, has a deodorising effect on the soil. It improves the tilth of clay soils, improves the drainage, indirectly causes the land to become warmer, adds vegetable matter to light soils, and helps to absorb and retain moisture in dry seasons for the benefit of future crops. Where possible, Mustard should be ploughed in two weeks at least before sowing the Wheat to solidify the land, especially where the soil is light.

WHEAT FOR SEED.

The thrashing machines will soon be busy in preparing for the next season's sowing of Wheat. I would strongly advise that dry weather be selected for thrashing as damp affects the grain considerably, rendering it "cold," a term used by millers, especially denoting that the grain is not in the best condition. For use as seed, some think this does not matter, but my experience does not warrant my ignoring condition in seed Wheat. A continued dampness about the grain affects the germinating power to some extent, I am positive. I know many farmers who will not purchase seed Wheat out of condition, and as they are prepared to pay an extra price for good seed, then the seed producer should take steps to provide the best sample.

There are farmers who sow Wheat direct from the thrashing machine, a practice which I do not follow, although the newer type of thrashing machines remove the bulk of weed seeds and other impurities, including broken corns. I prefer to screen the seed thoroughly.

Amongst farmers there always has been a difference of opinion as to what constitutes the best sample of seed Wheat. Take, for example, the red standard variety. Some prefer what are known by the miller as "weak" grains. These are whitish-yellow in colour, quite plump in the grain, having been thoroughly ripened before harvesting. What is known as "strong" wheat of the same variety is reddish-brown in colour, the endosperm is frequently hard and translucent, resembling horn when cut across. Such grains are the results of two causes; growing in stiff soil under the best of cultivation, and by cutting the crop several days before it is thoroughly ripe.

From the fact that the "weak" sample was fully matured before cut, it is but natural to suggest that such should be the best seed, assuming, of course, that the grain has been well taken care of since and not harvested in damp weather. *E. Molyneux.*

TRADE NOTE.

Mr. Charles Daniels, who has held the position of Managing Director in the Royal Norfolk Seed Establishment, Norwich, since the formation of the company in 1900, is retiring from active management, and has resigned the office of Managing Director. The Chairman, Lt.-Col. H. R. Fletcher, who also has been a director of the company since its formation, and Chairman since the death of his father, Mr. B. E. Fletcher, will succeed Mr. Daniels as Managing Director. Mr. Chas. Daniels retains a seat on the Board, and also his financial interest in the share capital of the company. Mr. John Clayton, who has been associated with the company for over twenty years, has been elected a Director and Manager.

Answers to Correspondents

Apple Tree Failing to Fruit: *T. E. E.* It is difficult to offer an opinion without seeing the tree, but we suspect that it needs root pruning. Follow the advice recommended by Mr. Hathaway in his remarks on the Hardy Fruit garden, p. 153.

Apple Tree Roots: *E. M. B.* The depth to which an Apple tree will send its roots depends, in a large measure, on the kind of stock on which it is grafted. Trees grafted on the crab or free stock send their roots down deeply into the subsoil, but those worked on the paradise and other dwarfing stocks are shallow rooted. You are right in your assumption that deeply-plunging roots are useful in holding the trees erect against high winds, and they also assimilate a considerable amount of water, which is necessary in the case of specimens having a large leaf area, such as standard trees. When the subsoil is spoken of as "dead" it refers to its solid, inert condition, for the air does not enter that part freely and, moreover, the beneficial bacteria of the soil are generally absent from the lower layer. The upper surface soil is better aerated, warmer, and contains the beneficial micro organisms. Still, trees do derive a certain amount of nourishment by means of their strong, deeply-growing roots, but the material they gather is more suited for leaf and shoot production than fruit formation.

Bean for Naming: *J. G. C.* The variety of Dwarf Bean sent is Ruby Horticultural, (Synonyms: Dwarf Horticultural and Speckled Cranberry.) It was introduced in 1888 by Messrs. James J. H. Gregory and Son, as Carmine Podded Horticultural Bush, but is now generally known as Ruby Horticultural. The plant is dwarf, being 10 to 12 inches high, low growing, very compact, vigorous, very hardy, early, and productive. The branches are wholly green, the leaflets large, moderately broad, tapering, flat, smooth surface, dark green. Flowers light pink. Snap pods uniformly large, 4½ to 5 inches long, stout, flat, almost straight, with stout, straight point of medium length, five to six-seeded, dark green, strictly stringless, moderately fibrous, brittle, moderately fine-grained, of poor quality, and attractive. Green-shell pods very stout, almost round, deeply constricted between beans, greenish yellow, splashed with bright carmine; the seeds shell out moderately easily. The green-shell Beans are large and attractive. Dry seeds, oval, frequently short-oblong with squared ends, subcircular in cross section, spotted and streaked with deep red or maroon, narrow brown rings around the hilum.

Climbers Suitable for Planting Against a Wall: *J. Britwell.* The following is a list of plants suitable for planting against a wall; the only ones that are self-supporting are Ivies, Ampelopsis Veitchii and A. muralis. Deciduous: Actinidia arguta, Ampelopsis Veitchii, A. muralis, Clematis montana, Hydrangea petiolaris, Forsythia suspensa, Jasminum nudiflorum, Vitex Agnus-castus, Vitis Coignetiae, V. Thunbergii, Wistaria chinensis. Evergreen: Ceanothus dentatus, C. thyrsiflorus, Ivies of sorts, Escallonia macrantha, Piptanthus nepalensis, Magnolia grandiflora, Pyracantha coccinea, P. crenulata and Garrya elliptica.

Grubs Destroying Lettuces: *H. G. P.* The larger caterpillar is the caterpillar of the Turnip moth, Agrotis segetum; the smaller one is probably the same, but at a younger stage.

Melons Diseased: *H. W. W.* The plants are attacked by canker at the collar—the portion of the stem just above the roots. It is caused by bacteria, and the disease is likely to spread to other Cucurbitaceous plants, including Cucumbers. Remove the infected plants, and burn them, also the old soil in which they were grown. It would be better to select a fresh house for growing Melons until a season or so has passed. A little sulphur and lime dusted around the soil at the stem of the plant will serve a useful purpose in helping to keep the healthy plants free from infection.

Names of Fruits: *W. J. B.* 1, Scarlet Nonpareil; 2, Downton Pippin; 3, Mère de Ménage; 4, Scarlet Golden Pippin; 5, Norfolk Stone Pippin; 6, Norfolk Beefing; 7, Old Nonpareil; 8, Sturmer Pippin; 9, Early Kerry; 10, Not recognised. *W. D. and Sons.* Lady Derby. *C. W. S.* 1, Jargonelle; 2, Knight's Monarch; 3, Williams' Bon Chrêtien; 4, Marie Louise; 5, Vicar of Winkfield; 6, Colmar D'Eté; 7, Madame Eliza; 8, Aston Town; 9, Louise Bonne of Jersey; 10, Fondante d'Automne. *W. W.* 1, Cox's Pamona, 3, Gloria Mundi; 4, Lemon Pippin; 5, Allington Pippin; 6, Lord Grosvenor; 8, Kerry Pippin; 9, Gascoyne's Scarlet; 10, Lane's Prince Albert; 12, Peasgood's Nonesuch; 13, Waltham Abbey Seedling; 14, Striped Beefing. Plums: 1, Denyer's Victoria; 2, Brandy Gage; 3, Prune Damson. *H. B.* Jefferson. *G. P. J.* 1, Clapp's Favourite; 6, Citron des Carmes. The others were decayed and the numbers obliterated. *S. B.* Beurre d'Amanlis; 2, Oullin's Golden; 3, Black Diamond; 4, Jefferson; 5, Prince Englebert; 6 and 8, Dymond; 7, Decayed; 9, Grosse Mignonne; 10, Prince of Wales; 11, Blue Imperatrice; 12, Belle de Louvain.

Names of Plants: *F. M. H.* 1, Staphylea colchica. 2, Eupatorium Weinmannianum. 3, Clematis heracleaefolia. 4, Send when in flower. 5, Cupressus obtusa var. gracilis aurea. 6, Cryptomeria japonica var. elegans. 7, Hibiscus syriacus var "Jeanne d'Arc." *A. W. S.* (Birmingham). Oncidium incurvum. *C. E. S.* 1, Malva crispa; 2, Sedum Sieboldii.

Potato Diseased: *G. N. T.* The tuber is very badly infested with wart disease. It is caused by a fungus, and will affect other Potatos, but not such plants as Cabbages and Turnips. You are required to notify the presence of this disease to the Board of Agriculture, 4, Whitehall Court, London, S.W.1, who will advise you as to the method of treatment.

Removing Old Paint from Garden Frames: *T. W.* The best method of removing old paint from wood work is to use a blow-lamp. When the paint is warmed to a sufficient degree it can be scraped off readily with an old knife or special painter's knife. Take care not to allow the flame to come into contact with the glass.

Wilt in Melons: *J. W. H.* Numerous bacteria were present, and these are probably the cause of the wilt. The only method known of dealing with the disease is to destroy the affected plants by burning; use fresh soil for the next crop.

Wistaria and Other Plants with Yellow Leaves: *L. C.* There is no disease in any of the specimens. The yellowing may be due to one of several causes, and most probably results from drought at the roots. A copious watering and an application of some nitrogenous fertiliser, such as farmyard manure, would probably cause the leaves to assume their green colour again. The general appearance of the specimens points to a lack of nutrition which may be due either to the roots failing to obtain sufficient food or an inadequate supply of water. Probably mulching the trees with a layer of farmyard or stable dung, and then watering the mulch by means of a hose would bring about the desired result.

Communications Received.—D. H.—T. F.—R. J. R.—J. M.—A. J. D.—G. P.—E. G.—R.—J. P.—C. S. C.—F. S. F.—R. E.—J. J. and Son—A. H.—F. F. L.—R. D. T.—L. R.—J. O. J.—R. J. P.—A. W.—G. T.—F. C. P—W. R.—A. W.—C. H. C.

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MARKETS.

COVENT GARDEN, September 17.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0-12 0	Erica gracilis—48's per doz. ...	24 0-36 0
Asparagus plumosus	12 0-15 0	60's	12 0-18 0
—Sprengeri ...	12 0-18 0	72's	9 0-10 0
Aspidistra, green	48 0-72 0	Erica nivalis—48's	30 0-42 0
Cacti, per tray 12's, 15's ...	5 0- 6 0	60's	18 0-21 0
Campanula isophylla	12 0-15 0	72's	10 0-15 0
— — alba ...	12 0-18 0	Marguerites white	18 0-24 0
Chrysanthemums 48's per doz. ...	9 0-18 0	Palms, Kentia ...	18 0-24 0
		—— 60's ...	15 0-18 0
		—Cocos ...	24 0-36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's, per doz. ...	12 0-15 0	Nephrolepis, in variety, 48's	12 0-18 0
— elegans ...	15 0-18 0	— 32's	24 0-36 0
Asplenium, 48's per doz.	12 0-18 0	Pteris, in variety 48's	12 0-21 0
— 32's	24 0-30 0	— large 60's ...	5 0- 6 0
— nidus, 48's ...	12 0-15 0	— small 60's ...	4 0- 4 6
Cyrtomium, 48's...	10 0-15 0	— 72's, per tray of 15's	3 6-4 0

REMARKS.—The most attractive subjects in this department are Erica nivalis and E. gracilis. These plants are also offered in small pots and quickly cleared. Other flowering plants consist of Chrysanthemums and Marguerites. Palms, Ferns and other foliage plants are only moderately supplied. The market is open for sale of plants on Tuesdays, Thursdays and Saturdays.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Asters, coloured, per doz. bun. ...	3 0- 6 0	Orchids per doz.:	
single. ...	2 0- 4 0	— Cattleyas ...	24 0-30 0
white ...	3 0- 6 0	Cattleya Harrisoniæ per doz. blooms,	9 0-10 0
Bouvardia white	15 0-18 0	Pelargonium, double scarlet, per doz. bun. ...	8 0-10 0
Carnations, per doz. blooms, best American var.	2 0- 3 6	— white, per doz. bunches ...	6 0- 9 0
Chrysanthemums—		Physalis, per doz. bun. ...	12 0-18 0
—White, per doz. blooms	3 0- 6 0	Roses, per dozen blooms—	
—Yellow ,,	3 0- 6 0	— Frau Karl Druschki...	1 6- 2 6
—Pink ,,	4 0- 6 0	— Lady Hillingdon	1 0- 2 6
—Bronze ,,	3 0- 5 0	— Liberty ...	1 6- 3 6
—White per doz. bun.	6 0-12 0	— Melody ...	2 0- 5 0
—Coloured ,,	4 0-10 0	— Mme. Abel Chatenay ...	1 6- 3 0
Coreopsis, per doz. bun.	1 6- 2 6	—Mrs. J. Laing...	1 6- 2 6
Gaillardia, per doz. bun.	3 0- 3 6	— Ophelia ...	3 0- 5 0
Gardenias, per box specials ...	8 0- 9 0	— Richmond, var.	1 6- 2 6
— ordinary ...	3 0- 4 0	— Sunburst ...	3 0- 5 0
Heather, white		—White Crawford	1 6- 2 6
— —per doz. bun.	12 0-10 0	Scabious, per doz. bun.	4 0- 6 0
Lapagerias, per doz. blooms ...	4 0- 4 6	Statice, mauve ...	6 0- 8 0
Lilium longiflorum, per bunch ...	12 0-15 0	— white... ...	6 0- 8 0
Lilium speciosum album per bunch	3 6- 4 0	— latifolia, per doz. bun. ...	12 0-18 0
—rubrum per bun.	3 0- 3 6	Stephanotis, 72 pips	4 0- 6 0
Michaelmas Daisies in variety ...	6 0- 9 0	Stock, Dbl. White	4 0- 8 0
		—Dbl. Pink ...	6 0- 8 0
		—Dbl. Mauve ...	6 0-10 0

REMARKS.—The conditions of trade are similar to those mentioned last week. There is an abundant supply of white Asters, and blooms of medium quality were difficult to clear at reduced prices on Friday and Saturday last. The supply of disbudded blooms of Chrysanthemums is sufficient for the demand, Debutante (white) being most in request. Coloured varieties are Mercedes (yellow), Almirante and a bronze sort. Some fine blooms of pale pink colour are also offered. There is a good supply of bunched white and coloured Chrysanthemums, and prices throughout are on the downward grade. Carnations are again more plentiful and, with the cooler weather, blooms are arriving in a better condition, being more suitable for re-dispatch to the provinces. Best Roses are becoming scarce and prices are firmer for special blooms. The prices for Lilium longiflorum fell to 12s. and 15s. per bunch on Saturday. L. speciosum album and L. speciosum rubrum is realising 3s. and 4s. Large quantities of Michaelmas Daisies, Statice sinuata, Coreopsis, Gaillardias, and other hardy flowers are on sale and there are small quantities of Physalis and single-flowered Violets.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, per lb.	0 8-0 10	Peas, per bus. ...	8 0-10 0
—Scarlet per bus.	8 0-10 0	Parsley, per doz. bunches ...	3 0- 6 0
Beetroot, per bus.	8 0-10 0	Potatos, per cwt.	10 6-13 0
Cabbage, per doz.	2 6- 3 0	Radishes, per doz. bunches ..	2 6- 3 0
Carrots, per cwt.	8 0 —	Spring Onions, per doz. bunches ...	4 0- 6 0
Cauliflowers, per doz.	3 0- 5 0	Tomatos, English, per doz. lbs. ...	6 0- 7 0
Cucumbers, per flat	18 0-23 0	— Dutch.. ..	3 6- 4 0
Garlic, per lb. ...	1 3- 1 6	— French ...	3 6- 4 0
Herbs, per doz. bun.	4 0- 6 0	— Outdoor Jersey	4 0- 5 0
Mint, per doz. bun.	9 0-12 0	Vegetable Marrows, per doz. ...	3 0- 5 0
Mushrooms, per lb.	2 0- 3 0	Watercress, per doz	0 9- —
Mustard and Cress, per doz. punnets	1 3- 1 6		
New Turnips, per cwt.	10 0-12 0		
Onions (Egyptian) per bag ...	10 0-14 0		

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d.
Apples (English)		Nuts Brazils (new) per cwt.	110 0-115 0
—Worcester Pearmain per ½ bus.	3 0- 4 0	Cob Nuts per lb.	1 0- 1 3
—Quarrenden ..	3 6- 4 0	Pineapples each...	2 6- 6 6
—Lord Suffield per bus. ..	4 0- 6 0	Plums (English) per ½ bus.	
—Keswick Codling per bus.	3 6- 5 0	—Monarchs ...	13 0-14 0
—Ecklinville Seedling per bus.	4 0- 7 0	—Pond's Seedling	14 0-15 0
Aubergines; pr doz	2 0- 3 0	—Bush ...	10 0-12 0
Bananas... ...	30 0-40 0	Damsons	12 0-13 0
English Peaches per doz. ...	6 0-18 0	Worthing Figs, per doz.	3 0- 6 0
Grapes:—		Pears, French, Williams crates 48's ..	14 0- 17 6
— Alicante ...	1 0- 2 0	— English per ½ bus.	
—Blk Hamburgh,	1 0- 2 0	Williams' Bon Chretien	6 0- 7 0
—Canon Hall	2 0- 4 6	— Dr. Clapp's Favourite	4 0- 5 0
—Muscats, per lb.	1 6- 4 6	— Dr. Jules Guyot	6 0- 7 0
Melons, each ...	1 6- 3 6	— Hessle, bus...	6 0- 7 0
—Canteloupe ...	2 6- 8 0		
Nectarines, per doz. ...	6 0-18 0		

REMARKS.—The market is still abundantly supplied with produce of all kinds, and hardy fruits, such as Apples and Pears, are especially plentiful. There are rather fewer Tomatos from home growers, but the prices for these fruits have not advanced, owing to large consignments from Holland and other continental countries. Cucumbers are in steady demand. The season for Plums is finishing; the demand for these fruits remains good. Amongst the large numbers of Apples and Pears many are of very inferior quality, and only realise low prices.

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CYRIL HARDING, General Secretary.

GARDENER (HEAD) wanted for Dunrobin Castle Gardens, Sutherland, at Martinmas (November 28) next; must be thoroughly experienced in all departments.—Apply, with references, THE FACTOR, Sutherland Estate Offices, Golspie.

HEAD GARDENER of two wanted for Heswall, Cheshire, October 1; cottage. Apply, EDWARD MacIVER, 16, Brunswick Street, Liverpool, stating wages, experience, etc.

WANTED immediately, HEAD GARDENER-BAILIFF; first-class all-round, good knowledge of estate work.—All particulars to R. FRAYLING, Lilleshall House, Newport, Salop.

HEAD WORKING GARDENER wanted for Surrey; thorough experience in all branches of Horticulture, Inside and Out, the cultivation of winter vegetables, and practical management of good Gardens and men absolutely essential; not over 45.—Write, giving full particulars of previous experience and wages required to H. V., Box 15, 41, Wellington Street, Covent Garden, W.C.2.

HEAD WORKING GARDENER of two for a place in Lancs.; preference given to a Second man with good experience, and not afraid of work.—Reply to L. J., Box 2, 41, Wellington Street, Covent Garden. W.C.2.

WANTED, thoroughly experienced WORKING HEAD GARDENER; Indoor and Out; single man or widower, owing to difficulty of securing cottage; one other kept; salary £2 per week.—Apply, F. G. WINSLAND, Timber Lodge, Ashtead, Surrey.

WANTED, good WORKING GARDENER, experienced Inside and Out; one used to Poultry.—Apply, QUITMAN, Forest Holme, Queen's Road, Forest Hill, S.E.

GOOD WORKING GARDENER; single, live indoor; good home and wages. KIRK, 67, Wigmore Street, W.

UNDER-GARDENER wanted, for Outside, with knowledge of Herbaceous Plants, Roses and Alpines; wages 38s. per week, with bothy, milk and vegetables; hours 7.30 a.m. to 5.30 p.m.; 1 o'clock Saturdays.—Apply by letter, with copies of testimonials, to W. P., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

UNDER-GARDENER required for Lawns and Pleasure Grounds, capable of taking a turn Inside and duty; unfurnished cottage.—State wages and experience, H. SILCOCK, Head Gardener, Basset Wood, Southampton.

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WANTED, UNDER-GARDENER, married or single.—Write stating particulars, and wages required, NETTLEFOLD, Lion Hill, Wolverley, Worcs.

WANTED, October 1st, WORKING FOREMAN, to take charge of gentleman's fruit plantation (mainly Apples); must be thoroughly experienced in the production of fruit for market; state previous experience with references also age and whether married or single.—Address, MEMBER 5959, c.o. "C. G. A." Employment Dept., Letchworth, Herts.

WANTED, good GENERAL FOREMAN (married); chiefly Outside; used to Herbaceous borders, rock plants, etc.; state experience; wages expected; with rooms in house in grounds.—Apply, J. GREENLEES, Lingholm Gardens, Keswick, Cumberland.

FOREMAN WANTED for Forest, Ornamental and American Trees and Shrubs; must be experienced in growing and handling large stocks, and accustomed to the control of labour.—State full particulars of experience and wages required (including house), CLIBRANS, Altrincham.

WANTED, a FOREMAN and JOURNEYMAN, chiefly for Fruit, Inside and Out.—State wages required, with bothy, milk, and vegetables, W. EMERTON, Belton Gardens, Grantham.

JOURNEYMAN and IMPROVER for Kitchen Gardens and Pleasure Grounds; must be thoroughly recommended; to take duty; 1 o'clock Saturdays; wages, bothy and attendance.—HEAD GARDENER, Nostell Priory, Wakefield.

INSIDE JOURNEYMAN wanted for Fruit and Plant Houses; wages 38s. per week, bothy and vegetables; one o'clock Saturday.—JAMES ALEXANDER, Godinton Gardens, Ashford, Kent.

WANTED, a JOURNEYMAN for the Houses; a man with good knowledge of Plants preferred; wages 35s., bothy and vegetables; duty paid.—State age and experience to W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

JOURNEYMAN wanted, Herbaceous Borders, Roses and Inside; 35s. and bothy.—Apply, HEAD GARDENER, Branches Park, Cowlinge, Suffolk.

WANTED, JOURNEYMEN (two), Kitchen Garden and Pleasure Grounds; single; good wages; bothy.—Apply, WAUGH, Wolfelee Gardens, Hawick, N.B.

WANTED, two JOURNEYMEN for Pleasure Grounds; good wages, bothy, and usual allowances; 1 o'clock Saturday.—J. KIRKWOOD, Sutton Place, Guildford.

WANTED, MAN and WIFE, without family, wife to look after single men's bothy; must have first-class references. — Apply, HEAD GARDENER, Garston Manor, Watford.

WANTED, experienced MAN for Vines, Melons, etc., and little Outside Fruit; also for forcing produce for house and market; if married, wife to look after agents' rooms; Church of England.—Apply, stating wages and experience, also references (good accommodation provided), HICKMAN, The Lodge, Caldecott House, Abingdon.

WANTED, good MAN (single) for general Outside work; wages 45s. per week; no bothy.—Apply, with copies of references and stating age, to DAVID REDPATH, Maesruddud, Blackwood, Mon.

WANTED, two MEN, one Inside and Out, one Rock and Wall Garden); 35s. week, bothy and attendance; overtime paid extra.—E. JONES, Head Gardener, Shalesbrook, Forest Row, Sussex.

WANTED, strong, active, reliable Man, age about 24, to take charge of Glass; a good knowledge of Perpetual Carnations essential; hours 7 to 5, Saturdays 12; duty paid.—Apply, stating wages, with bothy, J. JONES, Knoyle House Gardens, East Knoyle, Salisbury.

WANTED, YOUNG MAN for Kitchen and Pleasure Gardens; wage 32s., with free lodging. State abilities, with references.—YATES, Newlands, Edgware.

WANTED, two experienced men for Outside work; wages 45s., no bothy.—Apply, W. GUTTRIDGE, The Gardens, Moray Lodge, Campden Hill, London, W.8

WANTED, SINGLE MAN for Kitchen Garden, experienced, able to use scythe; also JOURNEYMAN (Inside) and IMPROVER (Outside); bothy and good wages.—H. WENMAN, Templenewsam Gardens, Leeds.

WANTED, SINGLE MAN for Kitchen Garden and Lawns; wages 30s., bothy, and vegetables.—Age, height, references, when at liberty. GARDENER, Smedmore, Corfe Castle, Dorset.

WANTED a man for Lawns, Herbaceous borders, Roses, etc.; if married, good cottage found.—Apply, stating wages required, to F. G. GERRISH, Pendley Gardens, Tring.

WANTED, two YOUNG MEN for work on Pleasure Grounds; wages 30s. per week, with bothy, vegetables, and attendance.—WM. CAMM, The Gardens, Cliveden, Taplow, Bucks.

LADY GARDENER wanted to supply chatty weekly gardening article.—State terms required, experience, etc., write Box 1397, Willings, 125, Strand, W.C.

WANTED, a handy ESTATE JOINER for repairing greenhouses and frames.—Apply, A. WAGG, Ossington Gardens, Newark, Notts.

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WANTED, GARDENER, thoroughly experienced in Intensive Culture, to take charge of French Garden in Midlands. Also ASSISTANT GARDENERS; may suit two Lady Gardeners.—State experience and wages required, to live out, E. G. FALCON, 10, Linden Road, Bedford.

NURSERY PACKING SHED FOREMAN.—Wanted, HEAD PACKER, accustomed to checking off orders; must have sound general knowledge of trade.—State age, previous experience and wages required, with copies of testimonials, etc., to DANIELS BROS., LTD., Norwich.

SHOP MANAGER.—Wanted, smart, up-to-date, pushing Man to take sole charge of Garden Seed, Bulb and Sundry Department; knowledge of Farm Seeds preferred; highest references essential.—Apply, stating age, salary required, and if married, to T. L. S., Box 17, 41 Wellington Street, Covent Garden, W.C.2.

POSITION VACANT.—Wholesale seed firm; country; MANAGING CLERK, correspondence and general (not ledger) office; staff of 20; organising ability and trade experience essential.—Apply, with full particulars and references, S. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE. — Wanted, experienced COUNTER HAND, with good knowledge Garden and Farm Seeds and Bulbs, for old established firm in North of Ireland. Apply, with references, stating age, experience, and salary expected.—J. M., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—Wanted, experienced MAN to take charge of Retail Potato Seed Department, also Crops, etc.—State wages and particulars to POTATO, Box 11, 41, Wellington Street, Covent Garden, W.C.2.

WANTED for Scotland, YOUNG MAN to take charge of extensive Rock and Valley Garden; fine opportunity for good man.—Apply, R. WALLACE & CO., Colchester.

WANTED, YOUNG MAN with knowledge of Alpines; good Potter; also experienced Packers.—Apply, stating wages, etc., JOHN WATERER, SONS, AND CRISP, LTD., Hare Hatch, Twyford.

WANTED, Young Man as KNIFESMAN, to assist in lifting orders during season and make himself generally useful.—Apply, JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

WANTED by an old-established Seed and Nursery Business, competent YOUNG MAN, as book-keeper, who would be willing to assist occasionally at retail counter. State age, experience, references, and wages to J. S., Box 2, 41, Wellington Street, Covent Garden. W.C.2.

MAN (handy), used to Nursery and Greenhouse repairs; permanent work; good wages.—Apply, JOHN RUSSELL, Nurseryman, Devonshire Nurseries, Haverstock Hill, N.W.3.

FLORIST wanted in Manchester; must be good Designer and first-class Saleswoman, capable of taking charge; good salary and prospects to enterprising lady.—Apply, with full particulars, L. P., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

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Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER to Lady or Gentleman requiring services of competent man; age 34; married; demobilised.—W. ELKINS, 12, Brocas Street, Eton, Bucks.

GARDENER (HEAD).—Major H. E. Wilbraham, J.P., can with confidence highly recommend GARDENER, who is thoroughly experienced in the management of a large establishment; life experience in all braches, including Estate work; good manager; age 30; married when suited; excellent references; demobilised.—Full particulars to J. THOMPSON, Delamere House Gardens, Northwich, Cheshire.

MR. YOUNG, Agent to Lord Kensington, D.S.O., highly recommends his General Foreman as HEAD GARDENER to any Lady or Gentleman requiring a good man; life experience in all branches; age 29; married when suited.—E. RAYNER, The Gardens, St. Bride's, Little Haven, S.O., South Wales

MRS. TRUMAN highly recommends R. Wheare, for three years her HEAD GARDENER; life experience in production of high-class Fruit, Flowers, and Vegetables, with general upkeep; disengaged through estate being given up while on Military Service; age 34; married (one child).—WHEARE, Ileden Cottages, Bonchurch, Isle of Wight

DR. BEVAN LEON can with confidence recommend G. H. GITH, as a good all-round HEAD GARDENER; land and stock if required; the former Head Gardener has returned from the Army.—Sidcot School, Winscombe, Somerset.

GARDENER (HEAD); life experience in large establishments, private and commercial; experience with stock and electric light; good testimonials; married; aged 44.—JONES, Glenleith, Bushey Heath, Herts.

GARDENER (Head), demobilised; life experience in first-class establishments; three years eight months Head to the Hon. Carr Glyn; previously five years Foreman at Lamport Hall, Northampton, and Yeaton Peverey, Shrewsbury; age 36; married (no family); excellent references.—A. MORPHETT, Wootton, near Ashbourne, Derbyshire.

AS HEAD GARDENER where several are kept; practical expert in all branches of Horticulture; married (no family); excellent references.—T. JOHNSON, 5, Station Road, Carshalton, Surrey.

HEAD GARDENER where two or three are kept; 25 years' experience all branches; filled positions of trust; age 39; married (two girls); disengaged when suited; good references; south preferred.—Bicknell, Broughton, Banbury.

GARDENER (Head); 42; demobilised; married life experienced desires situation where six or more are kept; experience gained in good establishments, including Moor Park, Longford Castle; seven years Head prior to service; can be well recommended.—R. MASON, Doddington, Sittingbourne.

GARDENER (Head) seeks situation where two or three are kept; life experience, Inside and Out, gained on large establishments; Carnations speciality; Fruits, Flowers, early and late forcing, Melons, Cucumbers, Tomatos; good general knowledge; disengaged; just demobilised; age 36; married (two boys).—Apply, W. PAYNE, Groombridge, Kent.

HEAD GARDENER, thoroughly skilled in every branch; up-to-date in making and re-modelling any class of garden; must be several under; three years Head of a Wiltshire nobleman's place; first-class references; at liberty October 10; age 35; married (no family).—G. BENFORD, Kiftsgate Court, Campden, Glos.

GARDENER (Head); life experience in all branches of the profession in good gardens, both Inside and Out; good refs.; age 35.—W. KING, The Gardens, Woodcote Grove House, Coulsdon, Surrey.

GARDENER (Head); life experience; reliable trustworthy, competent in all branches, including Orchids, table decoration, land and stock; son, age 14. GARDENER, Northcourt, Eastling, Faversham, Kent.

HEAD GARDENER, age 35, married (one boy, age 5), seeks situation in good establishment; experience gained in good situations, Inside and Out; advertiser soldier, just demobilised.—F. STEMP, Gardener Street, Hurstmonceaux, Sussex.

GARDENER (Head of 3 or 4).—Lord St. Audries highly recommends W. J. TAYLOR as above; life experience in all branches; excellent references from first-class places; age 30.—Apply, The Gardens, St. Audries, nr. Taunton.

GARDENER (Head) seeks re-engagement; all-round experience; where two or three are kept; excellent references; age 34.—BRIGHT, 21, Cathedral Close, Norwich, Norfolk.

GARDENER (Head) where four or more are kept; experienced in all branches; good references; 3½ years with colours, previously Head; married, age 50.—T. BUTLER, c/o M. King, Chesterton Lodge, Gardens, Bicester, Oxon.

GARDENER (Head where several are kept); thorough practical experience in Fruit, Flowers, and vegetables, etc.; early and late forcing; excellent references; demobilised; age 36; married (no children); abstainer.—H. WITTS, 37, Kingston Road, Staines, Middlesex.

GARDENER (Head) where several are kept; life experience Fruit, Flowers, Vegetables, Orchids, Carnations, early and late forcing; age 40; no family; just demobilised. Full particulars, wages. VOLLER, c/o Wright, Little Parndon, Burnt Mill, Essex.

GARDENER (Head of several).—Advertiser with life experience, all branches, in first-class establishments; would like to meet with Lady or Gentleman who requires keen, energetic, and skilful cultivator; excellent references for abilities and integrity, from Eastnor, Harewood, Nonsuch, and Bracken Hill, Bristol; married; age 31.—BOOTH, Bracken Hill, Leigh Woods, Bristol.

GARDENER (Head of two or three); Vines, Stove and Greenhouse, Veg.; 25 years' experience; refs. from Lady Duncan.—W. CHRISTOPHERS, 7, Worcester Terrace, Newton, R.S.O., Swansea.

GARDENER (Head or good Single-handed); life experience in all branches; good references; married (one child, 6 years); age 38.—W. MUZZELL, Hope Cottage, Braywick, Maidenhead.

THE EARL OF DUNRAVEN can with confidence highly recommend WM. PRESTON as HEAD WORKING GARDENER; life experience, Inside and Out; excellent references.—Apply to WM. PRESTON, West Saltoun, Pencaitland, N.B.

MRS. STANLEY ARNOLD can thoroughly recommend F. CLARK as GARDENER (Head Working); lifetime experience, Inside and Out; excellent references.—CLARK, Barton House, Moreton-in-Marsh, Glos.

GARDENER (Head Working).—Mr. F. Gerrish, of Pendley Manor Gardens, Tring, can with confidence recommend his FOREMAN, J. KITCHIN, to any Lady or Gentleman requiring a competent man; experience gained in good establishments; age 31; married (one child). Address above.

GENTLEMAN highly recommends late Head Working Gardener; thorough capable man, all branches; age 45; two sons, 23 and 21.—HOWARD, c/o G.P.O., Welwyn, Herts.

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GARDENER (Head Working).—Mrs. Long, 38, Lowndes Square, S.W., highly recommends her late GARDENER, T. HURST; life experience Flowers, Fruit and Vegetables; disengaged through giving up country house, no family.—169, Osmaston Road, Derby.

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GARDENER (Head Working) seeks situation where three or more are kept; experienced Inside and Out, gained in large establishments; good references; married; age 26.—Mr. H. HOWLETT, 8, Jubilee Cottage, London Road, Whitchurch, Hants.

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GARDENER (Head Working) where several are kept; 25 years' practical experience in the cultivation of choice Fruits, Plants; Inside and Out; Kitchen Garden, Pleasure Grounds; highly recommended; age 39; married (no family).—GARDENER, Stanford Park, near Rugby.

HEAD WORKING GARDENER; thoroughly competent in all branches; life experience; highest references.—F. MAY, 22, Upper Queen Street, Rushden, Northants.

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DEMOBILISED HEAD WORKING GARDENER seeks situation where several hands are employed; skilled cultivator of choice Fruits, Flowers and Vegetables; 27 years' practical experience; good manager and thoroughly competent man.—LEITH, School Cottage, Alton, Hants.

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GARDENER (Head Working); Scotch; demobilised; life experience; 11 years Head; also Electric Power Plant; good references; married; age 42; (two children).—DONALDSON, 5, High Street, Sandy, Beds.

THE RECTOR OF SHEPPERTON wishes to recommend his GARDENER (Single-handed or otherwise); married (no family); age 38; wife would help in house if required; cottage essential.—Apply, C. R., Rose Cottage, Church Square, Shepperton.

H. W. CHURCHMAN, Sawston, Cambs, wishes to highly recommend DAVID HARRADINE as SINGLE-HANDED GARDENER or HEAD of two to any Lady or Gentleman who requires the services of a really good man; one who is not afraid of work; married (two children); age 28; free when suited.

GARDENER (Single-handed or with help); 18 years' experience, Inside and Out; age 33; married (one child); good references; 7½ years last place. State wages and particulars, F. SHAMMON, Leaholme Lodge, Plymouth Road, Barnt Green, Worcestershire.

GARDENER, demobilised (Single-handed or Second); experienced; good references; age 29; married (no family); Sussex or Surrey preferred.—S. MATTHEWS, Sedgwick Lodge, Nuthurst, Horsham, Sussex.

GARDENER (Single-handed or with help); life experience, Inside and Out; age 36; single; just demobilised.—G. REED, Lamer Farm, Wheathampstead, Herts.

GARDENER (Single-handed), life experience, married (no children); last place 5 years; good references; age 34; just demobilised.—MUMFORD, 58, Lind Road, Sutton, Surrey.

GARDENER (Single-handed or Second). Inside and Out; experienced; good references; married (no family); age 35; cottage preferred.—RUSHEN, Dry Street, Langdon Hills, Essex.

GARDENER (Single-handed or with help); life experience Inside and Out; married (one child); excellent references; abstainer; age 33.—H. DUNMALL, Mill House, Cheapside, Ascot, Berks.

GARDENER (Single-handed or Second); life experience; good references; age 35; married (two children); cottage required.—GANT, Lynn Road, Downham Market, Norfolk.

GARDENER (good Single-handed) for Berks; married (no children); Fruit, Flowers, Vegetables, Glass; able to attend small Electric Light Plant; wife willing to assist in house, extra; unfurnished cottage found and coals; wages 35s. per week.—Apply, stating ages, experiences and references, C. K., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

MR. ALFRED MOUL desires to strongly recommend his GARDENER, SAMUEL COVENTRY; been with him nearly ten years, with two under; thoroughly competent and trustworthy; place sold reason for leaving; free September 29; married (one boy, aged 8 years).—Fern Cottage, Pangbourne, Berks.

GARDENER, age 36, seeks situation, chiefly Outside Work; sixteen years' experience, Inside and Out; good references; demobilised; single.—E. SLOSS, 4, Foots Cottages, The Hyde, N.W.

GARDENER, where help is given; experienced in all branches; nine and five years' references previous to joining H.M. Forces; age 45 years.—A. DRAPER, 7, Bulverhythe Road, St. Leonards.

THOROUGHLY capable, expert GARDENER; life experience in all branches, seeks situation Kent or Surrey; highest possible references.—Write, G. STONHAM, 10, Avenue Park Road, West Norwood.

GARDENER (WORKING); life experience; all-round man, Inside and Out. — WRIGHT, Lodge, Beasmains, Rettenden Common, Chelmsford.

GARDENER seeks situation as KITCHEN GARDENER; 17 years' experience, also 2½ years single-handed Gardener; served 3 years in Army; aged 42; married.—Apply, H. VALENTINE, Willow Terrace, Roade, Northants.

GARDENER (demobilised) seeks situation; 9 years' all-round experience in good establishments, previous to war; age 30; married (two children).—THURSTON, Shomac Cottage, Lower Bourne, Farnham, Surrey.

GARDENER seeks situation in Kitchen Gardens; good references; just demobilised; age 36; married (two in family).—J. DUTTON, The Ferns, Christian Malford, Chippenham, Wilts.

MR. W. CROCKETT, The Gardens, Brampton Brian Hall, Herefordshire, can with confidence recommend R. HOOPER as SECOND, Inside or Inside and Out; experienced in all branches; age 31; demobilised.—Address, R. HOOPER, Broomsgreen, nr. Ledbury, Herefordshire.

GARDENER (SECOND), Inside, or Inside and Out, where several are kept; experience gained in good establishments; well recommended; bothy preferred, but not essential.—W. MATSELL, Berwood, 839 Chester Road, Erdington, Birmingham.

UNDER-GARDENER desires post; age 17; Inside preferred; strong and good worker; good refs.; midlands or northern county preferred.—31, Rochdale Road, Bacup, Lancs.

GARDENER (UNDER) seeks situation; experience both Inside and Out; good references; age 29; married (two children).—BROOKER, 43, Albert Street, Tunbridge Wells, Kent.

FOREMAN or good SECOND; life experience Inside and Out; age 29; married; excellent references.—State wages, with house, B. MOWL, Richmond Terrace, Catchem's End, Bewdley, Worcs.

FOREMAN or good SECOND; 15 years' experience all branches; good references; demobilised; married; age 32.—T. A., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (INSIDE); life experience in Fruits and Plants in good establishments; just demobilised; age 31; married (one child).—C. RALPH, Eynsham, Oxon.

FOREMAN (INSIDE) good establishment; experienced in Vines, Peaches, Melons, Carnations, etc.; good Plantsman; excellent testimonials, single, age 28.—S. W. BAKER, The Bushes, Gaddesby, Leicester.

FOREMAN (GENERAL) in good establishment; 13 years' experience, Inside and Out; house and table decoration; three years Foreman pre-war; excellent references; married; age 31. — SALTER, 55, Albert Road, Wellingborough.

FOREMAN (INSIDE); thoroughly experienced in Fruit, Carnation, Stove and Greenhouse plants; house and table decoration; age 32; good reference.—C. HILLINS, Flixton Hall Gardens, Bungay, Suffolk.

FOREMAN (INSIDE), age 29; 14 years' experience Vines, Peaches, Carnations and other Plants.—HUMPHRIS, The Gardens, Brasted Place, Brasted, Kent.

FIRST JOURNEYMAN (INSIDE) seeks situation; eight years' experience; age 27; good references.—C. BAYNHAM, Ford Castle Gardens, Berwick-on-Tweed.

YOUNG DUTCHMAN, now in Holland, seeks situation in England; thoroughly experienced in all kinds of gardening, also private gardening.—Address, RAVENSBERG, 240, Ridder van Catsweg, Gouda, Holland.

MR. W. PALMER recommends W. PIMM as GARDEN CARTER, or help in Pleasure Grounds or Kitchen Garden; just demobilised; two years previous to joining H.M. Forces at His Grace The Duke of Bedford, Froxfield Gardens.—Apply, W. PIMM, Longworth, Faringdon, Berks.

YOUNG MAN seeks situation as THIRD JOURNEYMAN, in large establishment; Inside and Out; age 19; good refs.—State wages, with bothy, to F. C. D., 10, Dorville Road, Lee, S.E.12.

YOUNG NEW ZEALAND LADY, with friend, having completed two years' course at Horticultural College, desire position on Fruit and General Horticultural Farm, or private house, under good Head. Commencing October.—Reply, M. L. M., Westerland, Bexley Heath, Kent.

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LADY GARDENER wishes post at a school; some experience; knowledge poultry, bees; Swanley diploma; willing to give instruction.—T. C., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER, under Head; three years' training, Inside and Out; willing worker; good refs.—MISS SLOCOMBE, Floral Nurseries, Hailsham, Sussex.

LADY GARDENER desires post under good Head; 18 months Outside experience, 6 months Inside; please state salary offered.—Apply, SPON, Quarry Cottage, Ashurstwood, East Grinstead.

ELECTRICIAN seeks situation; well up to all duties; willing to fill in time at painting, etc.; 16 years' good character for private service; married (no family).—ELCOCK, Providence Cottage, Newtown, Romsey, Hants.

TRADE.

TO LANDSCAPE GARDENERS, &c.—HEAD GARDENER requires temporary post, anywhere; can undertake or work from plans; excellent references; full particulars on application.—GARDENER, Rosemundy, St. Agnes, Cornwall.

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MANAGER or FOREMAN GROWER desires engagement; age 33; married; life experience in Cucumbers, Tomatos, Grapes, Chrysanthemums, Bulb-forcing and general crops.—Offers to SEEKINGS, 28, St. Andrew's Road, Portslade, Sussex.

WORKING MANAGER or FOREMAN requires situation in Market Nursery; 30 years' experience in Tomatoes, Cucumbers, Grapes, Mushrooms, Chrysanthemums and Bedding Stuff; good references; married.—F. W., Brooklands Nursery, Central Park Road, Laindon, Essex.

AS MANAGER or GENERAL NURSERY FOREMAN; thoroughly experienced in the production of all kinds of hardy Nursery Stock; Inside and Outside; good propagator, salesman, and exhibitor; full control last 16 years; abstemious; active; age 45; married; excellent references; South preferred.—Apply, I. I., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER or FOREMAN (WORKING); age 50; life experience, Grapes, Peaches, Tomatos, Cucumbers, Chrysanthemums, Bedding Plants, Bulb Forcing, Fruit, Vegetables, etc.; abstainer; married; excellent references.—FOREMAN, c/o Taylor, Hope Cottage, Ashurst Wood, near East Grinstead, Sussex.

FOREMAN (WORKING), age 44, married, desires situation, Market Nursery near London; life experience in growing the usual market produce. Or situation in other capacity would be acceptable if position is a good one.—Apply, LONDON, Box 27, 41, Wellington Street, Covent Garden, W.C.2.

WORKING FOREMAN, or take charge of small Market Nursery; life experience Cucumbers, Tomatoes, Ferns, Palms, etc.; highly recommended; married. Please state wages.—F. SALMON, Quex Park Gardens, Birchington, Kent.

WORKING FOREMAN, or take charge of small Nursery; life experience in growing Carnations, Cucumbers, Tomatos, Chrysanthemums, Bulbs and Ferns; 10 years last situation as above; age 40; demobilised.—S. E., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

SITUATION required, WORKING FOREMAN, or take charge of small Nursery; 29 years' experience in Chrysanthemums, Tomatos, Cyclamens, Zonals and Bedding Stuff; married (two children); age 48; good references.—C. W. B., Ridgemount, Hounsden Road, Winchmore Hill, N.

GROWER requires situation; life experience, Cucumbers, Tomatoes, Chrysanthemums, Carnations, forced Strawberries, general Market Produce; experienced packer and bookkeeper; capable of taking entire charge; age 35; married; excellent references.—GROWER, Box 15, 41, Wellington Street, Covent Garden, W.C.2.

EX-NAVAL OFFICER, experienced in Carnation, Tomato and general greenhouse growing, also in Sugar and tropical horticulture, used to up-to-date office methods, having lost his own business on volunteering for service, seeks position of trust.—X. Y. Z., Box 26, 41, Wellington Street, Covent Garden, W.C.2.

RESPONSIBLE POST wanted; man; good trade experience; highest credentials; age 34; part Outdoor preferred; experienced bookkeeper.—H. P., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, situation in Nursery; demobilised; 12 years' experience in General Nursery Work, Tomatos, Cucumbers, Bulbs, Chrysanthemums, etc. Last situation Charge Hand in Chrysanthemum Nursery; good knowledge of despatching orders, exhibiting etc.; good references, age 30; married.—HOTSTON, 142, London Road, Bognor, Sussex.

SEEDSMAN requires progressive permanency; 8 years' general experience; age 26; good refs.; used to all classes of trade.—G. S., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

CLERK, thorough knowledge of all Office routine.—C. J., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

WOMEN GARDENERS (two) desire situations, Inside and Out (chiefly Outside); trade or private; experience in Carnations, Vines and general.—T. A., 26, St. Luke's Road, Bedminster, Bristol.

WOMAN GARDENER desires post in Nursery; 4 years' good experience Inside, all branches, including making up.—Apply, P. P., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

COMPETENT LADY SECRETARY requires post; Sussex or Home Counties; part outdoor work preferred; 10 years' experience; excellent references; clerical work and book-keeping a speciality.—J. BRIGGS, Ashburnham, Pembury, Kent.

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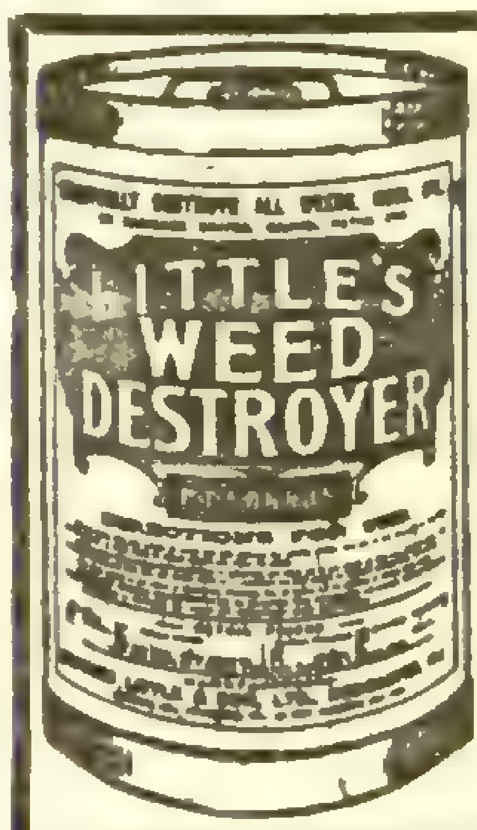

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Trade Sale of

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36 Cases, as received, containing 28,000 Miniature Hyacinths, specially prepared for forcing, 13,000 Paper White Narcissus, Roman Hyacinths, Tulips to name, and Spanish Iris.

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By Order of SAMUEL GRATRIX, Esq.,

MESSRS. PROTHEROE & MORRIS have received instructions to Sell by Auction at

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On WEDNESDAY, OCTOBER 1, 1919,

A selection of

RARE AND VALUABLE PLANTS

from the well-known

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Including some of the very finest albino and other Cattleyas, choicest Cypripediums and Odontoglossums.

The plants may be viewed at "West Point," Whalley Range, Manchester, by appointment with the Gardener, Mr. J. Howes.

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Without Reserve,

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By Order of DE BARRI CHAWSHAY, Esq.

on Tuesday, October 7, 1919, and two following days, at 11.45 each day. Amongst the many fine varieties to be sold will be—

Odontoglossum triumphans Lionel Crawshay.
Odont. crispum Seraphim.
Odont. crispum Mrs. de Barri Crawshay.
Odont. crispum Venus.
Odont. crispum Queen of the Earth.
Odont. crispum Imperator.
Odont. crispum Raymond Crawshay
Odont. Cleopatra Rosefield var.
Odont. eximium Memoria Lionel Crawshay.
Odont Harvengtense Crawshayanum.
Odont. Harvengtense Rosefield var.
Odont. illustre Europa.
Odont. Lambeauianum Theodora.
Odont. Lambeauianum Crawshayanum.
Odont. Lawrenceanum Cobbianum.
Odont. Queen Alexandra Memoria Lionel Crawshay.
Odont. Queen Alexandra Theodora.
Odont. rosefieldiensis Memoria Lionel Crawshay.
Odont. Theodora.
Odont. Vulcan Theodora.
Odontioda rosefieldiensis Crawshayana.
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also numerous other fine named varieties of unblotched old Pacho crispums, hybrids, bloomed and unbloomed seedlings, also Cymbidium hybrids and a batch of unbloomed seedlings raised upon the very rare blue Zygopetalum brachypetalum.

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PETERBOROUGH.

Clearance Sale of the whole of the

GREENHOUSE PLANTS,

comprising Ferns, Azaleas, Carnations, Chrysanthemums, etc.,

together with the erections of TEN GREENHOUSES, 3,000 feet of 4-in. Hot Water Piping, Boilers, Brickwork and sundries.

MESSRS. PROTHEROE & MORRIS will sell the above by auction on the premises, The Eastgate Nursery, Star Road, Peterborough, on Thursday, October 2nd, at 12 o'clock, by order of Messrs. W. & J. Brown.

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A choice assortment of well-grown

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Lotted in colours. Himalayan and Chinese Rhododendrons, including many of the newer species, also mixed Seedlings Ponticums and others. Hardy Heaths, Japanese Maples, quantities of Thuja Lobbii and Cupressus, Retinosporas, Laurels, Yews, Ornamental Evergreen and Flowering Shrubs, etc.

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TEDDINGTON.

Clearance Sale of NURSERY STOCK, comprising Ornamental Trees and Shrubs, Golden Privet, Euonymus, Aucubas, Yews, Box, Rhododendrons, Herbaceous Plants, Ferns, and other Greenhouse Plants.

Also the

ERECTIONS OF TEN GREENHOUSES.

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Catalogues on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

IMPORTANT SALE OF ORCHIDS.

MESSRS PROTHEROE & MORRIS have received instructions from W. BOLTON, Esq., to sell by Auction on the premises,

WILDERSPOOL, WARRINGTON,

on WEDNESDAY, OCTOBER 15, 1919,

the Second Portion of this well-known collection, comprising a choice selection of healthy plants of hybrid Cattleyas and Laelio-Cattleyas, including many fine albinos; good hybrid Odontoglossums and white Crispums of fine form, rare Cypripediums, Cymbidiums, and many interesting species of cool, intermediate and hothouse varieties. May be viewed by arrangement. Catalogues of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

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For full particulars see catalogues, which may be obtained of the Auctioneers, Great Malvern.

Sale will commence at 11 a.m. punctually.

On view, morning of Sale.

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NOTICES.

BRITISH GARDENERS' ASSOCIATION.

REGISTERED No. 1666 T.

CHANGE OF ADDRESS.

ALL COMMUNICATIONS for the above Association should in future be addressed to:

No. 1, Wellington Place.

St. John's Wood, N.W.8.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W.14.

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WANTED, large Kentia Forsteriana Palms, from 5ft. to 25ft. in height; large, well-coloured Dracaenas and Crotons; for cash or exchange.—ROBERT GREEN (1911), LTD., 28, Crawford Street, W.

WANTED.—The undernoted varieties of Japanese Maples; in well-furnished trees, 2-2½-3 ft.; 6 A. rufinerve, 2 A. carpinifolium, 3 Aoba-No-Fuye; also Forcing Seakale and Asparagus; extra strong.—Offers to, GEORGE FAIRBAIRN AND SONS, English Street, Carlisle.

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NOW is the time to destroy them, before casting their seeds. If your paths are cleaned now they will remain clean for the best part of next year. Our Weed Killer is safe to handle, non-poisonous, will not harm birds or animals, is a powder, only requires sprinkling on the weeds.

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THEY'RE NOT STICKY.

Beacon Oilskins are quite free from any stickiness, and, what is more important, they never fail to keep out the hardest rain or sleet. Hundreds of farmers, gamekeepers, and other outdoor men, women and children wear them, because they bring weather comfort. You ought to wear them if you want to keep dry in any deluge. The Beacon Booklet will help you to choose the style you need. Children's Coats from 16s. 6d., Men's from 21s., Ladies' Smart Oilskins, 28s. 6d. Long Leggings from 5s. Sou'westers, from 3s. Your money back if they don't satisfy you entirely. Send postcard to-day for our Free Booklet of "Weather Comfort" — Send now—before you forget—to BARBOUR'S, LTD., 66, BEACON BUILDINGS, SOUTH SHIELDS. (2)

SEWAGE DISPOSAL FOR COUNTRY Houses.—No emptying of cesspools; a perfect fertiliser obtained; no solids; no open filters; perfectly automatic; everything underground. State particulars, WILLIAM BEATTIE, 8, Lower Grosvenor Place, Westminster.

FOR best quality BIRCH GARDEN BESOMS and Thatching Heather, apply JOHN APPLETON & SONS, Heathend, Basingstoke.

OLD YORK STONE PAVING for Garden Paths, Rose Walks, Terraces, Lily Ponds, etc.; Rectangular or Crazy as required.—H. BROOK, Quarry Owner, 40, Valley Road, Streatham, S.W.16.

BANSTEAD OR WALTON HEATH LOAM.—A splendid soil for Vines, Chrysanthemums, Carnations and General use.—Particulars of YOUNG BROS., Betchworth, Surrey.

GOOD LOAM for sale; samples free.—GEO. KIRBY, 75a, Studley Grange Road, Hanwell.

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WEST SUSSEX COUNTY COUNCIL.
APPOINTMENT OF INSTRUCTOR IN HORTICULTURE.

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The engagement will be subject to three months notice on either side. Applications are specially invited from ex-service men holding the necessary qualifications.

Applications to be made on a form to be obtained from the undersigned, and must be sent in on or before 10 a.m. the 1st October, 1919, with copies of not more than three recent testimonials.

All communications should be marked "Horticultural Instructor."
S. THORNELY,
Clerk of the County Council.
51, East Street, Horsham.
16th Sept., 1919.

NOTTS EDUCATION COMMITTEE.
APPOINTMENT OF
ASSISTANT HORTICULTURAL INSTRUCTOR.

THE above Committee invite applications for the above post. The selected applicant will be required to have had practical experience in up-to-date fruit cultivation on a commercial basis, and his duties will include the giving of Lectures and Demonstrations. Commencing salary £200 per annum, and out of pocket expenses. Form of application may be obtained from the Director of Education, Shire Hall, Nottingham.

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Continued on page ix

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Fig. 1.

Fig. 2. A Quality.

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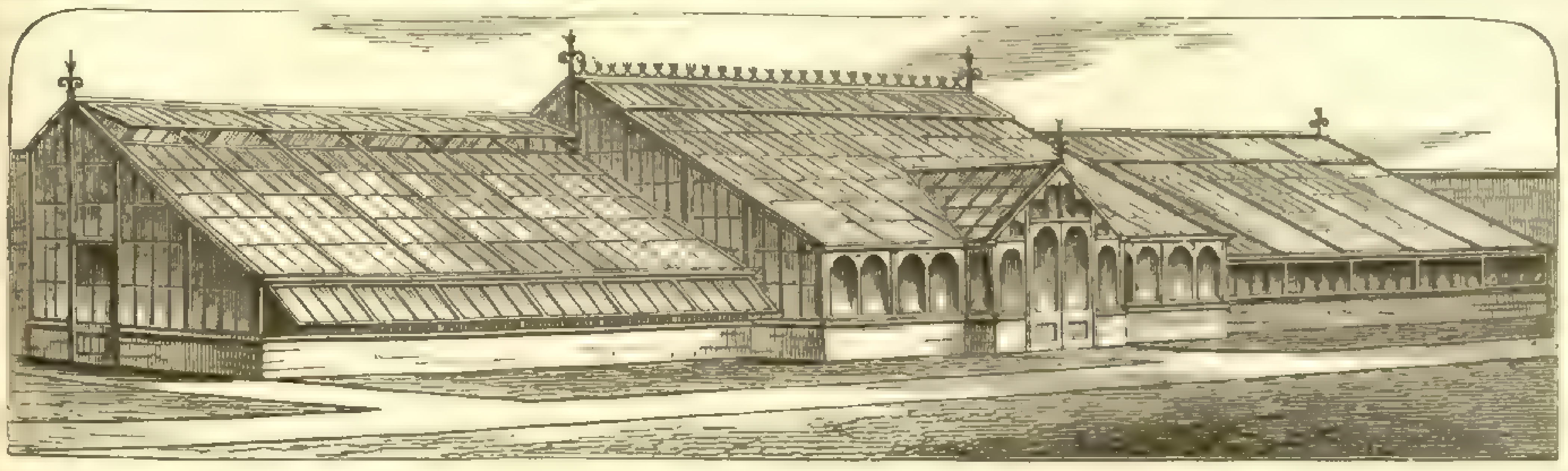

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THE
Gardeners' Chronicle
No. 1709.—SATURDAY, SEPT. 27, 1919.

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.*

No. 7.—Out of the Valleys.

Rhododendrons do not love the hot lowland valleys, and are never found there; with the exception, of course, of such as properly belong to them. For example, R. indicum, which never seems to desert the bouldered shores of the rivers, and pursues the course of the Ngaw Chang up to some 5,500 feet. The first of the highland Rhododendrons to reappear is also one of the best, a very beautiful tree or tall bush that haunts the edges of the upper coppice between 7,500—9,000 feet.† This has bluey-green foliage in the young shoot, whilst the shoot-bracts, as well as the older dying leaves, are of so brilliant a crimson as often to get themselves mistaken from afar for flowers. The actual flowers, though, are pure white, with a faint tinge of greenish-yellow at their base. They are very large, 7-lobed, shallow and wide, borne in loose and ample heads, crinkled and crumpled, and of a delicious fragrance quite different from the cloying clove-sweetness so often affected by the fragrant Rhododendrons. It may be judged how striking are the charms of this plant. Its faults are a certain irregularity in bloom, and liability, apparently, to attacks of ill-health: and also (most odd peculiarity in a plant of such a climate as this) so acute a susceptibility to damp that its lovely whiteness is too often marred by dashes and freckles of brown. But it remains, to my thinking, one of the finest of white Rhododendrons; and its blooming-time takes it out of reach of late English frosts.

The lowland woods are no richer than the lowland valleys. Indeed, they seem even more tropical. Giant Paris haunts their glooms, together with Arisaemas like hooded cobras with gigantic foliage, and stout stems like stiff coral snakes, marbled with rose and white and brown. A little higher, and there are braes of pine-studded wet Bracken to cross, before the track descends again across meadows to the stream. And here, at 7,000 feet, begins the range of another very remarkable Rhododendron, peculiar, apparently to this valley.* At first, only half-sighting it at the edge of a coppice, I thought it was some limp tropical climber, and took no notice: but in a little while I realised a new important Rhododendron, with many points of R. megacalyx, but not, I fancy, all. It is a tall shrub, or small spindly tree, with large, loose heads of blossom, passing over by the middle of May. The long stout pedicels are clothed in a sort of blue bloom, the big conspicuous calyx is crimson and pink and green. The flowers are of enormous size, pure white flushed with pink, orange-anthered, and limp in texture, so as to suggest some floppy, snow-white flowered Gloxinia. Add to all this an intense fragrance of clove, and you may imagine with what acclamations I gathered in this new recruit, which thenceforth follows the mountain torrent upwards to some 8,500 feet, loving its shady margins and ghylls.

The vegetation here is much more homely and hopeful. Lilium giganteum towers among the dells of the coppice, and the beck-banks produce a Philadelphus of which I am inclined to think very well, as it is so lavish with upstanding honey-scented racemes of white flowers that, on first glance, I thought I had come upon a new Styrax. Not but that the tropics still continue; even above this the steep woodland ravines that the track circumnavigates are hung not with Primulas, as they should be, but with a big blue-violet Gesnera, own cousin to the one that clings to the hot damp rocks above the N'Mai Hka; while over the thin trees trails a delightful white Jasmine with crimson buds and delicious scent. But the heights are now not far, and in a little while we leave the arid torrid region of the Edelweiss, and emerge into a real alpine valley, with high snows frowning down on every side. Accordingly, within a little of the village, a new Primula comes into view in the coppiced folds of the rills. But this is nothing for me to write home to you about—a rank and rather ugly species close to P. cinerascens and P. sino mollis, with masses of large, coarse, flannelly foliage, and stout upstanding spikes carrying tiers of starry magenta flowers. More likely to be valuable is the white-washed Bramble of these parts which, almost alone of its race, seems to like cooler alpine elevations. It has a wide spread and swings pretty white bells from its arching white sprays, but seems to carry too much sail for its hull. At least, its roothold is too weak for its branches, and it is usually seen flopping on the ground in a waving tangle.

Both the lilac Deutzia and the bullatum-Rhododendron begin to abound as the alpine levels are approached; while in the woods a ferny-leaved wood Anemone carries one's mind home, and the loose silvery plumes of Ainsliaea keep it abroad. In the open glades are sheets of Smilacina coming up; it is a sad shock to discover that the enormous majority yield only dull little squinny stars of brownish green, while the handsome white-racemed species (see Fig. 75) is quite a rarity.* Another and a kindred rarity is to be seen further on, in the deep shade of a gully, where from a mossy rock a little Liliaceous spray-like Streptopus floats out with a flat delicate flight of shell-pink bells, freckled minutely with a richer shade. The glory, however, of this deep gorge in the woodland is the giant Rhododendron. This, I think, belongs to the Sino-grande group, and so far I have nothing to say about the flowers, which were all over by the middle of May. From what I could see, however, of their lingering relics, I should judge them to be fat and creamy, in no way commensurate with the foliage. At the same time I must say that my Orderly, who turns out very knowledgeable about plants, declares that they are "very large." By this he may mean only the size of truss; I cannot believe that the flowers will equal the big-leaf Rhododendron of the Hfuman Pass (F. 873) which, in its best rose-red forms, is a really lovely sight, as well as a stately plant. For its foliage alone, however, the Giant Rhododendron would be a prize, whatever the flower may prove. It is a sparse bare-boled tree of some 30 feet, and, of course, the foliage is at its biggest in young specimens, often dwindling to nothing very remarkable (except for rich dark-green gloss) in old flowering trees. But on a small plant I measured one of its leaves, and found it was 20 by 12 inches—a noble sample, and with a lacquered silvery white reverse. This species seems to range only between 8—9,500 feet, and loves the deep moist shade of torrent-gorges. *Reginald Farrer.*

Fig. 75.—Smilacina sp: Farrer's No. 949.

* The previous articles by Mr. Farrer were published in our issues for June 21, June 28, July 12, August 9, August 23, and September 6.

† Rh sp. F. 979 = F. 810.

* Rh. sp. F. 918.

* Smilacina sp. F. 949.

FRUIT REGISTER.

PLUM LAXTON'S GAGE.

THE branch of this new Plum illustrated in *Gard. Chron.*, Aug. 30, Fig 60, shows it to be a remarkably prolific variety. That this productivity is not confined to a selected branch for the purpose of reproducing in a photograph, I had ample proof recently when I was shown round the famous Bedford nurseries by Mr. Edward Laxton. Taking me to a tree crowded with fruits, he shook it well, picked up a few of the Plums from the ground, giving me some with the remark, "just taste one of these, it is our new one, which gained an Award of Merit the other day." In flavour the fruit was splendid, and this fact, allied to the prolific cropping of the tree, makes it a most desirable variety of early Plum. The fruit is rather like the well-known Victoria in shape and yellow in colour. *Visitor.*

ORCHID NOTES AND GLEANINGS.

CATTLEYA SYBIL.

WHEREAS some hybrid Orchids are tolerably constant in their characters, Cattleya Sybil, raised between C. Dowiana aurea and C. iridescens (bicolor × Eldorado) has always been remarkable for its variation.

Over fifty specimens of this cross have flowered with Mrs. Bischoffsheim, The Warren House, Stanmore, and no two of them have been alike. At present there are about thirty in flower, arranged at the end of the Cattleya house, making a very effective display. They may be divided into two sets, the more numerous having the elongated labellum with strap-like middle as in C. bicolor, and the others shaped nearer to C. Dowiana, resembling the forms of C. labiata in outline. These two sections are totally different, and there is no intermediate form so far as the shape of the lip is concerned.

In the variation in colour both sections are similarly affected, ranging from cream-white with purple lip, to rosy-lilac and deep orange, all the forms having the penetrating fragrance acquired through C. Eldorado. Of the long-lipped forms the most distinct were a large deep golden yellow flower, with claret crimson lip, having the middle deep orange; a clear canary yellow flower with ruby-red lip, having orange lines at the base; a fine white sort veined with lilac, the lip being orange colour with purple front. The best of the other section had the form and colouring of C. Dowiana, but much darker sepals and petals; another distinct form was coloured rosy-lilac with orange lip, having a tyrian purple front. Between these extremes were several very showy forms of different shades of colour.

FIG. 76.—TRACHELOSPERMUM DIVARICATUM FLOWERING ON A WALL AT KEW GARDENS.

TREES AND SHRUBS.

TRACHELOSPERMUM DIVARICATUM, KANITZ.

(T. CROCOSTOMUM, *Stapf.*)

FOR very many years a large specimen of this climber has grown on the west wall of the Herbaceous ground at Kew, and its history has been lost. As may be judged from the accompanying picture (Fig 76), it flowers very freely, and is a neat and pretty plant for covering a wall. It commences to blossom in June, and continues until August. Like its ally, T. jasminoides (the old Rhyncospermum of gardens), it is evergreen, but is hardier than that species and thrives better—in Kew, at any rate—as a wall plant out-of-doors. The plant figured has been in its present position for over thirty years, and has not suffered even in the hardest winters. Its leaves are narrowly oval, 1 to 2 inches long, dark shining green, and quite smooth. The flowers are borne a few together in cymose clusters and are pleasantly fragrant, the corolla being about ¾in. across, five-lobed, and pale yellow. The lobes of the calyx are quite erect and thereby distinct from the strongly recurved ones of T. jasminoides. Dr. Stapf named it T. crocostomum in 1906, but according to Schneider in *Plantae Wilsonianae*, it is T. divaricatum, a native of Korea and Japan, first named by Thunberg in 1794 as Nerium divaricatum. It can be propagated by cuttings made of short shoots of the current season placed in gentle heat in August. Like others belonging to the same Natural Order (Apocynaceae) the branches and leaves when cut exude a milky juice. *W. J. B.*

FLOWER BEDDING AT THE ZOOLOGICAL GARDENS.

THE gardens of the Zoological Society at Regent's Park were, in pre-war times, notable for the excellence of the summer bedding and other features of interest to gardeners. Since the Armistice these amenities have been largely restored, and on a brilliantly sunny afternoon last week, when I had the privilege of visiting them, I found no traces of war-cultivation or of the neglect which is still apparent in so many gardens, the aftermath of scarcity of labour.

The vista at the main entrance is very beautiful, the clumps of shrubbery at each corner of the main avenue being brightened by a foreground of scarlet Paul Crampel Pelargoniums and Marguerite Daisies. Along the avenue, on each side, there is a border of golden Privet. To the right the eye is caught by the tall heights of the Mappin Terraces, on which the chamois are so happy. The concrete is now clothed with Ivy, which has grown to a great height and looks wonderfully well established considering that it was only planted when the terraces were opened in 1913. Over the ugly wooden pergolas which lead to the steps Weeping Ash and other plants have been carefully trained so as almost to screen the woodwork and make a grateful shade from the warm sun. At the back of the terraces, where much construction still remains to be completed, trees of various kinds have been planted, which, when they have had a few more years of growth, will greatly add to the appearance.

In front of the Monkey House are three lawns, the smooth green sward of which is relieved by beds of flowers of marvellously blended colour. The centre bed in each lawn is graced by a large stone vase, overflowing with Pelargoniums, Fuchsias, and Tropaeolums in a blaze of colour. All the beds are diamond-shaped, and there are twenty-one of them. They are not all the same, but a typical one was composed in the main of the beautiful Calceolaria floribunda Improved, mixed with Viola lilacina, edged with Pelargonium Henry Jacoby and Princess Alexandria, and the well-known, neat, grey rosettes of Echeveria secunda glauca. Another one I specially noticed had a groundwork of Pelargonium Paul Crampel edged with golden Moneywort and a lovely new Iresine with most bril-

liantly coloured crimson leaves. A bed in the middle lawn was very effectively composed of the bronze Calceolaria Mrs. Mary Anderson with Viola Snowflake, edged with the delicately pretty Coleus Golden Ball. We must not leave this section without mentioning the fine Ageratum raised in these gardens and appropriately named The Zoo, which was used very effectively in conjunction with Pelargonium Constance, P. Catherine de Smedt and Cineraria maritima. Not far from this lawn I noticed a fine bed of Dahlias in full bloom, of which the colours were excellently blended.

In front of the Old Bears' Den (no longer occupied by the bears, who are now so much more adequately accommodated on the Mappin Terraces) there is a perfect feast of colour. A wide strip of lawn is backed by a border of shrubs and various hardy annuals, with Sweet Peas and a row of golden Marigolds. Along the front of the lawn is a low border of golden Privet at the foot of which nestle clumps of bright scarlet Paul Crampel Pelargoniums. Over the lawn were distributed seven beds of flowers, and each of the seven presented in itself a perfect harmony of colour. One was composed of Ivy-leaved Pelargonium Mme. Crousse, with a groundwork of dwarf Ageratums, dotted with Pelargonium Verona. The edging was of Pelargonium Dandy, and rich blue Lobelia. Another bed contained fine specimens of black and green Cannas in variety, the groundwork being of Begonia semperflorens rubra, dotted with Chlorophytum aureum variegatum and edged with Pelargonium Dandy and blue Lobelias.

The great lawn, with its closely-clipped smooth sward, provided a delightfully restful view; and any risk of monotony was obviated by a border of golden Privet, varied with clumps of Pelargoniums, Iresines, Chrysanthemums, Salvias and other plants. Round the Three-Island Pond there was also a gay border of East Lothian Stocks, Pentstemons and Chrysanthemums, with a background of the ever-attractive golden Privet.

Perhaps the finest effect was produced in front of the saloon, from the terrace of which the whole vista was one of grace and beauty. Three spacious lawns stretch away one after the other, shaded by tall trees (a fine specimen of Taxodium distichum was especially noted), and ornamented by brilliant beds of flowers and standards of Palms, Bamboos, Prunus Pissardii, and other shrubs. The bed nearest the saloon was composed of a groundwork of Coleus Verschaffeltii, dotted with Fuchsia gracilis, and made gaily neat with an edging of Lobelia Mrs. Clibran and Coleus Golden Ball in alternate clumps. In a bed further along the first lawn I again noticed Ageratum The Zoo in happy association with Tropaeolums, black Cannas, and Lantana delicatissima. There are seven beds on the first lawn, and also a superb herbaceous border along one side, with a wealth of flowers which were still beautiful, though not equal to what they must have been a week or two before. The same may be said of a number of beds filled with Violas and Carnations, which must have been lovely in their prime, but were obviously getting "over." One bed I noticed which was especially effective, in which there was a groundwork of Pelargonium Maxim Kovalesky, dotted with Eucalyptus cordata, and edged with Coleus Golden Ball and Chlorophytum aureum. Another contained a lovely combination of sub-tropical plants in great variety, including Ficus elastica, the groundwork of which was Cyperus distans. On the furthest lawn, the third from the saloon, a particularly beautiful bed contained a mass of Pelargonium Archduke Rudolf, dotted with hybrid Lantanas and Veronica Andersonii, the whole being edged with Fuchsia Golden Treasure.

Another was fragrant with tall plants of Heliotropium President Garfield, on a groundwork of Pelargonium Violet Hill, and edged with Coleus Golden Ball. In another bed were some fine specimens of Canna King Humbert, and standards of Eucalyptus cordata and Salvia splendens. The almost tropical luxuriance of this part of the grounds was further borne out by a large bed of succulents at the further edge of the third lawn. Strange Cacti reared themselves from the midst of a little forest of rubber-like foliage, and a narrow line of Echeveria secunda glauca ran, like a wreath of india-rubber Roses, round the outside border.

It is unfortunate that the work now proceeding in the grounds, including the formation of a new tunnel, will interfere with some of the bedding; and indeed, the garden superintendent Mr. Young, pointed out a certain number which would have to be destroyed altogether, or at any rate made much smaller. However, he and his assistants may be trusted to make the very most of the opportunities at their disposal, and continue in the future, as in the past, to make the "Zoo" a place of beauty and interest for the horticulturist no less than for the zoölogist. *Amaryllis.*

CARNATION RED ENSIGN.

THE variety of perpetual-flowering Carnation illustrated in Fig. 77 was awarded the cup offered at the St. Dunstan's Exhibition, Chelsea, on July 1, 1919, for the best Carnation introduced to commerce during the period of the war, also the cup offered for the best vase of Carnations in the show. The colour is bright orange-scarlet, and the flowers are larger than those of the old favourite Beacon which the raisers, Messrs. Stuart Low and Co., state they have ceased to cultivate as the novelty is superior. The habit somewhat resembles the older variety, but the growth generally is harder in the dull days of winter. The plant is an easy and quick grower and need not be stopped early, as autumn and winter flowers are produced freely from shoots stopped as late as mid-July. The guard petals are clear cut and even, and the flowers are carried on long, stiff stems. Red Ensign has received the Award of Merit of the British Carnation Society.

FIG. 77.—CARNATION RED ENSIGN.

M. Albert Maumené.—M. Albert Maumené, the editor of *La Vie à la Campagne*, was reported badly wounded in the early days of the war. He is now in the service of the Minister of Agriculture, by which we conclude he is again restored to health. His work in the Ministry evidently has had a high value placed upon it, for our contemporary, *Le Jardin*, in its last number announces his appointment as Chevalier de la Légion d'Honneur.

BOTANY AND THE EMPIRE.*

(*Continued from p.* 156.)

A GRATIFYING proof of the value of the work of the Imperial Department of Agriculture in the West Indies was the formation of several departments on similar lines, first at Pusa in India in 1902, and subsequently in all the tropical Colonies in the New and Old World. Further, twenty competent officers trained in the West Indies, are now in charge of Departments of Agriculture in Ceylon, Mauritius, Federated Malay States, Fiji, and on the staffs of the Imperial Department of Agriculture in India and the several Colonies in East and West Africa. Another interesting feature of West Indian progress was the wider appreciation of improved methods of cultivation and the value of science by members of the planting community. For instance, in 1898 the aggregate amount voted by the local legislatures for staffs, laboratories, and botanic and experiment stations was at the rate of £14,000 per annum. Apart from the funds of the Imperial Department of Agriculture, it is probable that, directly or indirectly, the total amount contributed locally for scientific services is now not less than £60,000 per annum. It is also to be noted that during approximately the same period the number of scientific and technical officers had increased from 67 to 142. This, however, is not confined to the West Indies, for in a list, published annually at Kew, the number of scientific officers attached to botanical establishments in various parts of the Empire had increased from 122 in 1892 to 332 in 1918.

There can be no doubt that not only in the West Indies but in all parts of the Empire "enlightenment as to the objects, methods, and conditions of scientific research is proceeding at a rapid rate." A review of the circumstances relating to all the Overseas Dominions would be a task entirely beyond my province. Perhaps the most interesting feature of the progress made is in connection with the application of the laws of heredity to the improvement of such highly important crops as sugar, wheat and cotton. The problems associated with these involve both scientific and economic considerations. As regards the scientific side, it is fortunate that with

* British Association for the Advancement of Science. Address to the Botanical Section by Sir Daniel Morris, K.C.M.G., M.A., D.Sc., D.C.L., LL.D., F.L.S., President of the Section.

the beginning of the twentieth century came the rediscovery of Mendel's facts and the stimulating energy of the genetic school which has brought us an entirely new point of view in regard to the improvement of field crops.

Great importance is attached to the improvement of the sugar-cane, as the prosperity of many of our possessions depends upon it. Further, the requirements of this country approach something like two million tons per annum. The sugar-cane, although its origin is unknown, has been cultivated in tropical and sub-tropical countries from remote ages. Up to a recent date its propagation was purely vegetative, as it was supposed to have lost the power of producing mature seed. Occasionally by bud variation a new cane was obtained possessing special merit. For instance, at Barbados in 1903, a "sport" cane cultivated under normal conditions yielded at the rate of 8,070 pounds of sugar per acre as compared with 6,228 pounds yielded by the original cane. In Java, where the white Cheribon was practically the only kind grown, a red cane suddenly appeared. This was carefully multiplied by cuttings until a large area was planted, with the result that a greater tonnage of canes was raised per acre and the juice was richer.

Sugar-cane seedlings were observed at Barbados in 1858, but it was only in 1888 that Bovell and Harrison were in a position to utilise the discovery and obtain thousands of self-sown seedlings for experiment purposes. Similar seedlings were also available in Java about the same time. As about this period the standard canes in sugar-growing countries were showing signs of being severely attacked by disease the discovery of seedlings was a fortunate circumstance. In fact, in some cases it may be regarded as having probably saved the industry. A careful examination of the floral characters of the best varieties of sugar-canes disclosed the fact that in some cases the ovary was normal while the stamens were infertile. Advantage was taken of this circumstance to secure cross fertilisation by planting selected canes of each type in alternate rows. By this and other means, skilfully devised, several varieties of sugar-canes of great merit were raised.

The possibility of breeding sugar-canes by cross fertilisation under control on Mendelian lines has so far not proved practicable, partly on account of the enormous number of florets in the panicles and their microscopic character, but chiefly owing to the difficulty of manipulation in the field. Lewton Brain and Stockdale made careful experiments in 1903 and 1905, but the results in both cases were disappointing. In spite of this large numbers of seedling canes have been raised in cases where the seed-bearing parent only was known. In others neither parent was known. The results, on the whole, have not been unsatisfactory. Seedling canes in many cases have taken the place of the older varieties, while larger returns per acre have been obtained. Further, owing to careful selection there has been a marked diminution in the losses from the attacks of insect and fungoid pests.

In British Guiana it is reported that in the crop of 1918 seedling canes occupied 83 per cent. of the total areas under canes. Similar results have been obtained at Barbados, where Bovell has continued since 1888 in raising canes of great merit. Also in the Leeward Islands, and more or less in Trinidad and Jamaica. The best of the West Indian seedlings have been widely distributed to other countries. The general policy adopted by Harrison in British Guiana as the result of over thirty years' experience in cane selection is briefly summarised as follows: "We raise as many seedlings as we can from varieties of proved vegetative vigour, and select from those having both well-marked vegetative vigour and relatively high saccharine content." He adds: "The characteristics of seedling canes are not fixed, and in many instances characteristics which in the earlier years promised to make a cane of high quality, both in the factory and field, were the first to fail." Harrison's experience suggests a special line of research, *viz*., to ascertain the cause of the increase in vegetative vigour and yield that follows a first cross, only to disappear in later stages.

(To be continued.)

NOTICES OF BOOKS.

School Gardens.

OCCASIONALLY one is asked to recommend a gardening book for lads who are still at school, and the little book* by Mr. J. Norris seems very suitable for that purpose. It is written in simple language, and yet accuracy has not been sacrificed to simplicity of expression.

The subject matter is the cultivation of vegetables, fruit and flowers on the scale of a school or cottage garden, and there are chapters on the elementary principles and on propagation. There is also a Calendar of Operations and a Sowing and Planting Table. The illustrations are numerous and in most cases good.

As we have said, generally speaking, the book is accurate, but on page 76 an illustration is given of the galls caused by the Gall Weevil (Ceutorhynchus sulcicollis), and it is stated that they are due to the Cabbage Root Fly (Anthomyia brassicae). The word "syringing" is spelt wrongly whenever it occurs, and capitals are used indiscriminately in botanical names.

In spite of these little blemishes we would recommend the book as being very well adapted for youthful amateur gardeners, although not sufficiently detailed or advanced for adults.

National Afforestation.†

THIS book is more or less a review of the position of forestry and the timber trade in the British Isles at the present moment, and it repeats many of the arguments in favour of a national system of forestry that have been advanced on numerous occasions during the last generation. Amongst a great deal of useful information the author lays himself open to criticism in his introduction, for in his endeavour to force home his point on the small percentage of the acreage of the British Isles under timber and the annual value of imported timber his figures show considerable variation. Thus, on pp. 9 and 10 we find "and yet the sum total of our woodlands previous to the war was only 3,035,590 acres," and on p. 11 we read, "there are, perhaps, no exact statistics of the total quantity of standing timber we possess, but, according to the most reliable estimates, about 3,000,000 acres out of a total of 77,000,000 acres are wooded," and on p. 13 we find, "when we consider that the total area of woodlands in this country is only a little over 2,000,000 acres." We presume that the latter figure is the estimate of existing woods and the first figure the pre-war estimate, but the record figure, 3,000,000 acres, also appears to refer to the present position. On p. 11 we also read, "now, previous to the war, our annual imports amounted to fully £45,000,000," whilst on p. 10 we find that, "roughly speaking, our demands approximate 11,000,000 loads annually, the total value of which exceeds £33,000,000," and on p. 13, "we annually import over 10,000,000 tons of timber at a cost of £45,000,000."

There is an interesting chapter on the history of British woodlands, and other chapters of importance include tree planting by the State, formation of plantations, trees to plant, financial returns, schools of forestry and timber transport. The chapter on the cost of forming plantations is to be regarded for purposes of comparison rather than a guide to present cost, for it would be difficult at the present moment to estimate the cost of work to be carried out a few months hence. We are pleased to note that the author is in favour of a system of training for foresters which would include a proper period of apprenticeship, during which the apprentice would learn and actually perform the numerous duties attending a forester's calling. After this period the young man could, for a limited time, apply himself to the scientific or purely theoretical side of the question. Mr. Webster has suceeded in producing a very readable book and at the same time in making public the conclusions of a man who has spent a life-time at the work.

* *The School Gardener*, by J. Norris. 194 pp. Cassell and Co., Ltd., London. 2s.

† *National Afforestation.* By A. D. Webster. T. Fisher Unwin, Ltd., 1, Adelphi Terrace, London, W.C.2. 6s. net.

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Seasonable Notes.—With the shortening days the influence of the sun is not nearly so much felt as it hitherto has been, and therefore less shading will be needed. It is impossible to give any precise directions as to diminishing the shading at this season. The attention which the plants require in this respect should vary according to the genera to which they belong, the aspect of the house that accommodates them, and the arrangement of the plants. The roller blinds will only be required during the middle hours of the day to protect the plants from hot sun when it shines very brightly, and then they must not be allowed to remain down longer than is absolutely necessary. The aim of the cultivator should be to make the most of the sunshine during the next few weeks to thoroughly harden the season's growth of all Orchids, thus enabling the plants to pass safely through the winter, and lay the foundation for next season's flowering. Supplying water to the roots also requires much more judgment now than when all the plants are in active growth; Orchids cannot be treated collectively in this respect. The habits of the various kinds, the state of growth, and condition of each plant must be separately considered, and the treatment varied accordingly. Many of the larger, distichous-leaved Orchids are still growing freely and require plenty of moisture until the roots show, by the white film closing over the points, that their season of rest is at hand. After this less water will be needed until in winter, only sufficient should be given to keep both roots and foliage in a plump healthy condition. In the case of pseudo-bulbous Orchids that are now fast completing their season's growth, it is a mistake to withhold or lessen the water supply too suddenly, as the roots of many kinds are most active just when the new pseudo-bulbs are swelling. There should be less damping of the paths and bare spaces than hitherto as the present conditions of the weather promote good atmospheric conditions within the house. The longer nights and cooler atmosphere may necessitate the use of a little fire-heat in the cooler divisions, it being better to have a little warmth in the pipes and keep the ventilators open than to close the house without heat, as a saturated atmosphere, accompanied by a low temperature, is most injurious to the plants.

Odontoglossum grande.—Plants of this species are now in bloom, and, as the flower-spikes are produced when the pseudo-bulbs are partially developed, the supply of water at the roots should not be reduced till the latter are fully matured. Afterwards, while the plants are at rest, very little water will suffice to keep the pseudo-bulbs plump and the foliage healthy.

Trichopilia fragrans.—This Orchid is developing its flowers, and care will be needed to prevent slugs and snails devouring them. During this period it is a good plan to stand the plants clear of all others on flower pots inverted in saucers filled with water. After blooming the plants need a long rest, and during that period water should be sparingly applied to the roots. This and the last-named species should be rested in the cool-intermediate house.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Cucumbers.—Plants for mid-winter fruiting require frequent and careful attention in stopping and regulating the shoots. The growths should be trained thinly apart to allow of full leaf development, which is necessary for them to grow and fruit satisfactorily during the short, dull days of winter. If there is no immediate need for fruits, remove the young Cucumbers

as this will conserve the energy of the plants for later bearing, but in any case reduce the number as they set. It is advisable to plant winter Cucumbers in small beds, and then afford weekly or less frequent surfacings of fresh, sweet soil. By this treatment growth is not excessive at the start, nor do the plants dwindle down to straw-like stems before the winter is half over. Later batches now growing in small pots should be planted permanently as soon as possible. Bottom-heat for winter fruiters is indispensable. Soil of an adhesive character should not be employed, but a somewhat rich, turfy loam, mixed with a small quantity of leaf-mould and wood-ash; if the soil is of a poor nature, add a goodly portion of well-rotted manure, wood-ash and a little old plaster rubble. In gardens where insects troublesome to the roots abound, such as eelworm, the soil should be sterilised by steam. Keep the atmosphere humid by damping the bare spaces frequently, and ventilate the house freely on mild, sunny days. Clear water only should be used at the roots for some time to come.

Cucumbers in Frames.—With careful ventilation, a steady bottom-heat and sufficient atmospheric warmth, the plants will continue in bearing for some time to come. Stopping the shoots should be attended to regularly, and the foliage thinly disposed over the bed. Keep green-fly in check by fumigating or syringing with an insecticide. As the nights grow chilly, cover the lights with protecting material, but do not exclude daylight more than is absolutely necessary.

The Early Peach House.—Frequently this house is utilised for storing plants from out-of-doors until the time comes to make preparations for starting the trees. The foliage of the Peach trees being nearly matured, it may be detached by lightly brushing the trees in an upward direction with a new birch broom. Trees which require attention at the roots should receive such attention before the foliage is entirely removed from the trees, as the fresh roots will develop quickly provided a certain number of leaves remain. Trees which are in an unhealthy condition, owing to an unsuitable rooting medium, may be given a fresh lease of life by carefully lifting and preserving the roots and renewing the border with good loam of a medium character, to which is added sufficient broken plaster, wood-ash or burnt refuse to ensure perfect drainage. As Peaches and Nectarines require plenty of water when in active growth, a free passage of moisture through the soil is essential, or the latter will become sour from frequent copious waterings, more particularly if liquid manure from the farmyard is used. When replacing the trees lay out the roots at different levels up to within six inches of the surface, and not deeper than eighteen inches. Any thong-like roots should be notched at intervals, inserting a small piece of some hard material to keep the cut open. Usually bunches of fibrous roots eventually form at the notched parts, to the material benefit of the tree. The soil should be made quite firm and thoroughly watered to complete the operation.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Planting.—Beds and stations intended for the planting of choice and rare shrubs should be prepared forthwith. Having settled what is to be done, make a start and prepare as far as it is possible the sites in readiness for transplanting the plants as soon as it is safe for them to be removed. See that the drainage is perfect, and get ready sweet, suitable soil required for the different subjects. Many plants may be successfully removed late in spring, but early autumn is the best time for planting, as the land is still warm, and if the work is done carefully the plants grow much more freely in spring and require less watering in dry weather—sometimes experienced in May and June.

Climbing Roses.—Many Roses trained to poles and arches have flowered in great profusion this season. Now that the season is practically over, some amount of thinning is desirable to give the flowering shoots for next season a better chance to grow strong and become ripened before winter sets in. Carefully remove the oldest shoots entirely, leaving sufficient young wood to cover the trellises. Thin the weak, useless shoots freely, also the laterals where they are crowded. Keep the foliage free from insect pests, and water the roots if they are dry with liquid manure or Clay's fertiliser in solution.

Bedding Plants.—Bedding plants have, in most cases, done exceedingly well this season, but the bright display will soon be at an end seeing that frost has already occurred. In order to maintain the plants in good appearance for as long as possible go over the beds and remove all decayed foilage, flowers, and weeds. Trim away all straggling growths and preserve the outlines and margins of the beds to show off the different patterns. Keep all tall growing subjects securely fastened to their supports, especially standard Heliotropes and Fuchsias, as the wood of these plants is very brittle and readily snaps off near the ground level. All tender plants required for another year should be taken up and potted. If dry at the roots first water them and then lift them very carefully. Afterwards place the plants in a little warmth and sprinkle the foliage lightly on frequent occasions till the roots are established in the fresh soil. Heliotropes are amongst the first to suffer damage by frost. Fuchsias and Salvias also need attention in this respect.

Cuttings in Frames should not be allowed to suffer from want of moisture. When well-rooted admit more air, or remove the more forward and stand the pots near the roof glass on shelves, so that the latest inserted cuttings not well-rooted may still be kept close in the frames to hasten the formation of roots.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Cineraria.—Plants of Cineraria should be potted into 6 or 7-inch pots, in which they will flower. The compost should consist of three parts fresh loam, one part decayed leaf-mould with sand, dried dung, and a 6-inch pot full of artificial manure to each barrowful of the mixture. Pot firmly and, for the present, place the pots on an ash surface sprinkled with soot near the glass in a cold house or frame facing north When the plants are re-established, ventilate the house or frame freely and continue to grow them in as cool conditions as possible. It will be necessary, however, when frosty weather sets in, to remove them to a cool house, where fire heat may be used, but only when absolutely necessary. Cinerarias are subject to attacks of maggots in the leaves and a careful examination of the foliage should be made to destroy the pests, removing badly infested leaves entirely.

Begonia Gloire de Lorraine.—These useful winter-decorative plants should receive every attention to enable them to make healthy, clean growth. At the same time train the plants into a desirable shape and remove all flowers for the present. Keep the roots well watered, giving them liquid manure on frequent occasions, adding soot to the water. These plants thrive best in a low-roofed house or pit, near the roof-glass, in a moist atmosphere and a temperature of 70°.

Violets under Glass.—Let there be no delay in getting ready heated brick pits for the reception of Violet plants. Fire heat should only be used to counteract damp and during times of frost. The pit should be filled to a good depth with coarse open material for drainage, on top of which and near to the glass should be placed nine to twelve inches of good loam, sprinkling on the surface a little soot and artificial manure. Put the plants close to each other, and almost close to the glass. Give the roots a good watering, and shade the plants from sunshine for a few days, after which the lights may be removed, replacing them during cold, wet weather. Syringe the plants daily with clear water, and occasionally with an insecticide.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Watering Fruit Trees.—The rains have greatly benefited the trees, but in the case of wall trees the soil should be tested to see that the water has reached the roots. Much water is needed after a drought to thoroughly soak the soil. Trees carrying heavy crops should be assisted with copious supplies of manure water or some rich fertiliser.

Preparing Land for Fruit Plantations.—A depth of two feet of soil is necessary to grow good fruit, and whatever its formation it is better to trench the land and thus make it more porous. In trenching land for fruit it is not necessary to fetch the bottom soil to the top, but simply break it up and leave it below. A good dressing of lime is useful on heavy land, helping to make it work well. Clayey soil is better for being thrown up rough and exposed to the weather; if old lime rubble and wood ash are obtainable, they should be worked in freely. Light, sandy land should receive plenty of clay and manure, preferably strawy dung from cow byres, as this helps to retain the soil moisture. In preparing land it is no use half doing it if success is expected. In stiff lands, if the surface only is broken the roots will soon penetrate into the cold subsoil, and simply make strong growths. First see that the land is drained to a depth of two to three feet and the soil well broken up before planting time. It is a good plan, in the case of very heavy soil, to burn a lot of the clay and spread it amongst the rest. But the best plan for Apples and Pears planted in solid clay is to make holes six to eight feet across and four to five deep and fill them with fresh soil ready mixed. In this case a drain should be taken from the bottom of each hole and broken rubble used for drainage.

Drought and Fruit.—Where trees have not been watered, the drought has affected the crops of some varieties more than others. Apples Warner's King and Ecklinville Seedling have both stood the dry weather well. Of the early varieties, Red Victoria and Lord Grosvenor have suffered and more especially in the case of trees that have not been mulched. This season has shown the great value of mulching; trees supplied with heavy surface coatings of dung are carrying heavy crops, and have not ripened their fruits so early as those not mulched.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Beetroot.—Many Beetroots are large enough for pulling. It is a capital plan to go over the bed carefully and draw only those that are large enough, leaving the small and transplanted ones to grow for some time to come. Beet will continue to grow until November, when they should be harvested and stored in dry sand. When pulling the roots remove the tops with a sharp twist. If the weather is fine at the time, the roots may be placed direct into wheelbarrows and stored, thus saving much valuable time and exposing the tender roots to much less handling.

Late Peas.—The plants are podding extremely well this season on heavy soils, and are still flowering freely. It will be well, at this date, to stop every lead to throw all the energies of the plants into the embryo pods as it is seldom that blooms after this date form perfect pods. Should the weather continue dry watering the roots will still be very beneficial.

Marrows.—Where Vegetable Marrows have not been injured by frost, they are showing strongly at the moment and should receive every attention in such matters as watering, stopping all leading shoots and cutting away worthless growths.

Brussels Sprouts. — Sprouts become very crowded with growth at this season, therefore it is well on a fine day to pull all the basal leaves off and remove them to the rubbish heap. It will benefit the young sprouts immensely, allowing the air to circulate freely about the plants. The lower sprouts sometimes grow loose and coarse, and these should be used first.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 54.48°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Sept. 24, 10 a.m.: Bar. 29.8; temp, 51°. Weather—Slight mist.

The Land Settlement Bill and Allotments. Those who predicted that the war-time fervour for allotment cultivation was likely to abate as soon as peace came have so far no reason to claim success as prophets. No doubt the present season has tried the allotment holder severely, but those who held on have been rewarded by a more propitious end of the year, and in any case it appears to be abundantly clear that the average allotment holder's motto is "What I hold, I hold fast." The Board of Agriculture, recognising that it is their duty in the national interest to give all the facilities possible to the allotment movement, have made provision in the Land Settlement (Facilities) Act of 1919 for the easier acquisition of allotment land, and, as indicated in their circular letter to the London County Council and the councils of boroughs, metropolitan boroughs and urban districts, have strengthened very considerably the powers of councils to acquire land compulsorily and to obtain vacant possession of land by agreement. For three years from the passing of the Act orders made by councils for compulsory purchase or hiring of land for allotments will not have to be confirmed by or receive the assent of the Board except where the land is subject to rights of common, or where it forms part of a park or home-farm.

At any time after a council has served notice to treat, the council can enter in and take possession of land—leaving the amount of compensation to be settled later. If, however, there is a dwelling house on the land, and the notice is less than three months, the occupier of the house may appeal to arbitration.

As the circular—the reference number of which is CL 204/c.6—points out, these provisions should enable councils, in the generality of cases, to satisfy all local demands for allotments, and to satisfy them without delay. Where—in the immediate neighbourhood of towns—the capital value of land is too high to allow of purchase, councils are advised to hire the land required for allotments, and to make use of their compulsory hiring powers where they fail to hire by consent. A council can hire land compulsorily for a period of not less than 14 years and not more than 35 years, and the hiring can be renewed under Section 44 of the Small Holdings and Allotments Act, 1908, for a further period of not less than 14 and not more than 35 years; the rent to be paid in the first instance by agreement, or failing agreement by arbitration. Thus councils may obtain a perpetual tenancy at a fair rent, which rent cannot be varied as the result of the council's own improvements and without regard to any prospective value the land may possess for building, mining or industrial purposes; but subject to the landlord's right of resumption if he satisfies the Board that he requires the land for these purposes. The former exemption from compulsory acquisition of holdings of 50 acres or less is repealed by the new Act, and councils, provided they are satisfied that such a holding is not the principal means of livelihood of the occupier, may acquire it compulsorily. The statutory duty of borough and urban district councils conferred upon them by the Small Holdings and Allotments Act, 1908, only empowered them to acquire allotments for the labouring population. The present Act extends these powers on behalf of all sections of the community. It also makes the duty absolute and not contingent on failure of would-be allotment holders to procure allotments by agreement with owners of land.

If a borough or urban district council fail in satisfying the local demands for allotments, the County Council may act in their default, and failing the County Council the Board may transfer the powers to their Small Holdings Commissioners. The new Act also requires the allotment authority to provide allotments not only for individual allotment holders, but also for allotment associations, to which land so acquired may be let or sold. Borough and urban district councils are authorised under the new Act to promote the formation and extension of co-operative allotment societies. Councils may also, with the co-operation of the Ministry of Health, make grants or advances to co-operative allotment societies, and may borrow money for the purpose.

Furthermore, if the local authority is of opinion that an allotment society cannot obtain facilities for the purchase of material or the disposal of their surplus produce from a co-operative society, the council can itself purchase fruit trees, seeds, plants, fertilisers, or implements required for allotments, and may sell them to holders, or in the case of implements let them for hire.

The recognition that allotments will be permanent and conspicuous adjuncts to towns is implicit in the new and, we think, better title used in the circular "garden allotments." Hitherto the uncertainty of tenure has, in part, contributed to the general neglect to impart any amenities to groups of allotments; with permanent garden allotments there is no reason why they should not be pleasing as well as productive.

On page 171 we print the circular in full. Its terms deserve to be studied carefully by everyone.

Lecture on the Paradise Stock.—At the Royal Horticultural Society's meeting on October 7, Mr. E. A. Bunyard will lecture on "The History and Botany of the Paradise Apple Stocks," and not on "The Winter Study of Fruit Trees" as announced in the Society's Book of Arrangements.

The Society of the Four Northern Counties Fruit Show.—This society will hold a fruit show and congress in the Drill Hall, Hexham, on Friday and Saturday, October 3 and 4. The show will be opened on October 3 by the Countess Grey, and prizes to the value of £90, including three silver cups and a fruit bowl, will be offered. The congress programme includes lectures on various subjects by several well-known horticulturists, and a special exhibition of bottled fruits and vegetables. Schedules of prizes and other information may be obtained from the Hon. Secretary, Mr. H. G. Lloyd, 24, St. Wilfrid's Road, Hexham.

National Seed Testing Station.—Owing to the great success of the National Seed Testing Station, founded by the Board of Agriculture, it will be necessary shortly to remove the Station from 72, Victoria Street to larger premises at Streatham Hill. Pending further notice, however, samples should still be sent to 72, Victoria Street, S.W.1.

The National Eggs and Poultry Distribution Scheme.—In 1916 the Board of Agriculture made arrangements for the distribution of sittings of eggs, day-old chicks, and adult stock birds, to small holders and cottagers. The scheme has been worked through egg-stations, which sent out sittings from January to May; Day-old Chick Stations distributing chicks between February and June; and Incubating Stations, from which eggs, chickens and stock birds could be obtained. The egg and chick stations are selected annually for seasonal work; the incubating stations are more permanently established for work throughout the year. The scheme has done very valuable work, and it is now proposed that local authorities should take it over as a part of their activities in agricultural education, two-thirds of the cost being borne by the Board of Agriculture. There are 156 egg stations, 3 chick stations, and 4 incubating stations; these last are in Anglesey, Cornwall, Cheshire and Denbigh. Approximately 53,000 eggs and 3,000 chicks have been distributed at reduced rates, the premium to station holders being 1s. 8d. per dozen for eggs and 3s. 4d. per dozen for chicks.

Meetings of the R.H.S. Orchid Committee.—At the meeting of the R.H.S. Orchid Committee on Tuesday last Sir Harry J. Veitch informed the members that their recommendation as to the holding of meetings of the Orchid Committee at the Society's special exhibitions in the autumn (see *Gard. Chron.*, September 20, 1919, p. 154) had been placed before the Council who decided that, although it was impossible to make fresh arrangements for this season, they would, when again in possession of the Vincent Square Hall, grant the required facilities at similar shows in the future.

R.H.S. Hall, Vincent Square.—The Australian authorities will shortly be vacating the Royal Horticultural Society's Hall, in Vincent Square, Westminster, and the building will be available for the fortnightly meeting on October 21. The autumn fruit show will be held in the Drill Hall of the London Scottish, Buckingham Gate, Westminster, as arranged.

Publications Received. — ***The Allotment Holders' Guide for the Year.*** By Lewis E. Bailey. ***The Journal of the Board of Agriculture.*** August, 1919. London: The Board of Agriculture and Fisheries. Price 4d. ***Symon's Meteorological Magazine.*** August, 1919. London: Edward Standford Ltd., Price 4d. ***The British Fern Gazette*** June, 1919. Kendal. The British Pteridological Society. ***Women's Institute Leaflet.*** Circular No. 19. Ontario Department of Agriculture. ***The Apple Maggot.*** By L. Cæsar and W. A. Ross. Bulletin 271. Ontario Department of Agriculture. ***Judging Vegetables.*** By A. H. McLennan. Bulletin No. 270. Ontario Department of Agriculture. ***On the Technology and Anatomy of Some Silky Oak Timbers.*** By R. T. Baker. Reprinted from the Journal and Proceedings of the Royal Society of N. S. Wales. ***Report of Agricultural Department, St. Kitts-Nevis.*** Imperial Department of Agriculture for the West Indies. Price 6d. ***Flowering Trees and Shrubs for Use In South Africa.*** By. T. R. Sim, Pietermaritzburg, Johannesburg. The Speciality Press of S. A. Ltd. ***The Orchid Review.*** July—August, 1919, Double Number. Kew: Frank Leslie and Co. Price 1s. ***Science and Industry*** July, 1919. Melbourne Commonwealth Institute of Science and Industry. ***Fruit Plots and Demonstration Allotments.*** Education Committee of the Warwickshire County Council. Annual Report for the year ending March, 1919.

POTATOS IN SCOTLAND.

In many of the best Potato-growing districts of Scotland crops will be very light on account of drought. I recently spent a holiday on Deeside where the rainfall had been under one inch for three months. I think it safe to say that early varieties will not be more than half a crop in the aggregate and, consequently, high prices are demanded by growers (farmers), and they cannot be blamed. It takes 15 to 20 cwts. of Potatos to plant one acre, and if the return is only three to four tons how can prices be low? Something approaching £60 per acre must be realised to pay expenses. That means £20 per ton for a start without showing much of a profit to the grower. £25 per ton wholesale is being freely asked by growers for Edzell Blue, Midlothian Early and Duke of York, and I fear seed merchants will have to pay prices approaching that figure. Eclipse and Sharpe's Express can be bought for less, but Witch Hill and Resistant Snowdrop cannot be purchased at all, holders of these not being sellers at present. Dargill Early, which has been found to have one or two synonyms, has not yet been quoted. This variety is not so early as its name would indicate, but, being resistant to Wart disease and a good cropper, it will be in demand. The Government has a good supply of Dargill Early in its own hands for distribution in England. "America" is said to have changed hands at a fabulous price per ton, but its behaviour has been erratic. Among second earlies Arran Comrade has made a great reputation. It was offered last year for the first time and a growing acre of it was recently sold for £500, and another for £300. It is a first-class variety, I think, and it will be well worth securing a small quantity of it even at a high price. It is yet too early to speak about late varieties with confidence. Many of them look well, especially in the West and North of Scotland. Majestic is giving excellent crops in some parts, and the tubers are of a much more useful size than in the past two seasons. I lifted a root in my garden recently which had 50 tubers, and beyond having a wide drill in which to grow, the plant had no special treatment. Kerr's Pink and Tinwald Perfection both promise well, and Great Scot (second early) is first-rate. I have not seen any blight in Scotland this season, but many farmers have been busy spraying. I recently spent a day on a farm where my firm is interested in over 100 acres of Potatos for seed, and the farmer was spraying 15 to 20 acres per day. He was using Burgundy Mixture—20 lbs. sulphate of copper and 10 lbs. alkali to 60 gallons of water per acre. His foreman had a book of litmus paper in his vest pocket and frequently tested the mixture. A Fleming's Sprayer was used, which did five drills at a time, two nozzles working below and one above each drill. Four horses and five men are employed to spray 20 acres per day, two men and two horses carting water; one man and two horses (tandem) in the sprayer and two men preparing the mixture in barrels. A striking fact in the Potato world is the concentration on varieties resistant to Wart disease by far-sighted growers. *W. Cuthbertson, Duddingston, Midlothian.—Sept.* 13.

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante pp. 64-70.)
(*Continued from p.* 156.)

ENGLAND—SOUTH WEST.

Gloucestershire.—We had a bad plague of caterpillars but the trees are clearer of these pests where poultry had a free run; we banded all our trees with Tanglefoot. Big bud is not so bad on Black Currants as in some previous seasons, but the fruit was thin. We had a good crop of Gooseberries, but these fruits were scarce generally in the district. *J. Osmond, Ebrington Hall Gardens, Ebrington, Campden.*

—— The early promise of exceptional crops has not been fulfilled, but the fruit crops on the whole should be good. Caterpillars have done serious damage in some of the plantations but orchard trees on grass have not suffered so much. *G. H. Hollingworth, Shire Hall.*

—— Trees of May Duke Cherries flowered profusely, but they dropped their fruit on account of drought. We had a most bountiful crop of Strawberries of good quality. Black Currants showed signs of injury by drought; the foliage turned yellow and some of the berries dropped. The Apple crop is the best I have known here for years—caterpillars were very prevalent and would have done much damage had I not persisted in spraying with arsenate of lead. Pears are a light crop. The special feature here is a good crop of Apples. All fruit trees flowered remarkably well, with the exception of Pears. *John Banting, Tortworth Gardens, Falfield,* main, Rymer, Loddington, Wealthy, Seaton House, Warner's King and Worcester Pearmain. The trees are healthy. Pears are an average crop and good, and the trees healthy. Plums are a light crop, the only sorts bearing freely being, Rivers' Prolific, Victoria, Pershore, and Belgian Purple. Strawberries were numerous, but very small in the berry owing to continued drought. *Thos. Spencer, Goodrich Court Gardens, Ross.*

—— Apples were thinned by the drought, and there is much damage in places with insect pests. Pears in places are much thinned owing to damage by the Pear midge, also perhaps drought has had some effect. Czar, Rivers' Early Prolific, Pershore, and Victoria, are the best cropped Plums, but the crop is very variable in places and some trees had hardly a single fruit. Gooseberries and Red Currants were both good. Black Currants "run off" a good deal. Damsons are a very poor crop. *Dr. H. E. Durham, Dunelm.*

Fig. 78.—Montbretia His Majesty.
(See Awards by the R.H.S. Floral Committee, p. 168).

Hereford.—Apple trees dropped their fruits, and by all appearance there will not be more than a half crop of these fruits. Cider and jam Apples in orchards are more plentiful, being about an average crop. Apricot trees flowered well but the flowers dropped owing to north-east winds. Strawberries looked very promising in the early stage, but owing to prolonged drought the fruits did not swell, and many of the late flowers were blind. *F. Roberts, Stoke Edith Park, Hereford.*

—— Apples are under an average crop. Varieties carrying good crops are, Adam's Pearmain, Bramley's Seedling, Beaumann's Red Reinette, Charles Ross, Dutch Mignonne, Frogmore Prolific, Lane's Prince Albert, Lord Derby, Lord Grosvenor, Lord Suffield, Mannington Pear-

Monmouthshire. — Fruit trees generally blossomed freely, but the fruits set unsatisfactorily owing probably to the dry weather, accompanied by cold winds. Small fruits generally were good crops. Gooseberries especially were very fine. Strawberries were plentiful but smaller than usual, owing to the dry weather, and through want of labour they could not be watered. Standard Apple trees are generally carrying better crops than are bushes, and pyramids being deeper rooted have not suffered to the same extent from the drought, though all

kinds of Apple trees are dropping a portion of their crop. *Thos. Coomber, The Hendre Gardens, Monmouth.*

WORCESTERSHIRE.—The Apple crop is very satisfactory; trees of some varieties such as King of the Pippins, Bismarck, Lane's Prince Albert, Norfolk Beauty, Lord Suffield, and Charles Ross are carrying very heavy crops. Pears are also clean and healthy and look very promising. Plums are a fair crop on some trees and others are poor. Strawberries were of good quality. Gooseberries were also a very heavy crop. The value of spraying with arsenate of lead was never more evident as three trees in these gardens that were not sprayed are almost bare of fruit and foliage. *Ernest Avery, Finstall Park Gardens, Bromsgrove.*

—— Strawberries have been a fine crop generally, and other small fruits were plentiful. Apples are a partial crop, some varieties are well cropped, others poorly. Pears are a partial crop, many trees are bearing a fair number of fruits, others none. The same remarks apply to Plums. *James Udale, 7, Ombersley Road, Droitwich.*

—— We should have had a record crop, but for the prolonged drought. Blenheim Pippin Apples are a bountiful crop. King of the Pippins, which bear in alternate years here, is but a moderate crop. Pears are fairly plentiful on some varieties, other sorts have but few fruits. Pershore Plums are again the best cropped variety. Magnum Bonum and Prolific are also satisfactory. Strawberries were very poor owing to drought. Red, Black, and White Currants were of good size. Some sorts of Gooseberry bushes were very heavily laden with fruit, others had but scanty crops. Apricots are practically a failure. *Thos. Walkins, The Grange Gardens, Claines.*

—— The Apple crop is a somewhat partial one. Apples are plentiful in some places and light in others. Pear trees blossomed well, but were badly attacked by Pear midge (Diplosis pyrivora) which has much increased of late years and is found in the very smallest of gardens. Apples also suffered badly by attacks of the winter moth and also the Apple-blossom weevil. Plums are an enormous crop in most places, and there were huge crops of Sweet Cherries on large plantations in the district, realising very remunerative prices. Strawberries were a failure owing to the long drought, which set in early. Small fruits, including Raspberries, Currants, Gooseberries and Loganberries were abundant and good. *William Crump, Oakridge, Malvern Link.*

(To be continued.)

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

The Land Taxes.—It is important to horticulturists that the strongest possible evidence should be placed before the Select Committee on Land Value Duties to show why horticultural land should be entirely exempted from the present burden of undeveloped land duty and increment value duty. Might I therefore urge all growers to forward as soon as possible to the secretaries of their respective trade associations all instances of hardship in the incidence of these taxes? The secretaries of those associations which are members of the Chamber of Horticulture will shortly be invited to attend a joint conference in order that the evidence to be given before the Select Committee on Land Values may be thoroughly prepared in suitable form and overlapping thus be prevented. It is absolutely essential that horticulturists should present a strong and united front. *H. Morgan Veitch.*

Onion Fly on Leeks.—This year for the first time in my experience I have had a little trouble with Anthomyia ceparum on the base of the plants of seedling Leeks, which attacked the seedlings while still in boxes, and presumably the attack took place just after the boxes were stood outside, preparatory to planting. The variety attacked was Champion. Since then I have been comparing notes with a well-known cultivator who had a similar experience. The varieties attacked were International Prize and Champion, whereas the plants of Musselburgh Leek were free from the pest. It would be interesting to know whether the Onion Fly has recently extended its depredations to Leeks, or had done so in former years. *J. F.*

Michauxia campanuloides (see p. 152).—I was greatly interested in Mr. S. Arnott's article on the above plant. While at Bicton, Devon, I succeeded in producing a good specimen one season similar to that illustrated on page 152, and was so impressed by its beauty that I purchased half-a-dozen young plants, planting them in well-prepared soil close to where the first specimen did so well. It was a sheltered position, having a south-east aspect with a wall eight feet high some ten feet from the plants, yet all of them succumbed during the ensuing winter, although the roots were well mulched with half-decayed leaf soil. I secured seed from the plant that did so well, but all failed to germinate. This is the only plant in flower that has come under my notice, yet it is, as your esteemed correspondent says, a plant worthy of more attention than has been accorded to it by our garden enthusiasts. *J. Mayne, Eltham.*

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 23.—This Society's vegetable show, held on Tuesday last in the Drill Hall of the London Scottish, Buckingham Gate, Westminster, provided many gardeners with an opportunity of entering once more into friendly competition. The show was a good one, and it was very well attended. In addition to the vegetables there were fine exhibits of fruit and of fruit trees in pots, of ornamental trees and shrubs, Orchids, Dahlias, Chrysanthemums, Roses and hardy border flowers in variety. The chief novelty on this occasion was the very fine new Montbretia named His Majesty, raised and exhibited by Mr. SYDNEY MORRIS.

Floral Committee.

Present: Messrs. H. B. May (in the chair), John Heal, John Green, H. J. Jones, E. H. Jenkins, S. Morris, W. J. Bean, R. C. Notcutt, H. Cowley, W. Thomson, C. Dixon, J. Dickson, J. W. Moorman, J. W. Barr and A. Turner.

FIRST-CLASS CERTIFICATE.

Montbretia His Majesty (see Fig 78).—A glorious new, free flowering, large variety, and by far the finest sort that has yet appeared. The centre of the flower is clear yellow, and this shades into brilliant crimson scarlet, the latter colour being densest at the tips. Mr. Morris is to be congratulated upon achieving so great a success. Shown and raised by SYDNEY MORRIS, Esq. (gr. Mr. Henley), Earlham Hall, Norwich.

AWARDS OF MERIT.

Chrysanthemum Shrapnel.—A showy single variety, with shapely flowers of a bright orange terra-cotta shade. Shown by Mr. A. W. THORPE.

Montbretia Una.—A beautiful variety, with finely formed flowers of good size and excellent substance. The centre is clear yellow, and this colour shades into deep crimson scarlet, the latter tone being deepest at the tips of the broad segments. Shown by Mr. SYDNEY MORRIS.

Ornamental Crab Golden Gem.—A pretty shrub or small tree which probably may claim descent from the John Downie Crab. It fruits very freely, and its small waxy-yellow fruits are borne freely in small clusters all along the branches. It is a decidedly ornamental shrub, either in flower or fruit. Shown by Messrs. J. CHEAL AND SONS.

Aster Mons.—A showy Michaelmas Daisy of the Novae-Belgii section, bearing rich rosy-red flowers on tall stems. Shown by Mr. W. WELLS, junr.

GROUPS.

Delightfully fragrant was the charming exhibit of Roses arranged by Mr. ELISHA HICKS, who had Ophelia, Joanna Bridge, Lady Hillingdon, and Miss May Marriott in good form for the season (Silver Flora Medal). The Rev. J. H. PEMBERTON'S Roses were much admired, and he showed Pax, Prosperity, and Vanity in some quantity (Silver Banksian Medal).

A very interesting group of large sprays of Rose hips was put up by Mr. J. C. ALLGROVE; all were finely fruited, and the principal species were Rosa Moyesii, R. setipoda, R. pomifera, R. rugosa rubra, and R. Fargesii, with its hairy fruits (Silver Banksian Medal). Messrs. J. CHEAL AND SONS staged fruiting shrubs, notably Cotoneaster Dielsiana; Transcendent and John Downie Crabs, a new seedling Crab named Golden Gem, Pyrus prunifolia coccinea, P. Sargentii, bearing Red-currant like fruits in quantity, and Prunus Padus serotina freely fruited. The same firm contributed a collection of Phloxes and Michaelmas Daisies (Silver Banksian Medal). Messrs. J. PIPER AND SONS exhibited the distinct silver-grey Senecio Greyii, Berberis Wilsonii, and Caryopteris Mastacanthus (Bronze Banksian Medal).

Clematis in flower and tree Ivies in variety were submitted by Mr. L. RUSSELL (Silver Banksian Medal). Messrs. H. B. MAY AND SONS contributed Veronicas in pots and a great variety of Ferns, with a few Rex Begonias—the latter are rarely seen at shows nowadays (Silver Banksian Medal). Nerina Fothergillii Major was well shown by Messrs. R. and G. CUTHBERT, in association with Lilium lancifolium rubrum (Silver Banksian Medal). Messrs. WILLIAM CUTBUSH AND SON exhibited a selection of Pentstemons and hardy border flowers (Bronze Flora Medal).

Messsr. ALLWOOD BROTHERS staged a few perpetual Carnations and a conspicuous variety was the orange-yellow Marion Wilson; the firm also showed flowering their Allwoodii hybrid Pinks in a variety of colours (Silver Banksian Medal). Mr. G. REUTHE showed Colchicum speciosum, Crinums, hardy Cyclamen, Heaths in variety, Gentiana sin-ornata, Lapagerias, Rhododendrons, and a few blooms of Kirengeshoma palmata (Silver Banksian Medal).

Dahlias were extensively shown by Messrs. CARTER PAGE AND CO., but the recent cold weather had reduced their display; the useful cactus variety Amos Perry was a feature of this exhibit (Bronze Flora Medal). Mr. TRESIDER was awarded a Bronze Flora Medal for Dahlias. Mr. KEITH LUXFORD had a bright exhibit of perpetual Carnations and such early Chrysanthemums as Countess, Sanctity, Mercedes and Cranford Pink (Silver Banksian Medal). Mr. A. W. THORPE'S early Chrysanthemums were very attractive, especially his varieties Harry Thorpe, Lichfield Purple, Shrapnel and Dick Barnes (Bronze Flora Medal).

Dahlia Committee.

Present.—Messrs. H. B. May (in the chair), John Green, J. B. Riding, C. H. Curtis, J. A. Jarrett, A. Turner, W. Tresider, H. J. Jones, W. B. Crane and E. H. Jenkins.

This joint committee of the R.H.S. and National Dahlia Society met to adjudicate upon no fewer than one hundred and two novelties. The following varieties gained the R.H.S. Award of Merit and also the N.D.S. First-Class Certificate.

Matilda.—A showy collarette variety of good size and form. The ground colour is creamy yellow, but the broad segments are heavily stained with deep and bright rose red. Shown by Messrs. J. BURRELL AND CO.

Arethusa.—A large decorative variety, but its big flowers are borne on stiff stems. Both for decorations and for garden effect it should become popular as the colour is a clear shade of soft sulphur yellow. Shown by Messrs. J. BURRELL AND CO.

Dictator.—A huge decorative variety with broad segments. The centre of the flower is fawn coloured, but this shades into deep rose towards the ends of the outer segments. Shown by Messrs. J. BURRELL AND CO.

Satyr.—A very large decorative variety of the Souvenir de Gustave Douzon type. The stems are sufficiently stiff to support the flowers. The colour is crimson red shading to soft red at the apices of the broad segments. Shown by Messrs. J. BURRELL AND CO.

Chrissie.—A lovely deep rose pink coloured decorative variety of medium size and fine form. Shown by Messrs. J. Burrell and Co.

Anak.—A big decorative variety and its name suggests its great size. The colour is rich deep scarlet. A very effective Dahlia, with stiff stems. Shown by Mr. J. T. West.

David.—A large decorative variety of very fine form. It has distinct colouring, the shade being bright and rich mauve. Shown by Mr. J. T. West.

Mrs. A. Harvey.—An elegant cactus variety of excellent form and attractive colouring; light pink, salmon tinted, and with buff centre. Shown by Messrs. J. Stredwick and Son.

Robin.—A beautifully - formed decorative Dahlia and its flowers are carried on long stems. The colour is a rich deep rose. Shown by Messrs. J. Stredwick and Son.

Harmony.—A handsome Paeony-flowered variety, broad petalled and large. The colour is soft cream-white. A very effective and useful Dahlia. Shown by Messrs. J. Stredwick and Son.

Star of Anerley.—A bold collarette variety of good size. The segments are broad but are sharply pointed. The colour is deep crimson scarlet, and the collar is white, stained and flamed with deep red. Shown by Mr. J. A. Jarrett.

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. James O'Brien (hon. secretary), A. McBean, W. Bolton, Gurney Wilson, W. H. Hatcher, S. W. Flory, J. Charlesworth, J. Wilson Potter, R. A. Rolfe, R. Brooman White, E. R. Ashton, and Fred Sander.

Award of Merit.

Cattleya Aneas var. Rex (*Venus × Dowiana aurea*), from Messrs. Flory and Black, Slough. A very pretty and finely formed Cattleya, following the large-lipped type of C. Venus, the form being like that of C. Dowiana. The centre of the well-formed lip is rich yellow, the margin purple.

Other Exhibits.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver Flora Medal for a very interesting group, including a novelty named Odontoglossum Ducris (Duvivierianum × crispum), with greenish white sepals and petals evenly spotted with red-brown, and white lip, blotched with rose. The good selection of hybrid Cypridpediums included C. Earl Egerton, a good form, and a number of C. niveum and C. Godefroyae crosses, the body of the group being of hybrid Cattleyas and Laelio-Cattleyas; the interesting species included the pretty little Kefersteinia laminata and Nanodes Matthewsii.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an excellent group of hybrid Cattleyas, Laelio-Cattleyas and other showy hybrids. New hybrids were shown in Cattleya Eva (Fabia alba × Countess of Derby), white, with purple lip and gold veining, and Brasso-Cattleya Luegmann (C. Luegeae × B.-C. Mrs. J. Leemann), a large pink flower, with the central part of the lip coloured deep orange.

Messrs. Flory and Black, Slough, were awarded a Silver Banksian Medal for a group of Brasso-Cattleyas and Cattleyas. B.-C. Morna superba is a grand rose-coloured flower; B.-C. General Diaz, self pink, is very pretty and distinct; Cattleya Mrs. J. Ansaldo var. Lemoniana, with lemon yellow flowers, having Tyrian purple lip; and Sophro-Laelio-Cattleya Hanningtonii, a good yellow variety, tinged with rose, and having a claret coloured lip.

Mr. C. F. Deanlands, Balcombe, was awarded a Silver Banksian Medal for a group of hybrid Cattleyas and Laelio-Cattleyas.

G. W. Bird, Esq., Manor House, West Wickham (gr. Mr. Redden), showed Odontoglossum Dunkerque var. Violacea (Harryanum × Thompsonianum), a purple-flowered hybrid with mottled rose-coloured lip, which the Committee decided was an Odontioda; also Cattleya Freya Manor House variety (Dowiana × Mantinii).

Messrs. Stuart, Low and Co. sent Sophro-Laelio-Cattleya Edie Taek (S.-L.-C. bletchleyflora × C. Leda), one of the prettiest of its class. The flower is of good shape and flatly arranged; the colour is clear apricot yellow, slightly tinged with rose, the centre of the lip being yellow and the front violet-purple.

J. Ansaldo, Esq., Rosebank, Mumbles, showed Cattleya Sybil var. Lena (C. Dowiana × C. iridescens), a handsome chrome-yellow flower, with violet-purple front to the lip; Cattleya Kienastiana Rosebank variety and a flower of the new Laelio-Cattleya Gothlab (L. C. St. Gothard × C. labiata).

Fruit and Vegetable Committee.

Present: Messrs. A. H. Pearson (chairman), W. Poupart, Owen Thomas, W. Bates, W. E. Humphreys, Wm. Pope, G. F. Tinley, P. A. Tuckett, Geo. Woodward, F. Jordan, A. W. Metcalfe, J. G. Allgrove, F. G. Treseder, H. Markham, J. George Woodward, A. Bullock, G. P. Berry, W. H. Divers, E. A. Bunyard, H. S. Rivers, J. Harrison and W. Wilks.

Mr. W. Pope, Welford Gardens, Newbury, exhibited a new Apple, Welford Beauty, which had been before the Committee on a previous occasion and received a provisional Award of Merit, to be confirmed subject to a satisfactory report on the tree after it had been inspected by members of the Committee. It was decided to confirm the Award on this occasion provided the members who inspected the tree had no objections to offer. The fruit is very handsome, of large size and of good quality.

Messrs. T. S. Rivers and Sons, Sawbridgeworth, exhibited excellent pot trees of Plums, Apples, Pears, Figs and Grapes. The Plum trees were excellent and very freely cropped, the more notable varieties being President, Coe's Golden Drop, Coe's Violet and Late Orange. Equally good were the trees of Cox's Orange Pippin and Wealthy Apples and Conference and Fondante de Thirriot Pears (Silver-gilt Knightian Medal).

Messrs. Laxton Bros., Bedford, made a very attractive exhibit with hardy fruits, using Ferns, Palms and other greenery with good effect as foils. In addition to excellent samples of such standard sorts as Lane's Prince Albert, Stirling Castle, Rival, Cox's Orange Pippin, Wealthy and Bramley's Seedling, there were several new Apples raised by the firm, notably Bedford Pippin, Beauty of Bedford and The Premier. The exhibit also included some very good Pears (Silver Knightian Medal).

Messrs. George Bunyard and Co., Ltd., Maidstone, again contributed an exhibit of hardy fruits. Messrs. Bunyard are to be commended on their efforts to add to the interest of the meetings by these displays which, although not over large, include some of the most useful hardy fruits in season at the dates of the respective shows, whilst in all cases the quality is of the highest order. The Committee marked their appreciation of these interesting and educative exhibits by the award of a Silver-gilt Banksian Medal. Messrs. Sutton and Sons, Reading, were a awarded a Silver Knightian Medal for an exhibit of Beans. Their Runner Beans Prizewinner, Best of All and A1, were all exceedingly good, one pod of the first-named having a length of 18 inches. Near by, and in contrast, was a dish of the old common Scarlet Runner with pods only a few inches long. Others that called for special notice were Sutton's Scarlet, which is one of the freest croppers amongst Runner Beans; Climbing Haricot and Princess of Wales, the last a remarkably fine type of the French climbing Bean.

Messrs. Dickson and Robinson, Manchester, exhibited a very comprehensive selection of Onions. Pride of place was given to their large variety Premier, and the bulbs of this sort were of the fullest exhibition size. A good solid Onion was seen in Royal Keeper, one of the flat-shaped varieties. There were also excellent bulbs of Ailsa Craig, Flat Red, Intermediate, Rousham Park, Denver's Yellow, A1 and others (Silver-gilt Banksian Medal).

Competitive Vegetable Classes.

The exhibits of vegetables occupied considerable space, and much excellent kitchen-garden produce was shown. There was only one exhibitor in the premier collection class, and the 1st prize was awarded to Mr. J. T. Kelly, Claremont Gardens, for a superb collection, which was the object of much envious admiration on the part of visitors. Mr. Kelly was a very successful competitor in various other classes, his exhibits illustrating very high culture. Mr. H. Wheeler, of Wenvoe Castle Gardens, staged many wonderfully fine Onions, and he won prizes for other vegetables. Exhibits were not so numerous as in some former years, but competition was very keen in certain classes. Potatos, which generally are not of especially high quality this year, were excellent. Beans of all kinds, Celery, Onions, Leeks, and all roots reached a high standard of merit. As already stated, the only exhibit of a collection of 12 specified kinds of vegetables was shown by Mr. J. T. Kelly, Claremont, Esher. It was a collection in which each item seemed to have attained the highest possible summit of perfection, though special mention must be made of the Ailsa Craig Onions, New Red Intermediate Carrots, Superb Pink Celery, and Gladstone Peas.

Competition was very good in the second class, which required 9 distinct kinds also to be selected from a published list. The first prize was won by Mrs. Jenner, Wenvoe Castle, Cardiff (gr. Mr. M. H. Wheeler). The dozen Premier Onions were as near perfection as possible, while exhibtion Runner Beans and Gladstone Peas were also excellent. Second, W. H. Myers, Esq., Swanmore House, Bishops Waltham (gr. Mr. G. Ellwood). This was a very close second; the Cauliflower, Celery, Peas and Runner Beans were particularly good.

In the class for 6 kinds under similar conditions the quality was very high, and the first prize was won by C. A. Cain, Esq., The Node, Welwyn (gr. Mr. T. Pateman). Intermediate, Carrots, Incomparable Crimson, Celery, and Ailsa Craig Onions were splendid examples of high skill. Second, D. W. Bedford, Esq., The Braes, Berkhampstead, Hertfordshire, whose Carrots and Ailsa Craig Onions were also especially good. Third, G. Thorn, Esq., Willesborough, Ashford, Kent (gr. Mr. M. Hoad).

There were only two collections of 6 kinds of Salads, and here the first prize was won by W. H. Myers, Esq., whose Batavia Endive, Pineapple Beet, and Golden Ball Lettuce were exceedingly meritorious. Second, Mr. J. T. Kelly, who had especially good Cucumbers, Beet, and Lettuce.

The collections of 12 varieties of Potatos were a noteworthy feature of the show. The best collection was staged by G. Thorn, Esq., who included almost perfect tubers of Early Round, a delicately purple-eyed sort; Kerr's Pink, King Edward, Factor, Majestic, and English Beauty. Second, J. B. Fortesque, Esq., Dropmore, Buckinghamshire (gr. Mr. C. Page), in whose collection Long Keeping, The Ally, and Reliance were splendid.

The best 6 varieties were shown by Rt. Hon. F. F. Halsey, Gaddesden Place, Hemel Hempstead (gr. Mr. T. A. Avery), who included excellent dishes of Dalhousie, Mighty Atom, and Up-to-date. Second, Mr. Fred Hoad, Albemarle Road, Willesborough, who had particularly good examples of King Edward and Dalhousie. Third, A. G. McMeekin, Esq., Raymond Cottage, Boulter's Lock (gr. Mr. J. Cox).

Rarely has such magnificent Onions been shown as the 1st prize 6 dishes by Mrs. Jenner, Wenvoe Castle, Cardiff (gr. Mr. H. Wheeler). They were all in perfect condition and of first size, particularly those of Ailsa Craig, Premier (which were of high quality), Selected Red, and Golden Ball. Second, W. H. Myers, Esq., whose best dishes were Royal Keeper and Ailsa Craig. 3rd, R. W. Bedford, Esq., The Braes, Berkhampstead, Hertfordshire.

Single Dishes.

These created the usual amount of interest, both on the part of exhibitors and visitors.

W. H. Myers, Esq., won the 1st prize for both Scarlet Runner and French Climbing Beans, in each case showing excellent pods. Mrs. Jenner was 2nd in the former class, and Mr. J. T. Kelly 2nd with the climbing kind. The best dwarf Beans were by the Hon. A. H. Mills, Mapledurham House, Reading (gr. Mr. T. Ridley); 2nd, Mr. J. T. Kelly. Mrs. G. F. Austen, Capel Manor, Horsmonden, Kent,

(gr. Mr. A. Woodgate), was placed 1st; Sir MONTAGU TURNER, Bedfords, Havering, Essex (gr. Mr. A. J. Barrett), 2nd, with splendid globe Beet. Showing shapely long Beet, Mr. J. T. KELLY was 1st, and C. A. CAIN, Esq., 2nd. Brussels Sprouts, 50 buttons, were represented by firm specimens. The best were shown by Mrs. JENNER; 2nd, C. A. CAIN, Esq. The only exhibitor of 3 plants was W. H. MYERS, Esq., and he was awarded the 1st prize.

Cabbages were rather poor; the best were shown by W. H. NICKOLDS, Esq., Nutfield Court, Surrey (gr. Mr. T. W. Herbert); 2nd, Mrs. FARNHAM, The Heights, Witley. Savoys were also not quite up to the usual standard of quality at these shows. H. C. GARDNER, Esq., Ruxley Lodge, Claygate, was awarded the 1st prize, and Mrs. FARNHAM the 2nd. Cauliflower was especially good, and Mrs. JENNER was placed 1st, and Mr. KELLY 2nd. White Celery was also excellent, and here Mr. KELLY was 1st, and Mrs. FARNHHAM 2nd. Mr. KELLY also excelled amongst the many exhibitors of red Celery, with Mrs. FARNHAM a good 2nd.

The Hon. A. H. MILLS had the best brace of Cucumbers; 2nd, Mr. G. THORN. Leeks of great length and perfectly blanched were shown. Mr. KELLY won the 1st prize; 2nd, C. A. CAIN, Esq. B. FORTESCUE, Esq., was 1st with 3 large but tender Marrows; 2nd, the Hon. F. F. HALSEY. Magnificent Premier Onions secured 1st prize for Mrs. JENNER in a strong class, where the 2nd prize was won by Mr. W. LINTOTT, Marden Park, Woldingham, Surrey, with immense bulbs of Ailsa Craig.

Parsnips as shown by Mr. R. STAWARD, Panshanger Gardens, Hertford, were clean, shapely and good, and received 1st prize; 2nd, Mrs. JENNER with very creditable roots. The 1st prize for long Carrots was won by J. B. FORTESCUE, Esq., with Scarlet Intermediates; 2nd Mr. R. STAWARD. Showing good roots of Matchless, Mrs. JENNER had the best short Carrots, Mr. KELLY was a very good second. The best Peas were shown by the same competitors and in the same order. In the class for white Turnips, Mr. R. STAWARD was placed 1st and Sir M. TURNER 2nd.

Mrs. G. T. AUSTEN had the best purple or green top Turnips and R. STAWARD came 2nd. D. W. BEDFORD, Esq., was 1st and Mrs. JENNER 2nd for yellow Turnips. Excellent tubers of Up-to-Date won 1st prize for the Rt. Hon. T. F. HALSEY in the class for white Potatos; 2nd, W. H. MYERS, Esq. The Rt. Hon. T. F. HALSEY was also 1st in a strong class of coloured Potatos, 2nd Sir. M. TURNER.

Curled Kale was excellent and for this vegetable C. A. CAIN, Esq., was 1st, and W. H. MYERS, Esq., 2nd.

Tomatos were of brilliant colour and good quality, the best shown being of the Kondine Red variety by the Rt. Hon. T. F. HALSEY; 2nd Mr. W. LINTOTT. Sunbeam, shown by W. H. MYERS, Esq., proved the best yellow Tomato, with Mrs. JENNER 2nd.

In the class for any other vegetable Mrs. JENNER was placed 1st for a bundle of excellent Salsify, while C. A. CAIN, Esq., was placed 2nd for excellent Seakale Beet.

NATIONAL SWEET PEA.

SEPTEMBER 23.—This Society held three meetings on Tuesday afternoon, and the general committee met at the British Florists' Federation offices at 3 p.m. There was a good attendance to discuss the Annual Report and Finances prior to their submission to the Annual General Meeting a month hence. It appears that financially the Society will come out fairly well at the end of the year. The Report of the Floral Committee was considered and adopted. There are some alterations in the matter of classification, and a copy of the latter, with list of too-much-alike varieties will be forwarded to every member with the notice of Annual Meeting. The Committee proposes to resume its trials of new Sweet Peas in the coming year, and 20 seeds of novelties to be tested must be sent at once to the Secretary, Mr. H. D. Tigwell, Greenford, Middlesex, with a fee of 7s. 6d. per variety. The varieties which the Floral Committee consider to be the best in the respective colour classes will be grown in the trials as standards of comparison. Further, it is proposed to grow half the plants in each trial naturally and partially disbud the rest, so that the capabilities of each variety may be tested both ways.

BRITISH CARNATION.

SEPTEMBER 23.—The general committee met at 5 p.m. at 35, Wellington Street, Covent Garden, W.C. The financial position disclosed was none too rosy, but it was anticipated that if all members paid their subscriptions there would be no difficulty in bringing the finances into a satisfactory condition. Several new members have joined recently, and some members who lapsed during the war have rejoined.

The effort to classify Perpetual-flowering Carnations is proceeding slowly, and another meeting will probably suffice to bring the initial effort to a conclusion. It was agreed that a show in December this year would serve no useful purpose, but that every effort should be made to hold a two-days show at the R.H.S. Hall towards the end of March, 1920.

SCOTTISH HORTICULTURAL.

SEPTEMBER 2.—The monthly meeting of this Association was held at 5, St. Andrew Square, Edinburgh, on this date. Mr. Robert Fife, the President, was in the chair, and there was an attendance of 50 members.

A paper on "Preserving Fresh Fruit and Vegetables by Bottling," by Mr. Henry R. Farmer, The Gardens, Cardiff Castle, was read by the Secretary. Mr. Farmer also sent an exhibit of bottled fruit and vegetables to illustrate his paper.

The exhibits were a collection of Fuchsias from Messrs. DOBBIE AND CO., and a new long-pod Bean named "Keddie's Longpod," from Mr. JAMES KEDDIE, Newington, Edinburgh, which received a Certificate of Merit.

BRIDGEND HORTICULTURAL.

The above Society's show, held at the end of August, was a great success. There were no fewer than 800 entries and the quality of the exhibits was excellent, Potatos being especially good. In the Potato classes (open) Mr. GERMAN, Llandough Castle, Cowbridge, carried off the premier award with four dishes of Bishop, Kerr's Pink, Snowdrop and Edzell Blue. In the class for Onions, Mr. THOMAS JONES, Ammanford, carried off the first prize. For a collection of vegetables (open), nine distinct varieties, Mr. J. JONES, Llandilo, was placed first out of five competitors. Runner Beans were excellent for the season, and out of a large entry, J. M. RANDELL, Esq. (gr. Mr. O. Evans), won the first prize with pods 15 inches in length and of excellent quality.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

SEPTEMBER 8.—The monthly meeting of this Society was held in the R. H. S. Hall on Monday, the 8th inst, Mr. C. F. Harding in the chair. Three new members were elected. One member was assisted from the Distress Fund, and one member withdrew £3 8s. 0d. interest from his deposit account.

The sick pay for the month on the private side amounted to £73 0s. 11d., on the State Section to £38 1s. 2d., and Maternity claims to £4 10s. 0d.

The Treasurer in reading the Financial Statement stated that he had completed the purchase of the £1,300 Funding Loan which brought the investments for the year up to £1,800.

NATIONAL CHRYSANTHEMUM.

SEPTEMBER 22.—The first meeting of the Floral Committee for the present season was held at Essex Hall on the above date. Mr. W. Ingamells occupied the chair, pro tem. Mr. D. B. Crane was unanimously elected chairman of this committee for the ensuing season.

Five novelties were placed before the committee by Mr. A. W. Thorpe, Lichfield, and of these two were awarded First-Class Certificates.

Miss G. K. Thorpe.—An early, medium-sized, white Japanese variety obtained as a result of crossing Harry Thorpe with Mdme. Guillaud. Its classification is II., 1, b. This variety was exhibited on September 23, 1918, and on that occasion obtained a Commendation. Shown by Mr. A. W. THORPE.

Shrapnel,—A charming single variety, very early, free and bright; V., 2, a. The colour is bright orange terra-cotta with orange yellow centre. The flowers are carried on stiff stems. Shown by Mr. A. W. THORPE.

A medum-sized Japanese variety named Lichfield Purple was quite good, the colour being deep purple with ruby suffusion on the inner florets. It failed to obtain an award but was much admired.

The meeting of the Executive Committee held in the evening, at 35, Wellington Street, was well attended and a satisfactory financial position was reported. The publication of "Transactions" was discussed at some length. There have been considerable delays in connection with the preparation of the issue, consequently it was resolved that publication be deferred until immediately after the annual meeting (in February, 1920), and that meantime the Publications Committee shall proceed with its work with a view to secure a really first-rate issue next year.

The Secretary's statement that he had received a notification from the President, Sir Albert Rollit, that the Society's show on November 4 would be held in the Royal Horticultural Hall, instead of the London Scottish Drill Hall, was received with great delight.

The Executive Committee proposes to meet at 6 p.m. in future, and will endeavour to get through its general business in an hour, afterwards devoting one hour to the discussion of some subject of special interest to Chrysanthemum growers. Subjects suggested were: Raising Early Chrysanthemums, Prevention of the Effects of Early Frosts, Lifting and Housing, and Market Flowers and Packing.

CROPS AND STOCK ON THE HOME FARM.

IN his presidential address to the Agricultural Section of the British Association, Professor W. Somerville said that during the past four years—or since the ploughing programme began to take shape—grass land had been officially cold-shouldered. He hoped that the Royal Commission now sitting would be able to formulate a policy acceptable to the Government, which would result in the retention for tillage of at least all that the plough had gained during the war. But for the moment the tendency was in the other direction, and under the stimulus of high wages and increased costs generally a certain amount of land had already been re-sown in grass, and preparations were being made for similarly dealing with an increased area next spring.

An important line of inquiry was opened up by the problem of the improvement of second and third-rate pastures. What proportion of the grass land of the country fell into the lower categories it was impossible to say, but the most superficial acquaintance with rural England was sufficient to carry conviction that the aggregate area of such land was enormous. Most of the poor grass land of the country was associated with the heavier classes of soil, and had been abandoned to grass on account of the high costs of cultivation, including, in many cases, the necessity of drainage. It was, for arable purposes, essentially wheat land, with an occasional crop of beans, and the regular intervention at comparatively short intervals of a bare fallow. Other areas of poor pasture, smaller in aggregate extent than the clays, but still of much importance, were to be found on all the geological formations of the country. Of the 14½ million acres of permanent grass in England and Wales, 70 per cent. was under pasture and only 30 per cent. under hay, and of the poorer classes of grass land it was certain that the proportion that was grazed was still greater. It was evident, therefore, that the improvement of pasture was relatively a more urgent matter than the improvement of meadows, though with over 14½ million acres of permanent grass made into hay in England and Wales during 1918 the latter problem was also one of enormous importance.

AMENDMENTS OF THE LAW RELATING TO ALLOTMENTS.

Circular Letter to the London County Council and the Councils of Boroughs, Metropolitan Boroughs and Urban Districts.

BOARD OF AGRICULTURE AND FISHERIES,

SIR,—

ALLOTMENTS.

1. I am directed by the President of the Board of Agriculture and Fisheries to call the special attention of your Council to the amendments of the law relating to allotments which are contained in the Land Settlement (Facilities) Act, 1919, which came into operation on the 19th August.

ACQUISITION OF LAND.

2. The powers of Councils to acquire land compulsorily and to obtain vacant possession of land acquired by agreement are strengthened very considerably by the new Act. For a period of three years from the passing of the Act orders made by Councils for the compulsory purchase or hiring of land for allotments will not have to be confirmed by, or receive the consent of, the Board except in those cases where the land is subject to rights of common (proviso to section 1 (1) and section 28) or where the land forms part of a park or home farm (section 16).

3. When a compulsory order has been made by a Council (and confirmed by the Board in those cases in which confirmation is necessary) notices of the order must be given by the Council to each owner, lessee and occupier of the land in accordance with the Board's compulsory hiring and purchase regulations, of which copies will be sent to you shortly.

4. The Council can at any time after they have served notice to treat give not less than 14 days' notice to each owner, lessee and occupier, and can then enter on and take possession of the land, leaving the amount of the compensation payable to be settled subsequently (section 2 (1)). A notice may apply either to the whole or to any part of the land included in the order which is specified in the notice. If, however, the notice relates to land on which there is a dwelling house and the length of notice is less than three months, the occupier of the house may within ten days of the service of the notice appeal to arbitration against the notice and in default of agreement the arbitrator will be appointed by the President of the Surveyors' Institution (section 2 (3)).

5. The above provisions as to obtaining early possession of land apply, in effect, not only to land which is acquired compulsorily but also to land which has been agreed to be acquired subject only to the interest of a yearly tenant who is in occupation of the land (section 2 (2)).

6. These provisions apply whether the order for compulsory acquisition or the agreement for acquisition is made before or after the passing of the Act.

7. Where a Council exercise their power of pre-entry they cannot withdraw their notice to treat under section 39 of the Act of 1908.

8. The effect of the provisions referred to above is that Councils will be able to acquire land for allotments by a simple and rapid process. Failing acquisition and the right of immediate entry by agreement it will only be necessary for a Council to make a compulsory order, which in ordinary cases will not require confirmation, and the Council can then take possession of the land on 14 days' notice. It should be possible therefore to satisfy any demands for allotments without delay, and Councils are urged to make the fullest possible use of their powers for this purpose. The Board regard it as a matter of urgent importance that the allotment movement should be encouraged to the greatest possible extent not only from the point of view of the increase of food production but also on account of the social and political advantages of the movement. It provides a healthy and profitable occupation, fosters a spirit of co-operation and goodwill and does much to allay industrial unrest and disturbance.

9. As a general rule the capital value of land in urban areas is too high to permit of the purchase of land for allotments, and Councils will therefore usually proceed to hire any land they require. If they cannot obtain land on reasonable terms by agreement, they should make use of their powers of compulsory hiring, which are specially adapted to meet those cases where land has a prospective building value. A Council can make an order authorising them to hire land compulsorily for a period of not less than 14 years and not more than 35 years, and the hiring can be renewed under section 44 of the Small Holdings and Allotment Act, 1908, for a further period of not less than 14 years and not more than 35 years on giving notice to the landlord not more than two years and not less than one year before the expiration of the tenancy. The amount of the rent in the first instance will be fixed, in default of agreement, by an arbitrator, who is required to take into consideration the rent (if any) at which the land has been let, the annual value at which it is assessed for income tax or rating, the loss (if any) caused to the owner by severance and the terms and conditions of the hiring, but he may not make any allowance in respect of any use to which the land might otherwise be put by the owner, being a use in respect of which the owner is entitled to resume possession. On renewal of a compulsory hiring tenancy the landlord may claim a re-assessment of the rent but the arbitrator is directed not to take into account any increase in the value of the land due to—

(a) improvements carried out by the Council in respect of which they could claim compensation on quitting;

(b) any use to which the land might be put, being a use in respect of which the landlord can resume possession, *e.g.*, building, mining, or other industrial purposes; or

(c) due to the establishment by the Council of other allotments in the neighbourhood.

Where the twelve months' notice required by section 46 of the Act of 1908 for resumption of possession might make the terms of hiring too onerous, the Council can provide in the compulsory order for resumption on less notice.

10. The compulsory hiring provisions of the Acts enable Councils therefore to obtain a perpetual tenancy of land at a fair rent, which cannot be raised in consequence of their own improvements, and without regard to any prospective value which the land may possess for building, mining or other industrial purposes, but subject to the landlord's right of resumption if he satisfies the Board that he requires the land for such purposes.

11. It should be noted that the absolute exemption from compulsory acquisition of holdings of 50 acres or less has been repealed by the new Act and that Councils will in future be able to make compulsory orders for the acquisition of the whole or part of such holdings for allotment purposes provided that they are satisfied that the holding is not the principal means of livelihood of the occupier (section 16 (5)).

ASSESSMENT OF COMPENSATION IN RESPECT OF COMPULSORY ACQUISITION.

12. Under the Acquisition of Land (Assessment of Compensation) Act, 1919, which came into operation on 1st September, it is provided that the compensation payable in respect of any land that is acquired compulsorily by a local authority shall be determined in default of agreement, by one of a panel of official arbitrators to be appointed under the Act. The panel will be appointed by a Reference Committee consisting of the Lord Chief Justice, the Master of the Rolls, and the President of the Surveyors' Institution, and the selection of the official arbitrator who will act in any particular case will be made in accordance with rules made by the Reference Committee. The Act also provides that the parties to any case of compulsory acquisition may agree to refer any question of disputed compensation either to the Commissioners of Inland Revenue or to an arbitrator agreed on between the parties, instead of applying for the appointment of an official arbitrator.

DUTY OF LOCAL AUTHORITIES TO PROVIDE ALLOTMENTS.

13. Under section 23 of the Small Holdings and Allotments Act, 1908, as amended by the Land Settlement (Facilities) Act, 1919, it is the statutory duty of all Borough and Urban District Councils to provide a sufficient number of allotments to meet the demand from residents in the Borough or Urban District so far as this is practicable having regard to the financial conditions imposed by section 25 (3) of the Act of 1908. In the Act of 1908 the obligation was confined to the provision of allotments for the labouring population, but this limitation has been repealed by the new Act, and consequently applications for allotments from any class of residents should be dealt with. The new Act also repeals the words in section 23 (1) of the Act of 1908, which confined the obligation of the Local Authority to cases in which allotments cannot be obtained on reasonable terms by agreement between landowners and applicants.

14. If an allotment authority fails to provide a sufficient number of allotments, the County Council may act in default and may provide allotments at the expense of the Borough or Urban District Council. If the Board are satisfied after holding a local inquiry that both the allotment authority and the County Council have failed to fulfil their obligations the Board may transfer the powers of the Council to the Small Holdings Commissioners in order that they may provide the allotments required (section 24 of the Act of 1908 as amended by the Act of 1919).

ALLOTMENT ASSOCIATIONS.

15. Under section 27 (6) of the Act of 1908 Councils were empowered, with the consent of the Board, to let land for allotments to an allotment association so constituted that the division of profits among the members of the association is prohibited or restricted, but there was no obligation on the part of Councils to provide land for an association. This is altered by the new Act and Councils are now under a statutory obligation to provide allotments for allotment associations as well as for individual applicants. The new Act also authorises the sale as well as the letting of land to allotment associations.

16. Borough and Urban District Councils are authorised by the new Act to promote the formation and extension of co-operative allotment societies and may employ as their agents for this purpose a Society such as the Agricultural Organisation Society. Councils may also, with the consent of the Ministry of Health, make grants or advances to co-operative allotment societies, and may borrow money for the purpose.

17. The Board hope that Local Authorities will make use of these powers to encourage the organisation of allotment holders on a co-operative basis and the formation of societies to assist them in the purchase of their requirements and the sale of their surplus produce. If any Local Authority is of opinion that such facilities cannot be obtained by the allotment holders from a co-operative society, the Council can itself purchase any fruit trees, seeds, plants, fertilisers or implements required for garden allotments and may sell them to the allotment holders or in the case of implements allow their use at a price or charge sufficient to cover the cost of purchase (section 21 (1) and (2) of the Act of 1919). It is advisable, however, to endeavour to secure the formation of a co-operative society for the purpose before a Council itself undertakes the purchase of such requirements, and the Agricultural Organisation Society of 40, Broadway, Westminster, S.W.1, will be glad to assist in the formation of co-operative societies of allotment holders.

DAMAGE TO ALLOTMENT CROPS.

18. Section 21 (4) of the Act of 1919 provides that any person who by any act done without lawful authority or by negligence causes damage to any crops growing on an allotment cultivated as a garden shall be liable on summary conviction to a penalty not exceeding five pounds, if notice of this provision is conspicuously displayed on or near the allotment.

19. The Board suggest, therefore, that Local Authorities should arrange to post the following notice on any land used for allotments and that they should take proceedings against any person who does damage to the crops by trespass or otherwise:—

> LAND SETTLEMENT (FACILITIES) ACT, 1919.
>
> This land is cultivated as garden allotments and crops are growing thereon.
>
> Any person who without lawful authority or by negligence causes damage to any growing crops is liable on summary conviction to a fine of £5.

STAMP DUTY ON AGREEMENTS FOR LETTING ALLOTMENTS.

20. Section 21 (5) of the Act of 1919 provides that no stamp duty shall be payable on any agreement for the letting of an allotment or the counterpart if the rent does not exceed 10s. per annum and no premium is paid.

APPROPRIATION OF LAND.

21. Under Section 22 of the Act of 1919, a Council, with the consent of the Board of Agriculture and Fisheries and of the Ministry of Health, may—

(a) appropriate for the purpose of allotments any land held by the Council for other purposes; and

(b) appropriate for other purposes of the Council land acquired by the Council for allotments.

22. This power of appropriation may often be used with advantage to allow the temporary use as allotments of land acquired for purposes such as cemetery extensions, building of schools, houses, &c., where it is not required immediately for the purpose for which it was acquired.

COMPENSATION ON QUITTING.

23. Difficulties have frequently arisen in the past in arranging with owners of land for tenancies of their land for allotments owing to the fact that the owners were liable on the termination of the tenancy to pay compensation to the Council for crops, tillage, &c., which were of no value to the owners, where the land was required for building, &c. This difficulty has been removed by section 23 of the Act of 1919 under which an allotment authority and an owner can agree that land shall be let to a Council for allotments without any liability to pay compensation on the termination of the tenancy of the land. This provision does not, however, affect the right of allotment holders to obtain from the Council on quitting such compensation as they may be entitled to for crops and labour, and Councils should therefore in such cases provide some margin in the rents charged for the allotments so as to provide a fund for the payment of compensation.

ALLOTMENTS IN PARKS AND OPEN SPACES.

24. During the war many Local Authorities have allowed the temporary use for allotments of parts of the parks and open spaces under their control. In the absence of any provision to the contrary, there would have been no authority for the continuation of these allotments after the termination of the war, and a provision has therefore been inserted in the new Act (section 30 (2)) authorising Local Authorities to allow the continued use of the land for allotments for a period of two years after the termination of the war. The question whether the allotments should continue for the full period is one which must be decided in each case by the Local Authority concerned in the light of their knowledge of the local conditions and of the relative claims of the allotment holders and of other classes of the population.

25. Up to the present the London County Council has been the only statutory allotment authority in London, but during the war the Metropolitan Borough Councils have been authorised by the Board to act as their agents under Regulation 2L of the Defence of the Realm Regulations. This arrangement has worked satisfactorily and accordingly the Metropolitan Borough Councils have been constituted statutory allotment authorities by section 24 of the Act of 1919 and have been given concurrent powers with the London County Council for the provision of allotments in their areas.

MINOR AMENDMENTS.

26. There are certain other minor amendments of the law relating to allotments in Section 21 and in the Second and Third Schedules of the Act of 1919.

REGULATION 2L.

27. In view of the extended powers of compulsory acquisition now entrusted to Councils under the Act of 1919, the Board direct me to say that as from the 11th inst., the powers delegated to Councils under the Cultivation of Lands Orders made under Regulation 2L of the Defence of the Realm Act as regards entry on land for the purpose of allotments shall no longer be exercised without the consent of the Board being previously obtained.

28. In conclusion, I am to ask that this letter may be brought to the notice of the Allotments Committee of your Council at an early date and that they will consider without delay what steps should be taken to provide additional allotments wherever there is an unsatisfied demand. In view also of the fact that many of the existing allotment holders may have to be disturbed owing to the land being required for building, your Council should look ahead and arrange to acquire alternative land to which any dispossessed allotment holders can move. In providing new allotment land Councils would be well advised to arrange for it to be well ploughed before the allotment holders take possession, so that they may be saved the heavy work of having to break up the land themselves.

A. D. HALL, *Secretary*.

Obituary.

James William Helenus Trail.—It is with very great regret that we announce the death of Dr. James W. H. Trail, M.A., M.D., F.L., F.R.S., Regius Professor of Botany in the University of Aberdeen, which took place, following an operation, in a nursing home in Aberdeen, on the 18th inst. Born in March, 1851, in Birsay, Orkney Islands, where his father was parish minister, Dr. Trail was educated at the Aberdeen Grammar School and Aberdeen University. In 1870 he took the degree of M.A. with first prize in chemistry, natural history and botany, and with honours in natural science. After 1870 he studied medicine, and graduated M.B., C.M., with highest honours in 1876. In September, 1873, he went out to South America, where he was engaged as botanist in an exploring expedition to the tributaries of the Amazon in Brazil until March, 1875. His journey extended over 16,000 miles, throughout the equatorial regions of Brazil, from 48° to 72° W. Thanks to the facilities given him he, in his spare time, made remarkably fine botanical and zoological collections, which were presented to Kew, the British Museum, and Aberdeen University. He was appointed botanist to the colony of British Guiana in 1876—to sail in April, 1877—but in March, 1877, he was appointed Regius Professor of Botany in the University of Aberdeen in succession to Professor George Dickie. He was thus only 26 years of age when appointed to the chair, and was certainly one of the youngest professors in any of the Scottish Universities at the time. At his death he was senior professor, having occupied his chair for nearly 43 years. Aberdeen University had never in its history of over 400 years a more loyal and devoted son and servant, and his fine work was warmly appreciated and fully recognised by his colleagues on the teaching staff. He found the facilities for his work very inadequate—to use his own word, "deplorable"—but he set a stout heart and a "stey brae," and he has left the botanical department of Aberdeen University marvellously equipped and in capital order for those who come after him. Dr. Trail was well known throughout the scientific world as an authority on systematic botany, and on the geographical distribution of plants. He was a keen naturalist and did much to stimulate and forward the study of natural science in Aberdeen and the north of Scotland. His publications were voluminous and his work on *The Flora of Buchan* (Aberdeenshire): *Its Distribution, Origin and Relations to Man*, is a monumental one. He was acknowledged to be the greatest authority on the distribution of plants in Scotland, and as a systematic botanist his reputation was world-wide. For a number of years he was editor of the *Scottish Naturalist*, and was afterwards botanical editor of the *Annals of Scottish Natural History*. His literary work includes the *Topographical Botany of Scotland*, and, as noted, numerous contributions to scientific journals on botanical and zoological subjects. For the past twenty years he had been compiling the results of personal investigation into the distribution of plants over a wide district in the north of Scotland, and those interested in botanical research will regret that he has not lived to publish what it is believed would have been a contribution of standard value to scientific study, and a book as useful to naturalists as the *Botanist's Guide* of his predecessor, Professor Dickie, was in its day. Dr. Trail was also responsible for the laying out and organisation of the Cruickshank Botanic Garden, Aberdeen, generously gifted to the University by Miss Cruickshank, a daughter of a former Aberdeen professor. The fine botanical museum of the University developed to its present dimensions in his hands, and the University library was also an institution in which he manifested a warm interest. Dr. Trail's death will make a great blank in University circles in Aberdeen, for behind his reserve was a kindly and warm disposition, and his passing at an age when he still seemed to have considerable years of professional and public usefulness before him is greatly regretted. He is survived by his widow, one son and three daughters—the son a major in the Indian Army.

Answers to Correspondents

BLACK HAMBURGH GRAPES: *W. C. M.* It is not necessary for the vinery to be ventilated at night provided you admit a little fresh air as soon as the temperature is likely to rise in the morning, increasing the amount afterwards, if necessary, according to the weather. Close the house in the afternoon while it is fairly warm, but not so soon that the temperature would rise after closing. The floor will not need damping at this time of the year. The Grapes, being of the Black Hamburgh variety, may finish ripening without fire heat, but a little warmth occasionally with a top ventilator partly open to dispel damp would be an advantage. When the night is likely to be cold, the fire may be lighted in the afternoon while the ventilators are open a little, closing them when the pipes become warm. A sudden rise of temperature, whether natural or artificial, without ventilation, would cause condensation on the berries, and act injuriously.

ESTABLISHING BRACKEN: *J. C. B.* and *H. C. B.* Although Bracken grows very freely in certain places and is difficult to eradicate where it grows naturally, it is not a generally easy matter to establish the plant. The most luxuriant growth is usually found on light, rich soils, and the Fern is rarely present on chalky land. If the field in which you wish to grow Bracken is "down to pasture" it would be well to plough it as deeply as possible, and if of heavy texture work it well during the winter. Your best chance of success with rhizomes would be to plant them in the spring just as growth is about to commence. But establishing by seedlings would be the surest method, though this would entail more labour. You could peg down fertile fronds to the surface as soon as the spores are approaching ripeness—though it is now a full month too late for this season—if gross weeds are not likely to grow before the Bracken becomes established. If you have the convenience, the ideal plan would be to raise sufficient seedlings in a cool, shady spot and plant them in the field when they are large enough. Seedling plants of Bracken are delicately beautiful. It would be worth while trying the first plan next spring, if you can obtain a sufficient stock of roots, and if this fails proceed to raise seedlings in the autumn. A poor growth of Bracken can often be improved by harrowing in the early spring and top-dressing with leafy soil.

GARDENERS' HOURS: *A. W.* The number of hours a gardener is required to work are usually arranged at the time of his appointment, and they vary in different parts of the country and according to the season. The British Gardeners' Association's new standard of hours and wages may be obtained on application to the Secretary, Mr. Cyril Harding, 1, Wellington Place, St. John's Wood, N.W.8.

NAMES OF FRUITS: *G. S.* Apple Crimson Quoining, Pear Chaumontel. *H. H.* 1, Lord Grosvenor; 2, not recognised; 3, King of the Pippins; 4, Cockle's Pippin; 5, Duke of Devonshire; 6, Worcester Pearmain. *I. S. C.* Domino. *C. R.* 1, Williams' Favourite; 2, Lady Sudeley; 3, Yorkshire Beauty (syn. Greenup's Pippin; 4, Prince Bismark. *T. H. C.* Hessle. *F. V. H.* 1, Decayed; 2, Gravenstein; 3, Newton Wonder; 4, Wealthy. *A. C. A.* Apples: 1, Debtsling Pippin; 2, Five Crown Pippin; 3, Northern Spy; 4, Yorkshire Greening; 5, Mère de Ménage; 6, Gascoyne's Scarlet; 7, Mabbot's Pearmain. Pears: 1, Maréchal de la Cour; 2, Doyenné Comice; 3, Beurré Clairgeac; 4, Fondante d'Automne; 5, Doyenné Boussoch; 6, Uvedale's St. Germain. *E. H. G.* Red Astrachan. *A. L. C.* Lane's Prince Albert. *J. M. G.* 1, Autumn Compôte; 2, Black Diamond; 3, Prince of Wales; 4, Decayed; 5, Transparent Gage. *F. N.* 1, Decayed; 2, Prune (syn. Shropshire Damson); 3, Prune Damson. *W. J. B.* 1, Beauty of Kent; 2, Stirling Castle; 3 and 5, Prince Bismark; 4, send again later; 6, King of the Pippins. Pear Madame Treyve. *Miss O.* Pond's Seedling. *W. D.* 1, Williams' Bon Chrêtien; 2, Braddick's Nonpareil; 3, Marie Louise; 4, Fearn's Pippin; 5 and 22, Old Nonpareil; 6, Potts's Seedling; 7, Alfriston; 8, Round Winter Nonesuch; 9, Cellini; 10, Worcester Pearmain; 11, 13, 15, 17, and 20 not recognised, probably local varieties; 12, Autumn Nelis; 14, Ashmead's Kernel; 16, Scarlet Napoleon; 18, Allington Pippin; 19, Sturmer Pippin; 21, Chaumontel; 23, 24 and 25, decayed; 26, White Wrestling. *C. A. S.* 1 and 9, Louise Bonne of Jersey; 2, Marie Louise; 3, Not recognised; 4, Doyenné du Comice; 5, Autumn Bergamot; 6 and 8, Pitmaston Duchess; 7, Beurré Superfin; 11, Duchesse d'Angoulême; 12, too small for recognition; 13, Lord Suffield, 14, Cellini. *L. K.* 1, Cellini; 2 and 4, Duchess of Oldenburg; 3, Beauty of Kent. *C.* 1, Dean's Codlin; 2, English Codlin; 3, Scarlet Pearmain. *F. C. P.* 1, Red Astrachan; 2, White Nonpareil; 3, Nonesuch; 4, Barnack Beauty; 5, Scarlet Nonpareil; 6, Cox's Orange Pippin; 7, Bramley's Seedling; 8, Queen Caroline; 9, Sweet Lading; 10, Orange Goff; 11, Not recognised; 12, Hanwell Souring; 13, Reinette Van Mons; 14, Blenheim Pippin; 15, Lord Derby; 16, King of the Pippins. *R. S.* 1, Marie Louise; 2, Beurré Bachelier; 3, Beurré Bosc; 4, Marechal de la Cour; 5, Chaumontel; 6, Souvenir de Congrès; *F. F. L.* Franklin's Golden Pippin. The abnormal fruit is very curious. *J. O. J.* 1, Reinnette Precox; 2, Williams' Bon Chrêtien; 3, Pitmaston Duchess; 4, Louise Bonne of Jersey; 5, decayed; 6, Lady Henniker. *F.* 1, Souvenir du Congrès; 2, Pitmaston Duchess; 3 Doyenné du Comice; 4, Madame Treyve; 5, Melon; 6, Washington; Sturmer Pippin. *J. M.* 1, Beurré Diel; 2, 19 and 5, Doyenné du Comice; 3, Pitmaston Duchess; 4 and 11, Marie Louise; 6, Glou Morceau; 7 and 12, Marechal de la Cour; 8, Beurré Sterckmans; 9, Beurré Boussoch; 10, Beurré d'Amanlis; 13, Pitmaston Duchess; 14, Emile d'Heyst; 15, Beurré Boussoch; 16, Conference; 17, Beurré Bachelier; 18, deformed specimen; 20, decayed; 21, Clapp's Favourite; 22, Beurré d'Amanlis. *A. J. D.* 2, King of the Pippins; 3, Lane's Prince Albert; 4, not recognised; 5, Peasgood's Nonesuch; 6, Gascoyne's Scarlet; 7, King Harry; 10, Worcester Pearmain; 11, Cox's Orange Pippin. The numbers of the other fruits were detached. *J. J. and Son.* Flemish Beauty. *E. H. C.* Pears: 1 and 3, Louise Bonne of Jersey; 2, Beurré Bachelier; 4, Noveau Poiteau. Apples: 5, Ribston Pippin; 6, deformed specimen; 7, Court of Wick; 8, Annie Elizabeth; 9, French Crab; 10, Allen's Everlasting; 11, Sturmer Pippin; 12, Cellini. *C. S. C.* Not recognised, probably a local variety. *R. J. R.* 1, Bramley's Seedling; 2, Annie Elizabeth; 3, Newton Wonder; 4, Potts's Seedling; 5, Catillac; 6, Pitmaston Duchess. *G. T.* 1, Wealthy; 2, Kerry Pippin; 3, Hormead's Pearmain; 4, Lord Grosvenor; 5, Ecklinville Seedling; 6, Potts's Seedling. *R. J. P.* 1, Williams' Bon Chrêtien; 2, Beurré d'Amanlis; 3, Durondeau; 4, Beurré Bachelier; 5, Beurrê Diel; 6, Pitmaston Duchess; 7, Doyenné du Comice; 8, Lord Derby; 9, not recognised; 10, Stirling Castle.

NAMES OF PLANTS: *J. D. H.* Your seedling Odontoglossum between Pescatorei and Harryanum is a form of O. Rolfeae, a pretty flower but not specially valuable. *A H.* Hibiscus syriacus (syn. Althae frutex).

WAGES IN GARDENS WHERE PRODUCE IS SOLD: *X. Y. Z.* If the sale of surplus produce is habitual, and not merely an isolated or trifling instance, we think the Court would probably hold that the land was being used as a market garden, and that the new rate of wages would become payable accordingly.

Communications Received.—A. W. G. (thanks for 2s. 6d. for R.G.O.F. box).—S. C.—R. I. C.—H. H.—H. E. S.—W. R. P—J. J.—H. H. B.—O. O.—C. C. S. P.—D. B.—E. L.—E. P.—L. A. P.—F. D.—A. T. H.—J. O.—H. P.—Y. H.—G. H.—J. K. B.—D. W.—G. P.—F. B.—E. H. J.—A. W.—A. W. A.—W. R.—G. L.—T. P.—J. H. L.

To Seedsmen, Nurserymen, and Florists.

AGENCIES FOR "SOFNOL" PREPARED GARDEN LIME

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MARKETS.

COVENT GARDEN, September 24.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Erica gracilis—48's per doz. ...	24 0-36 0
Asparagus plumosus	12 0–15 0	60's	12 0–18 0
—Sprengeri ...	12 0–18 0	72's	9 0–10 0
pidistra, green	48 0–72 0	Erica nivalis—48's	30 0–42 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	60's	18 0–21 0
Campanula isophylla alba	12 0–18 0	72's	10 0–15 0
Chrysanthemums 48's per doz. ...	9 0–18 0	Marguerites white	18 0–24 0
		Palms, Kentia ...	18 0–24 0
		—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–15 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Asters, coloured, per doz. bun. ...	4 0– 6 0	Orchids per doz.: — Cattleyas ...	24 0–30 0
single. ...	2 6– 4 0	Cattleya Harrisoniæ per doz. blooms,	9 0-10 0
white ...	4 0– 6 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Bouvardia white	15 0–18 0	— white, per doz. bunches ...	6 0– 9 0
Carnations, perdoz. blooms, best American var.	2 6– 3 6	Physalis, per doz. bun. ...	12 0–18 0
Chrysanthemums— —White, per doz. blooms	3 0– 8 0	Roses, per dozen blooms— — Frau Karl Druschki...	1 6– 2 6
—Yellow ,,	3 0– 6 0	— Lady Hillingdon	1 0– 2 6
—Pink ,,	4 0– 6 0	— Liberty ...	2 0– 4 0
—Bronze ,,	3 0– 5 0	— Melody ...	2 0– 6 0
—White per doz. bun.	8 0–15 0	— Mme. Abel Chatenay ...	2 6– 4 0
—Coloured ,,	6 0–12 0	— Ophelia ...	4 0– 6 0
Coreopsis, per doz. bun.	1 6– 2 6	— Richmond, var.	2 6– 3 0
Gaillardia, per doz. bun.	3 0– 3 6	— Sunburst ...	3 0– 5 0
Gardenias, per box special ...	10 0–12 0	—White Crawford	2 0– 4 0
— ordinary ...	4 0– 5 0	Scabious, per doz. bun.	4 0– 6 0
Heather white — —per doz. bun.	12 0–10 0	Statice, mauve ...	6 0– 8 0
Lapagerias, perdoz. blooms ...	4 6– 5 0	— white... ...	6 0– 8 0
Lilium longiflorum, per bunch ...	18 0 —	— latifolia, per doz. bun. ...	12 0–18 0
Lilium speciosum album per bunch	3 6– 4 0	Stephanotis, 72 pips	4 0– 6 0
—rubrum per bun.	3 0– 3 6	Stock, Dbl. White	6 0– 8 0
Michaelmas Daisies in variety ...	6 0-12 0	Violets, Single large, per doz. bun.	6 0– 9 0
		—Ordinary ...	2 6– 3 6

REMARKS.—Supplies did not appear to be so numerous this morning. Large quantities of Asters and Chrysanthemums have been damaged by the recent frost and cold winds; therefore a shorter supply, with an advance in prices, is expected during this week. Carnations have also been fewer in number, and all varieteis of Roses are gradually getting scarcer. Lilium longiflorum is again advancing in value, and the salesmen were asking 18s. per bunch for it this morning. A few bunches of Lily of the Valley are being offered occasionally. Single Violets are now being marketed in larger quantities; these flowers are arriving in good condition. There is still an abundant supply of Michaelmas Daisies of various sorts, also Blue Statice. Maidenhair (Adiantum Fern) appears the shortest line in foliage. In addition to Asparagus and Smilax there is a good supply of hardy foliage of such trees as Oak and Maple.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans, French, perlb.	0 10– 1 0	Peas, per bus. ...	8 0–10 0
—Scarlet per bus.	8 0-10 0	Parsley, per doz. bunches ...	3 0– 6 0
Beetroot, per bus.	6 0-10 0	Potatos, per cwt.	10 6–13 0
Cabbage, per doz.	2 6– 3 0	Radishes, per doz. bunches ...	2 6– 3 0
Carrots, per cwt.	8 0 —	Spring Onions, per doz. bunches ...	4 0– 6 0
Cauliflowers, perdoz.	3 0– 5 0	Tomatos, English, per doz. lbs. ...	6 0– 7 0
Cucumbers, perflat	18 0–23 0	— Dutch.. ..	3 6– 4 0
Garlic, per lb. ...	1 6– 1 8	— French ...	3 6– 4 0
Herbs, per doz. bun.	4 0– 6 0	— Outdoor Jersey	3 6– 4 0
Mint, per doz. bun.	9 0–12 0	Vegetable Marrows, per doz. ...	3 0– 5 0
Mushrooms, per lb.	4 0– 5 6	Watercress, per doz	0 9– —
Mustard and Cress, per doz. punnets	1 3– 1 6		
New Turnips, per cwt.	10 0–12 0		
Onions (Egyptian) per bag ...	10 0–14 0		

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d.
Apples (English) —Worcester Pearmain per ½ bus.	3 0– 4 0	Nuts Brazils (new) per cwt.	110 0–115 0
—Keswick Codling per bus.	3 6– 5 0	Cob Nuts per lb.	1 0– 1 3
—Ecklinville Seedling per bus.	4 0– 7 0	Pineapples each...	2 6– 6 6
Aubergines; pr doz	2 0– 3 0	Plums (English) per ½ bus. —Monarch ...	14 0–15 0
Bananas... ...	30 0–40 0	—Pond's Seedling	14 0–15 0
English Peaches per doz. ...	6 0–18 0	— Prunes ...	15 0–16 0
Grapes:— — Alicante ...	1 0– 2 0	Damsons	13 0-15 0
—Blk Hamburgh,	1 0– 2 0	Worthing Figs, per doz.	3 0– 6 0
—Canon Hall	2 0– 4 6	Pears English per ½ bus. Williams' Bon Chretien	6 0 7 0
—Muscats, per lb.	1 6– 4 6	— Fertility ...	5 0– 7 0
Melons, each ...	1 6– 3 6	— Marguerite Marillat	7 0– 10 0
—Canteloupe ...	2 6– 8 0	— Louise Bonne of Jersey	6 0-10 0
Nectarines, per doz. ...	6 0–18 0		

REMARKS.—The market is still abundantly supplied with produce of all kinds, and hard fruits such as Apples and Pears are especially plentiful. There are rather more Tomatos from home growers, but trade is very slow owing to large supplies from Holland and other Continental countries. There are a few Guernsey Pears coming, but the fruits are of very poor quality. Cucumbers are in steady demand. The season for Plums is nearly finished. There are a few Damsons and Prunes, and the trade in them is rather firm. There are still many inferior samples of Pears and Apples arriving. Mushrooms are in good demand and making good prices

GARDENING APPOINTMENTS.

Mr. C. Butters, as Gardener and Bailiff at the County Asylum, Bicton Heath, near Shrewsbury.

Mr. W. W. Edwards, recently demobilised after service in Salonica, as Gardener to FURGESON DAVIE, Esq., at Bittescombe Manor, Wiveliscombe, Somerset.

Mr. C. F. Mowl, serving with His Majesty's Forces for the past two years, and previouely Gardener to Lt.-Col. GOSSETT MAYALL, Neachley, Shifnal, Salop., for five years, as Gardener to Miss SWIFT, Viewlands, Wightwick, near Wolverhampton.

Mr. S. Seale, for the past 2 years with H. M. Forces, and previously for 4 years Foreman at Dropmore, as Gardener to W. T. DE PLEDGE, Esq., Abergwynant Hall, Dolgelley, North Wales.

Mr. F. J. Turner, recently employed on war work, previously for over two years at The Hermitage, Walton Heath, and 8 years at Holmwood Park, Dorking, as Gardener to the Rev. CANON PALMES, Holmwood Vicarage, Dorking, Surrey.

Mr. Chas. McInroy, for three years and five months with H. M. Forces; formerly at Dinton Manor and previously at Belton Gardens, Grantham, as Gardener to Earl CAWDOR, Stackpoole Court, Pembroke. (Thanks for 2s. 6d. for R.G.O.F. Box.—EDS.)

Mr. Jas. Nation, for the past two years and three months Gardener to Mrs. ROBINSON, Redlynch House, as Gardener to Capt. SAVILL, Broxmore Park, Romsey. (Thanks for 2s. for the R. G. O. F. Box. EDS.)

Mr. A. E. Barnes, previously Horticultural Instructor for Hertfordshire (for three years with H.M. Forces), as Horticultural Instructor for the County of Berkshire at University College, Reading.

CATALOGUES RECEIVED.

D. G. PURDIE, 6, Waterloo Street, Glasgow.—Bulbs and Nursery Stock.

WILLIAMSON, GEMMELL AND CO., 263, Argyle Street, Glasgow.—Bulbs.

E. J. BAILEY, 4 and 5, Corn Exchange Buildings, Shrewsbury.—Bulbs and Seeds.

EDWARD WEBB AND SONS, LTD., Wordsley, Stourbridge.—Bulbs.

FISHER, SON AND SIBRAY, LTD., Royal Nurseries, Handsworth, Sheffield.—Bulbs.

BARR & SONS, 11, 12 and 13, King Street, Covent Garden, W.C.2. — Daffodils and new seedling Nerines; Anemones, Crocuses, Gladioli, Hyacinths, Irises, Lilies, Montbretias, Muscari, Tulips and other bulbs.

CLIBRANS, Altrincham.—Bulbs.

EDMONDSON, BROS., 10, Dame Street, Dublin.—Bulbs and Flower Roots.

H. N. ELLISON, West Bromwich.—Bulbs, Seeds, Manures, Tools, and Sundries.

"Bull's"
THE FOOD FOR PLANTS

WASP PROOF
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Huge Stocks. Immediate Delivery.
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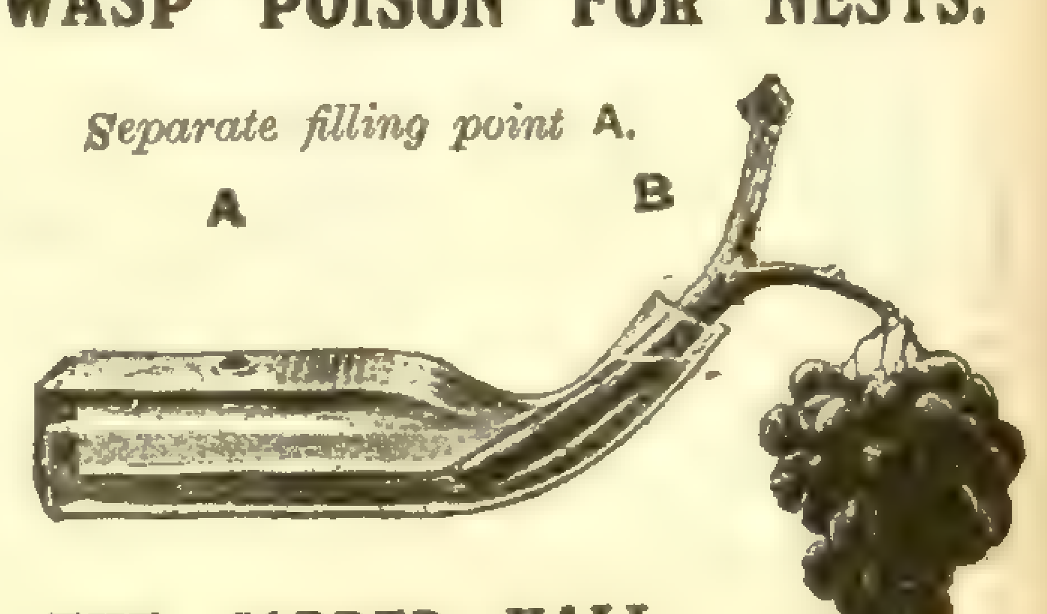

THE COPPED HALL GRAPE STORING BOTTLE
(Water cannot overflow and damage the fruit.)
Vegetable Hampers, Fruit Boxes & Baskets, Wood Wool, Silky Continental, and all Packing Materials.
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SPLENDID
DUTCH BULBS.
All of the Finest Quality.
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Our descriptive CATALOGUE of the above, containing FULL CULTURAL DIRECTIONS and particulars as to FREE DELIVERY, will be sent post free on application to our Offices at OVERVEEN, HAARLEM, HOLLAND.

SITUATIONS VACANT.
PRIVATE.

Continued from page iii.

WANTED, HEAD WORKING GARDENER of three, keen on Outdoor Fruit, Vegetables, Flowers and Lawns; good organiser; young and energetic; good wages, cottage.—Write full particulars to CHAYTOR, Iridge Place, Hurstgreen, Sussex

WANTED, good all-round SINGLE-HANDED GARDENER, with help. Two Vineries, about two acres of Vegetable, Lawn, and Flower Garden. State age and family. Cottage. Wages 35s. weekly.—Apply, Mrs. SEVERNS, The Lodge, Thenford, near Banbury.

GARDENER (SINGLE-HANDED) wanted; knowledge of fruit and vegetables; willing to be generally useful; small cottage available.—State age, wages, experience, references, STURGIS, Old Hall Green, Herts.

COMPETENT GARDENER, not over 28, wanted for Broadstairs, Kent; must be reliable; wages 45s. per week.—Write E. K., c/o J. W. Vickers and Co., Ltd., 5, Nicholas Lane, E.C.4.

WANTED, good WORKING GARDENER, experienced in Kitchen and Flower Garden, Fruit Trees, and Herbaceous borders; wages 36s. per week, with a nice cottage and large garden.—State age, experience, etc., JOHN GODFREY, Park House, Carlton, nr. Nottingham.

GARDENER.—A WORKING GARDENER with all-round experience wanted in well-known Club close London; others kept; must be energetic and methodical. State experience, age, married or single, wages and references to B., Box 1427, Willings, 125, Strand, London, W.C.2.

WANTED, SECOND GARDENER to take charge of glass; married; good wages (small cottage); coal, light, and vegetables.—State experience, J. MAXFIELD, Darley Abbey Gardens, Derby.

UNDER-GARDENER wanted (single) where two and a boy are kept; must have good previous experience, Inside and Out; be hardworking, willing, and obliging, and able to give excellent references; wages 30s. per week.—Apply by letter, stating age and experience, to STRONG, Ganwic, Barnet.

WANTED, two FOREMEN, one for Glass dept., one for Ornamental Grounds; also several smart JOURNEYMEN in above departments; first-class experience essential; good wages to the right men; ex-service men only need apply, with full particulars of experience, copies of testimonials, etc., to THE SECRETARY, The Industrial Settlements for Disabled Soldiers and Sailors, No. 8, Marble Arch, London, W.1

WANTED, good GENERAL FOREMAN (married), chiefly Outside; used to Herbaceous Borders, Rock Plants, etc. State experience, wages expected, with rooms in house in grounds.—Apply, J. GREENLEES, Lingholm Gardens, Keswick, Cumbd.

WANTED, JOURNEYMAN, Inside and Out, about 24 years of age; wages 35s. per week, bothy, etc.—W. E. WALDRON, Saltmarshe Hall Gardens, near Howden, E. Yorks.

WANTED, JOURNEYMAN for Pleasure Grounds; wages 34s. per week, bothy and milk; 1 o'clock Saturdays. W. GROOM, The Gardens, Old Quarry Hall, Bletchingley, Surrey.

WANTED, JOURNEYMAN for Inside, also IMPROVER, for Outside, to take duty; good wages, bothy, etc.; duty and overtime paid.—Apply, W. WENMAN, The Gardens, Hickleton, Doncaster.

WANTED, JOURNEYMEN (two), Inside, one for Fruit, the other for Plants; wages £2, which includes duty, bothy, 47 hours; 1 o'clock Saturday.—P. KNOWLES, Friar Park, Henley-on-Thames.

WANTED, JOURNEYMAN (Outside); thoroughly understands Rock and Herbaceous plants; good wages given to a capable man.—Apply, with full particulars, to H. CORNISH, Le Jardin, Chateau de Courances, par Milly, Seine et Oise, France.

WANTED, OUTSIDE JOURNEYMAN, principally for Kitchen Garden; bothy; age about 20.—State wages to WORTH, Wern, Portmadoc, North Wales.

WANTED, OUTSIDE JOURNEYMAN; 26s. per week. Bothy, etc.—Apply C. LIDDLE, Tarbon's Gardens, Hereford.

WANTED, JOURNEYMAN or IMPROVER for Rose, Herbaceous, and general flower Gardens; bothy, vegetables, and attendance; one o'clock Saturday and Sunday; duty paid extra.—Apply to, G. LOW, Lees Court Gardens, Faversham, Kent.

WANTED, a MARRIED MAN to work in the gardens; must have had some experience; wages 35s. per week, with excellent cottage and garden; no Sunday duty. State age, family and experience, W. L. BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, YOUNG MAN for Pleasure Grounds and Kitchen Garden, capable of taking turn Sunday duty and fires; good wages paid.—State full particulars of experience to G. NYE, Mill House Gardens, Holmwood, Surrey.

WANTED, YOUNG MAN for Inside and Out; take duty in turn; wages 31s. 6d. weekly, bothy, milk, vegetables and attendance; 1 o'clock Saturdays. State age and experience.—G. E. WEEKES, Penrye Gardens, Brecon.

WANTED, ex-service SINGLE MAN for Kitchen Garden; able to take duty; live in; bothy, wages 38s. 6d.—Replies to ERIC E. ANDERSON, "Ration," Willingdon, Sussex.

WANTED, a MAN (single) for Lawns and Herbaceous Borders, etc.—Apply, stating wages required, H. PARRISH, Oakover Gardens, Ticehurst, Sussex.

WANTED, good, SINGLE MAN for Kitchen Garden, and assist other departments. State full particulars, with copies of references etc.; good bothy, vegetables.—W. SILCOCK, Hollycombe Gardens, Liphook.

WANTED, smart, intelligent YOUNG MAN, chiefly for Kitchen Gardens, and to assist in other departments when required; wages 30s. per week, bothy, vegetables, and attendance.—C. LAMB, Wicksted Hall Gardens, Whitchurch, Salop.

WANTED, YOUNG MAN for Kitchen Garden and Pleasure Grounds; wages 30s. per week, with bothy, milk, and vegetables.—Particulars to H. S. FINCHER, Caldecote Gardens, Nuneaton.

WANTED, a MAN who understands Rockeries. State age, experience, wages.—H. WORTHINGTON, Wycombe Court, Lane End, Bucks.

WANTED, capable MAN for Gardening, also keeping Cows and Poultry; preference married man without family, wife able help in household; lodge provided; only applications with good references considered.—EHINGER, High Firs, Hemel Hempstead, Herts.

WANTED, a good MAN for Lawns and Pleasure Grounds; one used to general garden work. State wages and particulars.—T. COOPER, Grove House, Park Road, Regent's Park.

WANTED, strong, intelligent country GIRL for garden and dairy work; experience not necessary, but strict cleanliness, early riser and good references essential. Good opportunity for a willing learner.—The Misses BRUCE and MAYO, Dalewood Cottage, Mickleham, Surrey.

TRADE.

NORTHAMPTONSHIRE AGRICULTURAL EXECUTIVE COMMITTEE.

A WORKING MANAGER is required for the Horticultural Training Centre for Disabled Ex-service men; he must have had practical experience of Commercial Horticulture, and be capable of training men in Market Gardening. Preference will be given to ex-service men. Salary according to experience and qualifications, but not exceeding £250 per annum.

Applications, stating age and experience, with copies of two recent testimonials, should reach the undersigned not later than October 3, 1919.

C. M. NEWTON, Secretary

County Chambers, Northampton.

TO GARDENERS, Trade or Private, who would like first-hand information about work in South Africa, advertiser will give personal interviews to anyone who can visit him in London during October; if not, then information can be had by letter, but in first instance apply by letter, enclosing stamped addressed envelope, to H. J. BEDFORD, 4, Grove Vale, East Dulwich, S.E.22.

WANTED, GARDENER, thoroughly experienced in Intensive Culture, to take charge of French Garden in Midlands. Also ASSISTANT GARDENERS; may suit two Lady Gardeners.—State experience and wages required, to live out, E. G. FALCON, 10, Linden Road, Bedford.

LANDSCAPE GARDENERS. — Wanted, thoroughly experienced FOREMEN with all-round knowledge; also good Rockwork Builders. Only first-rate men need apply, with reference, age and wages required, to JAMES BACKHOUSE & SON, The Nurseries, York.

WORKING FOREMAN required for a small Fruit Farm in Wiltshire; must have good previous experience.—Apply, stating fullest particulars, to EXCEL, 34, Cock Lane, Smithfield, E.C.1.

NURSERY FOREMAN.

WANTED, strong and energetic Outdoor FOREMAN under Manager for Ireland; Forest, Fruit, and Ornamental Trees; good packer; experienced controller of labour; excellent house to married man. Apply, stating if married, family, age, salary, when disengaged, with copies of trade reference; position permanent for suitable man.—Apply, NURSERYMAN, Box 4, 41, Wellington Street, Covent Garden, W.C.2.

NURSERY FOREMAN.—Wanted capable, reliable man as UNDER FOREMAN; must have good knowledge of trade; permanent post for suitable man; last man was 40 years in the position.—All particulars references, wages expected, etc., to LITTLE AND BALLANTYNE, Carlisle.

WANTED, FOREMAN (WORKING) for Market Nursery, Grapes, Tomatos, Cucumbers, Hardy Fruits, Vegetables, Cut Flowers, etc. State wages (cottage and garden provided), age and references.—J. W. LAWSON, Harby, Lincoln.

WANTED, WORKING FOREMAN to take charge of small quantity of glass.—Apply, stating age, copy of testimonials and wages required, JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

WANTED immediately for the Argentine, an Orchid Grower, with good trade experience.—Apply, giving references, etc., to JOHN COWAN AND CO., Gateacre, Liverpool.

WANTED, experienced GROWER (single), to take charge Glass department East of Scotland; Bedding Plants, Forcing Bulbs, Chrysanthemums and Tomatoes principally.—Apply (first communications confidential), with copies of References and Wages expected, to GROWER, Box 27, 41, Wellington Street, Covent Garden, W.C.2.

FRUIT CULTIVATION. — Wanted, active Christian man, of business habits, total abstainer, non-smoker, thoroughly experienced in fruit plantation; must be expert in latest methods cultivation, pruning, spraying, and marketing; good cottage, water laid on. —Address, with references, and copies of testimonials, to Mr. FEGAN, Blantyre Lodge, Goudhurst, Kent.

WANTED, Young Man as KNIFESMAN, to assist in lifting orders during season and make himself generally useful.—Apply, JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

POSITION VACANT.—Wholesale seed firm; country; MANAGING CLERK, correspondence and general (not ledger) office; staff of 20; organising ability and trade experience essential.—Apply, with full particulars and references, S. K., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED by an old-established Seed and Nursery Business, competent YOUNG MAN, as bookkeeper, who would be willing to assist occasionally at retail counter. State age, experience, references, and wages to J. S., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—HEAD SHOPMAN wanted for a Scotch Seed House. Must be an energetic man accustomed to a good counter trade, able to organise post trade and be a capable buyer.—Apply, with full particulars, which will be treated as confidential, C. S., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, ASSISTANT SHOPMAN for London City Seed Establishment; must be thoroughly experienced.—Apply, by letter, giving all particulars, and salary required, A. Z., Box 30, 41, Wellington Street, W.C.2.

LEDGER CLERKS wanted, with knowledge of the Seed Trade.—Full particulars, with salary required, to T. C. W., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, Junior Clerk accustomed to invoicing, for Nursery office.—State age, references, and wages required, to WILLIAM PAUL AND SON (Waltham Cross), LTD., Royal Nurseries, Waltham Cross, Herts.

FLORIST wanted in Manchester; must be good Designer and first-class Saleswoman, capable of taking charge; good salary and prospects to enterprising lady.—Apply, with full particulars, L. P., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FLORIST, good and quick at designs; knowledge Seeds, Bulbs, Sundries, or Fruit an advantage; lady or gent; single.—Apply, stating experience, age, wages, references, to J. SLATER, The Grove, Ilkley.

WANTED, FLORIST (male); experienced; good Maker-up and Decorator; liberal remuneration.—Full particulars to C. R., Box 14, 41, Wellington Street Covent Garden, W.C.2.

SITUATIONS WANTED.
PRIVATE.

MR. YOUNG, Agent to Lord Kensington, D.S.O., highly recommends his General Foreman as HEAD GARDENER to any Lady or Gentleman requiring a good man; life experience in all branches; age 29; married when suited.—E. RAYNER, The Gardens, St. Bride's, Little Haven, S.O., South Wales.

GARDENER (HEAD).—Major H. E. Wilbraham, J.P., can with confidence highly recommend GARDENER, who is thoroughly experienced in the management of a large establishment; life experience in all branches, including Estate work; good manager; age 30; married when suited; excellent references; demobilised.—Full particulars to J. THOMPSON, Delamere House Gardens, Northwich, Cheshire.

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER to lady or gentleman requiring services of competent man; age 34; married; 2 children; demobilised.—W. ELKINS, 12, Brocas Street, Eton, Bucks.

SIR C. HENRY, Bt., can with confidence recommend his HEAD GARDENER to any Lady or Gentleman requiring a thorough practical, experienced man in all branches; age 42; married (no family).—A. SMITH, Parkwood, Henley-on-Thames.

MRS. TRUMAN highly recommends R. WHEARE, for 3 years her HEAD GARDENER; life experience in production of high-class Fruit, Flowers, and Vegetables, with general upkeep; disengaged through estate being given up while on military service; age 34; married (one child).—WHEARE, Ibden Cottages, Bonchurch, Isle of Wight.

GARDENER (HEAD); 42; demobilised; married life experienced desires situation where six or more are kept; experience gained in good establishments, including Moor Park, Longford Castle; seven years Head prior to service; can be well recommended. —R. MASON, Doddington, Sittingbourne.

GARDENER requires situation as HEAD or SINGLE-HANDED, where lad is kept; all-round experience.—BARON, Rectory Lodge, Warboys, Hunts.

HEAD GARDENER, where several are kept; life experience Fruit, Flowers Vegetables, Orchids. Carnations, early and late forcing; age 40; no family; just demobilised.—Full particulars, wages, VOLLER, c/o W. Wright, Little Parndon, Burnt Mill, Essex.

GARDENER (HEAD) seeks re-engagement; life experience in all branches, gained in large establishments, including Tring Park and South Lodge; 4½ years as Head at Bramshott Court previous to joining the forces; thoroughly recommended.—BOVINGTON, Lower Nursery, Sunningdale, Berks.

HEAD GARDENER, demobilised, urgently desires post; wide and varied experience; good Manager and Cultivator; six years head well-known families; every recommendation and excellent references. Would not object to run large garden on business lines.—H. SMALL, Upper Hartwell, Aylesbury, Bucks.

GARDENER (HEAD or good SINGLE-HANDED); life experience, all branches; married; no children; age 32; good reference; demobilised cottage required—BALAAM, 22, Ebury Bridge Road, S.W.1.

GARDENER (HEAD) seeks re-engagement; all-round experience; where two or three are kept; excellent references; age 34.—BRIGHT, 21, Cathedral Close, Norwich, Norfolk.

GARDENER (HEAD) seeks re-engagement; good testimonials; life experience in all branches; age 35; married; no family.—Apply, W. EAST, 17, Broomfield Road, West Ealing, London, W.

GARDENER (HEAD of two or more); life experience in all branches; age 37; married; demob.—EYRE, The Leys, Ruddington, Notts.

HEAD GARDENER, thoroughly skilled in every branch; up-to-date in making and remodelling any class of garden; must be several under; three years Head of a Wiltshire nobleman's place; first-class references; at liberty October 10; age 35; married (no family).—G. BENFORD, Kiftsgate Court, Campden, Glos.

GARDENER (HEAD); life experience in large establishments, private and commercial; experience with stock and electric light; good testimonials; married; aged 44.—JONES, Glenleith, Bushey Heath Herts.

GARDENER (HEAD of four or more); life experience in all branches; unable to be reinstated through war; very highly recommended; age 35; married (2 children).—W. T., Box 27, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD), 49, requires situation where three or more are kept; 9 years Head in present situation; first-rate references from good establishments; one girl (13); disengaged when suited.—A. SLOGROVE, Rockshaw Road, Merstham, Surrey.

GARDENER (HEAD); good all-round experience; good references; just demobilised; previously Head; married; age 30.—T. BUTLER, c/o M. King, Chesterton Lodge Gardens, Bicester, Oxon.

GARDENER, (HEAD of several).—Advertiser with life experience, all branches, in first-class establishments, would like to meet Lady or Gentleman requiring keen, energetic, and skilful cultivator; excellent references for abilities and integrity from Eastnor, Harewood, Nonsuch, and Bracken Hill, Bristol; married; age 31.—BOOTH, Bracken Hill, Leigh Woods, Bristol.

GARDENER (HEAD); life experience; reliable, trustworthy; competent in all branches, Orchids, table decorations; good organiser and references; would accept temporary place; son age 14.—GARDENER, Northcourt, Eastling, Faversham.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good reference; married; just demobilised; age 32.—W. H. WEBBER Sunnyside, Headley, Newbury, Berks.

GARDENER (HEAD); lifetime practical experience, all branches Horticulture, in good establishments, in culture of Fruit, Plants under glass, Pleasure Grounds, Roses, Herbaceous, Rock, Flowering Plants for Floral effect, all kinds of Choice Hardy Fruits and Vegetables; good testimonials; age 37.—E. W. KING, The Gardens, Woodcote Grove House, Coulsdon, Surrey.

GARDENER (HEAD) where several are kept; 16 years' thorough practical experience in Fruit, Flowers, and Vegetables; early and late forcing; excellent testimonials; demobilised; age 36; married (no children); abstainer.—H. WITTS, 37, Kingston Road, Staines, Middlesex.

GARDENER, (HEAD) where two or three are kept; thoroughly experienced Inside and Out; married.—J. COPPER, Carldane Cottage, Much Hadham, Herts.

GARDENER (HEAD); life experience in leading Gardens Inside and Out, laying out and improving; also land and stock; highest references for character and ability; age 55.—K., 16, Jubilee Place, Salt Hill, Slough.

GARDENER (HEAD) seeks situation where two or three are kept; life experience, Inside and Out, gained in large establishments; Carnations speciality; Fruit, Flowers, Vegetables; early and late Forcing, Melons, Cucumbers, Tomatos; disengaged; just demobilised; age 36; married (two boys).—Apply, W. PAYNE, Groombridge, Kent.

GENTLEMAN highly recommends late HEAD WORKING GARDENER; thorough capable man, all branches; age 45; two sons, 23 and 21.—HOWARD, c/o G.P.O., Welwyn, Herts.

GARDENER (HEAD WORKING).—Mr. F. Gerrish, of Pendley Manor Gardens, Tring, can with confidence recommend his FOREMAN, J. KITCHIN, to any Lady or Gentleman requiring a competent man; experience gained in good establishments; age 31; married (one child).—Address above.

MR. COWARD, Lexham Hall, Swaffham, Norfolk, highly recommends J. BAYLEY as HEAD WORKING GARDENER; life experience; age 37; married (one child); demobilised.—J. BAYLEY, Wallsworth Lodge, Sandhurst, Gloucester.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, inside and outside; experienced in marketing produce; age 46; abstainer.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

F. R. PELLY, Esq., thoroughly recommends HEAD WORKING GARDENER (Scotch); thoroughly experienced in all branches, Inside and Out; excellent references; married. — ROBERT MURRAY, Hockwold, Brandon, Norfolk.

MRS. TURNER, Upton Grove, Tetbury, wishes to recommend T. BRAYENER, as HEAD-WORKING GARDENER in all branches; excellent references from previous places; age 38; married (no family); leaving owing to house being sold.

GARDENER (HEAD WORKING) seeks situation where three or more are kept; experienced Inside and Out, gained in large establishments; good references; married; age 26.—MR. H. HOWLETT, 8, Jubilee Cottage, London Road, Whitchurch, Hants.

HEAD WORKING GARDENER; thoroughly competent in all branches; life experience; highest references.—F. MAY, 22, Upper Queen Street, Rushden, Northants.

GARDENER (HEAD WORKING); practical life experience Inside and Out; estate management of required.—E. W. MARTER, High Street, Kibworth, Leicester.

GARDENER (HEAD WORKING); Scotch; demobilised; life experience; 11 years Head; also Electric Power Plant; good references; married; age 42; (two children).—DONALDSON, 5, High Street, Sandy, Beds.

GARDENER (HEAD WORKING); demobilised; life experience Inside and Out; where two or three are kept; or good Single-Handed; good references; age 38; married (one child); Surrey (near London) preferred.—A. INGRAM, Pine Villas, South Ascot, Berks.

GARDENER (HEAD WORKING) seeks situation where one or more are kept; thoroughly experienced in all branches, Inside and Out; also Bees; 8 years' excellent reference; age 37; married.—F. STREET, Peter's Green Lodge, Luton, Beds.

GENTLEMAN highly recommends first-class HEAD WORKING GARDENER where a fully competent man is required for producing choice produce, Inside and Out, and where the upkeep of a good place is required; can also undertake to manage estate for any lady or gentleman.—W. KENT, New Cottages, Bookham, Surrey.

HEAD WORKING GARDENER and manager of a good place, well up in his work, highly recommended, excellent character, can undertake to make any alterations that are being contemplated.—SOLENT, Box 11, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING or good SINGLE HANDED with help); practical life experience in gentlemen's private gardens; married; age 43; excellent references; near London preferred.—Write, B. A., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING), active and efficient, seeks Situation where an experienced man is required; good references; married; disengaged. —YOUNG, 45, Kirkley Road, Merton Park, Merton, Surrey.

GARDENER (HEAD WORKING), age 33, demobilised, seeks Situation where several are kept; life experience, inside and out; good references; married. H. WALLIS, Heybridge, Essex.

HEAD GARDENER (WORKING), five or more; life thorough practical experience, all branches, inside and out; skilled cultivator of fruits and plants under glass; vegetables, salads, hardy fruits; rose, rock and flower gardens; alterations, etc.; highly recommended; age 45; married.—BURFOOT, 28, King's Road, Ditton Hill, Surrey.

HEAD WORKING GARDENER seeks an appointment; practical life experience in all branches; 22 years as Head, and well versed in the requirements of a good establishment; excellent references as to ability and personal character; age 46; married.—F. E. BRINICOMBE, The Gardens, Ewhurst Park, Basingstoke, Hants.

GARDENER (HEAD WORKING) seeks situation; good references; life experience; age 32 years.—A. CHANT, "The Rest," Tilford, Farnham, Surrey.

GARDENER (HEAD WORKING), smart young man, experienced in all branches, desires situation; married (no children); age 29.—SOLLEY, "St. Clare," Four Marks, nr. Alton, Hants.

HEAD WORKING GARDENER (demobilised); where several kept; life experience all branches; excellent references; married (no family); 4 years Head previous Army; age 32.—BARNES, Heywood Lodge, Westbury, Wilts.

HEAD WORKING GARDENER requires situation where 2, 3 or more are kept; life experience in all branches inside and out; would superintend small farm if required; age 33; married (1 child).—K. TAYLOR, The Gardens, The Grange, East Grinstead, Sussex.

GARDENER (HEAD WORKING) or good Single-Handed. Life experience in all branches. Excellent testimonials; one for 11½ and 4½ years here. Age 44; married. London district preferred. R. ONSLOW, The Elms, Spaniards Road, Hampstead.

GARDENER (HEAD WORKING) seeks situation where two or three are kept. Experienced inside and out. Good refs. Married; age 41. London district preferred.—COLWELL, Lingrith, Woburn, Beds.

GARDENER (HEAD WORKING), thorough practical life experience all branches, several years head in good families. Thoroughly reliable and highly recommended. Married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) or good single-handed; excellent testimonials from good situations; life experience; last five years Head previous to joining the Army; married; aged 37; South preferred.—W. HALL, 25, Ashford Road, Brighton.

GARDENER (HEAD WORKING).—Mrs. Long, 38, Lowndes Square, S.W., highly recommends her late GARDENER, T. HURST; life experience Flowers, Fruit and Vegetables; disengaged through giving up country house; no family.—169, Osmaston Road, Derby.

GARDENER (HEAD WORKING), where several are kept; 25 years' practical experience in the cultivation of choice Fruits, Plants; Inside and Out; Kitchen Garden, Pleasure Grounds; highly recommended; age 39; married (no family).—GARDENER, Stanford Park, nr. Rugby.

GARDENER (HEAD WORKING), demobilised, seeks re-engagement; life experience both Inside and Out; Plants, Fruit, Flowers, and Vegetables; highly recommended as to capabilities; good references, age 35; married (one child).—Please state wages, etc., F. MORLING, Fern Hill Cottages, Kenilworth, Warwickshire.

GARDENER (HEAD WORKING) or good SINGLE HANDED; good all-round experienced man, Inside and Out; good references; age 48; married (one boy)—GARDENER, Grassington, Cranleigh, Surrey.

GARDENER (HEAD WORKING); 20 years' experience; age 33; married (one child); for the last 3½ years' Head Gardener to Lady Rossmore. —ASPLIN, Stud House, Hampton Court.

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GARDENER (HEAD WORKING).—The Earl of Dunraven highly recommends WM. PRESTON as such; life experience in production of fruits, Fowers, Vegetables, early and late forcing; also had Nursery training; excellent references from good places; age 36. WM. PRESTON, West Saltoun, Pencaitland, N.B.

GARDENER (HEAD WORKING); good references, French and English; age 38; married; disengaged.—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

GARDENER (HEAD WORKING); 22 years' experience in good establishments, both Inside and Out; can be highly recommended; previous situation as Head; 35; married (no family).—J. IRVIN, 1, Myrtle Road, Walthamstow, E.17.

SINGLE-HANDED GARDENER seeks situation; no Glass; wife good poultry-woman; help in garden or house; well recommended; free Nov. 1.—Address, GRAY, Plewlands Haslemere, Surrey

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GARDENER (good SINGLE-HANDED or HEAD of one or two), requires situation, with cottage; married; age 32; highest references; thoroughly experienced; Bucks, Herts, or M'sex preferred.—WALKER, 5, Station Cottages, Hatchend, Middlsx.

GARDENER (SINGLE-HANDED or with help); thoroughly experienced inside and out; excellent references; age 43; married.—G. WELLS, 40, Dickson Road, Eltham, S.E.9.

GARDENER (SINGLE-HANDED or with help); experienced, Inside and Out; married (two children); age 35; good references.—A. GAUT, Lynn Road, Downham Market, Norfolk.

GARDENER (SINGLE-HANDED or with help); life experience Inside and Out; married (one crild); age 33; excellent references; abstainer.—H. DUNMALL, 2, De Montfort Road, Lewes.

GARDENER, demobilised N.C.O., 3½ years overseas, seeks situation; SINGLE-HANDED or Good SECOND; experienced Inside and Out; excellent references. married; age 26.—Please state wages, PRITCHARD, Rectory Lodge, Harpsden, Henley-on-Thames.

GARDENER requires situation (SINGLE-HANDED); Kitchen Garden, Lawn. Greenhouse. Roses and Fruit Trees; good lodging required; single.—Apply by letter only W. G. BAKER, 10, Constantine Rd., Hampstead, N.W.3.

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GARDENER, good all-round SINGLE-HANDED or place of trust; age 46; 3 years' last place, 9 year previous.—F. WATTS, 17, Kent Road, Southsea, Hants.

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GARDENER requires situation, with cottage; Head or Single-handed; experienced in all branches; married; one son, 18; wife help in house if required; good references; free.—READ, 5, Norton Villas, Princes Road, Ashford, Middlesex.

GARDENER, demobilised, seeks situation as Head of Two, or good Single-handed; inside and out; life experience; well recommended; references; age 29; married; no family.—S. SMITH, 7, Park Street, nr. St. Albans, Herts.

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GARDENER seeks situation as UNDER or SINGLE-HANDED; good Fruit and Vegetable grower; understands fowls, and can run oil engine for electric light; just demobbed.; good references; married (no family); age 26.—J. GOODWIN, Mount Pleasant, The Moor, Hawkhurst, Kent.

GARDENER, life experienced in Fruit, Vegetables, and Flowers; Indoors and Out; understanding Poultry; abstainer; age 38; married; good references.—R. NESKE, 15, Richmond Grove, Surbiton Hill.

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GARDENER (WORKING); practical in all branches; married.—WRIGHT, The Lodge, Bearmains, Rottenden Common, Chelmsford.

GARDENER.—ORCHID GROWER, just demobilised; life experience in all branches; eight years in first-class Orchid establishments; age 32; married.—CHORLEY, 29, Evelyn Avenue, Thornbury, Bradford.

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UNDER-GARDENER desires post (outside); age 29; single; good references.—A. BLANKS, Malting House, Bridge Street, Writtle, Chelmsford, Essex.

EX SOLDIER seeks situation as UNDER-GARDENER, with residence; married (one child, age 12); good references.—G. BAILEY, Cologne House, Forty Hill, Enfield.

MR. CLIPSTONE wishes to recommend his Foreman as HEAD where two or three are kept, or good FOREMAN'S place; life experience; excellent references; age 27; married when suited.—G. BALCHIN, Melchet Court Gardens, Romsey, Hants.

INSIDE AND OUT, I can specially recommend E. KEMP as a good worker and one anxious to get on; age 18; previously at Wisley; Bothy preferred. —Apply, J. DUDDRIDGE, Ockham Park, Ripley, Surrey.

FOREMAN or good SECOND; life experience Inside and Out; age 29; married; excellent references.—State wages, with house, B. MOWL, Richmond Terrace, Catchem's End, Bewdley, Worcs.

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FOREMAN or good SECOND; 15 years' experience all branches; good references; demobilised; married; age 32.—T. A., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (GENERAL) in good establishment; 13 years Inside and Out, house and table decoration, 3 years Foreman, pre war; excellent references; married; age 31.—SALTER, 55, Albert Road, Wellingborough.

FOREMAN, Inside or General; just demobilised, seeks re-engagement in good establishment; age 34; married; 17 years experience in all departments, 6 as Foreman; keen and capable; highly recommended.—BROOKER, Willington Lodge, Maidstone, Kent.

FOREMAN (INSIDE) seeks situation; thoroughly experienced in Vines, Peaches, Carnations, etc.; excellent testimonials; age 28; contemplating marriage.—L. W., Box 26, 41, Wellington Street, Covent Garden, W.C.2

MR. J. B. LOWE, "Greenhill" Gardens, Warminster, Wilts, wishes to confidently recommend Wallace Turner, as LEADING HAND on Pleasure Grounds (or good Second, Inside and Out); good all-round experience; age 28.

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YOUNG DUTCHMAN, now in Holland, seeks situation in England; thoroughly experienced in all kinds of gardening, also private gardening.—Address, RAVENSBERG, 240, Ridder Van Catsweg, Gouda, Holland.

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YOUNG MAN, age 19, seeks situation under a gardener; outside; good references.—T. BAILEY, Bhaun Farm, Enfield Road, Southgate.

WANTED, situation in large Fruit and Vegetable garden, etc; life experience in good establishments; good refs; age 38 years; married.—ROWE, 1, Milford Mill Road, Salisbury.

SITUATION wanted as GARDEN LABOURER where cottage is available; age 54; no young children.—G. BEER, Long Hill Lodge, Chavey Down, Bracknell.

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YOUNG NEW ZEALAND LADY, with friend, having completed two years' course at Horticultural College, desire position on Fruit and General Horticultural Farm, or private house, under good Head. Commencing October.—Reply, M. L. M., Westerland, Bexley Heath, Kent.

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LADY GARDENER requires post under Head; experience under able tuition; strong, willing, and energetic; excellent references; vicinity of London preferred, if possible.—Apply, GREVES, c.o. Mrs. Morgan, Bramley, Surrey.

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5

SALES BY AUCTION.

MESSRS. PROTHEROE & MORRIS beg to announce that the sale at Peterborough has been postponed. It may also be necessary to postpone other Provincial sales advertised this week. Due notice of fresh dates will appear in this column.

EVERY MONDAY AND FRIDAY.

Hyacinths, early and late Tulips, Narcissus and Daffodils, Freesias, Snowdrops, Spanish Iris, Scillas, Crocus, &c.
In convenient lots for private buyers.

MESSRS. PROTHEROE & MORRIS conduct sales as above at their Central Sale Rooms, 67 and 68 Cheapside, London, E.C., at one o'clock each day. Catalogues on application. Commissions executed.

WEDNESDAY NEXT.

Trade Sale of
BRITISH, FRENCH AND DUTCH BULBS,
comprising Hyacinths, early single and double Tulips, Sacks of Narcissus and Polyanthus Narcissus, Snowdrops, Freesias, Spanish Iris, Scillas, Crocus, &c.
Together with:
26 Cases, as received, containing 28,000 miniature Hyacinths, specially prepared for forcing, 13,000 Paper White Narcissus, Roman Hyacinths, Tulips to name, and Spanish Iris.
Also a consignment of Bay Trees, Azaleas, Aspidistras, &c., from Belgium.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.2, on Wednesday, October 8th, at 12 o'clock.
Catalogues on application.

SUNNINGDALE NURSERIES (Late Nobles), WINDLESHAM, SURREY.

Near Sunningdale Station. Forty-fifth Annual Sale.
A choice assortment of well-grown
NAMED RHODODENDRONS,
Lotted in colours. Himalayan and Chinese Rhododendrons, including many of the newer species, also mixed Seedlings Ponticums and others. Hardy Heaths, Japanese Maples, quantities of Thuja Lobbii and Cupressus, Retinosporas, Laurels, Yews, Ornamental Evergreen and Flowering Shrubs, etc.

MESSRS. PROTHEROE & MORRIS will sell the above by auction on the premises, on Tuesday and Wednesday, October 7 and 8, at 12.30 o'clock May be viewed. Catalogues of Mr. White at the Nurseries and of the Auctioneers, 67 and 68, Cheapside London, E.C.2.

TEDDINGTON.

Clearance Sale of NURSERY STOCK, comprising Ornamental Trees and Shrubs, Golden Privet, Euonymus, Aucubas, Yews, Box, Rhododendrons, Herbaceous Plants, Ferns, and other Greenhouse Plants.
Also the
ERECTIONS OF TEN GREENHOUSES.
3,700 feet of 3 and 4-inch Hot-water Piping, Lights, Barrows, Pots, Covered Van and two Carts, Artificial Manures and Sundries.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the Premises, The Nursery, Hampton Road, Teddington, on
Thursday and Friday, October 9 and 10, at 12 o'clock each day, by order of Mr. D. Anderson.
Catalogues on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

ST. JOHN'S, WOKING.

EXPIRATION OF LEASE.
Clearance Sale of the whole of the Nursery Stock, comprising Golden Queen and Green Hollies, English and Golden Yews, Rhododendrons, Conifers in great variety, Pyracantha, Honeysuckles, Ivies and other climbers, in Pots, together with the erections of TWO GREENHOUSES, Piping, Small Saddle boiler, etc.

MESSRS. PROTHEROE & MORRIS are instructed by Messrs. S. Bide and Sons, Ltd., to sell the above by auction at the Nursery, St. John's, Woking (the lease of which has expired), on
MONDAY and TUESDAY, OCTOBER 13th and 14th, at 12 O'CLOCK EACH DAY.
On view, Catalogues may be obtained on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

SHORTLANDS NURSERIES, ASH, SURREY.

Clearance Sale of a portion of the Nursery Stock comprising 6,000 English and Irish Yews, 10,000 Green and Golden Hollies, Thuja Lobbii, Portugal Laurels, Oval Leaf Privet, named, Ponticum and Hybrid Rhododendrons, Standard Roses, 2,000 Fruit Trees, viz., Standard and Bush Apples in Variety, Victoria Plums and other Stock.

MESSRS. PROTHEROE & MORRIS will sell by auction on the premises as above, on
THURSDAY and FRIDAY, OCTOBER 16th and 17th, at 12 o'clock each day, by order of Mr. H. Sleet.
On view. Catalogues can be obtained on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

BUSINESSES FOR SALE.

PROTHEROE & MORRIS, Horticultural Market Garden and Estate Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

LEICESTERSHIRE.
FREEHOLD NURSERY and Market Garden. Twelve acres; 1,200 ft. of glass. Close to station and large town; excellent opportunity; price £4,100. This includes five dwelling-houses, all let. Could be divided.—PROTHEROE & MORRIS, Auctioneers, 67 and 68, Cheapside, London, E.C.2.

NURSERY, Freehold, established over 20 years, with 300 feet run of glass (most of it nearly new), with 1¾ acres of land containing over 100,000 Narcissi bulbs in all the choicest varieties; also all the best sorts of Perennials for market work. Inspection invited. Owner retiring.—Apply, W. SHACKLETON, Highfield Nursery, Great Horton, Bradford.

PARTNERSHIPS.

FINE OPPORTUNITY offers for man with family and small capital, to enter into partnership with advertiser, who has established first-class connection in Ontario and Quebec, in Flowering Plants and Shrubs. Fruit Garden also included in property, which covers about five acres, situated twenty miles outside Toronto.
The business has outgrown itself in the last five years, and arrangements for next spring could be made by first writing W. G. PEACOCK, c.o. Dale Estate, Brampton, Ontario, Canada.

NOTICES.

BRITISH GARDENERS' ASSOCIATION.
Registered No. 1666 T.
CHANGE OF ADDRESS.
ALL COMMUNICATIONS for the above Association should in future be addressed to:
No. 1, Wellington Place,
St. John's Wood, N.W.8.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.
Approved Section 229.
Amendment to the National Health Insurance Act, 1918.
ALL PERSONS whose salary does not exceed £250 per year must now be insured. This Society, which has paid out over £2,750 in Sickness and Maternity benefits, and has invested Funds of over £4,000, is open to all Gardeners, Seedsmen and Nursery Workers.—Forms of application may be had from A. C. HILL (Secretary), 35, Alexandra Road, West Kensington, W.14.

SCOTTISH HORTICULTURAL ASSOCIATION.
THE above Association will hold its great Scottish National Potato Exhibition and Conference in the Waverley Market, Edinburgh, on Wednesday and Thursday, 22nd and 23rd October. Prize lists may now be had from the Secretary, to whom also applications for space for non-competitive exhibits should be directed. Entries close on 14th October.
A. D. RICHARDSON, Secretary.
34, St. Andrew Square, Edinburgh.

PLANTS, &c., FOR SALE.

FERNS! FERNS!! — Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinas, Lilies, Hydrangeas, etc.; catalogues free. J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.9.

HYACINTHS FOR CHRISTMAS, Red, Pink, Blue, White, Yellow, 2s. 6d. doz. Immediate delivery; limited supply. Bulb Catalogue post free.—ELLISON, West Bromwich. Established 1890.

ROMAN HYACINTHS, 3s., 4s. doz.; Paper White Grandiflora Narcissi, 10s. 6d.; Double Romans, 9s.; Freesias, 3s., 5s. 100; Bedding Hyacinths, 17s. 6d. 100; Catalogue free.—ELLISON'S, West Bromwich. Early Flowering Tulips, 12s. per 100.

AZALEA INDICA, splendid plants, in all the best varieties, including Mrs. Patrick or Vervaeniana, 12 to 18 inches across, earliest to flower, covered with buds; 24s. and 30s. doz. Azalea Mollis, Spiraeas and other plants for forcing later; inquiries solicited.—MORLE AND CO., LTD., 150-156, Finchley Road, London, N.W.

AZALEA INDICA, good sorts, well budded, 16 to 18in. diameter, 42s. per doz. Cash with order.—H. COPPITTERS & SON, 51, Granville Road, Childs Hill, London.

ALPINES, 100,000 to offer; sample dozen 3s., 50 10s. 6d., named; carriage paid. Catalogues free.—TAYLOR'S NURSERIES, New Eltham, S.E.9.

"ROCK GARDEN PLANTS, Where and in What Soils to Plant Them," a useful guide to garden lovers, with catalogue, 48 pages, post free. —G. R. PHIPPS, Alpine Nursery, Barnham, Bognor.

BAY TREES, magnificent selection, Pyramids and Standards for Sale, in all sizes.—Sizes and prices on application, ROBERT GREEN (1911), Ltd., 28, Crawford Street, London, W.

CYCLAMEN PERSICUM.—We have to offer a grand lot in bud and forward bud in 3½in., 5in. and 6in. pots. Also Cineraria grandiflora grand strain, in 3in. pots.—H. B. MAY AND SONS, LTD., Chingford, E 4

WALLFLOWERS, The Vulcan and Golden Monarch, large and bushy, ready for bedding out, 5s. 100, 23s. 500, £2 1,000; Golden Monarch, smaller size, 2s. 100, 8s. 6d. 500, 15s. 1,000. Myosotis Royal Blue, splendid strain, transplanted, 6s. 100, 27s. 500, £2 10s. 1,000, carriage paid.—P. AQUATIAS, The Nurseries, Timperley, Ches.

FOR SALE, six specimen blue AGAPANTHUS in good health, in 30-in oak tubs. — THE SUPT.. Queen's Park, Longton, Stoke-on-Trent.

CYCLAMEN: Kelway's Model Grandiflora Salmon, Pure White, Fine Crimson, strong Plants, in 60's, ready for Potting on 9s. doz.; about 200 ready for 60's, 4/6 per doz.; in 48's, assorted large, strong, Plants, full of buds, 16s. doz.—GEO. BAILEY, Nurseryman, Petersfield.

REEDS, STRAW, from 3 to 10 ft., straight and stiff, almost like bamboo, suitable for packing fruit trees, price per truck load, £2 per ton; loaded free.—Apply, HUCKLE, Oulton Broad, Suffolk.

ON SALE, HARDY FERN ROOTS, large and small. Also Sphagnum Moss, Green Moss, and Fibre.—EVANS AND SON, Tollgate, Penbryn, Dolgelley, N. Wales.

STANDARD ROSE TREE STOCKS for sale: large or small quantities supplied.—Particulars of A. RUTT, 15, St. Mary's Road, Edmonton, Middlesex.

PLANTS, &c., WANTED.

WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free.—SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

MR. WILD-BLUNDELL will buy all the CORSICAN PINES (of planting-out age) that are offered at reasonable prices, and seed of same.—BLUNDELL, Lulworth Castle, Wareham.

WANTED, PAUL CRAMPEL GERANIUMS (old plants) for immediate cash.—Mr. WATSON, Woodside Nursery, New Eltham, S.E.9.

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WEEDS! WEEDS! WEEDS!
NOW is the time to destroy them, before casting their seeds. If your paths are cleaned now they will remain clean for the best part of next year. Our Weed Killer is safe to handle, non-poisonous, will not harm birds or animals, is a powder, only requires sprinkling on the weeds.
1 cwt., including sack, 21s., free on rail London.
CLEVELAND & CO., 89, ALDERSGATE STREET, E.C.

OILSKINS THAT DO NOT STICK.

Oilskins that will give you good service and stand hard wear. Oilskins that never fail to keep out the hardest rain or sleet—BEACON OILSKINS. Men's Coats from 21s., Long Leggings from 5s., Sou'westers 3s., Children's Coats 16s. 6d. upwards. Ladies' Smart Oilskins, 28s. 6d. Deal direct with us and save money. Send a postcard to-day for our Free Booklet of "Weather Comfort," describing money-back guarantee. —Send now—before you forget—to BARBOUR'S, LTD., 66, BEACON BUILDINGS, SOUTH SHIELDS. (3)

SEWAGE DISPOSAL FOR COUNTRY Houses. No emptying of cesspools; a perfect fertiliser obtained; no solids; no open filters; perfectly automatic; everything underground. State particulars, WILLIAM BEATTIE, 8, Lower Grosvenor Place, Westminster.

BANSTEAD OR WALTON HEATH LOAM. —A splendid soil for Vines, Chrysanthemums, Carnations and General use.—Particulars of YOUNG BROS., Betchworth, Surrey.

HEATING APPARATUS for Greenhouses, Conservatories, Vineries, etc., supplied with various arrangements of pipes; Vanguard, Conical and Sectional Boilers; Fittings, Pipes, Spiral Coils, etc.: Illustrated list free.—THOS JEAVONS, Silver Street Works, Brierley Hill, Staffordshire.

IRON AND WIRE FENCING for gardens, tree guards, gates, arches, espaliers, rose stakes, and ornamental garden iron and wire work of every description. Send for illustrated catalogue. Also kennel railing and poultry fencing. Ask for separate lists.—BOULTON AND PAUL, Ltd., Manufacturers, Norwich.

PEAT—GRAVEL—SAND.

PEAT (Brown), 10s. 6d., second 7s. 6d. bag, on rail; truckloads quoted for. Gravel, as dug, on rail, in 5-ton trucks, or sifted into stones, screenings or sand, for building or concrete.—W., Beaumont, Pine Woods, Camberley, Surrey.

4 UNUSED IDEAL BOILERS for 8,000 ft. 4-inch pipe each; 2,000 Corrugated Galvanised Sheets; 2,000 Uralite Boards, 8ft. × 4ft. × ¼in.; 2,000 yds Light Rails; 50,000ft. Glass; 50,000ft. ¾ to 4in. pipes; quantity H. W. Fittings; Glasshouses, various sizes; Boilers; Portable Buildings, etc. Price against specification.—C. A. CHRISTIANSEN, Southall. 'Phone 63

3 GREENHOUSES, about 72 ft. by 12 ft., and 2 smaller, for sale, cheap, to clear site.—Apply, H. C. BROWN, 82, Cricklewood Broadway, N.W.2.

FOR SALE, a quantity of extra stout BAMBOO CANES, at a low price; 4ft., 6ft., 8ft., and 10ft., 12ft. and 14ft.; price on application per 100 or 1,000. —POSTMASTER, Rhoss-on-Sea, Colwyn Bay, N. Wales.

FOR SALE, two deal Chrysanthemum Exhibition Cupboards, N.C.S. size, painted green; locks and keys, also Bloom Boards for 5½ dozen Japs and 2 dozen Incurves, in good condition.—HATTON, East Hill Farm, East Liss, Hants.

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NO STABLE MANURE REQUIRED.

12/6 per cwt., 7/- half-cwt., 4/- 28 lbs., 2/6 14 lbs.

£11 10s. per ton, carriage paid.

ASPARAGUS MANURE.

Should be applied after cutting has finished to make up crowns and ensure a good crop of succulent grass for next season.

1 cwt. 15/6, 56 lbs. 8/-, 28 lbs. 4/6, carr. paid.

Insecticides, Flower Pots, Silver Sand, Peat, etc., supplied.

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Half Carnation and half Pink, it needs no culture, it grows itself and blooms from Spring to Autumn anywhere. Orders now taken for present delivery on all varieties, including :—

		Ex 3½" Pots each	per doz.
HAROLD ..	Pure White	2/6	27/6
JEAN ..	White, Violet centre		
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Azalea hinomanyo, Maxwell, hinodegiri, etc., hardy. Azalea Anthony Koster, Rhododendrons Alice and Corona,

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This Greenhouse has the characteristics of all B. & P. Structures—sturdy strength and splendid finish—given by the best of sound selected materials, built up by skilled Craftsmen—the only kind of buildings which give convincing value for money in lasting usefulness.

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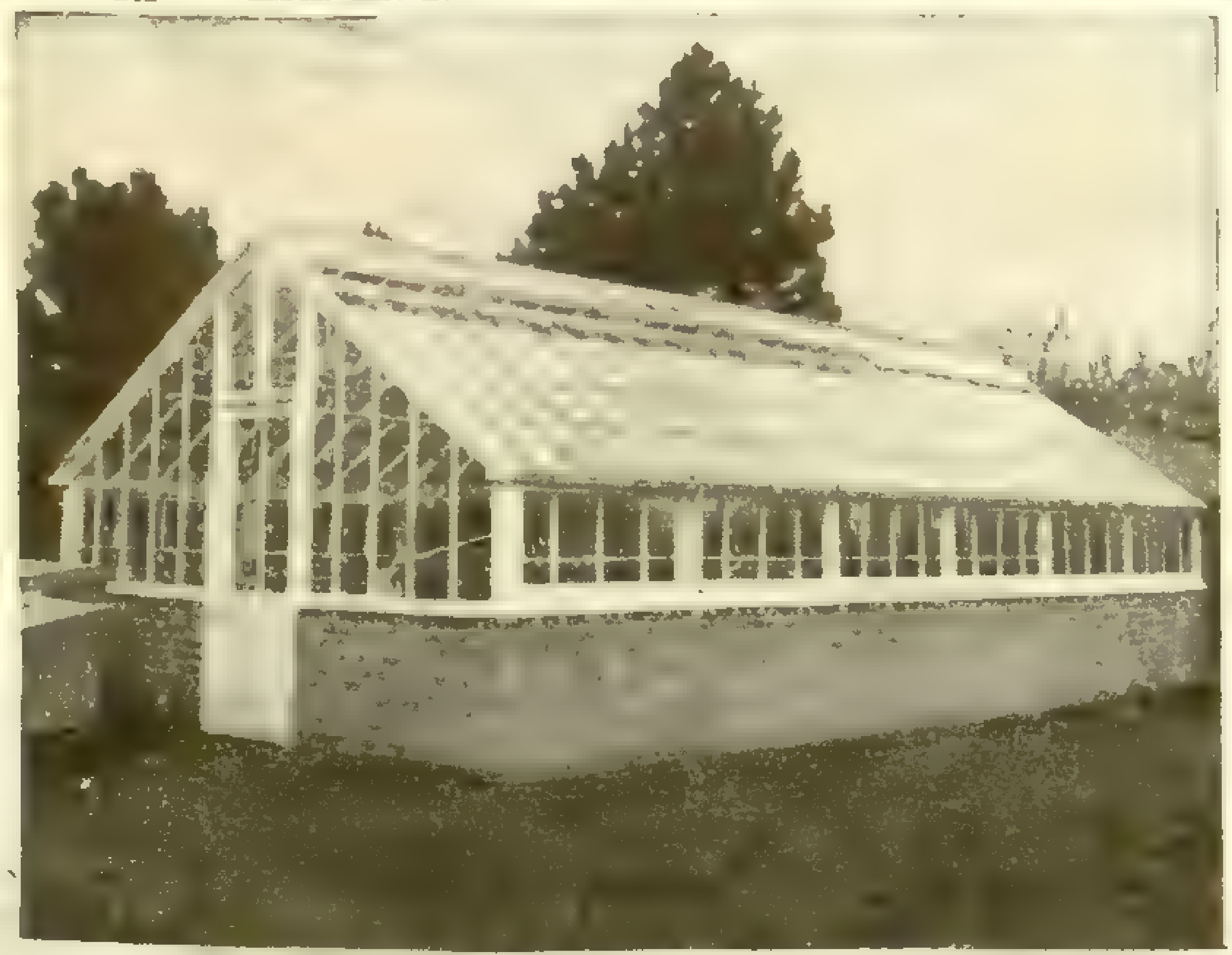

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THE
Gardeners' Chronicle
No. 1710.—SATURDAY, OCTOBER 4, 1919.

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RHODODENDRON.

WITH the passing of the years botanical exploration in the mountainous regions of Western China makes it increasingly evident that as headquarters of the genus Rhododendron the Himalaya must yield pride of place to the Yunnan-Tibetan borderland.

The actual matrix of the Asiatic species is still to seek, but George Forrest holds that it is to be found at some point north-east of the district of Tsarong in S.E. Tibet. Thence, as he tells us, "The genus spreads out in a fan-shaped drift south and south-east, gradually thinning off in numbers as lowlands or plains are reached."

Though the shade of Delavay hovers over the scene, and other travellers have been over the ground since the famous French explorer's day, it is to Forrest that our knowledge of the prolific growth of the genus in N.W. Yunnan is mainly due. The remarkable nature of his pioneer work in connection with Rhododendron is not yet generally appreciated, but some indication of the extent of it may be gathered from the fact that the serial numbers of the Forrest specimens recently sent home had all but reached the surprising total of 18,000. Some of these will be duplicates, no doubt, and some will have been recorded by Forrest's predecessors; but, even so, the record is a wonderful one, and we are not as yet nearly at the end of the chapter; indeed, owing to the inhospitable attitude of the Tibetan tribesmen, the particular area has only been skimmed.

It has often been remarked, and with truth, of the earlier Chinese plant-hunting expeditions of the present century, that the results to practical horticulture and in a minor degree to botanical science are not commensurate with the prodigious amount of labour and trouble involved, and if a reason for this is sought it can hardly be doubted that deficient organisation and haphazard methods on this side are responsible for it. It is not so very long ago that the huge collection of material so laboriously got together in Yunnan by Delavay before his death lay untouched and unattended in the herbarium of the Jardin des Plantes for years before Franchet commenced the enumeration of the specimens—a task he was never able to complete.

Of the mass of material collected by Wilson during his first two expeditions, the proportion that has found its way to gardens is comparatively small, and for all horticulture has benefited Forrest's initial adventure, though rich in interest and discovery, might as well have been made to the North Pole. So that, for those who are interested in Rhododendrons, at any rate, it is a fortuitous combination of circumstances that has at last brought the collector, the enthusiastic amateur and the botanist into friendly collaboration.

Apart from the ultimate gain to gardens of such a happy association as that of Mr. George Forrest, Mr. J. C. Williams of Caerhays and Prof. Bayley Balfour, we cannot doubt but that the result will be the making of a chapter of botanical history worthy to rank with that written by Hooker on the Sikkim Rhododendron, and an instalment of it has lately come to hand in Part III. of the enumeration of Chinese Rhododendrons* on which Prof. Bayley Balfour has been engaged for some time.

Of forty-five new species now described, all but five form part of Forrest's collection, and of these fully three-fourths hail from that apparently inexhaustible natural storehouse of plant life—the Mekong-Salween divide, Kagwr-pu (Lat. 28 25 N.), a mountain that in wealth of flora must rival Wa-shan, further north, furnishing no less than sixteen.

The majority of the species come from the 13,000-14,000 ft. level, not so very far from the limit of ligneous vegetation. At these altitudes one does not look for giants and large-leaved species, such as calophytum, sino grande and semnum, but none the less we read of a Rhododendron forest at 14,000 ft., and in proof of the fact that all the species are not dwarfed, R. leptopeplum—one of the irroratum series—a shrub 20-30 ft. high, with long, narrow leaves, finds a place on the list; we are introduced, too, to a new member of the lacteum set in R. colletum, which Forrest found at the same high altitude.

As is to be expected in the case of plants growing at such elevations, the majority of the species are of comparatively lowly stature and small of leaf, while the section comprising dwarf creeping plants a few inches high is well represented. The older generation of Rhododendron growers, accustomed to the noble species of the Himalaya, may be forgiven an inclination to regard these dwarf forms of the Chinese Alps with a jaundiced eye, but the enthusiast, already on cultural terms with several of the section, will be quick to appreciate the value and interest of the new-comers. For him it is enough that R. erastum, a tiny creeping shrub with clear-rose flowers, is described as "one of the best of the dwarf alpine Rhododendrons discovered by Forrest, rivalling in claims its ally R. Forrestii," or that R. serpens, a diminutive Tibetan plant of prostrate growth, is "another beautiful species." These two newcomers, along with two more, porphyrophyllum and repens, are ranged tentatively round Forrestii to form a sub-section "of every one of which we may say that it has just claims to be considered a rival in beauty of the first-known species of the group" (R. Forrestii). R. orthocladum, a species growing a yard or so high, gives promise, we are told, "of being one of the most attractive garden plants of the Lapponicum series," while the "black-crimson" colour of the aptly-named R. haemaleum, too—"one of the most striking species of the many new Rhododendrons obtained by Forrest during his explorations"—makes it assured of a welcome.

For obvious reasons, the mention of a yellow-flowered Rhododendron invariably excites interest, and though the particular species does not seem to have made up its mind whether the colour of its flowers is to be yellow or rose, curiosity will be whetted by the description of R. citriniflorum, a shrub growing about knee high, of which we read that "it is a plant of the sanguineum series and a very fine one." R. muliense from the Mu-li mountains in S.W. Szechwan, where Forrest was breaking new ground in the spring of last year, is another species with yellow flowers.

Students of the genus will turn with especial interest to the description of R. colletum, not only because it is a welcome addition to the small but important group of which R. lacteum is the head, but because in one of those illuminating passages so characteristic of the author's work in connection with the diagnosis of plants, he points to characters that in his view are crucial of this group, and places in our hands a key to the recognition of these characters. If this should stand the test of time, it must be considered a botanical discovery of no small moment.

In the nomenclature of the species now described, Prof. Balfour has gone to both Greek and Latin, with results that on the whole the scholar will regard as felicitous, even if they do not altogether satisfy the working gardener. Here and there the allusion is perhaps a trifle attenuated, but in the less obvious cases the characteristic determining the specific name is recorded. R. comisteum, for instance—χομιστεός, to be taken care of, as a most charming plant for the garden—is no less happily named than R. eudoxum—εὔδοξος, of good report, in allusion to its attractiveness.

One suspects that many of the plants enumerated in the pages of this modest but deeply interesting pamphlet are cousins; indeed, as the majority of them grow in a defined area it cannot well be otherwise. How far the distinctive features which lead the botanist to give specific rank to half-a-dozen plants that to the eye of the untrained observer look more or less alike, and in point of fact are very much alike, will be maintained under cultivation, is a matter that time and seminal propagation alone can show.

Suffice it to say that in all cases of obvious phyletic consanguinity, the author presents his reasons for separating one plant from another; moreover, his conclusions are set out in those critical but lucid analyses with which his pen has made us familiar. There is an example of this erudite diagnostic analysis in the consideration of plants forming the R. sanguineum series, which comprises, besides R. sanguineum, eudoxum, leucopetalum, haemaleum, roseotinctum, cloiophorum and citriniflorum, all dwarf alpines.

In the analysis in question the student will find, *inter alia*, a brilliant exposition of the structure of the indumentum on the leaf underside in R. haematodes and sanguineum. In the case of the latter "the indumentum is formed of a series of shortly-stalked hairs, the stalks relatively stout and from the top giving off many horizontally spreading branches, the branches of adjacent hairs overlapping and interpenetrating . . . The branch system forms a canopy over the leaf-surface supported as it were on pillars formed by the hair stalks, and thus a chamber of still air, so important a contrivance for checking rapidity of transpiration, is provided." A microscopic pine forest, in fact, with no undergrowth.

* *Notes from the Royal Botanic Garden, Edinburgh*, Vol. XI, Nos. LII-LIII. New Species of Rhododendron, III. By Prof. Bayley Balfour, F.R.S.

Those who entertain any lingering doubt as to the horticultural value of the Chinese Rhododendrons will be interested to read that: "It has been remarked that the flowers of the West Chinese Rhododendrons do not as a rule rival in form, in consistence and in depth and intensity of colour Himalayan species such as *Rh. Thomsoni*, *Rh. fulgens*, *Rh. barbatum* and the like. The Chinest forms we have been considering (the Rh. Forrestii group) are certainly evidence to the contrary and to have made known and introduced to our gardens these lovely plants which will be amongst their greatest glories in the future should be some reward to Mr. Forrest for all the labour and hardship of the years he has devoted to the explorations which have secured them." Of the forty-five species enumerated, only one, R. orthocladum, is reported as growing on limestone.

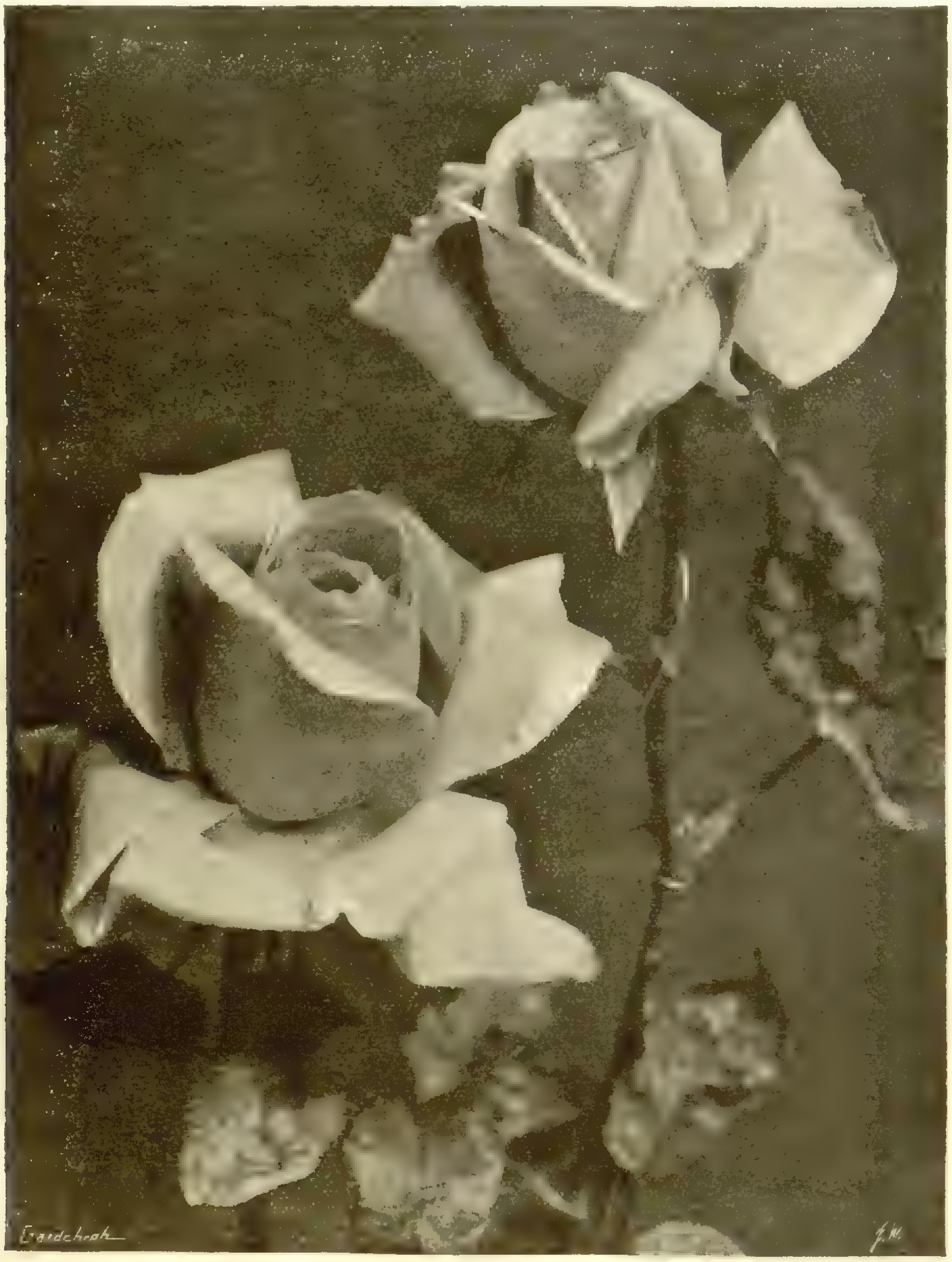

FIG. 79.—ROSE UNA WALLACE: COLOUR BRIGHT PINK.

THE ROSARY.

ROSE UNA WALLACE.

PINK Roses are plentiful, and they include many prime favourites amongst the most glorious flowers of our gardens. In some the form of the bloom gives a special charm to the variety, others possess such delicate tones as to attract by their charming colouring, whilst still others are so good natured as to bloom with freedom in almost any soil or situation. It is well recognised that some of the finest Roses for garden purposes are found amongst the pink sorts, so that a new variety of that shade must possess some outstanding merit to be considered superior or even the equal of varieties already in cultivation. The special charm of the new variety Una Wallace (see Fig. 79) is to be found in its rich, glowing colour, which is best described as bright rose-pink, approaching cerise. At the autumn exhibition of the National Rose Society, on September 9, a large vase of this novelty was staged with other seedlings for award, and it at once compelled attention, for the flowers were strikingly beautiful, and although the colour is pink, the shade is quite distinct from that of other pink varieties. The blooms are of medium size and their shape is pleasing, especially in the younger flowers. The variety received the National Rose Society's Certificate of Merit on the date mentioned, as recorded in the issue for September 13, p. 145.

This new variety, like so many other new Roses, is of Irish origin, and was raised and exhibited by Messrs. S. McGredy and Son, of Portadown.

ORCHID NOTES AND GLEANINGS.

SOPHRO-CATTLEYA SUZANNE.

A FLOWER of the first plant to bloom in a batch raised in the collection of Sir Mervyn Buller, Bart., at Broomhill, Spratton, Northamptonshire, between Sophronitis grandiflora and Cattleya Suzanne Hye de Crom (Mossiae Wageneri × Gaskelliana alba) is sent by Mr. C. Kench, the gardener. It is a pretty flower, four inches across. The sepals and petals, which are formed like the Cattleya parent, have a white ground tinged with salmon-pink, the only evidence of the scarlet Sophronitis parent being seen in the reddish gold sheen on the petals, and in a less degree on the sepals. The lip, however, is strongly influenced by the Sophronitis parent; it is reduced in width and has a narrow front lobe which is formed like S. grandiflora though larger. The lip is orange colour, with red markings at the base, the front being purplish crimson.

SOPHRO-LAELIO-CATTLEYA VIVID.

FLOWERS of two new crosses are sent by J. Ansaldo, Esq., Rosebank, Mumbles, that named S.-L.-C. Vivid being obtained by crossing Sophro-Laelia-Psyche (L. cinnabarina × S. grandiflora) and Laelio-Cattleya Rubens (C. Hardyana × L. pumila praestans). The flower is of the S.-L.-C. Marathon class, bright orange in colour, tinged with red, the centre of the lip being ruby-red, and the outsides of the side lobes curiously decorated with diagonal lines of the same colour.

SOPHRO-LAELIO-CATTLEYA PALLAS.

THIS hybrid was raised between S.-L. Psyche and C. Fabia (Dowiana × labiata). In shape it is nearest to C. Fabia, but in its present stage it is much smaller than that parent. The sepals and petals are cowslip yellow, slightly tinged with pink, the lip being light orange, tinged with rose on the front and outsides of the side lobes. The deep cleft on each side of the base of the front lobe of the lip, and its much undulated margin, derived from the L. cinnabarina in S.-L. Psyche, are interesting features.

TREES AND SHRUBS.

DIPTERONIA SINENSIS.

DIPTERONIA SINENSIS, an interesting shrub or small tree belonging to the order Aceraceae, is now carrying a heavy crop of its fruit at Aldenham. Collected by Mr. E. H. Wilson during his travels through Western Hupeh and Western Szechuan in 1897, it was introduced by Messrs. Jas. Veitch and Sons about three years later.

At Aldenham it has formed a very ornamental bush, or small tree, about 12 to 15 feet high, the foliage, consisting of leaves about 15 inches long, and half as broad, composed of leaflets set oppositely on the leaf stalk, and each measuring about 4 inches long by 2 inches wide.

The flowers are rather insignificant and of a greenish-white colour, but the peculiar fruits, which hang in bunches, are certainly striking, though unlike the fruits, or "keys," of the Acers. They remind one of the seed-pods of the Hop Tree (Ptelea trifoliata), and consist of a pair of thin, flat discs with the seed situated in the centre of each. Occasionally these discs are three in number, whilst more frequently there is only one, owing to the non-development of the second disc of the pair. The fruits are about an inch in diameter, rounded at the top, and slightly tapering towards the base, where they are joined to the stalk.

The species has proved quite hardy at Aldenham, and is easily increased by cuttings inserted in July, or by layering. This year we hope to raise plants from seed. *Edwin Beckett, Aldenham.*

FLORISTS' FLOWERS.

THE DAHLIA.

THE extreme and easy variability of the Dahlia accounts, to a large extent, for the multitudinous forms it has assumed. Never were these forms more multitudinous and more muddling than they are to-day. Even for real decorative garden effect nothing can yet surpass some of the old Show varieties when allowed to grow naturally, but for use as cut flowers they are almost valueless. The last remark applies equally to the exhibition Cactus Dahlia. That grand type has been ruined by wires on the show tables in London. That it has not been ruined beyond reparation was proved by some plants which I saw in Messrs. Dobbie's Nurseries in Edinburgh recently. Mr. G. M. Dickson, who has so long been associated with Mr. Fife in the Dahlia growing department of that well-known firm, has been for some years

concentrating on stiff stemmed Cactus varieties, with the result that Messrs. Dobbie and Co. have now a race of really excellent true Cactus varieties with perfectly rigid, upright stems 15 to 18 inches long. The range of colours is not so wide yet as in the exhibition type, but I saw shades of pink, amber, yellow, rose and blush, and a few striped varieties. I hope Messrs. Dobbie and Co. will show these varieties in London next season, as I am sure they would create a new interett in the Dahlia. *Old Grower.*

BUDDLEIA OFFICINALIS.

The species of Buddleia illustrated in Fig. 80 is a native of China, and was introduced to gardens by Mr. E. H. Wilson, who met with it whilst plant collecting for Professor Sargent, of the Arnold Arboretum, U.S.A. The plant grows wild in the Yang-Tse Valley and other parts, forming a shrub from 4 feet to 8 feet in height. In *Plantae Wilsonianae* it is stated that Buddleia forms a common shrub in rocky places up to about 2,700 ft. alt., and that it is very floriferous, fragrant and ornamental. The flowers are developed in thyrses at the ends of the branches, and the inflorescences are sometimes 12 inches in length. The corolla is very pale lilac with orange throat. The plant is not suited for out-door culture in this country, except in very favoured parts—such as the southwest, as it is not quite hardy. The most useful purpose to which the plant can be put is for growing in a pot in a greenhouse or conservatory. The specimen illustrated in Fig. 80 is one growing in a pot in the Royal Botanic Gardens, Kew. The plant is easily propagated from cuttings rooted in bottom heat in the spring. Specimens raised in this way may be potted and plunged out-of-doors in the open during the summer and taken indoors about the beginning of October to flower in winter.

BOTANY AND THE EMPIRE.*

(*Continued from p.* 164.)

In India there is probably a larger area under Sugar-cane than in any other country. Its production of sugar is over two million tons. The larger proportion of this consists of a low-grade quality known as jaggery or *gur*. Palm-sugar is also produced to the extent of half-a-million tons. The sugar-producing areas in India consist of two main portions: A southern portion in Madras, Mysore, and Bombay wholly within the Tropics, and a northern portion outside the Tropics extending from Assam to the Punjab, a distance of one thousand miles. The difference in soil and atmospheric conditions has a marked influence on the character of the canes grown in the two regions. In Southern India the canes are stout and usually as productive in the irrigated areas as in other tropical countries; but in the North the canes are more slender, grow in thick clumps, and owing to the high percentage of fibre are much less productive in sugar.

Speaking generally, the sugar industry in India is not in a satisfactory condition. In spite of the enormous area under cultivation India is obliged to increase its considerable imports of sugar from Java and other countries. To obviate this urgent steps are being taken to improve the character of the canes and establish varieties adapted to local conditions and the circumstances of the sugar growers. The latter are almost entirely of the peasant class or rayats. At first it was sought to introduce better varieties of canes from other countries. A sugar station was established for this purpose at Samalkola. It was soon evident that the luxuriant canes of the Tropics were not suited to the special conditions existing in Northern India. What was needed was a more hardy type of cane capable of holding its own under the field conditions and the resources of the cultivators. To obtain these they had to be procured in India. With this object in view a cane-breeding Research Station was established in 1910 at Coimbatore, with Barber, an experienced scientific man, in charge. The locality was regarded as favourable because canes were known to flower there comparatively freely. At first the improvement of local canes by selection and later by seedlings from parents of known vigour and high saccharine quality received attention.

In raising seedling canes the chief difficulty was the irregular flowering of the best canes. Barber arrived at the conclusion that until some control of the flowering is obtained work on Mendelian lines was not practicable. In spite of this a large number of selected seedlings are now being raised at the rate of 4,000 per annum. Some of these, lately distributed to the experiment stations in Northern India, have been reported upon as "entirely satisfactory."

Much more still remains to be done, but there is reasonable hope that a race of superior hybrid seedlings will be produced that will eventually displace the inferior local varieties hitherto cultivated. To ensure even moderate success in this direction it is recognised that the work of cane breeding must never slacken, and further, that the means of distribution and the number of stations and capable workers must be increased.

In the considerable literature of Sugar-cane breeding in India Barber has brought together a vast amount of information of singular interest and value. In the few years that have elapsed since he has been in charge of the Coimbatore Research Station he has laid the foundation of lines of inquiry that cannot fail to prove of great value in the permanent improvement of the sugar industry in India. It is a good augury as regards the future that the Government of India has lately formed an Imperial Sugar Bureau, whose duty it is to collect and collate the scattered results obtained in various directions and keep closely in touch with the sugar work done in India and in other sugar-producing countries.

In his Presidential address in 1898 Sir William Crookes stated that the prime factor in wheat production was a sufficient supply of nitrogen. As the supply was then showing signs of exhaustion he warned wheat growers of the peril awaiting them. Sir H. R. Rew has now shown that, thanks to the chemist, who came to the rescue, there is practically no limit to the resources of nitrogen. What he hoped for was that the future would see not only a larger acreage in this country under wheat but also a substantial increase in the average yield. During the great War the British people have realised under the stress of a fight for existence that the question of food supply is the most vital of all national interests. Both in this country and in India and in the Overseas Dominions great progress is being made in raising new varieties of wheat yielding large returns per acre and possessing excellent milling and baking qualities. In the pre-Mendelian days excellent work was done in wheat breeding by Saunders in Canada and Farrer in New South Wales. Their work proved of enormous benefit, as it not only provided varieties of superb quality, but also those that could be successfully grown in districts where wheat growing for various reasons was previously impossible. During recent years Biffen, by his successful investigations on Mendelian lines at the Plant Breeding Institute at Cambridge, has shown that the characteristics distinguishing the numerous wheats can be traced, and the building up of a fresh combination of these characters was possible on practical lines. As the losses caused by disease were so serious, sometimes running to millions of quarters annually, Biffen devoted special attention to the possibility of breeding rust-resisting varieties. He found that the power of resisting the attacks of yellow rust, for instance, was an inheritable character. By crossing "Gurka," a Russian disease-resisting wheat, with Square Head's Master, one of the most widely cultivated wheats in this country, Biffen eventually produced "Little Joss," which, after trials extending over a period of several years, is said to yield four bushels per acre more than any other variety. Further, it possesses distinct disease-resisting qualities.

Another of Biffen's new wheats is "Yeoman." This was raised in order to produce what are known as strong wheats. These are in great demand in this country, as they produce a flour which is much superior for baking purposes to the flour of English wheat. In pre-war days Canadian strong wheats commanded in the market 5s. more per quarter than the best English wheat. "Yeoman" not only possesses the superior quality of Canadian wheat, but combines with it the high-yielding character of certain English wheats.

[*Photograph by E. J. Wallis.*

Fig. 80.—Buddleia officinalis: flowers pale lilac, with orange-coloured throat.

* British Association for the Advancement of Science. Address to the Botanical Section by Sir Daniel Morris, K.C.M.G., M.A., D.Sc., D.C.L., LL.D., F.L.S., President of the Section.

A well authenticated report, supplemented with full details, of the value of "Yeoman" as a field crop was lately published.* It was cultivated under normal conditions, but without artificial manure, on three fields on a large farm near Wye, Kent. The cropped area was a little over twenty-seven acres. The total yield was 2,072 bushels, or an average of about seventy-seven bushels per acre. One field, previously under beet, comprising three acres two roods and eight poles, yielded 340 bushels, or an average of eighty-six bushels per acre. These results may be compared with thirty-two bushels, the average yield of wheat in this country.

Further, in another variety known as "Fenman," Biffen has produced a wheat with a short, stiff straw for the Fen country. This is able to withstand the usual tendency of the ordinary sorts to grow tall and be beaten down and injured in rainy seasons. A most desirable improvement in wheat growing in this country is to obtain a spring wheat combining early maturity with a yield approaching that of winter wheat. There is likely to be a difficulty in securing these most desirable results, but what Biffen has already achieved in dealing with qualitative and quantitative characters offers fair promise of success. The establishment of a National Institute of Agricutural Botany for the further development of plant breeding and the distribution of pure seed may be regarded as essential to the welfare and safety of the nation.

Wheat growing is a very important industry in India. It was estimated in 1906-7 that twenty-nine million acres were under cultivation in wheat with a yield of nearly nine million tons. Of this 90 per cent. was consumed in India. A botanical survey of the Indian wheats was undertaken by the Economic Botanists at the Imperial Research Institute at Pusa, in 1910. In the following years by the application of modern methods of selection and hybridisation high-grain qualities were successfully combined with high-yielding power, rust resistance, and stiff straw, so that wheats were produced which gave upwards of forty-one bushels per acre.

Among the best of the new varieties are Pusa 4 and Pusa 12. Owing to an organised system of distribution of seed it is estimated that the area under Pusa 12 during the last wheat season (1918-19) was about 400,000 acres. The area under Pusa 4 was about 100,000 acres. The increased yield of 25 per cent. over the varieties formerly grown in India as well as one shilling per quarter more on the market, owing to the improved quality of the grain, are factors of great value as regards the future of wheat growing in India. Pusa 4 and 12 are said to possess the added advantage of being able to mature with less water than the ordinary Indian wheats.

The important work carried on at Pusa by Howard and his accomplished wife has followed closely on the methods found so successful at Cambridge. It is interesting to note that in obtaining new kinds by hybridisation between Indian wheats and rust-resisting forms in Northern Europe a difficulty in regard to flowering at different periods was overcome by sending the Indian parents to Cambridge for spring sowing and by carrying out the actual crossing with Biffen's new hybrids in England. From the crosses thus obtained Howard reports that a wide range of wheats has been evolved likely to prove superior to Pusa 4 and Pusa 12.

The admirable work done by Biffen at Cambridge and the Howards in India clearly demonstrates the value of thorough acquaintance with pure Botany as a qualification for grappling with questions of economic importance.

In reviewing the gain to Indian wheat growers the Director of the Agricultural Research Institute has recently stated that in view of the favour with which the new wheats have been received and the cordial co-operation of provincial organisations "it is a modest estimate to assume that in the course of a very few years the area under Pusa wheats will reach five million acres. This means an increase in the near future in the value of the agricultural produce of India, in one crop only, of 75 lakhs of rupees or five million sterling."

(To be continued.)

* Journ. Bd. Agric. xxv., 1161.

THE BULB GARDEN.

LILIUM WALLICHIANUM.

THE reference to Lilium Wallichianum in Mr. Farrer's notes, page 125, and the illustration on page 127, was of especial interest to one who, a great admirer of these beautiful flowers, never had the privilege of seeing them in a state of nature, as depicted in Fig. 62. Mr. Farrer states that of the two prevalent Lilies in the district of which he was writing, L. Wallichianum was the lowest in range, not ascending beyond 7,800 feet, at which point L. nepalense, usually held to be the tenderer, may be said to begin. My experience of these Lilies is that L. Wallichianum is more tender than L. nepalense. It is now nearly forty years since I had the handling of a quantity of bulbs of L. Wallichianum, and found that in order to flower them at their best they needed the temperature of a warm greenhouse. What is more, like L. neilgherrense, they quickly deteriorated, and in time died out, however they were treated. Subsequent importations, spread over a period of at least twenty years, only served to convince me of the futility of expecting this Lily to become a permanent occupant of our gardens or greenhouses. Mr. Farrer speaks of the sickening scent of the flowers, a feature that I have not noticed. True, I never had a large quantity of flowers open at one time, while the difference in the atmosphere might also account for the change. To my mind the fragrance of L. Wallichianum partakes largely of that of L. longiflorum, to which, indeed, it is closely allied. While on the subject of Lilies it may be of interest to observe that my specimen of the large coloured plate of Lilies which was issued in *Gard. Chron.* in, I think, 1878, is still remarkably clear and bright, despite the fact that framed, it has been exposed to the light in my living room for nearly forty years. It was, I think, the first coloured plate issued by the *Gardeners' Chronicle.* *W. T.*

NOTICES OF BOOKS.

Firewoods, Their Production and Fuel Values.*

THIS book comes at an opportune moment, for many people will be pleased to learn which kinds of wood are the most profitable to purchase to supplement their coal supply. So far as we are aware, it is the first book published devoted entirely to the subject, and the author is to be congratulated upon his originality and the production of an interesting and useful work. In treating with the subject the author deals with the sources of supply, the preparation of firewood, the heating values of different kinds of woods, the preparation of faggot wood and faggots, storage of wood, manufacture of charcoal, grates suitable for wood fires, etc. Yew, Oak and Beech are recommended as three of the best woods for log fires, but most of the common woods are suitable. Some woods burn well whether newly felled or seasoned, Beech being one of the best for burning green. Elm, on the other hand, should be dried, or partly dried, before it is used for fire logs. Sweet, or Spanish Chestnut, we are warned, is a third-rate firewood and inclined to smoulder rather than burn brightly. We have known this wood cut up green and be practically useless as fire-logs. Other woods, we find, burn too quickly to make them profitable, whilst woods such as Larch emit numerous sparks which make them dangerous for use in open grates. The chapters on charcoal and firewood tables will be found of great interest, the latter being very useful for inexperienced purchasers. An interesting table is also given on the time taken to boil water on fires made of 17 different kinds of wood. Unfortunately, the price of the work, 12s. 6d. net, places it beyond the means of many persons who ought to possess it, and we are inclined to think that a less elaborate volume at a reduced price would have been an advantage.

* *Firewoods, Their Production and Fuel Values.* By A. D. Webster. Published by T. Fisher Unwin, Ltd., 1, Adelphi Terrace, London, W.C.2, price 12s. 6d. net.

The Week's Work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Carrots.—Maincrop Carrots should be lifted for storing. The weather having turned wet, many of the roots would crack if they are left in the soil, and this would impair their keeping qualities. Choose a dry day for the work. If the ground is of a heavy texture, it should be lightly loosened with a fork; then the roots may be drawn out the more easily without damaging them. Cut the tops off close to the crown, and store the roots in a clamp if there are many, but if only a general garden crop it is better to store them in a cool shed and cover them with dry sand. By this method of storing they will keep well for an indefinite period. The smaller roots should be stored and used separately.

Cauliflowers.—This tender vegetable needs protection from frosts. It is advisable to go through the bed each afternoon and cover securely the tiny curds as they show. Break some outer leaves over the hearts, and use the leaves from the cut plants also, for too much covering cannot be afforded. Heads that are ready may be cut and placed under cover till required. If cut when nice and fresh and not too large, they will keep for a fortnight at this season.

Broccoli.—Hasten the development of a few plants of the autumn varieties to maintain a constant supply at a later date.

Box Edging.—Box edging in the kitchen garden that needs attention should be lifted, divided into small pieces and replanted. The plants will become re-established before the winter arrives, and valuable time will be saved in spring by doing the work now. Decayed manure or leaf-mould should be worked into the soil, which should be trodden firm and afterwards cut with a spade to form a trench to the depth of three or four inches. Stand the small pieces of Box closely together in the trench, fill in sufficient soil to hold the plants in position, and then add more soil, finally treading it firmly.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Feeding Fruit Trees.—If fruit trees are fed liberally at this time of the year it assists them to plump up their fruit buds. The season is too late for the trees to make much growth, and the food given now will benefit the surface roots. Liquid stimulants are the best to use, and they should be followed by a top dressing of well-rotted manure. The roots are still active and the food will enable the trees to store up nourishment behind the fruit buds for the ensuing season. The effect is seen in strong, vigorous blossom in the spring, and the extra nourishment will enable the trees to feed the buds till the new leaves are able to sustain them. Farmyard manure, or, if this is not available, sheep droppings or poultry manure, may be used for the making of the manure water. Sulphate of ammonia 1 lb., superphosphate 2 lbs., and sulphate of potash 2 lbs., may be added to each 100 gallons of water, and should be applied on about two occasions.

Top-dressing Peach and Nectarines.—As soon as the fruits are all gathered, any trees that do not need root pruning should be top-dressed, first removing all the loose soil and rubbish and lightly pricking up the surface with a fork. A mixture of good loam, chopped up fairly fine (three parts), with bone meal, wood ashes and well-decayed animal manure, provides an excellent compost for use as top-dressing. It should be spread about an inch thick, sprinkled with lime, and the whole well watered. For weakly

trees use plenty of wood ash or potash in the compost.

Rivers' Early Plum.—This Plum should be planted in all gardens, as it is most prolific, early, and seldom fails to carry a crop. It is a good market Plum and makes excellent jam.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Peaches and Nectarines.—The selection of varieties of these fruits for planting in newly-erected fruit houses should be governed by the number of houses which are available to maintain a continuous supply. If the number is limited it is not advisable to plant many of the earliest varieties in the earliest division; a selection of early, medium or late varieties may be planted to continue the supply until the fruits in the successional house are ready to gather. The following varieties of Peaches and Nectarines are suitable for forcing, and will provide a succession of fruits: (Peaches) Duchess of Cornwall, Duke of York, Hale's Early, Kestrel, Peregrine, Early Grosse Mignonne, Stirling Castle, Crimson Galande, Dymond, Bellegarde, Prince of Wales and Princess of Wales; (Nectarines) Early Rivers, Lord Napier, Dryden, Stanwick Elruge, Rivers' Orange, Humboldt, Pineapple, and Spenser. If space permits some of the latest introductions may have a place among the older varieties. Alexander, Amsden June and Waterloo are fine early Peaches, but liable to drop their buds when forced early. These sorts do much better if started slowly in February, or better still in March. Cardinal is a very fine early Nectarine, but is best grown in pots.

Late Peach House.—Shading material remaining on the glass should be removed at once, as the maximum amount of sunlight is necessary to thoroughly ripen the wood. The ventilators should be left fully open night and day, and the trees well syringed every afternoon until the foliage is matured. If there is a lack of moisture in the borders give them a copious watering without further delay.

Late Muscat Vines.—In order to have Muscat of Alexandria Grapes plump and in good condition till January, the berries should be quite ripe at the present date. If the foliage is still healthy, no difficulty will be experienced in doing this, the roots being still in an active condition. Light and warmth are the principal factors in bringing about the desired results. All shading material must be removed, and leaves which shade the bunches tied on one side. The temperature of the vinery from sunheat may rise to 80° and this amount of warmth should be maintained for as long as possible during the day, gradually reducing it to 60° to 65° at night. The borders will not require much moisture after this date. When needed watering should be done early on bright mornings. During changeable weather, maintain sufficient warmth in the pipes to keep the atmosphere dry and buoyant, with a little ventilation at the top and bottom of the vinery. A month of this treament will render the fruit firm and sugary, and in the best condition for keeping. Where the roots are growing in outside borders means should be taken to protect the border from rains.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Anemone japonica.—Both the white and pink varieties of the Japanese Windflower give a brilliant display of flowers during August and September. These flowers should receive liberal treatment, and as the plants spread quickly and exhaust the ground soon in which they are growing, periodical divisions and replanting is advisable. Dig the land deeply and add plenty of well-decayed manure. Plant firmly, and allow ample room between the plants for each to develop and produce large blooms that will last for some considerable time. In winter, mulch the beds with manure, both to enrich the soil and to preserve the moisture about the roots in summer.

Herbaceous Paeonies.—There are many exquisitely beautiful and sweetly scented herbaceous Paeonies, and the plants are well deserving of good attention. Those about to plant these flowers should trench the ground and add manure freely. Set out the plants a good distance apart and mulch them liberally with manure. Good varieties should be obtained from nurserymen as soon as possible and planted during the present month.

The Frame Ground.—Now that the summer is drawing to a close, attention should be given to plants in frames. Too much care cannot be taken in watering, for only sufficient moisture is necessary at the roots to keep the plants from suffering. Pelargoniums and several other kinds of bedding plants recently rooted may be transferred from the open to frames, where they will do well until very severe weather sets in. Do not coddle the plants, but admit plenty of fresh air on all favourable occasions. Keep the roots on the dry side. At signs of frost, cover the frames with mats at night until the plants can be removed to a warm house or pit.

Gladiolus.—The corms may be lifted from beds and borders and placed under cover to ripen. Keep the different varieties separate and correctly named, taking every possible care not to mix them.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. Sir G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Dendrobium.—The warm-growing members of this genus revel in bright, warm weather, and those of the deciduous section, many kinds of which produce their flowers early in winter, are rapidly completing their season's growth. When the end leaves of the pseudo-bulbs are fully developed, the plants need much drier conditions, not sufficient to cause shrivelling, but less water at the roots than during their growing season. It is essential that such plants should be afforded plenty of fresh air, and be grown in a position where they obtain the maximum amount of sunshine to thoroughly harden the growths. They should be rested in a well ventilated house, in which an intermediate temperature is maintained. Backward plants should be given every encouragement to complete their season's growth before the days get shorter. The above remarks also apply to such evergreen species as D. thyrsiflorum, D. densiflorum and D. chrysotoxum, that flower in the spring. The species D. Dalhousieanum, D. moschatum and D. fimbriatum are always late in finishing their growths, and the plants should be afforded liberal treatment until the terminal leaf is visible. These plants should be grown in the warmest division at all seasons, but during the winter, while resting, infrequent waterings will suffice to keep the pseudo-bulbs plump and the roots healthy. D. Brymerianum is also usually late in completing its growth. Plants of this species should be rested in the same house that they have been grown in, and during their inactive period, the rooting materials should not be dry excessively, although the amount of water at the roots should be reduced considerably. Plants of D. Phalaenopsis Schröderianum have their flower spikes well advanced, if not already in bloom. It is an advantage, especially in gardens in the vicinity of large towns, to have the blooms early, as foggy weather in late autumn has an injurious effect on these attractive flowers. But little shading is needed at any time for these plants, and now shading is not required, except in the case of plants that are carrying spikes of expanded flowers. For so long as the plants are carrying flower-spikes, a moderate amount of water should be afforded the roots, but after these have been removed, sufficient moisture only is required to keep the pseudo-bulbs from shrivelling. During the plants' inactive period, an intermediate temperature is best for them. D. formosum is a fine species belonging to the nigro-hirsute section that blooms at various times, but usually in late summer and autumn. The plant grows well in company with the above species, requiring an almost unshaded position close to the roof-glass, where there is plenty of heat and moisture. It grows best in teak baskets, which should not be over-large, as the roots never take freely to a large body of compost. This Dendrobium does not require large supplies of water, even during the growing season, and in winter very little moisture will suffice to keep the pseudo-bulbs from shivelling. D. infundibulum is quite a different plant from the last-named, though belonging to the same set. This species does not need much warmth; it grows best in a cool-intermediate temperature, otherwise the treatment should be similar.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Greenhouse Plants that have been growing plunged out of doors during the summer should be brought into glasshouses previously prepared for them. Wash the pots, and where necessary sprinkle a little artificial manure on the surface and water it in. For a time give them all the air possible, keeping close watch against insect pests.

Bouvardia.—Where these plants have been growing planted out in cold frames, let them receive a copious watering previous to lifting and potting them. Use a compost consisting of good loam, a little peat, some coarse sand and wood ash. Place the plants when potted and watered in a pit or house, and keep it close for a time. Shade the foliage from direct sunshine, and syringe it daily. When the roots have grown in the fresh soil, remove the plants to an intermediate house for flowering; a temperature of 50° to 60° is suitable. Plants that have been growing in pots and are now being housed should be given very weak manure water occasionally. When in the flowering house, secure the slender growths to a central stake.

Schizanthus.—A sowing of Schizanthus made now will provide plants for late spring flowering. Sow the seed very thinly in 5 or 6-inch pots, placing them in a cold house. The seedlings may be grown in a cold house until severe frost threatens. Seedlings of a former sowing should be grown near the roof glass in a cool greenhouse.

Bulbs.—Bulbs for early forcing are more plentiful than last year. The first early-flowering Tulips, including Duc Van Thol and other varieties required for Christmas flowering, should be potted and placed in a frame having a north aspect. Cover the pots with a layer of ashes and allow the plants to remain in the bed of ashes until the pots are well filled with roots, when they should be taken into a forcing house. Hyacinths, Daffodils and Narcissi, preparatory to early forcing, should be placd in like manner in a cool aspect under ashes, until the pots are well filled with roots. They may then be placed in the forcing house. Freesias, potted at the beginning of August, have made good growth, and should be kept on a shelf near the roof-glass in a cool greenhouse. As the shoots advance in growth, afford them suitable stakes.

Spring Flowering Plants.—Seeds of plants for flowering early in spring, such as Sweet Peas, Clarkia, Antirrhinum and Mignonette, should be sown during the present month. The seeds of Sweet Peas may be sown in six-inch pots and the seedlings wintered on a shelf in a cold greenhouse. The others may be sown in seed pans and, when the seedlings are large enough, let them be potted into small pots and placed for the winter on a shelf, near the roof-glass, in a cool, airy greenhouse, heat and damp being detrimental to these plants during winter.

Marguerite Mrs. F. Sander. — Cuttings of this useful greenhouse plant should be inserted around the edges of five-inch pots filled with sandy soil. Stand the cuttings in a close propagating frame and, when rooted, place them singly in three-inch pots. Winter them on a shelf in a warm greenhouse.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 51.9°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Oct. 1, 10 a.m.: Bar. 29.5; temp., 58°. Weather—Bright sunshine.

Perennials and Old age

The paradoxical question, Can perennials grow old? is one not only of scientific but also of horticultural interest. For if it be proved that even the perennial plant is not proof against senility it would follow that we must expect all or many of those of our cultivated plants which are propagated only vegetatively to suffer in course of time from senile decay and to lose their fruitfulness.

In the present state of knowledge the answer to the question is uncertain. Some maintain that vegetatively propagated plants are, at least for all practical purposes, immortal, and if they succumb do so not to any inevitable process of senility but to the mischances of disease.

Those who hold this view point to the fact —or assertion—that not a few of our cultivated plants have been propagated vegetatively for two, three or even four thousand years and nevertheless show no sign of senile decay. Of cultivated plants of such ancient lineage are the Grape, Banana, Fig, Date-palm and Chinese Yam (Dioscorea Batatas).

Others, however, refuse to accept this historical evidence—which it must be confessed is based on slender authority and points to the running-out of certain varieties of cultivated plants—Potatos, bush fruit and others, as evidence that the perennial plant is misnamed and that none is exempt from the enervating tyranny of old age.

Though interesting, discussion on these lines cannot but be barren of conclusion. The evidence for a certain judgment is lacking. Recently, however, the problem has been attacked from a new standpoint, and this attack has led to discoveries not only interesting in themselves but of significance with respect to the question—Do perennials grow old? The line of attack pursued by Mr. Harris M. Benedict* consists in enquiring whether there are any recognisable differences in the members (leaves) borne in plants of a given kind and of widely differing ages. For this purpose Mr. Benedict chose, in the first place, the wild Grape—Vitis vulpina. At the outset of the enquiry it was found that there is a marked contrast and readily recognisable difference between the structure of the leaves borne on young and old vines. This difference, which may be seen by the aid of a hand-lens, concerns the fine veins of the leaf. The older the vine the closer are the fine veins to one another, and in consequence the smaller are the islands of leaf tissue which the veins enclose. Full and careful observation confirms this conclusion, and it appears to be thoroughly established that with advancing years the leaf which a vine produces undergoes a definite change of structure of such a kind that the soft tissue continuously decreases in amount and the "woody" conducting tissue increases. The nature of this change is significant. It could be explained on the hypothesis that the manufacturing cells of the leaf, becoming less efficient, the conducting tissue must increase so as to bring itself closer to them and carry away the sugar and other products manufactured by the assimilatory tissue.

That this hypothesis is a tenable one is shown by the further observation that the manufacturing power of the leaf depends on the age of the vine on which it is borne. This Mr. Benedict demonstrates by measuring and comparing the amounts of material manufactured by equal areas of leaves borne on vines of known and different ages.

Needless to say, the author has taken every precaution to eliminate sources of error due to differences of position, of illumination, of age of leaf, all of which would undoubtedly affect both the closeness of the veins and the manufacturing efficiency of the leaf. For evidence of the precautions taken we must refer readers to the original paper, but may say here that the evidence appears to be convincing that age of vine is reflected in leaf-structure and function. Thus, with respect to the veinlets: in a vine of five years old the number per unit of length is 30—35, in one of 35 years it is from 50—75. So with respect to assimilation: whereas a vine of eight years of age manufactures per unit of leaf surface 15.1 per cent. of its dry weight (of material—sugar, etc.) in the course of a day, a vine of 19 years is only able to produce 9.7 per cent. of its dry weight. From which the author infers that the leaf of the old vine is already showing signs of senility in the falling off of its powers of manufacture. Further investigations appear to confirm this conclusion, for Mr. Benedict finds that as the vine grows older its leaves year by year lose some of their power of respiration, that is of releasing energy by the oxidation of sugar or other products of their manufacturing activity, and this in spite of the fact that the leaf of old vines (20-30 years) produces—presumably in compensation for its decreasing efficiency—about double as many stomata per unit of leaf surface as are produced by the leaves of young vines of from 5—7 years of age. Yet other apparently constant differences have been found by Mr. Benedict to distinguish vines of different age and all of these differences are, he thinks, to be attributed to the difference between age and youth—in other words, he regards the closer vein, the more numerous stomata, the failing assimilatory and respiratory powers of the leaves of old vines as signs of senile degeneration comparable with those which accompanies the old age of animals. And in confirmation of this view he shows that the rate at which each of these changes occurs in the plant follows the same course as that which expresses the rate of senile degeneration of different organs or processes of the human body. Thus Mr. Benedict provides evidence, which we may accept provisionally and pending confirmation, to show that even the perennial plant is sooner or later a victim of old age—*tout casse, tout passe, tout lasse!*

* Senile Changes in Leaves of Vitis vulpina L. and certain other Plants, Memoir No. 7, Cornell University Agriculture Experiment Station, June, 1915.

The Railway Strike.—In common with the majority of our readers, we are suffering from the numerous inconveniences which are a consequence of the railway strike. The members of the staff of the *Gardeners' Chronicle*, as in the case of so many other workers in the metropolis, have had many curious experiences in reaching and returning from business, but these are minor matters as compared with those that may attend the distribution of the *Gardeners' Chronicle* during the next week or so. We hope, therefore, readers who live in the more distant parts of the country, and who may not receive their paper at the usual time, will recognise that delay is not due to any lack of effort on our part. One regrettable effect of the strike is that perishable produce is being wasted owing to lack of necessary rail transport. Last autumn there was but little fruit owing to an unfavourable season; this year, when the crops are fairly plentiful, many are being deprived of these food supplies by the hasty action of one section of the community.

Honour for Mr. J. G. Baker.—The University of Leeds is conferring the honorary degree of D.Sc. on Mr. John Gilbert Baker, F.R.S., V.M.H., formerly Keeper of the Herbarium and Library in the Royal Gardens, Kew. Mr. Baker has published valuable monographs, several of them in this journal, on garden genera, and he has a remarkable knowledge of plants of all kinds. He may be described as the gardener's botanist, for no contemporary botanist has done so much for horticulture as this venerable scientist.

Mr. J. Hutchinson.—The *Kew Bulletin* states that Mr. J. Hutchinson, Assistant for India in the Herbarium of the Royal Botanic Gardens, Kew, has been appointed an Assistant, Second-class, in the Royal Botanic Gardens.

"Scott" Memorial Medal.—The Captain Scott Memorial Medal for Research has been awarded to Dr. J. B. Pole-Evans, Chief of the Division of Botany, Department of Agriculture, South Africa, by the South African Biological Society.

Second Crop of Peas.—Messrs. Dobbie and Co. send the following extract from a letter sent to them by a customer:—"I am forwarding a sample of 'English Wonder' Pea grown by me from your seed. You will probably be interested to know that they are a second crop; that is, I planted the seed late in April and gathered a fine crop at the beginning of July, carefully stripping all pods from the row, which quickly began to flower again, with the result I obtained a good second crop, of which the enclosed are an average sample and not picked specimens. They probably should have been pulled earlier, but having been away on holidays they were overlooked."

Dry Rot of Potatos.—The disease known as Dry Rot, which affects the tubers of Potatos and is often the cause of serious loss, is generally ascribed to the fungus Fusarium oxysporum. Recent work,* however, shows that a large number of species of the genus Fusarium are met with in the Potato and that not one, but several, of these species may each attack and destroy the tuber and set up the symptoms of dry rot. The commonest dry-rot producing Fusarium appears to be F. coeruleum. A curious fact has been observed in the course of these investigations, namely that species of Fusarium which in form are closely allied may have very different action in Potato tubers, whereas species which differ unduly from one another in form may produce identical or, at all events, very similar symptoms.

Scafell Pike as a War Memorial.—Lord Leconfield has presented Scafell Pike, the highest mountain summit in England, to the nation in "honour of the men of the Lake district who fought, and in thankful memory of the men who gave their lives in the great war, 1914-1918." Scafell Pike is 3,210 feet high and is

*Fusaria of Potatos, by C. D. Sherbakoff, 28th Ann. Report Cornell University Agric. Exp. Stn. (1915), Ithaca, N.Y.

surmounted by a cairn in which a rough stone may be placed recording the gift and its purpose. The custodians of Scafell Pike will be the Council of the National Trust.

Disease of Beans.—At the meeting of the Royal Horticultural Society, on the 23rd ult., Mr. S. T. Wright, Superintendent of Wisley Gardens, showed the members of the Fruit Committee plants of dwarf Beans from a trial of this vegetable conducted in the R.H.S. Gardens affected with disease. He stated that the disease was very prevalent in plants raised from seed received from America and Japan. It had been diagnosed by Dr. Cotton as Mosaic Disease, and was probably caused by a bacteria. The Committee resolved that the Council be recommended to ascertain from seed firms if the disease was already known to them in this country, and to draw the attention of the Board of Agriculture to the prevalence of the complaint in Beans imported from abroad.

Scabiosa caucasica.—The Caucasian Scabious has long been a popular inhabitant of our gardens, and as a late summer and autumn-flowering plant it holds a high position among florists and the growers of flowers for market. A century of cultivation has effected improvements in the size of its blooms and in freedom of flowering, but considering how long and how largely it has been grown it is somewhat surprising that distinct varietal forms are very few in number. Nicholson records S. c. elegans with whitish flowers and undivided cauline leaves; and S. c. heterophylla with pale purple flowers and hairy, pinnatisect leaves. A more recent introduction is S. c. alba, which Mr. M. Prichard introduced, but even this has been before the public twenty-four years, as it gained the Royal Horticultural Society's Award of Merit on August 27, 1895. A newcomer is S. c. Pride of Exmouth (see Fig. 81), for which Mr. W. J. Godfrey is responsible. This he exhibited freely in the autumn of 1918 and also during the present season. The fine flower heads are rarely less than 3½ inches in diameter, and they are carried on long, stout stems, and consequently are particularly useful for many forms of indoor floral decoration. The colour is lavender blue and the disc is white, while the outer row of disc florets has developed more or less regularly after the style of the collar in Collerette Dahlias, only not so extravagantly; the colour of these developed disc flowers is white. Another attraction this flower possesses is its very broad and prettily crimped ray-florets.

A Women's Exhibition of Country Produce.—An exhibition of country produce, organised by the National Federation of Women's Institutes in London, will take place at Caxton Hall on October 17 and will be opened by Mr. H. A. L. Fisher, M.P., President of the Board of Education. The League of Arts, the Drama League, the English Folk Dance Society, the Girl Guides, the Independent Music Club and other organisations concerned with the rural revival are associating themselves with the exhibition. The exhibits will include fresh fruit and vegetables, bottled and canned fruit and vegetables, jams, marmalades, pickles, honey, dried herbs, fruits and vegetables, cakes, foods peculiar to certain localities, such as Abersoch dried eels and Yorkshire Parkin, goats' milk and other cheeses, butter milk, sour milk, fresh milk and skim milk, eggs, baskets and mats, toys, home-dyed articles and home-cured skins, leather work, needlework, articles made from waste, and labour-saving schemes. Entries are being received from all parts of the country, and the exhibition, which will be open for six days, promises to be of exceptional interest. The exhibition organiser is Miss Alice Williams, National Federation of Women's Institutes, 48, Grosvenor Gardens, London, S.W.1.

Making Use of Acorns.—Acorns can be used for feeding cattle, sheep, pigs and poultry; but they should be fed in small quantities in admixture with other foods. It is desirable to commence with a small ration, and gradually increase the amount. There is some risk of injurious effects from the consumption of large quantities of Acorns by young cattle, although not apparently by cattle over three years old, sheep and pigs. Acorns should be stored in fresh, sound and dry condition, otherwise they are likely to go mouldy; and mouldy Acorns must never be fed. Where large quantities are collected they should be spread out to a depth of six to nine inches on a dry floor in a well-ventilated shed, and turned daily until all surface moisture has evaporated. An excellent plan, where feasible, is to roast the Acorns gently (*e.g.*: in a hop-cask or malt kiln), whereby they are thoroughly dried, all risk of moulding is removed, and the Acorns are made more palatable to stock and easier to shell.

Chamber of Horticulture.—All the meetings of the various committees of the Chamber of Horticulture have been cancelled for the present, and those previously fixed to take place on and after October 7 are subject to improvement in the conditions of transport.

R.H.S. Fruit Show Postponed until the 21st inst.—In consequence of the railway strike it has been found necessary to postpone the Autumn Fruit Show of the R.H.S. until the 21st inst., and there will be no meeting of any kind on Tuesday next. The postponed Fruit Show will be held in the Vincent Square Hall, Westminster, and the Floral Committee and Orchid Committee will also meet on that occasion for adjudicating on novelties submitted for award. It is expected that the exhibits of fruit will occupy the whole of the available space, but if room can be found groups of Orchids and other flowers will be admitted. Those who wish to send collections other than fruit should notify the Secretary not later than the 14th inst., when he will be in a position to state if room is available.

Award of the Hogg Memorial Medal.—Messrs. T. Rivers and Son write to inform us that the award of a Silver-gilt Knightian Medal made by the R.H.S. Fruit and Vegetable Committee to their exhibit of pot fruit trees at the meeting of the Royal Horticultural Society on the 23rd ultimo was subsequently amended by the Council to a Hogg Memorial Medal.

Maximum Prices for Vegetables.—In view of the shortage of vegetables in the markets due to the lack of transport owing to the abnormal conditions on the railways, the Government has issued maximum wholesale prices for vegetables as follows:—Beet, Carrots, Parsnips and Turnips, £11 per ton; Swedes, £8 per ton; Onions, £14 per ton; Brussels Sprouts, £1 per cwt.; Cabbages and Cauliflowers, 15s. per tally (60 heads), or 15s. per cwt.; (these prices include all green vegetables in bags); Potatos, £10 per ton. The maximum price chargeable by the wholesale dealer is the growers' price with the following addition:—10s. per ton for bags, 10s. per ton for commission, and the amount actually and reasonably paid or payable for transport charges.

Sale of the Rosefield Collection of Orchids.—The collection of Odontoglossums and Odontiodas

FIG. 81.—SCABIOSA CAUCASICA PRIDE OF EXMOUTH.

belonging to de Barri Crawshay, Esq., Rosefield, Sevenoaks, one of the most enthusiastic and successful hybridists on scientific lines, will be sold by auction, at Rosefield, by Messrs. Protheroe and Morris, on Tuesday, October 7, and the two following days. The nine hundred lots include many fine pedigree hybrids, some of which are finely illustrated in the catalogue, as well as the remarkable forms on which the operations were based, including the true Odontoglossum triumphans Lionel Crawshay which has played such an important part in determining the superiority of the Rosefield strain of O. Queen Alexandra and other hybrids. Unflowered seedlings of pedigree strain are included in the sale, the raiser expressing the natural desire that the purchasers will give him the opportunity of studying the results of his efforts as they bloom.

Appointments from Kew.—Mr. Alfred Keys, a member of the gardening staff at Kew, has been appointed Assistant Curator of the Botanic Station, Dominica. Mr. H. L. R. Chapman, also a member of the garden staff, has been appointed by the Egyptian Ministry of Agriculture a Superintendent in the Horticultural Section of the Ministry.

Kew Guild.—A Special General Meeting of the Kew Guild will be held on Tuesday, October 7, at 6.30 p.m., in the Lecture Room at the Royal Botanic Gardens, Kew. This meeting is for the purpose of considering proposed alterations of rules relative to the election of Chairman of Committee, and the increase of annual subscriptions. At the same meeting full particulars of the War Memorial to the thirty-three Kew men who fell during the war will be given. The President of the Board of Agriculture has given his sanction to the erection of a memorial tablet in the Temple of Arethusa (see Fig. 82), which is situated midway between the Victoria Gate and Museum No. 1. The memorial has been designed by Sir Robert Lorimer.

Agricultural Returns, 1919.—The preliminary tabulation of the Agricultural Returns shows that the total acreage under crops and grass in 1919 in England and Wales amounts to 26,750,000 acres, of which 12,310,000 are arable land and 14,440,000 permanent grass; these items showing decreases, as compared with 1918, of about 90,000 and 147,000 acres respectively. The acreage under Wheat, 2,221,000 acres, shows a decrease of 335,000 acres, or 13 per cent. during the year, but, except for 1918, is the largest since 1891. Barley shows a very small increase, but Oats have fallen from 2¾ to rather more than 2½ million acres, but occupy the second largest area on record. Rye, with a very small increase, is again the largest area on record. Beans and Peas show increases of 13½ and 9 per cent. respectively. Potatos show a very largely reduced acreage, the total, 476,000 acres, being only three-fourths that of last year, and but little greater than the pre-war average. Turnips and Swedes show a material recovery and are only just short of a million acres; while the Mangold acreage is slightly reduced. Among other crops the most noteworthy changes are the increases in the area under Mustard (which has recovered the area in 1916), Cabbage, Rape, Vetches and Celery; while the most important relative decreases have taken place in Kohl-rabi (the smallest acreage on record), Onions, Chicory and Sugar-beet. The area under Clover, Sainfoin and grasses under rotation, as might be expected as a consequence of last year's large addition to the arable land, shows a material increase, viz., over 160,000 acres, one-third of this being in the area reserved for hay. The total area reserved for hay, viz., 1,500,000 acres of Clover, etc., and 4,170,000 acres of permanent grass, amounted altogether to 5,670,000 acres, or some 73,000 acres less than last year: the total area to be grazed shows an increase of 800,000 acres. The dry spring is no doubt accountable for the smaller area of the hay crop; and to the same cause (at least in part) may probably be attributed the large increase in the bare fallow, 650,000 acres as compared with little more than 400,000 last year, and about double the normal acreage.

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante pp. 64-70.)
(Concluded from p. 168.)

WALES.

CARDIGANSHIRE.—Blossom of all kinds of fruits was very abundant, but a considerable number of the fruits failed to swell. The following varieties have the best crops. Pears.—Doyenne du Comice, Fertility, Pitmaston Duchess, Conference, Blickling, Souvenir du Congrés, Williams' Bon Chrêtien and Triumph de Vienne. Apples.—Bismarck, Newton Wonder, Warner's King, Annie Elizabeth, Norfolk Beauty, Christmas Pearmain, Sturmer Pippin, King of the Pippins, James Grieve and Cox's Orange Pippin. Plums.—Victoria, Early Rivers, Czar and Transparent Gage. Our soil is heavy loam overlaying slatey rock. *W. Phillips, Derry Ormond Park Gardens, Llangybi.*

CARNARVONSHIRE.—All fruit trees blossomed profusely, especially Plums, but much of the Plum blossom failed to set owing to a snowstorm and frost when the flowers were expanded. The Strawberry crop was over very quickly. Cherries cropped rather badly. Caterpillars were somewhat numerous on Apples, otherwise the trees are looking well. Trees of Bramley's Seedling are carrying grand crops. *J. S. Higgins, Glynllivon Park Gardens, Llanwnda.*

FIG. 82.—TEMPLE OF ARETHUSA, KEW, in which the memorial will be placed to Kew gardeners who fell in the war.

GLAMORGANSHIRE.—With the exception of Plums, the prospects of the more essential fruit crops are excellent. Apples in particular are a fine clean crop and Pears are good. Strawberries were below the average in quantity owing to the partial failure of our late variety, Givons' Prolific. Raspberries and Red and Black Currants were abundant, and of fine quality. Cherries were, as is usual, poor in this district. All fruit trees are remarkably free from aphis and caterpillars, despite the fact that little spraying has been done. Our soil is a heavy, retentive loam, with a marly sub-soil. *Arthur J. Cobb, Duffryn Gardens, near Cardiff.*

—— The Apple crop is an average one, and trees of James Grieve, Cox's Orange Pippin, King of the Pippins, Lord Grosvenor, Grenadier and Hawthornden are carrying very good crops. Morello and Sweet Cherry trees were heavily fruited. Strawberries were far above the average in numbers and the berries were of very fine quality. The best sorts this year have been Connoisseur and Royal Sovereign. Bush fruits are excellent, especially Gooseberries, and the trees quite free from blight. *C. T. Warrington, Penllergaer Gardens, Swansea.*

PEMBROKESHIRE.—Fruit trees in this county have not suffered to any great extent from the ravages of caterpillars this year. Plum trees blossomed remarkably well, but for some reason the fruits set very badly, and we have scarcely any Damsons. Gooseberries and Black Currants were excellent crops. *Thomas Henry Roberts, Slebeck Gardens, Haverfordwest.*

IRELAND, N.

DOWN.—The profusion of blossom on all fruit trees has resulted in average crops of Apples and Pears, and record crops of Strawberries, Currants and Gooseberries. A heavy thunderstorm in June did good in providing the much-needed moisture. *T. W. Bolas, Mount Stewart.*

MEATH.—This is one of the best seasons experienced for fruit in this fruit growing district for many years, the only drawback growers had to contend with was to find the necessary labour to pick the fruit. *Michael McKeown, Julianstown, Drogheda.*

TYRONE.—The fruit crops are, on the whole, very satisfactory, but rather late. Plums were a very irregular crop; some trees were very heavily fruited, whilst others had very few fruits. In some gardens in this neighbourhood Gooseberries were very scarce. *Fred W. Walker, Sion House Gardens, Sion Mills.*

IRELAND, S.

CORK.—It has been, on the whole, a disappointing fruit year. The long drought and cold nights during May and June appear to have militated against the free setting of fruit. Winter moth and caterpillars have been troublesome, particularly where the trees were not sprayed in winter. Strawberries and Black Currants suffered considerably from lack of moisture and gave poor crops. *J. Dearnaley, 17, St. Patrick's Terrace, Magazine Road.*

LIMERICK.—One of the most remarkable features of the fruit crops is the behaviour of Apple, Pear and Plum tress, some of which carry heavy crops, whilst others have not a single fruit, trees of the same varieties quite near each other proving no exception. Gooseberries, as is usual in this soil, cropped most abundantly, notwithstanding that the bushes have had no manure for a number of years. *Harry Nixon, Rockbarton, Kilmallock.*

QUEEN'S COUNTY.—All small fruits gave record crops. Apples are excellent and, so far, there has been no insect attack. The season on the whole has been very favourable for fruit culture. *G. McGlashan, Abbey Leix Gardens.*

WATERFORD.—Fruit is exceptionally plentiful, and of good quality. All small fruits were splendid crops. Apples are also most promising. Such varieties as Bramley's Seedling and Newton Wonder are carrying heavy crops. Fruit trees are remarkably clean and healthy. *D. Crombie, Curraghmore Gardens, Portlaw.*

CHANNEL ISLANDS.

JERSEY.—The fruit crops in Jersey are rather below the average, and the trees have suffered very much from dry weather in early summer. Small fruits also suffered much injury from drought, Strawberries being shrivelled on the plants. *Thomas Sharman, Imperial Nursery, St. Mark's Road, St. Helier.*

HORTICULTURAL EDUCATION IN CANADA.

AT the annual meeting of the Horticultural Education Association, at Preston on the 4th and 5th ult., of which a report was published in the issue for September 20 (p. 158), Mr. Gibson, of Guelph College, Ontario, delivered an address on Horticultural Education in Ontario. Mr. Gibson stated that in Ontario, at least, it was quite impossible to separate horticulture from agriculture. He pointed out that in England our present methods were largely the outcome of centuries of experience, and Canada, being a new country, had in the first place to teach in their schools the results of English practices and experiments. He was of the opinion that Rothamsted and Rothamsted work are far better known in Canada and the United States than they are in our own country.

Guelph Agricultural College, founded in 1864 and now a part of Toronto University, is the centre of all education in horticulture and horticultural developments in Ontario. The teaching faculty numbers one hundred members. Speaking of the education of farmers' daughters, the lecturer stated that they were not encouraged to take degree courses, but rather to restrict themselves to domestic science, including the management of poultry and the dairy. With regard to the education of the men, Mr. Gibson emphasised the fact that no man could be admitted to the College unless he were either a farmer's son or had actually worked for twelve months on a farm. The purely theoretical student was not encouraged, and furthermore Mr. Gibson emphasised the fact that no student could obtain a thorough practical knowledge by merely observing the work carried out at a College farm. Another point that was forced home by Mr. Gibson was that there were no scholarship students, and furthermore there was no matriculation examination. The usual demand was for a good general education before students entered the College, but Mr. Gibson gave an example of one of their leading specialists of to-day having come to the College with not even a good general education.

The courses open to the student were two:—

1. Two years' course. The session each year lasts from September to April. Through the summer months students were free to work on farms, and many students in this way obtained the necessary means to pay for their courses during the session. Students who had reached a certain standard at the end of the second year were then free to enter on the Degree course.

2. Degree course. This is a four years' course, that is two years in addition to the two years' course. Degrees could be taken along certain lines, such as agriculture, horticulture, biology, chemistry and physics, and dairying. It was particularly interesting to note that English forms a part of the agricultural courses. Students were encouraged to read good literature and to practise the art of public speaking, so that when they left the college to take up their work either as farmers or lecturers, they are capable of speaking in public in an intelligible manner and thus spreading the knowledge they had gained. Mr. Gibson stated that a practical man did not mean merely a man who could plough or sow, but one who was so educated that he could become a practical organiser.

The development of agriculture and horticulture in the counties of the Province was in the hands of county representatives who were graduates from Guelph. A representative is appointed to a county at the request of a county itself, and the county authorities must provide £500 towards the provision of a local office for the representative. The College authorities send out men whose qualifications are suited to the special branch of horticulture or agriculture prevalent in the district—*e.g.*, in a fruit county the representative would have been graduated in horticulture. Each representative is provided with a stenographer and a Ford car, the latter being considered a *sine qua non* for the work. A representative must, in the first place, obtain the full sympathy of the farmers in the district, and if he is unable to do this, then he is removed from his post. Mr. Gibson stated that 90 per cent. of the farmers in Southern Ontario have a telephone. A representative also gets in close touch with the farmers' children, visits school gardens, and organises juvenile agricultural shows.

Parts of Ontario are specially suited for fruit growing. The College experimental farm of 700 acres has 50 acres devoted to fruit, and in addition, experimental orchards have been planted in the fruit-growing districts. Spraying is practically compulsory, and the inspectors of pests have power to destroy diseased trees and bushes even in private gardens. Orchard competitions have been organised, and the lecturer stated that the dilapidated orchards of our English farms formed a striking contrast to the splendidly arranged orchards on the farms of Ontario. He, of course, fully realised that it was essential to make the conditions such that it would pay the farmer to grow good varieties and to grade his fruit in a proper manner.

With reference to school gardens, the Education Department worked in conjunction with the Department of Agriculture. All school teachers have to take a summer course at Guelph, which extends over two years, lasting for five weeks each year. The teachers must obtain a certificate, and until this is done they have no increase of salary. The schools are grouped and arrange agricultural and horticultural shows of their own, and it was stated that many of these juvenile shows were becoming even larger than the agricultural shows of the district. Prizes were also given for the best kept plots, and it was noted that in these competitions it was necessary for the children to pay entrance fees thus encouraging them to be independent of charity.

FOREIGN CORRESPONDENCE.

THE FLORA OF A SINGLE TREE.

I read with interest the notes on the "Flora of a Single Tree" in your issue of March 29, relating to the number of epiphytes found on a single tree in Queensland. New Zealand could show a very good flora of this kind, but I am too far away from any "bush" to try and make you a complete list at present. In the spring of last year, when away on a holiday, I came across an old Hinau (Eleocarpus dentatus) standing on the edge of a small patch of bush. The tree had been injured by fire years back and had come to the stage of only wanting an extra heavy gale to bring it down. It was just a mass of Orchids; I had never seen such fine specimens of their kind all grouped together. On the sheltered side, the trunk was coated with the tiny Bulbophyllum pygmaeum, further round Sarcochilus adversus held his own, and above, from the remnants of the branches, hung two species of Earina, E. mucronata, and E. suaveolens, and last, but not least, an enormous clump of Dendrobium Cunninghamii in bloom. The Orchids of New Zealand seem to be very little known in England. They are not large or showy, but full of interest from a botanical point of view, and some are certainly worthy of notice from a horticultural standpoint. Dendrobium Cunninghamii and the two Earinas are extremely pretty, and some of the terrestrial ones are not to be despised. Some species of Pterostylis, Corysanthes and Thelymitra, to name a few that are fairly abundant, are well worth a place in anyone's collection. I was sorry when at home a short while ago to find that even Kew could not show a single representative from New Zealand. *M. F., Manaia, New Zealand.*

IMPROVEMENT OF FREESIAS.

I read with interest (see p. 95) the report of Mr. Van Fleet's article on the improvement of Freesias, but would like to point out some not negligible particulars in regard to this subject.

The first attempts to improve these beautiful plants were the crosses I made in 1878 between F. refracta alba (♂ and ♀), introduced in 1877 from South Africa by The New Plant and Bulb Co., of Colchester, and F. Leichtlinii (♀ and ♂), found by Mr. Max Leichtlin, of Baden Baden, in the Botanic Garden of Padua, Italy, before 1874. These crosses gave me a number of hybrid forms differing in colour, shape and size of flowers. One of these was described and figured in the *Bullettino della Societa R. Toscana d'Orticultura*, July 1884, under the name of F. hybrida Giardino Corsi Salviati. I grew the entire stock of these hybrids until, many years after, about 1896, the discovery of the pink F. Armstrongii was announced in the *Gard. Chron.* I could not, however, obtain bulbs of this species till 1904. In the spring of 1905 I fertilised many flowers of all hybrid forms of my first cross and also of the two original species F. refracta alba and F. Leichtlinii, with the pollen of F. Armstrongii. The result was very wonderful; I obtained a hybrid progeny containing a great variety of colours—rose, rosy-lilac, light lilac, deep lilac, lavender-blue, violet-orange, apricot, and chocolate-brown of all shades. The entire stock of these hybrids was purchased and sent out by Mr. Bruggemann, of Villefranche-sur-Mer, France. This splendid result proved once more the advantage of using the pollen of a new species on the stigmas of a multiform hybrid progeny.

Concerning F. Purity, I have grown, many years ago, Mr. Fischer's original stock, and I have found it identical with F. xanthospila candida, sent out about 1890 by Messrs. Dammann, of Naples. Many forms of F. xanthospila were selected by Messrs. Sprenger and Dammann, candida, aurea, sulphurea, Ecklonii and Martha being the best. All these forms, fertilised with the pollen of F. Armstrongii, gave me many large-flowered, beautifully coloured hybrids, with a good deal of yellow and orange among them.

To obtain double flowers in Freesia has been a rather difficult problem for me. A principle of duplication has often appeared among my seedlings under two forms: one, with a multiplication of the segments of the corolla (8-11), the other with a beginning of petaloid transformation of the stamens. I have had thousands of seedlings from both these forms, but I never obtained a complete result.

Other features not negligible to be developed in these beautiful plants, besides the tallness and the strength of the stems, the size of the flower spikes and of the single flowers, are: (1) the yellow or orange maculation of the lower segments of the corolla, and (2) the dark lines of the throat. I have, although seldom, seen the yellow or orange spot spreading upon the three lower petals and turning to dark brown when the colour mixed with the dark-coloured pigment of the stripes in the throat. The light throat, very large in some varieties, can become uniformly reticulated as in some varieties of Petunia.

The production of the scent in these hybrids follows the general law, i.e., that the mother gives that character to the progeny. The crosses F. refracta alba ♀ × F. Armstrongii ♂, and F. refracta hybrids ♀ × F. Armstrongii ♂, gave me a progeny sufficiently scented though not so strongly as the mother; from the inverse crosses I had always a scentless progeny.

The colour factor is "dominant" in Freesias as in many other plants (Lily-of-the-Valley, Richardias, etc.). Seeds harvested from coloured forms in F, give a good many plants with pale red colouring, but not coloured flowers.

Very few plants give so much satisfaction to the hybridiser as these beautiful Freesias do, and I am very grateful to the memory of the late Mr. R. Wallace, who, in 1887, sent me a dried flower of F. refracta alba he had received from South Africa. *Attilio Ragionieri, Castello, near Florence, Italy.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Grapes at the Edinburgh Show (see p. 158).—Your reporter made an error regarding the number of points awarded to the 6 bunches of grapes that won the Thomson Challenge Cup, exhibited by Sir Herbert Maxwell, Monreith, at the Edinburgh show.

The points awarded were:—

	Points awarded.	Maximum points.
Black Hamburgh	$8\frac{3}{4}$	9
Black Hamburgh	$8\frac{3}{4}$	9
Madresfield Court	$7\frac{3}{4}$	9
Muscat of Alexandria	9	10
Muscat of Alexandria	$8\frac{1}{2}$	10
Alnwick Seedling	7	8
	$49\frac{3}{4}$	55

Mr. Charles W. Forbes, Callander House, Falkirk, was awarded the 2nd prize with $45\frac{1}{2}$ points, and Mr. John Neilson, Mollance, Castle Douglas, won 3rd prize with 45 points. *J. M. S.*

A Climbing Aconite.—Some years ago I received some seeds of a climbing Aconite, said to be a new species from China, plants from which have thriven and flowered annually, the blossoms varying in colour from a pretty good blue to slatey grey. I have identified it ten-

tatively with A. Vilmorinii. It is evidently not the same as A. Hemsleyanum, described by Mr. O. Stapf (*G. C.* page 150), for the leaves are divided five-fold to the base, but in other respects it seems very similar. Mr. Stapf states that the stems twine "usually to the left." The plants in my garden twine indifferently both ways. For instance, one which has risen to a height of 8 or 9 feet on a Rose bush first takes two turns with the sun, from right to left, then reverses and takes five turns from left to right. After a straight internode come two turns from right to left, finishing off with one turn from left to right. Darwin recorded (*Climbing Plants* p. 34) only three plants which he found twining both ways, *viz.*, Solanum Dulcamara, Loasa aurantiaca and Scyphanthus elegans. Of the last-named plant he observes: "The reversal of the curvature occurred at any point in the stem, even in the middle of an internode. Had I not seen this case I should have thought its occurrence most improbable." This arbitrary reversal of the spiral is just what takes place in the growth of the Aconite which I have assumed to be A. Vilmorinii. *Herbert Maxwell, Monreith.*

SOCIETIES.

ROYAL HORTICULTURAL.

TRIAL OF DWARF BEANS.

THE following awards have been made by the Royal Horticultural Society to Dwarf Beans after trial at Wisley.

AWARDS OF MERIT.

13, 14 *Sunrise* sent by Messrs. J. CARTER AND Co., and BARR AND SONS; 22 to 27, *Masterpiece*, sent by Messrs. DICKSON, Ltd., DICKSON AND ROBINSON, SIMPSON, ROBERT SYDENHAM, SUTTON AND SONS, WATKINS AND SIMPSON; 45, *Reselected Longsword*, sent by Messrs. J. CARTER AND Co.; 46, 47, *Reliance*, sent by Messrs. SUTTON AND SONS and BARR AND SONS; 48, *Fillbasket*, sent by Messrs. BARR; (Nos. 45, 46, 47, and 48, are not considered sufficiently distinct from Masterpiece); 41, *Bounteous*, sent by Messrs. WATKINS AND SIMPSON; 43, 44, *Perpetual*, sent by Messrs. BARR AND SONS and CARTER AND Co.; (The Committee regard Nos. 41, 43, and 44, as identical); 66, *The Shah*, sent by Messrs. BARR AND SONS; 68, 69, 252, *Superlative*, sent by Messrs. SUTTON AND SONS, BARR AND SONS, and NUTTING AND SONS, LTD; 70, 71, *Magpie*, sent by Messrs J. CARTER AND Co. and BARR AND SONS; 75, *Metis*, sent by R.H.S., Wisley; 76, *Black Prince* sent by Messrs. BARR AND SONS; (The Committee regard Nos. 68, 69, 70, 71, 75, 76, and 252, as identical); 73, *Prodigious*, sent by Messrs. J. CARTER AND Co.; 74, *Feltham Prolific*, sent by Messrs. WATKINS AND SIMPSON; (The Committee regard Nos. 73 and 74 as identical); 88, *White Haricot*, sent by Messrs. SUTTON AND SONS; 89, *White Leviathan*, sent by Messrs. WATKINS AND SIMPSON; 96, *Dunkin's Dwarf*, sent by Mr. DUNKIN; (The Committee regard Nos. 88, 89, and 96, as identical); 125, *Evergreen*, sent by Messrs. SUTTON AND SONS; 143, 251, *Earliest of All*, sent by Messrs. WATKINS AND SIMPSON and NUTTING AND SONS, LTD.; 145, *Fifty Days*, sent by Messrs. J. CARTER AND Co.; 149, *Early Mohawk*, sent by Messrs. MORSE; 175, *Satisfaction*, sent by Messrs. SUTTON AND SONS; 176, *Early Wonder*, sent by Messrs. J. CARTER AND Co.; 186, *Improved White Wax*, sent by Messrs. J. CARTER AND Co.

HIGHLY COMMENDED.

35, *Bountiful*, sent by Messrs. ED. WEBB AND SONS, LTD.; 36, *The Sorsby*, sent by Messrs. DICKSON, BROWN AND TAIT; 37, *Har. nain Gloire de Saint André*, sent by Messrs. COOPER, TABER AND CO., LTD.; 38, *Guernsey Wizard*, sent by Mr. WARRY; 39, *Nain de Perreux*, sent by the R.H.S., Wisley; 40, *Excelsior*, sent by Messrs. BARR AND SONS; (The Committee regard Nos. 35, 36, 37, 38, 39, and 40, as nearly allied but not quite identical); 50, *Prolific Negro*, sent by Messrs. SUTTON AND SONS; 54, *Black Hermitage*, sent by Messrs. BARR AND SONS; 151, *Suisse gris*, sent by R.H.S., Wisley; 158, 159, 161, *Canadian Wonder*, sent by Messrs. SUTTON AND SONS, J. CARTER AND Co., and DOBBIE AND CO.

TRIAL OF PARSLEY.

The following awards have been made to varieties of Parsley by the Council of the Royal Horticultural Society after trial at Wisley:—

FIRST-CLASS CERTIFICATE.

To No. 27, *Perennial Moss Curled*, sent by Messrs. WATKINS AND SIMPSON.

AWARDS OF MERIT.

To No. 43, *Moss Curled*, sent by Messrs. NUTTING AND SONS; to No. 35, *Perfection Moss Curled*, sent by Messrs. BARR AND SONS; and to No. 36, *Imperial Curled*, sent by Messrs. BARR AND SONS.

HIGHLY COMMENDED.

To No. 5, *Fern Leaved Extra Curled*, sent by Messrs. WATKINS AND SIMPSON, and to No. 7, *Fern Leaved*, sent by Messrs. BARR AND SONS.

NORTHUMBERLAND, DURHAM AND NEWCASTLE-ON-TYNE HORTICULTURAL.

SEPTEMBER 2, 3, AND 4.—The annual exhibition of the above society was held at Newcastle on the foregoing dates. There were fewer exhibits than at an average show of this society in pre-war days, but the quality generally was exceedingly good, and this was especially noticeable in the classes for Sweet Peas and vegetables. The fruit classes were but poorly represented. Competition was keen, and especially in the amateurs' section.

In a class for a group of miscellaneous plants arranged in a space of 12 feet by 10 feet, Mr. H. H. HILLIER, Green Park Gardens, Darlington, was awarded the 1st prize. The collection included finely-coloured specimens of Dracaena Goldieana and Codiaeums. Orchids were interspersed amongst the plants at the ground level, and other flowering plants were utilised to advantage in this tastefully arranged exhibit. Mr. HILLIER also excelled in the class for three Palms, and Messrs. ORD BROS., North Shields, were placed second. Mr. C. L. CAWKILL, Angerton, Morpeth, was awarded the 1st prize for twelve vases of Tree Carnations, and he also won the 1st prize in the class for nine vases, the flowers in each case being exceptionally fine. This exhibitor also showed the best hardy and half hardy annuals. Some very pretty exhibits were forthcoming in the class for decorated tables, in which Mr. J. HALEY, Studley Mount, Monkseaton, was awarded the premier prize. In the Rose classes, Messrs. HUGH DICKSON, LTD., Royal Nurseries, Belfast, won 1st prizes for (a) 36 blooms distinct; (b) 24 blooms distinct; (c) 12 blooms distinct, and 6 vases of decorative Roses. Mr. T. PARK, Bedale, was awarded two second prizes and one 3rd prize in these classes, and Mr. A. M. TAYLOR, Roseworth, Wickham, was 2nd in the class for 6 vases of decorative Roses. In the class for 12 Roses shown by an amateur, Mr. J. WELSH, Chapel Avenue, Burnopfield, was placed first and Mr. FAWCETT, Macklay, second. Mr. E. TAYLOR excelled in the class for 6 Roses, in which Mr. BEAN was placed 2nd. Mr. G. HALL, Winlayton, Blaydon, won 1st prizes for six bunches of Summer-flowering Chrysanthemums, and for 12 blooms of Cactus Dahlias respectively. In the class for 12 bunches of Sweet Peas (distinct varieties), Mr. E. KEATH, Wallington, Cambo, was placed first, with fine specimens of Melba, R. F. Felton, Sunproof Crimson, Royal Purple, Constance Hinton, King Manuel, Elegance and Hercules; 2nd, Mr. F. NITHERBY, Carlisle. For 6 bunches of Sweet Peas, Mr. S. RUSSELL, Manor House, Walton, Morpeth, excelled, his flowers of Margaret Atlee, Maud Holmes and King White being exceptionally fine; 2nd, Mr. W. ANDERSON, Felton. In the amateurs' classes for Sweet Peas, Mr. R. J. CAERNS, Prudhoe, and Mr. D. HOWE, Rose Cottage, Barton, Darlington, won 1st prizes.

FRUIT.—In the class for two bunches of White Grapes, Mr. G. F. HALLETT excelled with Foster's Seedling; 2nd, Mr. S. RUSSELL, with Canon Hall Muscat. Mr. HALLETT was the only exhibitor in the class for 2 bunches of Black Grapes. The best Peaches were shown by Mr. J. HENDERSON, Falloden Hall, Lesbury, who was the only exhibitor of Nectarines. Mr. RUSSELL showed the best Melon. Mr. J. HENDERSON had the best 3 dishes of dessert Apples, showing fine fruits of Irish Peach, Beauty of Bath and Cox's Orange Pippin. He also excelled in the class for three dishes of cooking Apples.

NON-COMPETITIVE EXHIBITS.—Messrs. ALLWOOD BROS., Haywards Heath, Sussex, had a fine collection of Carnations and garden Pinks (Gold Medal). Messrs. FINNEYS, Newcastle-on-Tyne, exhibited exceptionally fine Sweet Peas, also a fine collection of Grasses and Clovers (Gold Medal). Messrs. ORD BROS., North Shields, showed an extensive group of miscellaneous Ferns, Palms and flowering plants (Silver Medal). THE BOARD OF AGRICULTURE (Preserving Section) sent a miscellaneous collection of bottled and dried fruit and vegetables (Silver-Gilt Medal). Messrs. MICHIE AND Co., Alnwick, exhibited flowering plants (Bronze Medal). Messrs. LAWRENSON, Three Mile Bridge, Gosforth, staged an excellent collection of Begonias, Primulas, Fuchsias, well berried Solanums, Gloxinias and miscellaneous decorative plants (Silver Medal). Messrs. KENT AND BRYDEN, Darlington, exhibited plans and designs of gardens and rockeries, coloured plates and drawings of various gardens in the Northern Counties. They had also a very fine collection of herbaceous flowers and hardy annuals, a neatly arranged miniature rockery, decorative greenhouse plants, a grand collection of vegetables and a fine assortment of hardy and indoor fruits (Gold Medal). Messrs. J. WATERER, SONS AND CRISP, had a notable exhibit of hardy evergreen decorative and flowering trees and shrubs (Gold Medal). SIR JAMES KNOTT, Close House, Wylam (gr. Mr. W. Anderson) was awarded a Silver Medal for a collection of hardy fruits. LORD RIDLEY, Blagdon (gr. Mr. Perry) sent a collection of home-raised Seedling Potatos (Silver Medal).

MANCHESTER AND NORTH OF ENGLAND ORCHID.

SEPTEMBER 4.—Committee present: Messrs. R. Ashworth (in the chair), A. Coningsby, D. A. Cowan, J. C. Cowan, J. Evans, J. Howes, D. McLeod, C. Parker, W. Shackleton, E. W. Thompson and H. Arthur (Secretary).

Awards.

FIRST-CLASS CERTIFICATES.

Cattleya Naidia exquisita (Hardyana × iridescens), and C. Hardyana alba superba, both from P. SMITH, Esq.

Brasso-Cattleya Lady Veitch, and Odontoglossum grande West Point var., both from S. GRATRIX, Esq.

Brasso-Laelio-Cattleya Tucuman (C. Rhoda and B.-L.-C. Cooksonii), from W. R. LEE, Esq.

AWARDS OF MERIT.

Laelio-Cattleya Ivernia Muriel Wilson and Cattleya Harold alba magnifica, all from S. GRATRIX, Esq.

Cypripedium St. Germains (Lord Wolmer × Germain Opoix), from H. J. BROMILOW, Esq.

Sophro-Cattleya Faboris (C. fabia × S.-C. Doris), from W. R. LEE, Esq.

AWARD OF APPRECIATION.

Laelio-Cattleya Golden Wren (L.-C. Thyone × C. iridescens), from P. SMITH, Esq.

Silver-gilt Medals were awarded to Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. A. Burns), and S. GRATRIX, Esq., Whalley Range (gr. Mr. J. Howes), for groups.

At the meeting held on Thursday, September 18, 1919, the members of the Committee present

were: Messrs. R. Ashworth (in the chair), A. Burns, A. Coningsby, D. A. Cowan, J. Cypher, J. Evans, A. Keeling, E. W. Thompson and J. Thrower.

Awards.

First-class Certificates.

Cypripedium Rossetti Goliath, from S. Gratrix, Esq.

Cattleya Capella alba var. Snow Queen (Mossiae Wageneri × O'Brienana alba), from P. Smith, Esq.

Awards of Merit.

Cattleya Mrs. Pitt West Point var., and C. Hardyana alba Regina, from S. Gratrix, Esq.

Cypripedium Roth Maud (Rothschildianum × Maudiae), from Mrs. Bruce and Miss Wrigley.

Brasso-Cattleya Ilene var. lilacina (B.-C. Mad. Chas. Baron × C. aurea), from P. Smith, Esq.

Award of Appreciation—First-Class.

Odontoglossum Victory var. Rufus (Odm. ? × The Baroness), from Capt. W. Horridge.

A Silver-gilt Medal was awarded to S. Gratrix, Esq., Whalley Range (gr. Mr. J. Howes), and to Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), for groups.

NORTH OF SCOTLAND HORTICULTURAL.

September 24.—A meeting of the members of this Association was held at Aberdeen University on the above date to consider the possibility of reviving the activities of the Association, which have been in abeyance since September, 1917. There was a fair attendance, Mr. William Lockhart (the President) occupying the chair. He called for an expression of views. —Mr. G. E. Greenhowe, lecturer in horticulture in the College of Agriculture, suggested that a vigorous campaign should be instituted to increase the membership, or that steps should be taken to amalgamate with the Aberdeen Allotment Holders' Association.—Mr. Alex. Robson said it would be desirable to carry out that suggestion, and Mr. D. Edwards characterised the idea as an excellent one.—Mr. Sinclair thought they might get a large number of members from among amateur gardeners.—Mr. W. Grant moved and Mr. Greenhowe seconded that the Association be revived, and every endeavour made to ensure success. This was agreed to, and the following office-bearers were appointed: President, Mr. William Lockhart; vice-president, Mr. M. H. Sinclair; secretary, Mr. J. B. Rennett, advocate, Aberdeen; and treasurer, Mr. W. Wyllie. A committee was formed and it was decided to ask Professor J. Arthur Thomson, Aberdeen, to give the opening address.

COVENTRY VIOLA, PANSY, CARNATION, ROSE AND SWEET PEA.

September 13.—The first annual show of the above Society was held at the Corn Exchange on Saturday, the 13th inst. Exhibits were staged by well known members of the Nursery Trade, in addition to those in the competitive classes.

Messrs. H. Woolman and Sons, Shirley Nurseries, Birmingham, exhibited Dahlias, staged in tall stands, which were awarded a gold medal. Messrs. Allwood Bros., Wivelsfield Nurseries, Haywards Heath, Sussex, had a large exhibit of Perpetual Carnations and Dianthus Allwoodi, all fine blooms tastefully arranged, for which they also received a gold medal. Messrs. Shufflebotham and Lavington, Nurserymen, Earlsdon, Coventry, received a gold medal for Roses and exceptionally fine dishes of fruit. Mr. H. G. Tanner, of Sparkhill, Birmingham, was awarded a silver medal for Violas interspersed with Sweet Peas, and Mr. Bennett, The Butts, Coventry, received a bronze medal for a collection of fruit and cut flowers.

In the competitive classes there were some exceptionally fine exhibits of Dahlias, Roses and Asters, the general excellence being well maintained throughout.

The following is a list of prize winners in the more important classes:—12 Roses, distinct—1st, Messrs. Shufflebotham and Lavington; 2nd, Mr. C. W. Beeton. 12 Carnations, distinct—1st, Mr. R. N. Bateman; 2nd, Mr. A. W. Cummings. 6 vases of Violas, distinct, 6 blooms in a vase—1st, Mr. H. J. Tanner; 2nd, Mr. A. W. Cummings. 12 Pansies, distinct—1st, Mr. A. W. Cummings; 2nd, Mr. H. J. Tanner; Sweet Peas, 6 vases, distinct—1st, Mr. H. J. Tanner. 2nd, Mrs. Ford. Dahlias (Cactus), 6 distinct—1st, Mr. H. Woolman; 2nd, Mr. A. W. Cummings. Dahlias (Pompon)—1st, Mr. H. Woolman; 2nd, Mr. Bennett. Dahlias (Collerette)—1st, Mr. H. Woolman; 2nd, Mr. Bennett. Asters—1st, Mr. G. Kirby; 2nd Mr. L. Kirby; 3rd, Mr. A. W. Cummings. Stocks—1st, Mr. Bennett.

The principal prize winners in Division 2 were:—Messrs. F. Nash, C. W. Beeston, A. W. Cummings, L. Kirby, and Mrs. Ford.

CHESTER PAXTON.

September 17.—An exhibition of vegetables, hardy fruits and hardy flowers by allotment holders and others was held on the 17th inst. at the local Town Hall, under the auspices of the Chester Paxton Society. This was the first competitive show organised by that well-known horticultural body since the year 1913, and while from a spectacular point of view it compared very favourably with the shows promoted by the society in pre-war days, the exhibits on this occasion were more of a utilitarian nature than formerly. Over 250 entries of vegetables were made by allotment holders. This is very encouraging when it is found that the entries in the open classes amounted to only 160. The quality of the vegetables displayed by the allotment holders was quite equal, and in some cases superior to those entered in the open classes. The premier honours in the allotment holders' vegetable classes fell to a veteran competitor, Mr. W. Carter, of Abbot's Meads, who was awarded first prize for a collection of six varieties of vegetables, including Cauliflowers, Celery, Leeks, Onions, Potatos, and Runner Beans. There were six competitors in this class, and Mr. Carter is to be congratulated on his success. The second prize was won by Mr. John Beckett, of Dodleston; and the third by Mr. T. Griffiths, of Christleton. In the open classes for vegetables the chief prize winner was the popular President of the society (Mr. T. Gibbons Frost) whose gardener (Mr. T. Gilbert) staged a collection of six varieties which did him the utmost credit. His specimens of Celery, Leeks, Cauliflowers, Onions and Tomatos were exceptionally good. The President was also awarded several other leading prizes in the open classes for vegetables, including Tomatos, Onions, Leeks and Celery.

In the open section for cut flowers the chief exhibits were the sets of nine vases of herbaceous flowers, the first and second prizes being won by two vice-presidents of the society, Mr. E. Peter Jones and Mr. Edward Porritt, respectively. Another leading feature in this class was a very beautiful collection of nine vases of Sweet Peas staged by Mrs. Davies-Cooke, of Gwaesny, Mold, who won the first prize easily. Mr. T. G. Frost excelled in the Chrysanthemum class for a collection of six varieties.

A collection of vegetables not for competition was shown by the Duke of Westminster (gardener, Mr. N. F. Barnes). The centre pieces were composed of Cauliflowers, Tomatos and Onions grouped in conical fashion, the sides being lined with Cucumbers, Potatos and yellow coloured Tomatos.

Local nurserymen contributed greatly to the success of the exhibition. Messrs. Bees, Ltd., Sealand Nurseries had a magnificent collection of Roses, including their new variety Independence Day; groups of Delphiniums, Phloxes, Indian Poppies and Japanese Anemones. Messrs. Dicksons, Ltd., sent a beautiful exhibit composed chiefly of hardy herbaceous flowers, including Phloxes, Japanese Anemones, perennial Sunflowers, hardy Chrysanthemums, Pentstemons and some Roses. Messrs. McHattie and Co., staged a charmingly displayed exhibit composed of Carnations, Sweet Peas, Chrysanthemums, Asters and Pentstemons, together with Leeks, Onions, Potatos, Runner Beans and Tomatos.

TRADE NOTE.

The importation of certain plants, seeds and bulbs is still allowed into the U.S.A. on complying with special regulations.

(1). These subjects include:—

"1. Lily bulbs, Lily of the Valley, Hyacinths, Narcissus, Hyacinth, Tulip and Crocus.

"2. Stocks, cuttings, scions and buds of fruit for propagation.

"3. Rose stocks for propagation, including Manetti, multiflora, Brier Rose and Rosa rugosa.

"4. Nuts, including Palm seeds for propagation.

"5. Seeds of fruit, forest, ornamental and shade trees, seeds of deciduous and evergreen ornamental shrubs, and seeds of hardy, perennial plants." [The Board of Agriculture has recently been informed unofficially that this does not include seeds of our hardy perennial flowers which can be forwarded as "flower seeds."]

The plants must be free from sand, soil or earth, unless the same has been properly sterilised under the supervision of an inspector of the Board of Agriculture. They cannot be forwarded by post. In all these cases the importer must obtain a permit from the Department of Agriculture, Washington; while the exporter must obtain a certificate from the Board, which will be issued after an inspector of the Board has examined the consignment and passed it as free from disease. A limited quantity of "new" varieties and "necessary propagating stock" may also be imported into the U.S.A., but special permits have to be obtained by the importer from the Department of Agriculture, Washington, who will then supply special shipping instructions and labels to be used in forwarding the consignment.

Growers who desire to export to the United States should advise the Board as early as possible in the year, so that arrangements may be made for a preliminary inspection of their premises during the summer months. A final examination will be made as early as possible in October, and if the nursery is free from injurious diseases and pests the Board will be prepared to issue any certificates required up to the end of the following May on payment of the fees indicated below. Seeds and bulbs will be examined at the time of packing. The usual charge will be £2 2s. in respect of each nursery where nursery stock is grown out of doors. A larger sum may be charged in certain cases, and the Board will be prepared to consider applications for a reduced fee when two or more nurseries in the same occupation can conveniently be examined in conjunction. A further charge of 5s. per 100 will be made for the certificates issued during the period October-May. Special arrangements are made in respect of Orchids and stock grown under glass, provided that a permit for their importation has been received from America. Stock shipped between the 31st May and the 1st October will be examined under the conditions explained below.

(2). Phylloxera Certificates.—Certificates cannot be issued by the Board of Agriculture unless the premises where the plants were grown have been examined by one of their inspectors. The necessary examination will be made on payment of a fee which will not in any circumstances exceed £2 2s. A separate fee is not charged, however, if the nursery has been inspected in accordance with the arrangement outlined in Section 1. A charge of 5s. per 100 will also be made for certificates issued.

(3). Certificates for Plants to be sent by Parcel Post and for Consignments under 112 lbs. in Weight.—When a certificate is required that the plants, seeds or bulbs in a consignment have been examined and declared to be healthy or to be free from specified pests, the exporter should make application to the Board a few days before the consignment is to be despatched. As regards plants or bulbs to be sent abroad through the parcel post, a fee of 1s., payable in advance, is charged, and the following procedure must be followed:—The plants must be sent to the office of the Board in a box which can easily be opened, and the plants must be

packed in such a way that they can be taken out and thoroughly examined and then be re-packed by the inspector. The box must be labelled "Plants (bulbs or seeds) for export." A prepaid adhesive label addressed to the consignee must be enclosed, together with the Customs declaration required by the postal regulations. After examination the parcel will be posted, and a receipt of posting obtained and sent to the consignor. If it be desired that the parcel shall be insured the requisite sum must be forwarded.

Note.—As several countries now refuse to admit plants by parcel post, growers should consult the information given in the Post Office Guide as to the regulations of the country of destination before sending plants for examination.

Consignments of plants weighing under 1 cwt. will also be examined at the Board's office. The fees charged for the issue of certificates in such cases are as follows :—

	s.	d.
Packages not exceeding 56 lbs. in weight	2	6
Packages between 56 lbs. and 1 cwt. in weight	5	0

Consignments exceeding 1 cwt. cannot be examined at the Board's office, and the fees in such cases will be at a special rate. If, however, it is necessary for an inspector to travel more than 20 miles to the place of examination the fee will be £2 2s.

The fee must be paid before the certificate can be issued.

Every care is taken to ensure that plants examined at the Board's offices are properly re-packed and promptly despatched, but it must be distinctly understood that the Board cannot accept any liability in respect of any consignment examined or certificate issued by them.

CROPS AND STOCK ON THE HOME FARM.

Food Rations for Agricultural Horses.

This is a subject which is somewhat perplexing to the inexperienced, and a matter about which I receive many inquiries. I need hardly say that there are various opinions as to the methods of feeding horses, and, of course, the kind of soil, heavy or light, wet or dry, has to be taken into consideration as well as the elevation. Cultivation on hill farms is much more laborious than on the flat. Horses need feeding according to the condition of work they are called on to perform. In the case of estate work in conjunction with farming operations, horses are often called upon to pull heavy loads of coal and timber, circumstances that do not come under the purview of the ordinary farmer. The turning out of horses in pastures at night during the summer and early autumn is a subject about which opinions differ.

I am not in favour of the method, for this reason. A horse comes off the binder in the harvest field at 7 o'clock and goes straight into, perhaps, a rather bare pasture. The animal must needs wander about many hours before he has appeased his craving for food. He may lie down for a time, and again wanders for food for some hours. In such conditions I fail to see how horses can obtain the requisite rest to fit them for the next day's strenuous labour.

This method may be cheap at the time, but may not be so in the end. If I am compelled to turn horses out at night, I much prefer to give them a liberal feed of corn first and another in the morning.

Horses that are kept in the stable at night have their food provided for them instead of having to seek it for hours. They eat, then lie down in peace, and surely feel more rested in the morning than do those which have wandered three parts of the night in search of what those in the stable had provided for them. A reasonable ration for a healthy, hard-working horse is 3 bushels of oats at 38 lbs. per bushel per week, with one bushel less during the period when green Grass, Vetches, Trifolium, Clover or Sainfoin is provided. These green foods are most beneficial to the animals.

In addition, two trusses of long hay at 56 lbs. per truss are given. Instead of hay, some farmers use Oat straw, but I cannot see how this can equal even reasonably good hay as a food. Certainly I have not seen horses so fed compare with those fed on hay.

From January onwards a Mangold or two given in the evening is much appreciated and beneficial, and so is green Maize during August and September.

The crushing of Oats is another moot point about which there are arguments. Some crush all the Oats, adding Maize, a little Wheat and chaff and hay also, mixing the whole together. For horses whose teeth are not defective I prefer to give the Oats whole, adding "hulls," Wheat chaff, or in the absence of that, a little ordinary chaff, which induces them to masticate the Oats more thoroughly.

In the case of all the food being crushed and chaffed, some horses are prone to gobble up their ration quickly, which is not, in all cases, good for them.

New Oats are not desirable for horses; in some cases bad attacks of colic are produced by this food, and although colic is a simple malady in hands which know how to deal with it promptly, it is very dangerous if neglected.

I do not like to use new Oats as feed before November, and even then I prefer them mixed freely with old. *E. Molyneux.*

ANSWERS TO CORRESPONDENTS.

Abnormal Tomato : *G. P.* Such abnormal growth in Tomatos is not uncommon, but it is not due to disease. The fruit has continued to grow from the placenta, resulting in prolification, such as is met with sometimes in Roses, where it takes the form of a secondary bud or buds, developing from the centre of the original bloom.

Curatorship in a Botanical Museum : *Miss E. S.* There are a few posts for assistants in botanical museums, but the scope is very limited. If you possess the necessary qualifications you might write to the Directors of such institutions as the Royal Botanical Gardens, Kew, the British Museum and Linnean Society. Your best plan, however, would be to insert an advertisement in some paper such as *Nature*, offering your services and stating your qualifications.

Flue Dust : *F. W. B.* : You do not state the kind of furnace from which the flue dust was obtained. That from blast furnaces contains an appreciable amount of potash, but ordinary flue dust obtained from factory furnaces, etc., contains practically no potash, and is almost worthless as a fertiliser. Flue dust may be mixed with basic slag during the present autumn. Even if it possessed no great value as a manure, it might serve the useful purpose of lightening heavy soil, and thus improve its texture.

Names of Plants : *C. C. S. P.* Hibiscus syriacus (syn. Althaea Frutex).—*O. L. Oakley* : Fuchsia triphylla hybrida.—*F. J. R.* : Liquidambar styraciflua.—*W. J. G.* : 1, Taxus baccata var. fastigiata; 2, T. baccata; 3, Picea sitchensis; 4, P. excelsa; 5, Philadelphia Rambler; 6, Larix europaea; 7 and 8, forms of Cupressus Lawsoniana; 9, C. pisifera var. plumosa. Taxus baccata is the best Yew to plant to form a low hedge. *A. A.* Gentiana Amarella. *Constant Reader.* 1, Lysimachia punctata; 2, Actaea spicata; 3, Poterium canadense. *F. W. Legg.* The shrub with a truss of small flowers is a variety of Spiraea japonica; that with large tubular flowers Escallonia rubra. *H. J. W.* Tradescantia virginiana (Flower of a Day). *C. West.* 1, Lippia nodiflora; 2, Hypericum Androsaemum (Tutsan); 3, Genista sagittalis. *Rosery.* Umbellularia californica. *F. S. Fairthorne.* Clematis heracleaefolia Davidiana. *R. D. Trotter.* 1, Poterium officinale (Great Burnet); 2, Senecio tanguticus. *J. P.* 1, Tecoma radicans; 2, Hydrangea paniculata grandiflora; 3, Tamarix pentandra (syn. T. hispida aestivalis); 4, Hibiscus syriacus totus albus (syn. Althaea frutex tota alba); 5, Nepeta Mussinii. *Correspondent,* 1, Euphorbia sp. unnamed, near E. lactea; 2, Crassula lycopodioides, the flowers of which have a reddish centre; 3, Crassula sp., may be a small form of C. pyramidalis; 4, Crassula sp., but cannot name in absence of flowers.

Peach Fruits Dropping : *H. G. S.* All the varieties of your Peaches are more or less subject to stone splitting. From your description of the sodden border a surface dressing of lime is not sufficient. Lift the roots in the outside border some time during October, and do the same to those in the inside border next year. Examine the drainage and make sure that water passes away freely. Incorporate brick and lime rubble freely with the compost. Adopt measures at once to carry the water from the roof clear of the borders.

Plants Dying Suddenly : *W. W.* It is impossible to state what is the cause of your plants dying. Send specimens for investigation to determine whether disease is present or not.

Potatos with Curious Growth : *C. W.* The abnormal growth is not due to "Wart Disease," but to a multiplication of small buds which have developed into a dense, moss-like growth. If you plant "seed" from another source, you are not likely to meet with similar cases next season, and, as the tubers are not affected with disease, you need take no measures.

Rhododendron Buds Damaged : *D. B.*—We failed to find any evidence of your Rhododendron buds having been eaten by a bird or animal, and are inclined to think, from the appearance of the shoots sent, that they have been broken off by someone having access to the plants.

Roses Diseased : *T. McC.*—The varieties Mme. Abel Chatenay and Mme. Ravary are suffering from Black Spot (Actinonema rosae). The same disease occurs on Mme. Sarah Bernhardt and Edu Meyer, in company with Rose Rust (Phragmidium subcorticatum). Rose Rust alone is found on the unnamed climbing variety, on Donald McDonald and Betty; this disease, in the uredospore and teleutospore stage, occurs on the two latter varieties. Chateau de Clos Vougeot and Lieut. Chaure are suffering from Botrytis on stems and flowers. Merely lifting and replanting the plants on the same site will have no retarding effect upon these diseases. The burning of all fallen leaves and severe pruning are preventive measures, but it would appear from recent observations and experiments that Black Spot disease can only be controlled by the regular, monthly, application of a fungicide, all the year round, as the disease is found in the wood of badly infested plants. Trials in America show that a powder composed of ninety parts finely-ground sulphur and ten parts powdered arsenate of lead dusted on foliage and stems is effective in controlling this disease. In the case of Rose Rust, re-infection depends on the resting spores in diseased leaves that remain on the ground around the plants, therefore the advice to collect and burn the fallen leaves applies with especial force. All plants attacked by this fungus should be drenched with a sulphate of copper solution during the winter.

Sale of Surplus Garden Produce : *Hants.* See reply to *X. Y. Z.* in the last issue.

Communications Received.—G. W. S—J. A. W.—J. W. D.—H. P.—G. Y.—J. F. C.—I. B.—J. McD.—J. W.—G. L. G. B.—H. G. S.—T. R.—M. D.—A. W.—G. J. W. H. H. C. S.— F. S. W.—J. C. W.—J. W. M.—J. W. H.

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MARKETS.

COVENT GARDEN, October 1.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Erica gracilis (contd.) 60's	12 0–18 0
Asparagus plumosus	12 0–15 0	72's	9 0 10 0
—Sprengeri ...	12 0–18 0	Erica nivalis— 48's	30 0–42 0
pidistra, green	48 0–72 0	60's	18 0–21 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	72's	10 0–15 0
Chrysanthemums 48's per doz. ...	9 0–18 0	Marguerites white	18 0–24 0
Erica gracilis— 48's per doz. ...	24 0 36 0	Palms, Kentia ...	18 0–24 0
		—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–15 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium, 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Asters, coloured, per doz. bun. ...	4 0– 6 0	Cattleya Harrisoniæ per doz. blooms,	9 0–10 0
single. ...	2 6– 4 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
white ...	4 0– 6 0	— white, per doz. bunches ...	6 0– 9 0
Bouvardia white	15 0–18 0	Physalis, per doz. bun. ...	12 0–18 0
Carnations, per doz. blooms, best American var.	2 0– 3 6	Roses, per dozen blooms—	
Chrysanthemums—		— Frau Karl Druschki...	2 0– 3 0
—White, per doz. blooms	3 0– 8 0	— Lady Hillingdon	1 0– 2 6
—Yellow ,,	3 0– 6 0	— Liberty ...	2 0– 4 0
—Pink ,,	4 0– 6 0	— Melody ...	2 0– 4 0
—Bronze ,,	3 0– 5 0	— Mme. Abel Chatenay ...	2 0– 3 0
—White per doz. bun.	10 0–18 0	— Ophelia ...	4 0– 6 0
—Coloured ,,	9 0–12 0	— Richmond, var.	2 6– 3 0
Gardenias, per box special ...	10 0–12 0	— Sunburst ...	3 0– 5 0
— ordinary ...	4 0– 5 0	—White Crawford	2 0– 4 0
Heather white — —per doz. bun.	12 0–10 0	Scabious, per doz. bun.	4 0– 6 0
Lapagerias, per doz. blooms ...	4 6– 5 0	Statice, mauve ...	6 0– 8 0
Lilium longiflorum, per bunch ...	12 0–15 0	— white... ...	6 0– 8 0
Lilium speciosum album per bunch	3 6– 4 0	— latifolia, per doz. bun. ...	12 0–18 0
—rubrum per bun.	3 6– 4 0	Stephanotis, 72 pips	4 0– 6 0
Michaelmas Daisies in variety ...	6 0–1 2	Stock, Dbl. White	6 0– 8 0
Orchids per doz.:		Violets, Single large, per doz. bun.	6 0– 9 0
— Cattleyas ...	24 0–30 0	—Ordinary ...	2 6– 3 6

REMARKS.—Owing to the stoppage of all railway services, the supplies to reach the market this morning by road were from surrounding districts, and these appeared more than sufficient for the present demand. Consignments could not be dispatched to the provinces, therefore the supplies appeared ample for the London florists and those from the suburbs. It is difficult to give any correct quotations this week, but up to this morning Carnations, Roses and nearly all other flowers were offered at lower rates than recently.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Beans, French, per lb.	0 9– 1 0	Radishes, per doz. bunches ...	2 6– 3 0
—Scarlet per bus.	10 0–12 0	Spring Onions, per doz. bunches ...	4 0– 6 0
Cucumbers, per flat	12 0–16 0	Tomatos, English, per doz. lbs. ...	5 0– 7 6
Garlic, per lb. ...	1 6– 1 8	— Dutch.. ..	3 0– 4 0
Herbs, per doz. bun.	4 0– 6 0	— French ...	3 0– 4 0
Mint, per doz. bun.	9 0–12 0	— Outdoor Jersey	3 0– 4 0
Mushrooms, per lb.	4 0– 5 0	Watercress, per doz	0 9– —
Mustard and Cress, per doz. punnets	1 3– 1 6		
Parsley, per doz. bunches ...	3 0– 4 0		

VEGETABLES: MAXIMUM WHOLESALE PRICES. — Beets, Carrots, Parsnips, and Turnips, £11 per ton; Swedes, £8 per ton; Onions, £14 per ton; Sprouts, £1 per cwt.; Potatos, £10 per ton; all plus reasonable expenses.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Apples (English)		—Muscats, per lb.	2 0– 6 0
—Worcester Pearmain per ½ bus.	4 0– 4 6	Melons, each ...	1 6– 3 6
—King Pippins per ½ bus.	4 0– 4 6	Nuts Brazils (new) per cwt.	110 0–115 0
—Coxes per ½ bus	5 0– 10 0	Cob Nuts per lb.	1 0– 1 3
—Warner's King per bus.	4 0– 6 0	Pineapples each...	3 6– 5 0
—Lane's Prince Albert per bus.	4 0– 6 0	Plums (English) per ½ bus.	
—Bramleys Seedling per bus.	4 0– 7 0	—Monarch ...	16 0–15 0
—Blenheim Pippin per bus. ...	5 0– 8 0	— Prunes ...	14 0–16 0
—Ecklinville Seedling per bus.	4 0– 6 0	Damsons	14 0–16 0
Aubergines; pr doz	2 0– 3 0	Worthing Figs, per doz.	3 0– 6 0
Bananas... ...	30 0–40 0	Pears English per ½ bus.	
English Peaches per doz. ...	6 0–18 0	— Marguerite Marillat	7 0– 10 0
Grapes:—		— Louise Bonne of Jersey	6 0–10 0
— Alicante ...	1 3– 2 6	—Beurre Capiamont per bus. ...	12 0– 14 0
—Blk Hamburgh,	1 6– 2 6	—Fertility bus.	12 0– 14 0
—Canon Hall	3 0– 6 0	—Calabash ½ bus	10 0– 11 0

REMARKS.—Business has been considerably hampered during the past week, and the effect of disorganisation of the system of distribution has been felt to a marked degree. Plums are in shorter supply, and the demand created by the London trade has been sufficient to maintain increased prices. Consignments of Apples and Pears during the earlier part of the week were ample for available business, but a tendency was for the hardening in prices towards the week end. Hot-house fruits are in fair supply, at slightly increased prices. A shortage of vegetables due to lack of transport was experienced early in week, and a timely "Order" controlling prices prevented undue advantage being taken of the abnormal conditions in the railway situation.

GARDENING APPOINTMENTS.

Mr. J. E. Waters, for three and a half years with H.M. Forces, and previously Gardener to H. R. CAYZER, Esq., Lanfine, Newmilns, Ayrshire, as Gardener to H. R. RUSHTON, Esq., Barnacre Lodge, Garstang, Lancashire.

Mr. A. Burton, recently Foreman, Fairford Park, Gloucestershire, and for 4½ years with H.M. Forces, as Gardener to SIR JAMES CRAIG, Cleeve Court, Streatley-on-Thames.

Mr. W. P. Woolner, for nearly three years in H.M. Forces, and previously for six and a half years Gardener to HARRY WHITEHEAD, Esq., Holly Mount, Rawtenstall, Lancashire, as Gardener to W. H. MACILWAINE, Esq., Manor House, North Ferriby, near Hull, East Yorkshire.

Mr. J. A. Cane, previous to serving in H.M. Forces in Egypt, Gardener at Kearsney Court, Dover, as Gardener to CAPTAIN G. H. JOHNSTONE, Trewither, Grampound Road, Cornwall.

Mr. W. Turner, late Royal Air Force, and previously for five years Gardener at East Hadden Hall, Northampton, as Gardener to A. CROSSMAN, Esq., Hill House, Harrow Weald, Middlesex.

Mr. Wm. Ransom, for the past three years' and three months with His Majesty's Forces in France, Belgium, and Germany, and formerly Gardener to H. S. ASHTON, Esq., at Whitmores, Beckenham, Kent, as Gardener to the same gentleman at Trueloves, Ingatestone, Essex. (Thanks for donation to the R.G.O.F. box.—EDS.).

CATALOGUES RECEIVED.

JESSE HANDSCOMBE, Bedfont and Feltham, Middlesex—Rhubarb Roots and Bulbs.

JAMES VERT & SONS, Saffron Walden—Bulbs.

W. SMITH & SON, Exchange Seed Warehouse, Aberdeen.—Bulbs.

DICKSONS, Royal Seed Warehouses, Chester—Bulbs.

CHARLES TURNER, The Royal Nurseries, Slough—Bulbs.

THE PREMIER SEED COMPANY, LTD., 117, London Road, Brighton—Bulbs.

DOBBIE & Co., Edinburgh—Bulbs, Roses, Sweet Peas, Vegetable Seeds, etc.

WILLIAM SAMPSON & Co., 8-10, Portland Street, Kilmarnock—Bulbs, Forest Trees, Fruit Trees, and Roses.

Foreign.

V. LEMOINE & SON, Nurseries, Rue du Montet, 136-142, Nancy, France—Trees, Shrubs, and Hardy Perennial Plants.

VILMORIN-ANDRIEUX ET CIE, 4, Quai de la Mégisserie, Paris—Onnons a Fleurs et Fraisiers.

SCHEDULE RECEIVED.

St. Neots Chrysanthemum Society's 33rd annual show to be held on Tuesday, November 4, 1919, at St. Neots. Secretary, Mr. George Endersby, New Street, St. Neots.

Books on Gardening.

(The prices given below include postage.)

Alphabet of Gardening. T. W. Sanders. 4s.

Bulbs and their Cultivation. T. W. Sanders. 4s.

Chrysanthemums for Greenhouse and Garden. By D. B. Crane, F.R.H.S. 4s.

Climbing Plants. By W. Watson, A.L.S. With Introduction by W. Robinson, author of "The English Flower Garden." 4s. and 5s.

Cucumber Culture for Profit. By W. Dyke. A Practical Guide to the Cultivation in Frames and in the Open. 1s. 2d.

Daffodils. By the Rev. Joseph Jacob. With Preface by the Rev. W. Wilks, M.A. A full treatise on their culture for private and Exhibition purposes. With 8 Coloured Plates. 3s.

Dahlias. By George Gordon, late President of the National Dahlia Society. Contains 8 Coloured Plates. 3s.

Date-Growing in the Old World and the New. By Paul P. Popenoe. Illustrated. 9s. 6d.

Ferns and Fern Culture. By J. Birkenhead. Third Edition, revised by F. Parsons. 1s. 3d.

Flower Garden, The. By T. W. Sanders. The Formation and Management of a Garden, and the Culture of Outdoor Flowers and Plants. 480 pages. 104 Illustrations. Third Edition. 8s. 6d.

Forestry, Webster's Practical. Fourth and Enlarged Edition. Illustrated. 8s.

French Market Gardening. By John Weathers. With practical details of "Intensive Cultivation" for English Growers. Preface by W. Robinson. 4s.

Fruit and its Cultivation. T. W. Sanders. 7s.

Fruit and Vegetables, Packing and Selling: for Cottagers and Small Holders of Land. By R. Lewis Castle. A Gold Medal Essay, written for the Worshipful Company of Fruiterers. Illustrated. 1s. 3d.

Garden Planning and Planting. A Guide to the Laying-out and Designing of Flower Beds and Borders. Illustrated. Paper, 1s. 8d.

Garden, Chemistry of the. A Primer for Amateurs and Young Gardeners. By Herbert H. Cousins, M.A. 1s. 5d.

Garden Furniture, The Book of. By Charles Thonger. 3s.

Garden Receipts. Edited by Charles W. Quin. Fourth Edition. 1s. 9d.

Gardener's Assistant, The. New Edition by William Watson, Curator, Royal Gardens, Kew. 6 vols., cloth, 10s. 4d. each.

Gardening, Alphabet of. By T. W. Sanders. Illustrated by diagrams. 4s.

Gardening, Encyclopædia of. By T. W. Sanders. A Dictionary of Cultivated Plants, Flowers, Fruit, Vegetables, Trees and Shrubs, with Description and Popular and Technical Names, Cultivation, etc. 466 pages. Sixteenth edition. 5s. 6d.

Gardening, Home. By W. D. Drury. A manual for the Amateur, containing instructions for the Laying-out, Stocking, and Cultivation of Small Gardens. 1s. 8d.

Grape, The Book of the. Together with a Chapter on the History and Decorative Value of Vines. By H. W. Ward. Illustrated. 3s.

Grapes, and How to Grow Them. Culture and Management in Vineries, Greenhouses, and in the Open Air. By J. Lansdell. Cloth, 4s.

(The above prices include postage.)

To be obtained from—

THE PUBLISHER,

41, Wellington Street, Covent Garden, London, W.C.2.

FERNS AND FERN CULTURE

By J. BIRKENHEAD. Revised by F. PARSONS.

THIS little work contains all that the Fern-lover needs to know about the raising and cultivation of Ferns. It tells him where the different classes of Ferns are to be found growing wild; the modes of growth of the different species; the sort of treatment each kind of Fern requires; how to tend the plants in sickness and in health; how to eradicate the pests, both insect and fungous, which threaten their well-being. It is freely illustrated, and all the illustrations serve a definite purpose. The book is excellently printed, on clear, good quality paper; it is well bound in pale green cloth, and this is protected by a second cover of transparent, grease-proof paper. Although so reasonable in price, it is worth almost any money, for it is quite unique.

Send 1/3 for a copy, post free, from

GARDENERS' CHRONICLE, Ltd., 41, Wellington St., Strand, W.C.2.

NOTICE TO NURSERYMEN

Revision Forms for the "Gardeners' Chronicle" **HORTICULTURAL DIRECTORY** have been posted to Nurserymen in every county in England, Scotland, Wales, and Ireland. In order to facilitate the early publication of the Revised Edition for 1920, nurserymen are asked to return the forms, with the necessary corrections, **AS SOON AS POSSIBLE.** It is only by the hearty co-operation of all interested that this section of the **DIRECTORY** can be made perfect.

Any Nurseryman who has **FAILED TO RECEIVE A FORM** should send a penny postcard to

The Editor, Horticultural Directory,

41, Wellington St., Strand, London, W.C.2.

N.B.—*Postage on the FORMS, whether in an OPEN envelope or merely folded, is ONE HALF-PENNY.*

SITUATIONS VACANT.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

J. ALEXANDER, Godinton Gardens, thanks all applicants for Journeyman's place and wishes to say he is now suited.

BRITISH GARDENERS' ASSOCIATION.
(Registered No. 1,666 T.)
HEAD OFFICE—
1, Wellington Place, St. John's Wood, N.W.8.
THE NEW STANDARD of WAGES and HOURS formulated by the BRITISH GARDENERS' ASSOCIATION is now ready, and copies may be obtained by forwarding stamped addressed envelope to the Head Office. Discharged soldiers and sailors, before accepting new situations, should write for a copy of the Wage Standard.
CYRIL HARDING, General Secretary.

NOTTS EDUCATION COMMITTEE.
APPOINTMENT OF
ASSISTANT HORTICULTURAL INSTRUCTOR.
THE above Committee invite applications for the above post. The selected applicant will be required to have had practical experience in up-to-date fruit cultivation on a commercial basis, and his duties will include the giving of Lectures and Demonstrations. Commencing salary £200 per annum, and out of pocket expenses. Form of application may be obtained from the Director of Education, Shire Hall, Nottingham.

EDINBURGH AND EAST OF SCOTLAND COLLEGE OF AGRICULTURE.
APPLICATIONS are invited for TWO JUNIOR LECTURESHIPS in HORTICULTURE. Candidates must have had a sound practical and scientific training. Salary according to scale. Applications, together with not more than three copies of recent testimonials, to be sent to the undersigned not later than 11th October.
ALEX. LAUDER,
Director of Studies.
13, George Square, Edinburgh.

GARDENER (SINGLE-HANDED) for Gloucestershire; boy kept; wages 35s. a week; good cottage and garden; knowledge of milking required; good references indispensable.—Apply, R. F., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, GARDENER; good SINGLE-HANDED, for Berks; married (no children); wife willing to assist in house if required (extra); cottage provided, good wages.—Apply letter only, stating age, experience, references, etc., S. SMITH, 19, Dundonald Road, Brondesbury Park, N.W.10.

WANTED, capable and WORKING GARDENER (married) to assist in garden, wife to take charge of two cows and some poultry; wages 50s. a week, with free house and fuel and vegetable allowance. Applicant who must be ex-service man, should apply, stating training and experience, to Mr. PETER KEITH, Ulbster Estates Office, Thurso.

WANTED, good WORKING GARDENER, married; large garden, chiefly Fruit, Vegetables; boy kept; wages to experienced and energetic man, 40s., 3 rooms, vegetables.—State age, experience, and references, also if wife sempstress, MATHESON, The Priory, Elstree.

GARDENER required, honest and trustworthy; general wages 45s. — Write, with references, Capt. SMAIL, 33, Edge Hill, Wimbleron.

WANTED, a GARDENER, chiefly for Glass houses; thorough knowledge of his work; 1 o'clock Saturday, Sunday duty extra. -Apply, H. CLARY, The Gardens, Fensteinton, Christchurch Road, Streatham Hill, S.W.

GARDENER.—A WORKING GARDENER with all-round experience wanted in well-known Club close London; others kept; must be energetic and methodical.—State experience, age, married or single, wages and references, to " B.," Box 1427, Willings, 125, Strand, London, W.C.2.

WANTED, UNDER - GARDENER, with previous knowledge of garden, with good character essential; single.—MAJOR LITTLE, Upton House, Tetbury, Glos.

GARDENER (UNDER) wanted for Cemetery, Brockley Road, S.E.4.; must be competent man, both Inside and Out.—Applications to be made in writing to the TOWN CLERK, Town Hall, New Cross Road, S.E.14., stating age, experience, and wages required, not later than 9 a.m. on Thursday, 9th October, 1919.

WANTED, UNDER - GARDENER; 31s. a week and cottage; monthly engagement.—Apply, C. P., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

UNDER-GARDENER required; strong, young man, between 18 and 30; preference given to one who can drive a motor and milk a cow.—Apply, by letter, stating age, previous experience, and wages required, to Mr. H. DOREE, " Oakleigh," Edgware.

WANTED, YOUNG MAN about 18, with some experience, as UNDER-GARDENER, and to be generally useful (housework, coals, boots, etc.), in mornings. Preferably with mother or near relative to occupy lodge. Some vegetables. -Write A. W. PRITT, Esq., Brookfield, Arundel.

WANTED, JOURNEYMAN for Kitchen Garden, etc.; also JOURNEYMAN for Inside and Out.—Apply, with full particulars, wages, refs., etc., with bothy, to BAILEY, The Gardens, Kentchurch Court, Hereford.

WANTED, experienced practical man (single) for Rock Garden, chiefly, etc.; rooms, etc., provided.—State wages required and full particulars, to HEAD GARDENER, Woodcote Grove House Gardens, Coulsdon, Surrey.

WANTED, SINGLE MAN, experienced in Pleasure Ground and Kitchen Garden work; wages 30s., bothy, milk, and vegetables.—Apply, GARDENER, Druids Lodge, Middle Woodford, near Salisbury, Wilts.

WANTED, two LADY UNDER - GARDENERS, to live together; 25s. a week each, and free cottage.—Apply, C. P., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

TRADE.

NURSERY FOREMAN.
WANTED, strong and energetic Outdoor FOREMAN under Manager for Ireland; Forest, Fruit, and Ornamental Trees; good packer; experienced controller of labour; excellent house to married man. Apply, stating if married, family, age, salary, when disengaged, with copies of trade reference; position permanent for suitable man. Apply, NURSERYMAN, Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, WORKING FOREMAN to take charge of small quantity of glass.—Apply, stating age, copy of testimonials and wages required, JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

MAN WANTED for Rhododendron Grafting and General Propagation.—Apply, stating references and requirements, GILL, Nurseryman, Falmouth.

WANTED, MAN accustomed to Carnation growing, to work under foreman; knowledge of propagating will be an advantage; if married, good house found.—State wages required, with references, N. W. VANDERWEYDEN, March, Cambs.

WANTED, SECOND PROPAGATOR; must be well up in all branches of Hardy Shrubs.—JOHN WATERER, SONS AND CRISP, LTD., The Nurseries, Twyford, Berks.

WANTED, Young Man as KNIFESMAN, to assist in lifting orders during season and make himself generally useful.—Apply, JOHN PERKINS & SON, Billing Road Nurseries, Northampton.

REQUIRED, the services of a competent Bookkeeper and Ledger Clerk; thoroughly conversant with the Horticultural trade.—Apply in own handwriting, stating age, experience, and wage required, to WOOD AND INGRAM, The Old Nurseries, Huntingdon.

FLORIST wanted in Manchester; must be good Designer and first-class Saleswoman, capable of taking charge; good salary and prospects to enterprising lady.—Apply, with full particulars, L. P., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FLORIST, good and quick at designs; knowledge Seeds, Bulbs, Sundries, or Fruit an advantage; lady or gent; single.—Apply, stating experience, age, wages, references, to J. SLATER, The Grove, Ilkley.

SITUATIONS WANTED.

Twenty words (or three lines including headline) **3s.** *and* **6d.** *for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office,* **6d.**

RRIVATE.

GARDENER (HEAD of four or more); life experience in all branches; unable to be reinstated through war; very highly recommended; age 35; married (2 children).—W. T., Box 27, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD) requires situation where three or more are kept; life experience in growing Grapes, Peaches, Melons, Orchids, Carnations, Roses, etc.; age 44; excellent references; married.—LEVIT, c.o. Dickson and Robinson, The King's Seedsmen, Manchester.

MAJOR EDWARD SEYMOUR, Broom Hill, Esher, wishes to recommend W. BARLTROP, as HEAD-GARDENER, with one or two men under him. W. Barltrop is employed in the Gardens of H.R.H. Duchess of Albany, at Claremont, Esher, where he has worked both before and since the war. W. Barltrop is an excellent Gardener in all respects. Major Seymour will be glad to answer any enquiries.

GARDENER (HEAD).—Her Grace Duchess of Wellington well recommends F. C. Brincombe as an excellent all-round man, well versed in the requirements of a good establishment; 22 years as Head; good references from previous employers; age 46; married; F. E. BRINCOMBE, The Gardens, Ewhurst Park, Basingstoke, Hants.

GARDENER (HEAD).—Lady Barwick wishes to recommend her HEAD-GARDENER; leaving through place being sold; life experience in all branches of gardening, including Orchid.. excellent references; abstainer; age 39; married (two children); previously 5 years' HEAD.—W. SORRELL, The Gardens, Thames Bank, Whitchurch, near Reading.

GARDENER (HEAD of two or more); life experience in all branches; age 37; married; demob.—EYRE, The Leys, Ruddington, Notts.

GARDENER (HEAD); life experience in large establishments, private and commercial; experience with stock and electric light; good testimonials; married; aged 44.—JONES, Glenleith, Bushey Heath, Herts.

GARDENER (HEAD); manage estate if required; life experience in all branches, gained in large establishments; age 34; demobilised.—GARDENER, 1, Gladstone Road, Buckhurst Hill, Essex.

HEAD GARDENER (Scotch); thorough practical knowledge in all branches; Pleasure Ground a speciality; married (no family) middle-age.—E. McD., c.o. Mulcaster, 235, Barking Road, Plaistow, E.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good reference; married; just demobilised; age 32.—W. H. WEBBER Sunnyside, Headley, Newbury, Berks.

GARDENER (HEAD) where several are kept; life experience in all branches, Inside and Out; highly recommended; army discharged; married (two children).—DAY, Gardeners Cottage, Woolverton, Beckington, Bath.

GARDENER (HEAD or good SINGLE-HANDED); life experience Inside and Out; middle age; married (no family); good refs.—G. P., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (demobilised) seeks situation as HEAD of two or good SINGLE-HANDED, Inside and Out; references; well recommended; married (no family); wife would work part time; age 29.—S. SMITH, 38, Alma Road, Sidcup, Kent.

F. R. PELLY, Esq., thoroughly recommends HEAD WORKING GARDENER (Scotch); thoroughly experienced in all branches, Inside and Out; excellent references; married. — ROBERT MURRAY, Hockwold, Brandon, Norfolk.

MRS. STANLEY ARNOLD can thoroughly recommend F. CLARK, as GARDENER (HEAD-WORKING); life experience Inside and Out; excellent references; married.—CLARK, Barton House, Moreton-in-Marsh.

GENTLEMAN highly recommends first-class HEAD WORKING GARDENER, where a fully competent man is required for producing choice produce, Inside and Out, and where the upkeep of a good place is required; can also undertake to manage estate for any lady or gentleman.—W. KENT, New Cottages, Bookham, Surrey.

GARDENER (HEAD WORKING).—Mrs. Long, 38, Lowndes Square, S.W., highly recommends her late GARDENER, T. HURST; life experience Flowers, Fruit and Vegetables; disengaged through giving up country house; no family.—169, Osmaston Road, Derby.

HEAD WORKING GARDENER; thoroughly competent in all branches; life experience; highest references.—F. MAY, 22, Upper Queen Street, Rushden, Northants.

GARDENER (HEAD WORKING), demobilised from Army, seeks situation in good establishment; thoroughly experienced in all branches; excellent references from previous and present employer here; age 35; single (married when suited).—P. HARRISON, The Rookery, Wokefield Park, Mortimer, Berks.

HEAD WORKING GARDENER, thoroughly experienced Fruit, Flowers, and Vegetables, Inside and Out, and management of good garden; 12 years Head of nine; age 43; excellent character; demobilised.—F. SMITH, Harpton Cottage, Yateley, Hants.

GARDENER (HEAD WORKING), thoroughly experienced all branches, Inside and Out; excellent references; age 30.—E. G. GAY, Queen Anne's Gardens, Caversham, Reading.

GARDENER (HEAD WORKING) or SINGLE-HANDED; several years experience Fruit, Flowers, and Vegetables; Inside and Out; good references; married (two grown-up daughters); age 51.—State wages, A. H., 22, Alleyn Park, West Dulwich, S.E.21.

GARDENER (HEAD WORKING) seeks situation where one or more are kept; thoroughly experienced in all branches, Inside and Out; also Bees; 8 years' excellent reference; age 37; married.—F. STREET, Peter's Green Lodge, Luton, Beds.

HEAD WORKING GARDENER seeks re-engagement in good establishment; 25 years' practical experience, Inside and Out, in all branches; including commercial gardening; excellent references for abilities and management; good organiser; age 40; married; life abstainer; please state terms.—STEDMAN, Dwygyfylchi, Penmaenmawr, N. Wales.

HEAD GARDENER (WORKING); life thorough practical knowledge all branches, Inside and Outside; skilled cultivator of Vegetables, Salads, Fruit and Plants under glass; Hardy Fruits, Rose, Rock, Flower Gardens, Alterations; keen, economical; highest references; age 46 (married).—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

HEAD WORKING GARDENER and manager of a good place, well up in his work, highly recommended, excellent characters, can undertake to make any alterations that are being contemplated.—SOLENT, Box 11, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING); good references; life experience, Inside and Out; age 38; married; disengaged.—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

GARDENER (HEAD WORKING) seeks situation; good references; life experience; age 32 years.—A. CHANT, "The Rest," Tilford, Farnham, Surrey.

GARDENER (HEAD WORKING), smart young man, experienced in all branches, desires situation; married (no children); age 29.—SOLLEY, "St. Clare," Four Marks, nr. Alton, Hants.

GARDENER (HEAD WORKING), thorough practical life experience all branches, several years Head in good families; thoroughly reliable and highly recommended; married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

MR. J. DEAN WILLIS wishes to confidently recommend R. WOODFORD as GARDENER, Single-Handed or with help; good all-round man; good references; married.—Bapton, Codford, Wilts.

GARDENER (SINGLE-HANDED or with help); thoroughly experienced inside and out; excellent references; age 43; married.—G. WELLS, 40, Dickson Road, Eltham, S.E.9.

GARDENER (age 33) requires situation as SINGLE-HANDED GARDENER, or as KITCHEN GARDENER; life experience; good references; married (two children). Please state wages, with cottage preferred.—JENNINGS, The Lodge, Marsh Lane, Stanmore, Middlesex.

GARDENER (SINGLE-HANDED or with help); life experience, Inside and Out; married (one child); age 33; excellent references; abstainer.—H. DUNMALL, 2, De Montfort Road, Lewes.

SINGLE-HANDED or with help; married (no children); good all-round experience; capable of laying out or taking over neglected garden. K., 31, Riffel Road, Cricklewood.

GARDENER, age 36, seeks situation; 16 years' experience Inside and Out; demobilised; four years' army; single.—E. SLOSS, 4, Foots Cottages, The Hyde, N.W.

GARDENER desires engagement.—H. M., Box 11, 41, Wellington Street, Covent Garden, W.C.2

GARDENER seeks situation as KITCHEN GARDENER; experience; good references; age 30 years; single.—BENTON, Wrightbridge, South Weald, Brentwood.

GARDENER; life experienced in Fruit, Flowers and Vegetables; Indoors and Out; understanding poultry; abstainer; age 38; married; good references.—R. N., 15, Richmond Grove, Surbiton Hill.

FOREMAN (GENERAL) in good establishment; 15 years' experience, Inside and Out; house and table decoration; three years Foreman pre-war; excellent references; married; age 31. — SALTER, 55, Albert Road, Wellingborough.

FOREMAN (INSIDE); life experience in Fruits and Plants, gained in good establishments; good references; just demobilised; age 31; married (one child).—C. RALPH, Eynsham, Oxon.

FOREMAN or good SECOND; 15 years' experience all branches; good references; demobilised; married; age 32.—T. A., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

MR. J. B. LOWE, "Greenhill" Gardens, Warminster, Wilts, wishes to confidently recommend Wallace Turner, as LEADING HAND on Pleasure Grounds (or good Second, Inside and Out); good all-round experience; age 28.

DEMOBILISED soldier seeks situation as JOURNEYMAN or UNDER-GARDENER; some experience of Inside and Outside work; excellent references.—A. PATFIELD, Billing, East Dereham, Norfolk.

A. SMITH, Ibstone House Gardens, Stokenchurch, Bucks, thoroughly recommends A. GRACE, as Inside Journeyman, under good Foreman; age 18½; willing and obliging; bothy; state all particulars to above.

MR. KING, of Brasted Hall Gardens, Brasted, strongly recommends A. BOTLEY as IMPROVER, Inside; some experience; bothy and southern counties preferred; age 17.—State particulars to A. BOTLEY, Station Road, Brasted, Kent.

NO SALARY.—YOUNG MAN (29) desires post in garden, to work under gardener during holiday, two months, from middle October; live out; near London.—Write P. N., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER seeks situation, Inside and Out, or Inside only; four and a half years' experience; good knowledge of Flowers and Fruit under glass; good references.—R. M., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER (28) desires post; three years' good practical experience, Poultry, Glass, Vegetables.—M. B., Box 10, 41, Wellington Street, Covent Garden W.C.2.

A WOMAN GARDENER requires post under Head; Inside and Out; good references; four years' experience.—E. RUSE, Hill Farm, Radwinter, Saffron Walden, Essex.

GARDEN LABOURER, discharged soldier, age 37; married (no family); wife would look after bothy, or help in house; good refs.—HARDY, Gardens, Hopwood Hall, Middleton, Lancashire.

ESTATE CARPENTER seeks situation; general knowledge of estate work, glazing, etc.; age 27; married when suited.—Apply SALES, Wentworth Castle Gardens, Stainborough, near Barnsley, Yorks.

TRADE.

MANAGER, responsible position, or TRAVELLER desired by Advertiser with Government credentials; general agricultural knowledge and practical experience in Seeds, Manures, etc.—CULTURE, Box 7, 41, Wellington Street, Covent Garden, W.C.2.

WORKING MANAGER or FOREMAN requires Situation in Market Nursery; 15 years' experience in Tomatoes, Grapes, Peaches, Ferns, Chrysanthemums, Bulbs, etc.; age 35; single; first-class references. Please state wages.—WILSON, 29, St. Kilda's Road, Stoke Newington, N.16.

WORKING FOREMAN, or take charge of small Market Nursery; 15 years' practical experience in Cucumbers, Tomatos, Ferns, Chrysanthemums, Carnations, etc. Mr. Cornford, Quex Gardens, Birchington, Kent, confidently recommends F. SALMON as above. Married.

DEMOBILISED SERGEANT, R.A.S.C., age 26, single, with six years' garden experience, desires work in a Fruit and Vegetable Market Garden; South of England; can be strongly recommended.—State particulars to J. F., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE. — HEAD SHOPMAN or BRANCH MANAGER; age 39; married; life experience in Seeds, Bulbs, and Sundries; used to good class counter trade; highest references.—E. A. NALDRETT, 401, Norwood Road, West Norwood, S.E.27.

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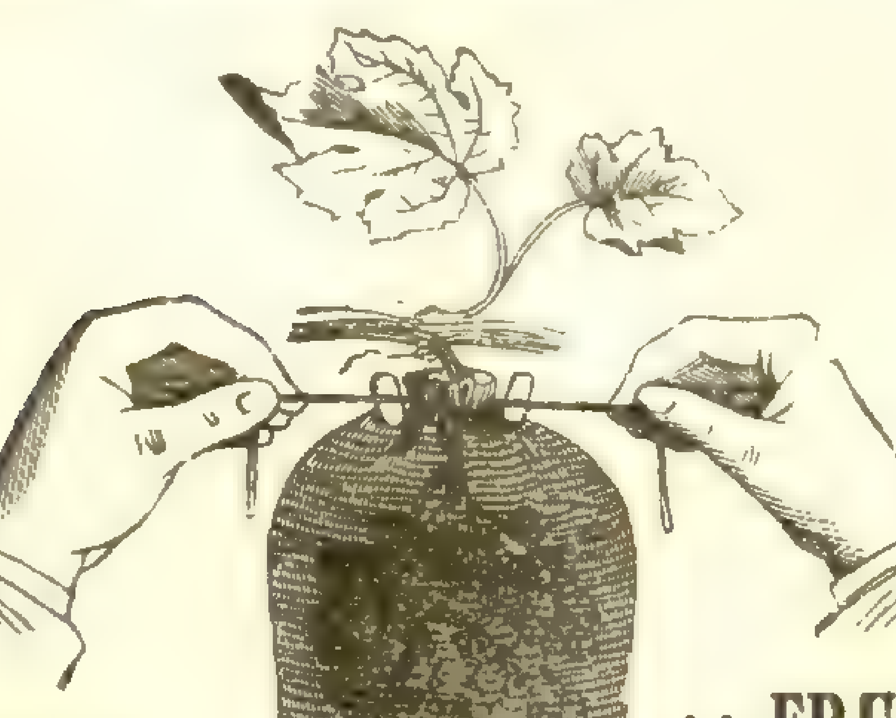
EDUCATED WOMAN GARDENER (29), with training in Market Gardening and Commercial Fruit growing, desires post on Fruit Farm; Midlands preferred.—D. M. T., Box 4, 41, Wellington Street, Covent Garden, W.C.2.



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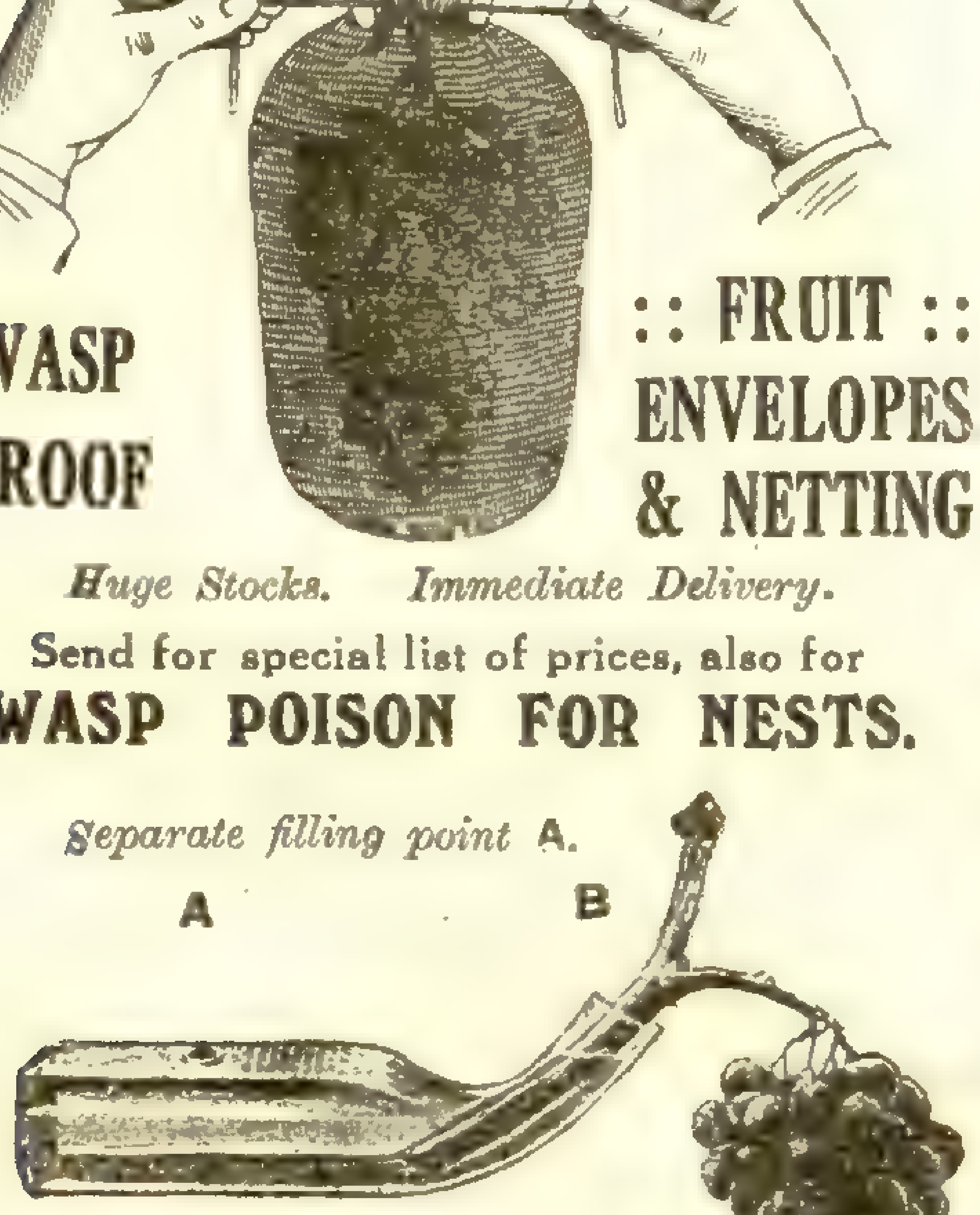

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THE FOOD FOR PLANTS

THE FINEST IMPORTED DUTCH BULBS,
AT VERY REASONABLE PRICES.
Carriage Paid, for Cash.

HYACINTHS :—
Ten Best-named sorts at **6/6** per dozen.
Mixed Separate colours for pots, etc., **5/6** per dozen.

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Single, Named, **15/6** 100. Double, **17/6** 100.
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3 Best-named sorts **7/-** 100. Mixed, **5/-** 100.

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Pretty Blue Squill for pots, etc., **10/-** 100.

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Emperor Tops, **15/-** 100. Princeps, **9/-**. Ornatus **10/-** 100. Incomp Plenus, **7/-** 100.

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EVERY GARDENER KNOWS THAT

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Sold everywhere for Horticultural purposes in Packets at **10d.** & **1 6** and in BRANDED and SEALED BAGS: 7 lbs., **3/9**; 14 lbs., **6/6**; 28 lbs., **11/6**; 56 lbs., **20** ; 112 lbs., **37/-**. Or direct from the works Carriage Paid in the United Kingdom for Cash with Order (except packets).

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IT IS THE STANDARD FOOD FOR PLANTS.

Printed for the Gardeners' Chronicle, Limited, by ODHAMS LIMITED, 83-95, Long Acre, London, W.C.2, and published weekly by the Gardeners' Chronicle, Ltd., 41, Wellington Street, Covent Garden, City of Westminster, Saturday, October 4, 1919. Agent for Manchester, JOHN HEYWOOD.

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THE CELEBRATED XL ALL SPECIALITIES. BEEN ON TOP FOR 25 YEARS AND STILL THERE!—XL ALL CAUSTIC WINTER WASH (in powder). 1-lb. tin makes 8 to 12 gallons. It thoroughly cleanses Fruit Trees and Bushes, both buds and bark. Can be used any time before the buds begin to swell in the spring. XL ALL NICOTINE LIQUID INSECTICIDE. The gardeners' favourite Wash for the absolute destruction of Thrip, Scale, Mealy Bug, &c. If this wash is used occasionally, a total absence of insects, both on Fruit Trees and Plants, can be secured in any garden. XL ALL NICOTINE SHREDS. The most potent, safe and effectual Fumigant. Used without any apparatus; simply burn on the floor of the Greenhouse. XL NICOTINE FUMIGATING COMPOUND. Both in liquid and cake, these old favourites are still as popular as ever. Many other XL ALL Preparations are indispensable in the garden. Get a complete list from your N.S. or Florist, or send to me for one and name address of your nearest Agent.—G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E.1.

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GISHURST COMPOUND has over half a century's reputation for effectiveness in preventing and destroying Red Spider, Scale, Mealy Bug, Thrip, American Blight, Green and Brown Fly, &c. Sold in boxes about 1lb., and 12lb., by Dealers in Garden Sundries. Wholesale: PRICE'S PATENT CANDLE CO., LTD., Battersea, London, S.W.11.

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Send measurements of your border.

Paeonies, Delphiniums, Phloxes and other beautiful flowers included in their Colour Schemes, which provide blooms from early spring to late autumn.

Write NOW to the Retail Plant Department.

LAXTON'S FRUIT TREES, Strawberries and small Fruits. New List for 1919, containing our new Plum, "Early Laxton," A.M., R.H.S., and other new fruits. Post free. Cultural hints with full details how to plant and prune, for 1½d. postage.
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DOBBIE'S Autumn list of Bulbs, Roses, Sweet Peas, Vegetable Seeds and Plants; post free.—DOBBIE & CO., Royal Florists, Edinburgh.

BATH'S HOME-GROWN BULBS.—New Illustrated Catalogue of the finest Narcissi, Tulips, Hyacinths, etc., as supplied to the Royal Parks and Gardens, with full cultural directions, is now ready, and will be sent post free on application. (Dept. A), R. H. BATH, LTD., The Floral Farms, Wisbech.

ANEMONE FULGENS, Harbinger of Spring, blooming amidst the winds and rain of March. The Scarlet Windflower is of inestimable value for the garden, and as a cut flower for the house. Send P.O. for 5s. for 50 tubers, 10s. for 100; post free for cash.—REUTHE, Keston, Kent.

FORCING PLANTS. — Azalea, Dielytra, Hydrangea paniculata, Lilac, &c. List and prices on application. — JOHN McKERCHAR, 35, Giesbach Road, Upper Holloway, London, N.19.

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MESSRS. SUTTON & SONS

beg to inform their many customers who have favoured them with orders during the past month, that though the late Railway Strike has caused some delay in the despatch of orders, it need in no way interfere with the spring flowers, as Bulbs bloom just as well if planted, even late in November. There is plenty of time also to pot Roman and other Hyacinths, and Narcissi, to ensure a good supply of flowers for Christmas decoration.

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BAND YOUR FRUIT TREES NOW with McDougall's OSTICO and save next year's crop. The most scientific and effective means of preventing the attacks of caterpillars. In tins at 7s. 6d. and 2s. each. Paper Bands—packets, for use with 7s. 6d. tin, 2s. each; for use with 2s. tin, 6d. each. Sold by Nurserymen, Seedsmen and Ironmongers. Sole Manufacturers.—McDOUGALL BROS., Ltd., Port Street, Manchester.

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N.B.—Don't decide not to enter because your potatos look just ordinary, or because they are not large. There may be highly desirable characteristics which only expert judges can detect, and mere size is not of first importance.

RECEIVED 1919

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Hyacinths, early and late Tulips, Narcissus and Daffodils, Freesias, Snowdrops, Spanish Iris, Scillas, Crocus, &c.

In convenient lots for private buyers.

MESSRS. PROTHEROE & MORRIS conduct sales as above at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., at one o'clock each day. Catalogues on application. Commissions executed.

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Trade Sale of

BRITISH, FRENCH AND DUTCH BULBS,

comprising Hyacinths, early single and double Tulips, Sacks of Narcissus and Polyanthus Narcissus, Snowdrops, Freesias, Spanish Iris, Scillas, Crocus, &c.,

Also a consignment of Bay Trees, Azaleas, Aspidistras, Palms, &c., from Belgium.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.2, on Wednesday, October 15th, at 12 o'clock.
Catalogues on application.

ALTERATION OF DATE.

PETERBOROUGH.

Clearance Sale of Greenhouse Plants, including 800 Ampelopsis in 48's and 60's, 550 Arums and 150 Azaleas in 32's, Carnations, Chrysanthemums, and also

THE ERECTIONS OF 10 GREENHOUSES,

3,000 ft. of 4-inch hot-water piping, boilers and sundries

MESSRS. PROTHEROE & MORRIS beg to announce that the above sale (postponed from Thursday, October 2nd, on account of the dislocation of the railways) will take place on

WEDNESDAY, OCTOBER 15th, AT 12 O'CLOCK,

by order of Messrs. W. and J. Brown.
Catalogues on the premises (The Eastgate Nursery, Star Road, Peterborough), and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

IMPORTANT SALE OF ORCHIDS.

MESSRS. PROTHEROE & MORRIS have received instructions from W. BOLTON, Esq., to sell by Auction on the premises,

WILDERSPOOL, WARRINGTON, on
WEDNESDAY, OCTOBER 15th, 1919,

the Second Portion of this well-known collection, comprising a choice selection of healthy plants of hybrid Cattleyas and Laelio-Cattleyas, including many fine albinos; good hybrid Odontoglossums and white Crispums of fine form, rare Cypripediums, Cymbidiums, and many interesting species of cool, intermediate and hothouse varieties. May be viewed by arrangement. Catalogues of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

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Clearance Sale of a portion of the Nursery Stock comprising 6,000 English and Irish Yews, 10,000 Green and Golden Hollies, Thuja Lobbii, Portugal Laurels, Oval Leaf Privet, named, Ponticum and Hybrid Rhododendrons, Standard Roses, 2,000 Fruit Trees, viz., Standard and Bush Apples in Variety, Victoria Plums and other Stock.

MESSRS. PROTHEROE & MORRIS will sell by auction on the premises as above, on

THURSDAY and FRIDAY, OCTOBER 16th and 17th, at 12 o'clock each day, by order of Mr. H. Sleet.
On view. Catalogues can be obtained on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

ENFIELD HIGHWAY.

Within easy reach of Ponders End Station, G.E.R., or by tram from Enfield Town Station or Finsbury Park to Ponders End. Clearance Sale of the erections of

21 GREENHOUSES,

in all about 72,450 sq. ft. run of glass, with 13,000 ft. of 4-inch Hot Water Piping, 50 Lights, 16,000 Bamboo Canes, 30,000 Flower Pots, Brickwork, Horizontal Steam Engine, 3 Boilers, Small Stack of Hay.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the premises,

DURANTS ARBOUR NURSERIES,
ENFIELD HIGHWAY,

on WEDNESDAY, OCTOBER 22nd, AT 1 O'CLOCK, by order of Mr. W. Ridge.
On view. Catalogues on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

THE "ROSEFIELD" COLLECTION OF ORCHIDS.

ALTERATION OF DATE.

MESSRS. PROTHEROE & MORRIS beg to announce that the sale of the above will take place on the premises,

"ROSEFIELD," SEVENOAKS,

By order of DE BARRI CRAWSHAY, Esq.
on
TUESDAY, OCTOBER 21st, AND TWO FOLLOWING DAYS
instead of as previously advertised.
For fuller particulars see the issues of this paper of September 20th and 27th.
Catalogues of the Auctioneers, 67 and 68, Cheapside London, E.C.2.

IMPORTANT NOTICE.

MESSRS. PROTHEROE & MORRIS beg to notify those interested in the sale of

ORCHIDS on behalf of

S. GRATRIX, ESQ.,

which was fixed to take place at

THE COAL EXCHANGE, MANCHESTER,

On October 1st,

and postponed on account of the railway strike, will be held at the same place

ON WEDNESDAY, OCTOBER 29th, 1919.

Catalogues of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

SUNNINGDALE NURSERIES (LATE NOBLES) WINDLESHAM, SURREY.

ALTERATION OF DATE.

MESSRS. PROTHEROE & MORRIS beg to announce that the Sale of Rhododendrons, Hardy Heaths, etc. (postponed from October 7th and 8th, on account of the dislocation of the railways), will take place on

MONDAY and TUESDAY, NOVEMBER 3rd and 4th AT 12.30 O'CLOCK.

Will gentlemen who have received catalogues kindly retain same? The stock may now be viewed, and Messrs. P. & M. will be pleased to execute commissions entrusted to them.

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It may have happened, in consequence of the disorganisation resulting from the railway strike, that some subscribers to the GARDENERS' CHRONICLE have not received their copies for the 4th October. All post copies, however, were despatched at the usual time, and they will probably come to hand when the present congestion at the post office and railway stations is relieved. For those who usually buy their copies at bookstalls, a stock is available at this office, 4½d. each, post free.

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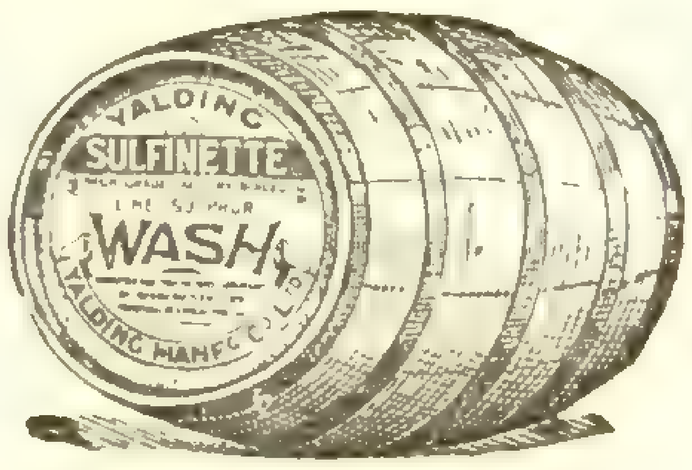

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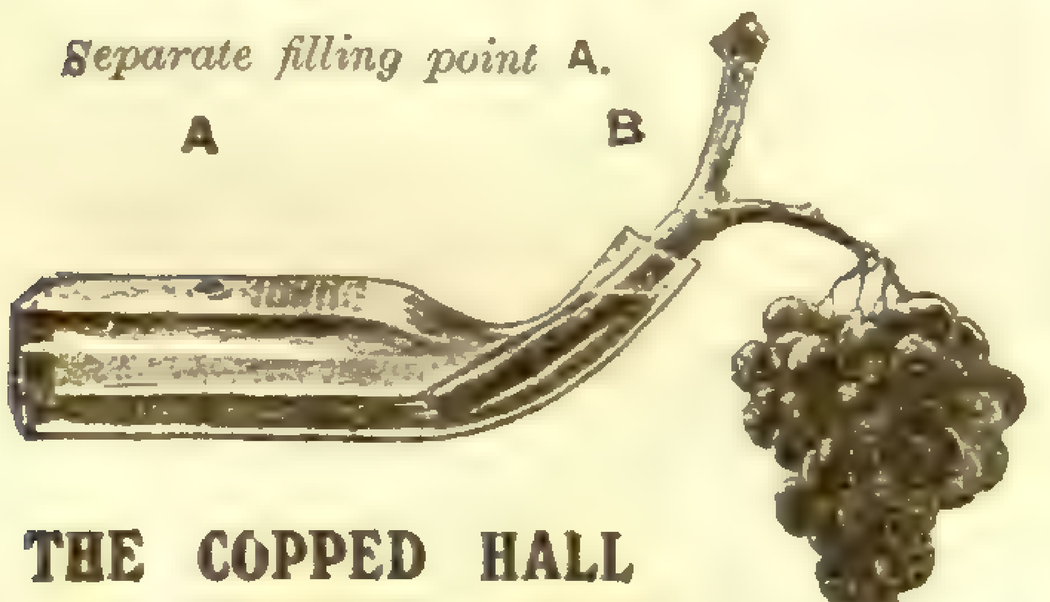

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Gardeners' Chronicle

No. 1711.—*SATURDAY, OCTOBER* 11, 1919.

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THE MARKET FRUIT GARDEN.

THE weather of September was very favourable to the work of harvesting fruit, the rainfall being moderate and the temperature low after the first week. Rain fell on only seven days at my station, the total fall being 1.52 inch, of which more than one inch was recorded on the 22nd and following day. A rather sharp frost occurred on the night of the 20th, killing Vegetable Marrow plants and slightly injuring Runner Beans and Tomatos out of doors. Weeds have grown apace during the month, but, as so often happens at this season, it has been impossible to spare labour for hoeing, the more pressing work of gathering and picking fruit and lifting Potatos occupying all hands. The land has been dry enough for hoeing to be very effective, and I longed to get this work done, for vigorous autumn hoeing means less of the expensive operation of digging in winter. There are short periods when the fruit-grower could usefully employ a small army, and he is fortunate if plenty of casual labour is available.

APPLES ABUNDANT.

Mid-season and late Apples swelled nicely after the August rains, and maintained the high quality and clean appearance of the earlier varieties. It has, indeed, been a pleasure to pack the fruit, the proportion of first-grade specimens being unusually high and "scrumps" almost non-existent. The colour also is good, particularly in the case of Worcester Pearmain and Charles Ross, whilst heavy crops of Cox's Orange Pippin and Allington Pippin, still on the trees, are colouring daily, and promise to make a brilliant show. I must confess to having under-estimated the yield of Apples, which is certainly a full average, if not over. Early estimates of the crop are very deceptive. One seems never to learn to make sufficient allowance for its later development. Several varieties would have been all the better for thinning. The only sort that received this treatment was Allington Pippin; and I thought at the time that the women had been almost too severe. Now it is obvious that twice as much fruit could have been sacrificed with advantage. No doubt the heavy crop will be wanted this year, but the result is more than likely to be a very short yield next season. It is thus that the habit of bearing in alternate years is initiated. In addition to the varieties mentioned, there are bountiful crops of Lane's Prince Albert, Bramley's Seedling and Royal Jubilee yet to be gathered.

MID-SEASON COOKING APPLES.

Intending planters would be well advised to devote little space to mid-season cooking Apples. They yield heavily, it is true, but in most seasons they realise very disappointing prices. So long as there are Plums to be had there is little demand for cooking Apples. A leading London salesman's report for the week preceding the railway strike states: "It has been possible to purchase, on many occasions, good large cooking varieties at as low as 5s. per bushel." I was one of the unfortunates who sold some at that price. Twenty-six bushels of fine Lord Derbys realised £6 10s. a gross. From this must be deducted £1 6s. for commission, 6s. 6d. for "market dues, etc.," whatever they may be, and 8s. 11d. for railway carriage and delivery, leaving a net return of £4 8s. 7d.—a fraction over 3s. 4d. per bushel, or just about a penny a pound. One does not want to grow many Apples that sell at such a price. If mid-season varieties are grown at all they should be gathered long before they are mature. That seems to be the only way to make them profitable, though it goes very much against the grain to pick them so green. A possible alternative might be to thin them very severely indeed with the object of producing extra large fruit, for such is generally in fair demand.

OPEN MARKETS.

In a neighbouring town which takes the greater part of my fruit, two open markets have recently been started. I have not found that these make the slightest difference to prices, which have kept pace with those received from other places. The hawkers who come to buy windfalls and other cheap fruit complain bitterly of the competition, but continue to buy as before. The best of the fruit finds its way to the best shops, the trade of which does not appear to suffer at all as a result of the markets. After all, the prices at which fruit is sold in the latter are not remarkably low considering the poor quality of the produce they offer.

NO AMERICAN BLIGHT.

There has been something about this season which has proved unfavourable to aphides of all kinds, American blight not excepted. I quite thought that I had almost cleared a plantation of this pest by spraying with caustic soda last winter. Now I am not at all sure that the spraying had much to do with it. I find that the blight has disappeared also from other trees that were not sprayed. This is particularly noticeable in the case of some trees of the Lord Derby variety. Some years ago these were badly attacked by blossom-wilt disease, and the canker-like patches left on the wood as a result soon became the home of American blight. Last year this had become very bad, and I should have sprayed in winter if materials had not run short. Without any treatment at all the trees are now practically clear of the pest. I should be very glad to know whether this is the work of some insect enemy or whether it is due to atmospheric conditions unfavourable to the blight. Prof. Theobald mentions several insects which have been known to prey on this aphis, but remarks that, with the exception of birds, natural checks are of no importance. *Market Grower.*

ORCHID NOTES AND GLEANINGS.

DISAS IN LEAF-MOULD.

MR. H. J. ELWES asks for information (p. 102) of Disa grandiflora Barellii, as illustrated and published some years ago. A picture of this variety, with D. g. superba, was issued as a coloured plate in *The Garden* for February 18, 1882, from specimens grown and forwarded by me from Straffan House Gardens, Co. Kildare. Two small imported clumps of four or five crowns each were bought at Messrs. Stevens's auction rooms in 1879. The plants grew with great vigour and increased as fast as the proverbial weeds; so much so that when they were repotted in the spring the small tubers were thrown away. They were grown in the best hard-wood peat, silver sand and Sphagnum-moss. Many of the plants produced half a dozen to fifty spikes each. All went well with them for over twenty years, when they were attacked by a black fungus. I nursed a few plants back into health again, but since I left Straffan Gardens four years ago I believe they have been all lost. The late Mr. Gumbleton's plants, and also those at Glasnevin, were attacked at the same time with the same disease. There is some correspondence about these Disas between the late Mr. Gumbleton and myself in the *Gardeners' Chronicle* during the late eighties. I fear that the var. Barellii is lost to cultivation, although I gave plants to several growers, including Mr. Watson, of Kew, and Mr. Owen Thomas, when at Chatsworth; also I believe that I sent specimens to Mr. Elwes by request of the late Mr. Burbidge. I do not possess the copy of *The Garden*, but have the plate, and shall be pleased to send it to anyone wishing to see it. I have seen many Disas, but none quite so bright and clear as those represented. *Fredk. Bedford.*

CONFESSIONS OF A NOVICE.

I ALWAYS feel ashamed when from the beautiful things of the garden I signal one especially for mention. It seems as though a slight were being put on the others, undeserved and by implication libellous; and I am reminded of the well deserved reproof which a wise and old and joyous man administered to me. I had in petulance spoken to him in dispraise of a lady of our acquaintance and he replied obliquely, "they are all nice, bless 'em." So are these autumn flowers of the garden, the choice Asters in their delicate mauve and gorgeous purple, the Dahlias which have so far defied the frost, the lingering Phloxes of soft hue and the Michaelmas Daisies which have the gift of such starry blue radiance in the light of the evening. Yet of all the plants now blooming I cannot but signal out for special praise the snowy showers of Polygonum baldschuanicum. Something of vanity there is in this honourable mention, for after some years of failure—owing to sheer foolishness on my part—it has in one season achieved amazing success. A glance at the leaves of this climber suffices to show that it requires a reasonably moist place. I tried to grow it in dry soil, and it merely lingered in existence. Now that it has been transplanted to a part of the garden which dries up less rapidly it has made enormous growth, covering not only its support, but leaping across space to other neighbouring poles. By good chance, also, we gave it an opportunity of growing in the most graceful form. The hard pole which it covers is the relic of a tree which was topped, and on which were left the lower lateral branches. Hence the descending branches of the climber are held out in umbrella fashion, so that from a distance all that may be seen is a snowy balloon of blossom. It has taught me a useful lesson in garden decoration, and I propose to supply like lateral supports for all the climbers that I try to grow.

Of these climbers one which bears the florists' name of Lonicera japonica prompts me to ask what is its botanical name. My plants are fairly evergreen with beautifully scented yellow blossoms, but on referring to Nicholson I find that L. japonica is described as having red flowers, white within. My specimens are in

flower now (at the end of September). The buds are pale yellow and cream. The flower opens white and fades to pure yellow. The leaves are green above and somewhat glaucous beneath. I have not seen berries upon them. Doubtless it is a common garden plant, but I am at a loss to know what! It is, I think, always worth while asking the wise these questions, for sometimes out of the questions some useful general point arises. Thus I remember the late Dr. Trimen telling me how he discovered a new specie of Ficus, F. Trimenii. The tree grows by the path to the herbarium at Peradeniya, the Botanic Gardens near Kandy in Ceylon, and daily for many years Thwaites, Trimen's predecessor and one of the best of systematists, passed it on his way to work at *The Flora of Ceylon*. Yet he failed to observe that the tree was of an unknown species, and it was not till Trimen one day stopped before it and asked himself what it was that the plant turned out to be of a species till then unknown to science.

Another question to which I should like an answer is this. Are the ordinary ornamental Crabs of gardens either natural "little species" or natural hybrids, or are some of them the result of deliberate cross-breeding? If the former then it would seem to me that some of them bridge the gulf between our cultivated Apple and the worst of the wildings. One growing here is now a most exquisite object. The tree is covered with fruit of a beautiful pink with the bloom almost of a Peach. It is moreover sweet and so pleasant to eat that it would captivate the taste of any savage and even of civilised men not too fastidiously prejudicial in favour of a Cox or a Blenheim. If such excellent material for the breeder's art exists wild, then to Nature and not to man would seem to belong the chief credit for the Apple of our orchards. A cross even between such a Crab as I have described and any other of promise might give not perhaps a winner of a high award from a primeval fruit committee, but at least as good a thing as Yellow Ingestrie or the scrubby Apples now being sold in many of the shops.

In a year of such Apple plenty as is the present it would be ungracious to complain, yet I cannot but feel a grievance against the minor pests of fruit. Wasps in particular have taken a heavy toll of the earlier Apples, and earwigs—or as my gardener prefers to call them, more prettily, Earlywigs—have had all my Peaches.

Whilst on the subject of fruit I cannot refrain from giving a word of commendation to the Pear Dr. Jules Guyot. It is not, of course, one of the best flavoured, but it has with me the great merit of cropping heavily and consistently, and during the past three or four years it has never failed to produce a good crop. Those who are interested in the beneficent work of raising new varieties might with advantage pay attention to this variety, and endeavour to join this quality of fruitfulness with finer flavour. *A. N.*

FIG. 83.—LAGERSTROEMIA INDICA, FLOWERING AT CASCINE, FLORENCE.

TREES AND SHRUBS.

LAGERSTROEMIA INDICA.

THIS beautiful shrub, or small tree, is said to have been introduced to Kew by the then Duke of Northumberland in 1759. Owing, however, to its requiring more room than greenhouses as a rule can afford, it has never been a very popular plant. How beautiful it is capable of becoming when it gets the position and conditions that are suitable for it is shown by the illustration in Fig. 83. The plant depicted is growing in the grounds of the School of Pomology, an interesting and well-managed institution at Cascine, in the suburbs of Florence Under the summer sun of Italy it gets exactly the baking it needs, and the result is shown by the magnificently flowered plant now figured. Except, possibly, in such places as our south-western counties, where it might succeed on a sunny wall, the Scilly Isles or the Isle of Wight, the Lagerstroemia needs greenhouse protection in this country. Three plants growing in a border in the unshaded Mexican House at Kew flower very well.

This shrub produces its flowers from July to September in pyramidal panicles 6 to 8 inches long and 3 to 5 inches wide, terminating the current season's shoots. The flowers are usually of some shade of pink, the petals being curiously curled and contracted at the base to a long, slender stalk. They vary much in depth of tint: one at Kew is deep red, and the plant figured was distinguished in the Florence garden as var. violacea; there is also a pure white form known as var. alba.

As may be seen by the illustration, the plants are pruned hard back annually. This is done during winter. The species is deciduous, the stems are four-angled, and the leaves Privet-like. The largest examples of which I know are growing in the Botanic Garden at Padua, where there are trees 20 to 30 feet high growing in the open air and attracting one's notice even when out of flower by the clean, smooth trunks. The species is a native of China, Japan, Korea, etc., and is widely cultivated in sunny, temperate, and sub-tropical countries. *W. J. B.*

NOTICES OF BOOKS.

The Living Cycads.*

THE scientific world has known for many years that Professor Chamberlain has travelled widely and collected a unique set of research material on the Cycads, one of the most interesting of the few archaic families left alive among the higher plants.

The results of Professor Chamberlain's work have been consequently awaited with interest; but this little book is scarcely that for which the scientific world has waited. It is written for a public which may exist in America, but which would be hard to name in this country, for though the book deals with many abstruse points which the specialist requires, yet it does so in an airy manner without the foundation of citations from scientific literature, and frequently without reference of any sort to authorities. University students, who might benefit greatly by reading such a book, would therefore get a wrong perspective. Even junior students should never be cut adrift from the sources of knowledge, as it engenders in them a superficiality which after life scarcely ever eradicates.

For those who already know the Cycads, Professor Chamberlain chats interestingly about the journeys he took to see the plants in their native habitats. He even goes so far as to give a picture of a solitary albatross sailing over a solitary sea, which presumably he had traversed on his way from one continent to another. One wonders how the book had room for such irrelevancies since its 170 pages had room neither for a complete index nor a single bibliographical reference. One regrets these flaws all the more, as some of the photographs of the plants in their native habitats are extremely interesting and are fresh, and the book as a whole contains facts of interest to academic scholars.

* *The Living Cycads.* By Professor Charles Joseph Chamberlain, Professor of Botany, Chicago, Chicago Press, 6s. net.

THE ROSARY.

ROSE MARTHA DREW.

In all probability Rosarians will find in this new Rose a variety that will fulfil their expectations as regards size and other attributes that go to the making of an exhibition flower. As shown by Messrs. S. McGredy and Son. at the National Rose Society's Autumn exhibition held at the London Scottish Drill Hall, Westminster, on September 9, Martha Drew produces full-sized exhibition flowers of the colouring of Mrs. Theodore Roosevelt, *i.e.*, flesh-tinted pink, with gold shading at the bases of the petals. Large flowering Roses of this particular colouring are not numerous, therefore Martha Drew, if a good grower and capable of giving of its best in most parts of the country, will be welcome.

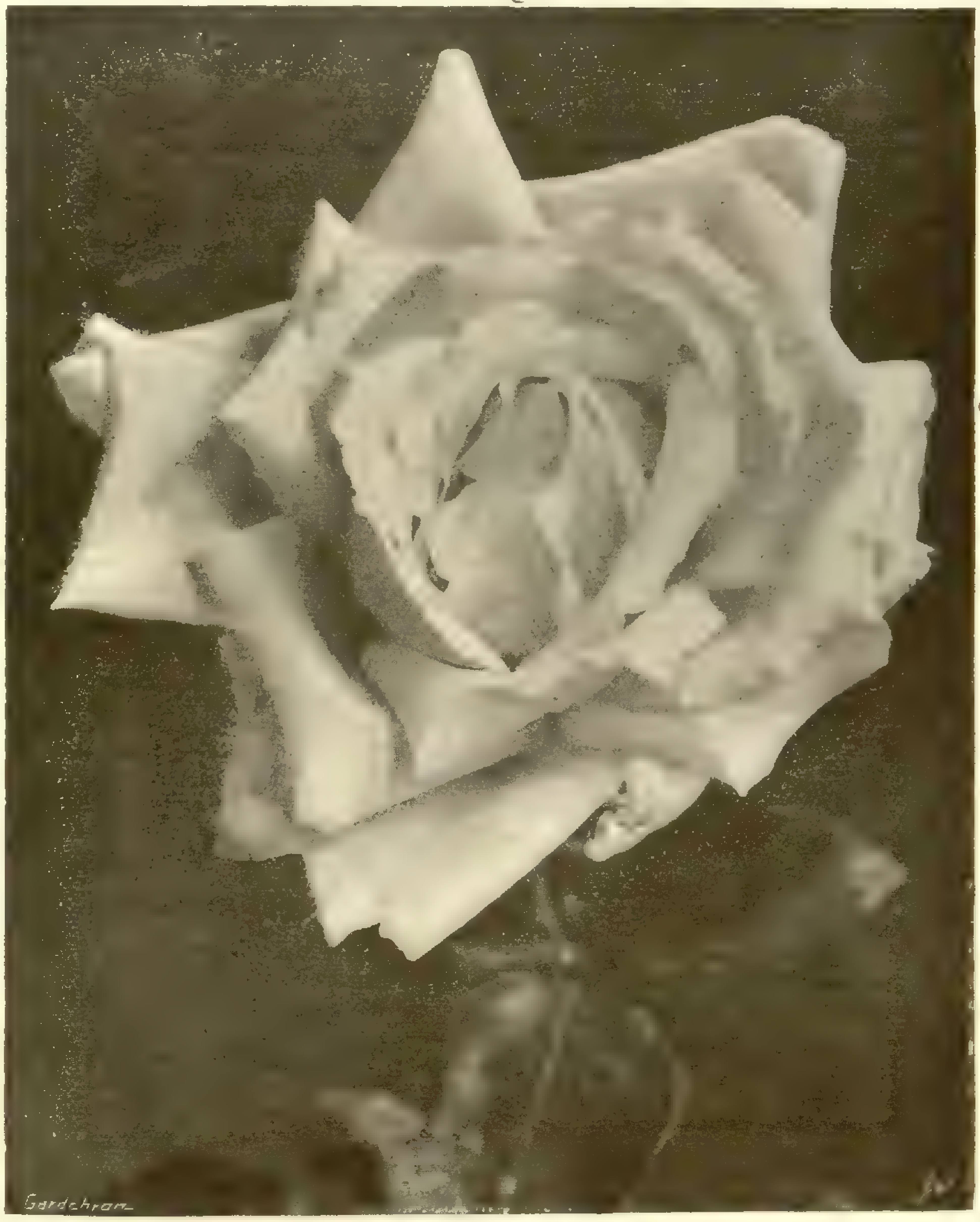

FIG. 84.—ROSE MARTHA DREW: COLOUR SHELL-PINK, WITH GOLD SHEEN AT THE BASE OF THE PETALS.
(Gold Medal, N.R.S., September 9.)

BOTANY AND THE EMPIRE.*

(*Continued from p.* 176.)

Another crop that has received attention is indigo. In regard to this a new method of growing the seed has been worked out, and the cause of the troublesome wilt disease has been traced to the destruction of the fine roots and nodules during the monsoon rains. The remedy in this case is the selection of surface-rooted plants which are now in course of being generally grown.

Considerable progress has also been made with rice, the chief cereal food of the people of India. Of this eighty million acres are cultivated. A variety known as "Indrasail" is being rapidly propagated. The yields of this in 1915-16 were 30 per cent. over the ordinary kinds. In 1918 two hundred tons of pure seed were distributed in Bengal, which contains one of the great rice-producing tracts of the world.

Some wheat breeding has been carried on in the Argentine by Backhouse, formerly attached to the John Innes Institution. The conditions in that great country extending from the Straits of Magellan to the tropic of Capricorn are exceptional in the diversity of soil and climate. The wheat cultivated in such widely scattered areas requires to be carefully adapted to local conditions, and the work must take a long time. Confining attention to the dry districts of the north, Backhouse found an interesting variety in general cultivation known as "Barletta," which, though mixed and heterogeneous, was uniform in possessing a non-shelling character. Further, during periods of drought it acquired the habit of abandoning tillering and producing only one or two rows of ears. Its chief defect was its liability to be attacked by Puccinia triticum (not P. glumarum). In some years 20 per cent. of the crop was lost owing to this rust. It was ascertained that European varieties immune to P. glumarum were susceptible to the Argentine rust.

A Chinese variety taken out by Backhouse was found to be immune to P. triticum. From this eventually was built up a form that combined some of the best qualities of the Barletta with the immunity of the Chinese. Backhouse has since endeavoured to increase the size of the grain, which is small in Barletta, and improve the general yield. The adaptability of the Barletta, as a non-sheller, to the conditions in the Argentine is due to the fact that the harvesting is done there by an Australian machine which cuts off the ears and threshes them at the same time. A non-shelling, or what is also known as a tight-glumed, wheat is therefore essential.

As in wheat, so in cotton, this country is almost entirely dependent on foreign supplies. The uneasiness caused by the excessive dependence of the great Lancashire cotton industry, with exports of the annual value of over a hundred million sterling, on supplies from abroad, and the occasional shortage, have led to general action being taken to encourage the more extensive growth of cotton within the Empire. Next to the United States, which in some years have supplied seven-tenths of our imports, India comes second, but the East Indian cotton is not well suited to the requirements of the English spinner. Egypt, as the third producing country, supplies cotton of great strength and fineness.

The most valuable of all cottons is that known as "Sea Island" cotton, owing to its introduction and successful cultivation on the coastal areas in South Carolina, Georgia, and Florida. With regard to this, it is interesting to learn that in recent years Sea Island cotton has been introduced back again to the West Indies, which was probably its original home.

This was effected by the Imperial Department of Agriculture in the West Indies in 1902, when a pure strain of seed raised from plants immune to wilt disease was obtained in quantity from James Island. This insured that the industry from the first was placed on a firm basis, and with the hearty co-operation of the planters an important West Indian cotton industry was successfully established. For some years the West Indian cotton has obtained a higher price than the corresponding grades of cotton from the Sea Islands themselves. The fine spinners in Lancashire are now practically independent for their supplies of this cotton from the United States. Further, it is not improbable owing to the serious attacks of the Mexican boll weevil on cotton plants in South Carolina and Georgia the West Indies may become the only source of supply of fine Sea Island cotton. To enable the cotton industry to be established in the West Indies it was necessary from the first to ascertain the best type of cotton to grow in each island, how to plant and cultivate it, how to protect it from insect and fungus trouble, and how to maintain or improve the quality and quantity of the lint produced. The results so far obtained may be realised from the fact that the value of the exports of Sea Island cotton from the West Indies in recent years has reached a total of two million sterling. The general conditions in the West Indian islands, owing to their small size and comparative isolation, should enable them to maintain a high purity of cotton. In Egypt and other cotton-growing countries with continuous areas contamination by natural crossing leads to rapid deterioration of pure strains so that a system of continued seed renewal is necessary. Harland, whose services in the West Indies have been provided by a grant from the Imperial Department of Scientific and Industrial Research, has in hand important investigations with the view of placing the work of cotton selection and breeding on scientific lines.

He has shown that the yield of lint per acre depends on a number of factors of a morphological and physiological character. In a general way it may be said that the yield is dependent on the climatic conditions, so an effort is being made to produce varieties which will interact with the environment conditions to the best advantage. Although Harland's work so far is of a preliminary character, he is able to suggest the conclusion that following certain lines of selection and breeding, and bearing in mind the relative importance of lint index and lint percentage, it is possible to isolate a strain of Sea Island cotton with a weight of lint per boll 31 per cent. greater than that of the ordinary sorts in cultivation.

Considerable losses occur in some seasons from the attacks of insect and fungous pests. In some instances the Internal Boll disease in very destructive. This is due to the puncture of the young bolls by cotton stainers (Dysdercus) and green bug (Nezara), and the infection of the

* British Association for the Advancement of Science. Address to the Botanical Section by Sir Daniel Morris, K.C.M.G., M.A., D.Sc., D.C.L., LL.D., F.L.S., President of the Section.

punctured locks or bolls by certain specific fungi which cause either total loss or the staining of the lint according to the amount and time of infection.

The green bug is naturally controlled by egg parasites, but the cotton stainers are subject to little or no control. In St. Vincent highly successful results have followed the systematic cutting out, over the whole island, of two species of trees (Sea-side Mahoe and the Silk cotton), on the fruits of which the cotton stainers breed during the period between the cotton crops. The investigation of the Internal Boll disease has entailed wide research, and illustrates the great complexity of problems in tropical plant pathology, as also the need of correlation and the combination of knowledge obtained by simultaneous action from several points of view.

A point of scientific interest is the inheritance of immunity in cotton from the attacks of the Leaf-blister mite (Eriophyes gossypii). Harland believes he has obtained this by crossing an immune type of native cotton with a susceptible type of Southern Cross Upland cotton. In the F_3 generation all the plants breed true to immunity.* This is important from an economic point of view, for it may lead to the possibility of the production of an immune strain of Sea Island cotton which has hitherto been very badly attacked by the Leaf-blister mite. Another instance of immunity from insect attack is a hybrid of maize (Zea identata) and Teosinte mexicana, which is claimed to be totally immune to the attacks of certain aphides.†

As already mentioned, India is the second largest producer of cotton. In 1906-7 it was estimated that there were about 20 million acres under cotton, with a production of nearly five million bales. It is unfortunate that the quality of East Indian cotton is not high in spite of the considerable efforts made in recent years to improve it.

Cambodia cotton for a time proved successful in Southern India, and has lately been introduced to Madras, but chief attention is directed to the improvement by systematic selection of pure strains adapted to local conditions. In Madras in 1917-18 there were 250,000 acres under new varieties of cotton, yielding increased returns to the rayats of the value of £416,000 per annum. A variety known as "roseum" was planted in the Central Provinces in 1916-17 on 700,000 acres, with the result that the profits to the growers reached a value of nearly one million sterling.

Leake's research work in the United Provinces, carried on for many years, is regarded as probably the most complete yet attempted with cotton in India. A variety known as K.22 has been widely distributed, and the produce in 1916 sold at 31 rupees per maund when local cotton was 25 rupees. Further, the ginning percentage has been raised from 33 to about 40, while the lint is of superior quality.

Leake has also been successful in raising an early flowering form of cotton on Mendelian lines. The new form differed from ordinary cotton cultivated in the United Provinces in that it assumed a sympodial instead of a monopodial habit. It not only yielded cotton of high quality, but it was found by its early flowering habit to suit the special conditions of the United Provinces.

As Egyptian cotton comes next to Sea Island cotton in quality it may be useful to refer to what has been done, or attempted to be done, on scientific lines to safeguard the industry. Its importance may be gathered from the fact that the area under cultivation is between a million and a half and two million acres. Balls has fully reviewed the scientific and other problems that had to be solved in placing the industry on a satisfactory footing.

In the first place, as in all cotton areas, it had to be realised that it was necessary to produce varieties on pure lines. An attempt to produce crosses between American Upland and Egyptian cotton had to be abandoned. It was then resolved to select strains of individual Egyptian sorts and by the study of heredity on Mendelian lines to raise new varieties of pure strain. It was hoped by these means and by organising an effective system of seed distribution, year by year, to maintain the general purity of the crop. The chief difficulty met with was in respect of the relatively small size of the unit areas and the liability of the pure-strain plants being contaminated by pollen carried by wind or by bees from the neighbouring areas. According to Balls, the high-water mark of Egyptian cotton growing was from 1895 to 1899. Since that time, although the actual area under cotton had been increased by 600,000 acres, the benefit measured in terms of cotton alone was small. It is probable that the attacks of the pink boll worm and other pests may have affected the results, but Balls and his colleagues came to the conclusion "that the falling off in yield was due to a rise in the level of the sub-soil water, or water table of the country brought about by the extension of the irrigation system during the past decade." The roots of the cotton plant were thus adversely affected at a critical period of growth. This recalls what Howard discovered, that one of the causes of the wilt disease in indigo in India was the destruction of the fine roots and nodules during heavy monsoon rains. This shows, as suggested by Balls, how small was our real knowledge of the root functions of plants, and in the experiments carried on by him and his colleagues in Egypt they were "semi-consciously building up a general scientific knowledge of root-function worked out on the cotton plant as our material."

Balls, while carrying out numerous investigations bearing on the production of pure strains of Egyptian cotton, devised a method of recording crop-development by means of illustrative graphs likely to be adopted not only for cotton but other crops. Incidentally, he proved that the close-planting method on ridges adopted by the native cultivators in Egypt was more advantageous than the wider planting adopted in the United States and other countries. It is a sign of the times that a British Cotton Industry Research Association has recently been formed at Manchester to promote a wide scheme of research in connection with the production of cotton and its utilisation in industry. It will employ a staff of scientific and skilled workers, and maintain scholarships, and eventually a Cotton Research Institute is in contemplation. It also proposes to establish research stations in the cotton-growing portions of the Empire for the investigation of the growth of cotton and the careful and complete study of the scientific problems that may arise.

(*To be continued.*)

* West Ind. Bull., xvii., 162.
† Rev. App. Entom., Ser. A., vi., 29.

FLORISTS' FLOWERS.

ZONAL PELARGONIUMS.

As the varietal name of Maxime Kovalevski, the subject of a note on page 157, is often spelt in different ways, the following remarks may be of interest. Your correspondent, *A. O.*, refers to it as Maxim Kavolsky. This particular and very distinct variety was sent out by M. Lemoine of Nancy, in the spring of 1905 as Maxime Kovalevski, an exceedingly awkward name. It formed one of a set of eleven, and after growing the whole of them I came to the conclusion that this particular variety was far and away the best. In Lemoine's catalogue it is described as brilliant orange, but it is very uncommon and practically indescribable tint. Prior to the war this variety was employed with advantage as a bedding plant in the gardens at Hampton Court. It may not be generally recognised that to M. Lemoine we also owe the ubiquitous Paul Crampel. This was sent out in 1891, two years before the distribution of the universally grown Begonia Gloire de Lorraine. While many novelties disappear in a comparatively short time, there are some, as in the subjects indicated above, that become permanent occupants of our gardens. The merits of the Begonia were by no means generally recognised at first, but now it is one of the most popular plants for cultivation in greenhouses and conservatories. *W. T.*

The Week's Work.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Dwarf-habited Laelias.—The pretty Laelia pumila and its varieties, L. Dayana and L. praestans, with their hybrids, are a distinct section in the genus, and very desirable Orchids for autumn display. As the flowers are produced before the young bulb has finished its growth, the amount of water to the roots of the plants should not be reduced until the small pseudo-bulbs are fully developed. Laelia rubescens is another compact habited, dwarf-growing plant that flowers towards the end of the year. The plants, which grow best in suspended shallow pans, or teak-wood baskets, are now in full growth and rooting freely, and should be afforded a good supply of water until the little pseudo-bulbs are fully developed. Even when the resting stage is reached, none of these dwarf-habited kinds should be too severely dried, as the small pseudo-bulbs cannot stand the strain. These Orchids enjoy the warmth from the sun, and should be afforded a suitable position. When at rest, the cooler end of the intermediate house suits them best.

Paphinia.—This small family of interesting Orchids consists of low growing plants that do not occupy much space. They do best when grown in small pans with plenty of drainage material, planted in A1. fibre and chopped Sphagnum-moss with a sprinkling of partly decayed leaves. The plants should be elevated upon a mound, to allow the flower-scape to have a clear and open space to grow in a downward direction. These Orchids need shade, with plenty of heat and moisture during the growing season, but when not in full growth, less water and a lower temperature are necessary.

Anguloa and Lycaste.—Most species of Anguloa and Lycaste are now forming their pseudo-bulbs, and, being free-rooting plants, they like abundance of water at this stage, therefore well-established plants will benefit by an occasional supply of weak, liquid farmyard manure. Later on, when the pseudo-bulbs have attained their full size, the plants should be rested by withholding water to a large extent, but not entirely.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Fig Trees in Pots.—Given a sufficient number of trees established in pots, and an efficiently heated house in which to grow them, there is not much difficulty in obtaining an occasional dish of ripe Figs late in the year. The variety Negro Largo is one of the best autumn fruiters; Bourjassotte Grise and Nebian are other late varieties. The trees are free bearers and the fruit of excellent quality. There is a greater certainty of a regular crop being obtained from rather small than large trees, as two or three plants growing in small pots may be accommodated in the space required by one of a large size. This important point should be borne in mind by those who may have to supply Figs at this season. A stock of young plants should be maintained by propagating in the spring or by purchase in the autumn. It is not advisable or easy to obtain autumn Figs from old, planted-out trees. At this season a fairly brisk temperature is needed, with ventilation in accordance with the weather. Liquid-manure and clear soot-water may be given for as long as feeding is necessary; an occasional application of a concentrated fertiliser will also be beneficial. Stimulants should be afforded at this time of the year at intervals of a week or so, and then only in weak doses. Atmospheric moisture in the house is better promoted by damping of the floor and spaces between the pots than by over-

head syringing, and even this should be modified to suit external conditions. Trees that were forced early and were subsequently placed out-of-doors should be housed in a cool, well-ventilated structure, where frost will not reach them. Prune away any useless or unnecessary growths, especially from the centres of the trees, but do not shorten those that are left. The trees should be cleansed of all insect pests. Afford careful attention to those pot-trees which fruited later, and do not allow the soil to become quite dry at the roots. Many of these trees are now rooting freely in the top-dressing that was afforded them, and should be encouraged to do so for a little longer, after which they will need rather less water.

Late Melons.—Cease syringing the foliage of late Melons. A brisk bottom and top heat is necessary in the case of plants with half-matured fruits in order to prolong the activity of the roots. Apply light top-dressings of loamy soil to which a quantity of old plaster rubble and wood-ash is added. The compost should be made firm. Keep the soil near the stems of the plants dry. Watering should be done with great care and only when absolutely necessary. Beds overlying chambers heated by water pipes require more frequent waterings than those with beds of fermenting material beneath them. A large amount of soil is not necessary for late Melons. Lateral growths will now be weak and are not necessary. Their development should be discouraged.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Cauliflowers.—Seedling Cauliflowers should be pricked off into frames where they will keep safe in winter. Use soil that is not enriched with manure, otherwise the plants will become too vigorous before the time arrives for planting them out-of-doors and less able to withstand frost. Endeavour to obtain plants of sturdy growth. Prick them out at three inches apart, and keep the lights off during fine days, replacing them during wet and frosty weather.

Tomatos.—Sow seed of Tomato to obtain plants for cropping early in spring. Sow the seeds in 48 sized pots, filled with fine sandy soil, and germinate them in a temperature of 60° to 65° in a position near the roof glass.

Cabbage.—Make another plantation of maincrop and late Cabbages on ground where late Potatos have been recently lifted. If the surface is dry make the soil firm by the use of a roller, and plant the seedlings 18 inches apart, in rows made two feet asunder. The earlier plants need hoeing frequently and dusting with soot.

French Beans.—Endeavour to maintain a constant supply of pods from plants in frames and pits. Admit air with caution. Remove a few of the leaves where they are crowded and loosen the soil. Close the lights early in the afternoons to husband the sun's heat, and cover the lights with mats during the night.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Canna.—These plants should receive early attention before they get injured by frost. Do not dry the roots severely as this would weaken the crowns considerably. Store them where frost cannot reach them during the winter.

Spring Bedding.—Take up all bedding plants required for stock purposes. Pelargoniums should be trimmed, put in boxes and wintered under glass. Keep the plants on the dry side, and if there are many vases to furnish pot some of the best specimens—five in a 24-sized pot—to be grown on expressly for that purpose. Heliotropes, Salvias, Chrysanthemums, Marguerites and Lobelias should also receive careful attention. Commence at once to prepare the beds for spring-flowering subjects. See that the drainage is efficient and the soil well manured and deeply dug. Beds well prepared and manured now will need no manure for next summer's bedding plants after the spring occupants are over.

Wall Plants.—The present time is suitable to decide what subjects should be planted for covering walls and fences. If the plants are put in early they will make rapid growth next spring. Prepare the border in which they are to be planted and see that the drainage is perfect. Use the best soil obtainable and let it be well mixed with manure and other suitable material to render it porous.

Tuberous-Rooted Begonias.—As soon as the flowers of these Begonias have died down, lift the plants, with a quantity of soil adhering to the roots, and place them in frames or in some other suitable place. When the foliage has withered, trim the plants and place the tubers in boxes, scattering a little dry leaf-mould amongst them. See that each variety is correctly labelled as it is put into the box.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Coleus thyrsoideus.—This useful winter-flowering plant grows well in an intermediate temperature. Admit plenty of air to the house during the day, and a little at night. As the pots are filled with roots, frequent waterings with a liquid fertiliser will be beneficial.

Stove Plants.—Under present prospects of limited and expensive coal supplies, there will be a difficulty in the coming winter of maintaining a stove temperature necessary for ornamental foliage and flowering stove plants. Dracaenas, Crotons and Pandanus, used for decorative purposes, should be kept in as small pots as possible. Care must be taken to keep them free from insects and, as the season advances, if the temperature is lower than usual, maintain a drier atmosphere and water the roots very carefully.

Stocks.—Stocks intended for indoor decoration, raised from seed sown in July and transplanted, are ready to transfer to their flowering pots. Place three or four in each six-inch pot filled with a mixture of rich loam, leafmould and dried cow manure. Pot firmly and water the soil thoroughly. Grow the plants in cool, airy conditions and, when established in the pots, transfer them to an open frame until frost occurs, when they should be placed on a shelf in a cold glass house.

Tree Carnations.—From this date onward Tree Carnations should be given a temperature of from 50° to 60°, and in a moist atmosphere. Stand the pots on a base of ashes or gravel and syringe between the pots daily. These Carnations are subject to attacks of red spider, and should be syringed frequently with an insecticide; a small quantity of salt dissolved in water is excellent to use for this purpose. Good clean cuttings inserted in boxes and placed in bottom heat during this month will form much better stock than cuttings put in the beginning of next year.

Chrysanthemums.—The large flowering varieties of Chrysanthemums are now all under glass and the blooms expanding. Care must be taken to prevent damping by keeping the house dry and airy. As the large blooms develop discontinue the use of stimulants. The bush or decorative varieties will be better in the open until they are likely to be injured by frost. Attend to the disbudding of varieties requiring it as soon as the buds are large enough to handle. Continue to feed the roots until the blooms are well expanded.

Cyclamen.—Plants required for flowering very early should be placed in a greenhouse on a stage close to the roof-glass, when the mean temperature is 50° to 55°. Give a light sprinkling of artificial manure on the surface of the pots, promote a moist atmosphere by spraying the foliage, and damp the stage and paths. Fumigate the house occasionally to keep down insect pests.

Cineraria.—Plants of Cineraria of the latest sowing, intended for flowering late in spring, should be potted in 5 or 6-inch pots. Use similar soil to that as advised for the earlier batches. Place the plants near the roof-glass, preferably on a cool base of ashes. Cinerarias require a cool, moist atmosphere; fire heat should only be used to keep out frost. Keep a constant watch for insects, and at their appearance lightly fumigate the house. The earliest plants are well developed and the pots filled with roots. They should be given liquid manure on frequent occasions.

Calceolaria.—This plant, like the Cineraria, grows best in a cool moist atmosphere, and with as little fire heat as possible—a consideration for greenhouse floral decoration next spring under the present prospect of coal supplies. From now until the end of the year, herbaceous Calceolarias may be grown either in boxes or in small pots, placed on a shelf near the glass in a cool airy house. By the end of the year they should be good, strong plants fit for transferring to the pots in which they will flower.

Begonia Gloire de Lorraine.—This useful winter-flowering plant should not for the present be grown under very warm conditions. During the coming winter there must be strict economy with fuel for heating greenhouses and lower temperatures will prevail, therefore the Begonias should be grown for the present in airy and drier conditions. Give the roots occasional waterings with weak liquid manure. Plants showing flower should be carefully staked and given room to develop, but later plants may have the flowers removed for the present.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Renovating Old Orchards.—When orchard trees become crippled through old age and neglect, they serve no useful purpose and should be rooted out. If a fresh and suitable site is available, it is better to use it than to plant new trees on the old ground, but where only the old site is available, a start should be made at once by rooting up all the worthless trees and trenching the ground two spits deep. Where the trees are to be planted add fresh loam, roadside scrapings, burnt refuse, wood ash, and a good dressing of half-inch bones. If the land is heavy, plenty of old mortar rubble should be applied and the whole of the land should be well dressed with new lime. After this is done, as soon as the trees can be obtained and the soil is in a favourable condition, the trees should be planted. If the soil is very dry it is best to delay planting till after a good rain. Necessary draining should be done before planting, as trees will not grow well in water-logged land. Trees that are ill-shaped or have grown into one another, and are worth keeping, should be pruned severely to admit light and air. In some cases, if the tree and variety are worthy, it is best to cut the top clean off and allow the base to break again. In many cases the stems may be good but the variety poor, or not suitable to the district; such trees should be headed back ready for grafting or budding, and the wounds should be dressed with shellac.

Thinning the Fruiting Spurs.—Many varieties of Apples and Pears become overcrowded with spurs, and the result is that the blossom buds are weak and the fruit sets poorly. When the fruits are gathered such spurs should be well thinned to allow the remaining buds to plump up and, in some instances, two-thirds of the spurs may be removed. After pruning, clean up all the rubbish and burn it. Trees that are in good condition and have carried heavy crops should be well top-dressed with rotten manure and bone-meal, and if the land is poor waterings with liquid manure applied now and throughout the winter will enrich it.

Apple Devonshire Quarrenden.—This is a good, early dessert variety and, as it is a heavy cropper, it requires severe thinning. It does best here when grown as a bush, with ten to a dozen branches all spurred.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 49.9°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle **Office, 41, Wellington Street, Covent Garden, London,** *Wednesday,* **Oct. 8, 10 a.m.: Bar. 30.3; temp., 58°. Weather—Bright sunshine.**

Old Age in Perennial Plants. Mr. Benedict's interesting and valuable investigations on the senile decay and loss of fruitfulness in plants* contained material of special interest to fruit-growers, but owing to limitations of space we were unable to deal with this aspect of the question in our leading article on p. 178 in last week's issue. Not the least interesting part of the paper is that in which he appeals to the opinion of that remarkable English horticulturist, Thomas Andrew Knight, who, upwards of a century ago (1795), was occupied with this same problem of senility of plants. Knight, in fact, came, as the result of his experiments with Apples and Pears, to the same conclusion as that reached by Mr. Benedict, and attributed to senility the gradual failure of different varieties of fruit trees. He found in his grafting experiments that the vigour of grafts was influenced by the age of the tree from which they were taken, and with the acumen of genius he appealed in support of his opinion to the common phenomena presented by certain woodland trees. He observes that certain of them, such as the Aspen, send up multitudes of root-suckers, and adds "were a tree capable of affording an eternal succession of healthy plants from its roots, I think our woods must have been wholly over-run with those species of trees which propagate in this manner, as these scions from the roots always grow in the first three or four years with much greater rapidity than seedling plants."

In another paper published in 1810 and entitled "On the Parts of Trees Primarily Impaired by Age," Knight makes the yet more remarkable comment:—"I am . . . disposed to attribute the diseases and debility of old age in trees to an inability to produce leaves which can efficiently execute their natural office. . . It is true that the leaves are annually reproduced and therefore annually new, but there is, I conceive, a very essential difference between the new leaves of an old and of a young variety." This difference, after over a hundred years, would seem to have been now demonstrated.

It may be added that Mr. Benedict has extended his observations on the veining of young and old varieties to fruits other than the vine, and he found in the case of Apples, Pears, Plums and Peaches that increasing age is accompanied by the same concentration of small veins as occurs in the vine. Hence it would seem that it might be possible to ascertain approximately the age of a tree by an examination of one of its this year's leaves!

Finally, reference should be made to the interesting but purely speculative hypotheses of old age in plants which have been advanced. Of these hypotheses that of Metchnikoff deserves mention. It may be described as the "guilty organ" hypothesis, in that he ascribes old age to the failure of one organ of the body: in the human body the large intestine is the sinner; in annual plants Metchinkoff ascribes to the flower-head the guilt of producing toxins (poisons) which destroy the vegetative parts.

Another hypothesis ascribes senility to cell specialisation. On this, an unspecialised cell is immortal, but a cell, the moment it becomes a specialist at certain kinds of work, puts off immortality and becomes mortal; but against this view is the fact that a differentiated plant cell may resume its powers of growth and division, becoming once again embryonic and thereby resuming its immortality.

Whatever be the final verdict on Mr. Benedict's discoveries, we cannot but be grateful to him for getting away from words and appealing to facts. Nor will horticulturists be slow to accept the moral that it behoves us to go on producing new varieties by cross breeding, for whether or no all existing varieties are doomed sooner or later to old age, the fact remains that there is still room for improvement among all our cultivated varieties of fruits and plants generally.

* Senile Changes in Leaves of Vitis vulpina L. and certain other Plants, Memoir No. 7, Cornell University Agriculture Experiment Station, June, 1915.

Roses at Bagatelle.—Raisers of new Roses are asked to send varieties for trial at Bagatelle in the season 1919-1920. The Curator requests that so far as is possible pot plants should be sent, and at least five specimens. They should reach Bagatelle before April 30 next, and particulars as to their parentage and any special treatment required should be given. They will not be judged until after two seasons in order that the habit of growth and freedom of flowering may be ascertained.

Potato and Chrysanthemum Show at Birmingham.—The National Potato Society of Great Britain and Ireland and the Birmingham Chrysanthemum Society will conjointly hold an exhibition at Bingley Hall, Birmingham, on November 12, 13, 14, and 15.

Remarkable Yield of Wheat.—A farmer at Clashmahen Farm, Stranraer, has grown the remarkable crop of 90 bushels of Wheat to the acre. The seed was sown at the end of October, and the crop was thrashed on September 18th, the variety being Webbs' Standard Red.

Wart Disease of Potatos.—Great fears are entertained that Wart Disease of Potatos may spread largely in the south, as there have been reports of spasmodic cases of the disease from all parts of the Home Counties. The Board of Agriculture is making special efforts to check the spread of the disease, mainly by making it illegal to export seed from the affected northern districts. It is well known, however, that the disease may be spread from peelings which find their way to manure heaps or on soil attached to exported plants, such as Cabbages. The distribution of this serious disease is being largely checked in the north by the planting of varieties known to be immune. The greatest danger in the case of Wart Disease, as compared with other fungous pests of the Potato, lies in the contamination to the soil, due to the presence of long-lived spores, which are, unfortunately, resistant to treatment with fungicides. It is impossible to grow sound crops, except of immune varieties, on land once it has been affected. Fortunately, many growers in the south have never seen Potatos affected with Wart Disease, and it may be useful to give an illustration of an affected tuber in order that those who encounter the disease might know it. The illustration in Fig. 86 represents a specimen badly affected, and shows the wartlike outgrowth which gives its name to the disease. In the early stages of attack the warts may easily be seen in the eyes of the tubers. They increase in size, and may become large and irregular excrescences effecting in extreme cases the complete transformation of the tuber into a dirty coralloid mass. These outgrowths, at first white, gradually turn black and decay, liberating a dark brown liquid which contains the soil-contaminating spores. The abnormal growths are not confined to the tubers, but may be found on the haulm, especially near the surface of the soil. The only method at present known of raising clean crops on infected land is by restricting cultivation to immune varieties.

Bees.—The Board of Agriculture is making every endeavour to re-establish the bee-keeping industry in this country. Owing to the loss of stocks by disease, principally Isle of Wight disease, the production of honey has decreased seriously, and it is estimated that the total number of stocks remaining in England and Wales is only 32,500. The Board has obtained 269 skeps of Dutch Bees and 700 Italian Queens. These have been distributed by the Bee Committees formed under the Horticultural Sub-committees in the 40 counties of England and six of Wales. The scheme provides that each Committee should issue shares to those desirous of obtaining nuclei from the imported stocks, each share to be liquidated by delivery of a nucleus. The stocks imported were sent to approved bee-keepers, who undertook to form restocking apiaries under the Committee's control: to purchase Dutch stocks at a price of £2 10s. each, and Italian Queens at 10s. each, and to provide nuclei to the shareholders at a cost of 30s. each, against a market rate of 50s. to 60s. An average of five nuclei Dutch bee stocks have been obtained from each imported stock, so that the country is already richer by 1,340 stocks of bees resistant to Isle of Wight disease. Inasmuch as the scheme provides for the continued multiplication of the nuclei from the imported stocks, it may be expected that, in the course of a few years many thousands of stocks of resistant bees will have been reared.

Orchid Sales Postponed.—In consequence of the railway strike, Messrs. Protheroe and Morris, the auctioneers, have decided to postpone the sales by auction of the Orchids belonging to Mr. S. Gratrix and Mr. de Barri Crawshay. The catalogues for these sales have been sent to prospective purchasers, and those who have received copies are asked to retain them. The dates on which the sales will be held have been fixed for Wednesday, October 29th and Tuesday, Wednesday and Thursday, October 21st, 22nd, and 23rd respectively, as announced on page ii. of our advertisement columns.

Pyrus Sargentii.—Linnaeus, and following him Bentham and Hooker, united the Crabs, Pears, Whitebeams, etc., under the one generic term, Pyrus, but present-day botanists seem inclined to divide the genus Pyrus, and revive the names Malus, Sorbus, etc., for the various groups. There is, no doubt, considerable justification for this, but after more than half a century's acceptance in this country of Bentham and Hooker's conception of Pyrus, the changing of names becomes rather troublesome. The charming Crab illustrated in Fig. 85, was originally described by Rehder as Malus Sargentii, in honour of Prof. Sargent who discovered the species in Japan, and introduced it to the Arnold Arboretum in 1892. It is one of the dwarfest of the Malus group and according to present knowledge does not seem likely to grow much more than 6 feet

high. Both as a flowering plant and as a fruit-bearing one it is attractive. The Award of Merit given to it by the R.H.S. is 1915, was made to a flowering specimen. The blossoms are white, 1 inch in diameter, and are borne in clusters of four to seven, expanding in May. The petals overlap each other and thereby give the clusters a rich, full appearance. The fruits are globose, slightly flattened at the top where the calyx has fallen away, and are about ½ inch wide, becoming bright red when ripe. The small dimensions of Pyrus Sargentii and its two seasons of beauty make it suitable for planting where space is limited. The habit of the plant is neat and graceful and the slender stalks, 1 inch or more long on which the fruits are borne, add to its elegance at the autumnal season. The fruiting spray illustrated is from a bush exhibited by Messrs. J. Cheal and Sons, at the meeting of the Royal Horticultural Society on September 23rd, 1919.

A New Open Space for Birmingham.—At a recent meeting of the Birmingham City Council the gift of a further large portion of the Lickey Hills as an open space for the inhabitants of Birmingham was reported. This new addition to the open spaces of Birmingham comprises about 129 acres, and it has been purchased at a cost of £12,500 by Mr. Edward Cadbury and Mr. George Cadbury, junior, who have contributed £7,500, the further sum of £5,000 having been contributed by the trustees of the Common Good Fund. It is proposed to provide tennis lawns, bowling greens and open-air swimming baths on this new open space.

Recreation Ground for Northop.—Lord Justice Bankes, of Soughton Hall, Northop, Flintshire, has offered to present to the village of Northop a field for use as a recreation ground.

School Children as Potato Pickers.—We understand that all the elementary schools in South and West Lancashire have been closed for a fortnight in order that the scholars may be employed in harvesting Potatos. It is expected that the older boys will be able to earn 5s. per day at this work.

National Diploma in Horticulture.—As a result of the examinations held in September last, the following candidates have secured the R.H.S. National Diploma in Horticulture:—Section 1—General Horticulture: Cracknell, Miss C. A., Clapham, near Worthing; Copley, G. H., 9, Collins Street, Great Horton, Bradford, Yorks; Bintner, J., 8, Waterloo Place, Kew, Surrey; Elsdon, H. C., 45, Rugby Road, Leamington Spa. Section 8—Horticultural Teaching: Gunnell, Miss E. M., 13, High Street, Skipton, Yorks. The following have passed in the Preliminary Diploma Examination and are accordingly eligible to take the Final Examination next year if they have been employed for six years regularly in garden work:—Crosland, Miss L., The College, Studley R.S.O., Warwickshire; Dedman, J. M., The Gardens, Beechwood, Rochdale, Lancs; Gray, Alex., Knowle, Bramton, Barnstaple, N. Devon; Harland, Miss M. L., The Sycamores, Cottingham, E. Yorks; Hudson, C. E., 6, Maltese Road, Rainsford End, Chelmsford; Jameson, Miss E. W., Avondale, Rainsford Avenue, Chelmsford; Robbie, Miss H. H., Ashburne Hall, Fallowfield, Manchester; Sparks, Miss E. M., Kirk Langley Rectory, Derby; Walrond-Skinner, Miss J. M., The Gardens, Houghton Hall, Sancton R.S.O., E. Yorkshire.

Late Strawberries.—Under date of September 19th, Mr. R. Iliffe, West Manor Gardens, Ruddington, Notts., wrote:—"I have sent you a sample of Strawberries grown in these gardens to show that in some seasons a late variety may be particularly useful. I have been gathering fruits regularly every day for the past fortnight, and thought your readers would be interested in the matter."

[Owing to the difficulties of transit the Strawberries reached us in a very unhappy condition. It is of interest, however, to note that Mr. Iliffe has managed to maintain a regular supply to so late a date. The name of the variety was not stated.—EDS.]

FIG. 85.—FRUITING SHOOT OF PYRUS SARGENTII.

NOTES FROM KEW.

NYSSA SYLVATICA.—Among trees of decided autumn beauty, a tree of the Tupelo or Pepperidge of Eastern N. America, near the large Temperate House at Kew, is very prominent. The brilliant red and yellow foliage in late September is unsurpassed or not even equalled by any other tree in the gardens. Nyssa sylvatica is not extensively planted in British gardens. In *Trees of Great Britain and Ireland*, a tree at Strathfieldsaye, Berkshire, is stated to be 80 feet high. Small blue-black fruits sometimes mature on trees in this country, their seeds providing the best means of propagation.

CHINA ASTERS.—In late summer and autumn the China Aster, varieties of Callistephus hortensis, constitutes one of the most popular annuals for beds and borders. At Kew for some years past masses of single-flowered China Asters have been a conspicuous feature. This year there are broad masses of the flowers, mostly of mauve shades, providing a wealth of colour on a mound by the lake-side and elsewhere in the pleasure grounds. The seed is sown at Kew on newly-dug ground, usually where alterations have been carried out in winter, and the plants receive but very little attention. *A. O.*

STORING POTATOS.

THE question of storing Potatos and keeping them in the best possible condition for the longest period is of vital importance. I think it is generally understood that the acreage under Potato cultivation in this country is far below that of last year, but on the other hand Potato disease is not nearly so bad, except in some parts of Wales and in a few other localities, as it has been during the past few years. At Aldenham we have a large area devoted to Potatos, and during my long acquaintance with this district I have never before seen so little disease.

At the time of writing we are busily engaged in lifting several acres of King Edward; the crop is excellent, tubers of medium size, beautifully bright and clean, and it is quite a rare occurrence to find a tuber diseased. Owing to the railway difficulties we are, to a certain extent, relieving ourselves of much risk and further labour by disposing of part of the crop as fast as it is dug to a large number of eager and waiting purchasers. At the same time we are storing a large quantity in clamps as shown in Figs. 86 and 87.

When properly carried out there is no better known method of keeping Potatos in a good condition than clamping. The site, if possible, should be a dry one, raised above the natural level and provided with means for rapidly carrying away any water which may collect on the spot. The clamp should be 6 ft. in width and built up ridge shape from 3 ft. to 4 ft. high. So far as possible the tubers should be placed together in a dry condition, and if there is any suspicion of disease a small quantity of slaked lime should be placed between each layer. A good covering of straw should be placed over the Potatos as the work proceeds, and a four-inch thickness of soil placed on the straw half way up the clamp, the remainder, except for the straw, being left open for a week or ten days to allow the gases due to fermentation to escape. After this period the whole of the clamp should be covered with soil, but at frequent intervals ventilating tufts of straw should be placed on either side. A fortnight later increase the depth of soil on the side from 4 inches to 6 inches to ensure against severe frosts, but in very cold weather some further covering should be given, and no better material can be had than the dry haulm of the Potato. It will be necessary to guard against attacks of rats as these are almost certain to find the store. When crops are badly diseased it is better to put the tubers together temporarily, and after a fortnight or three weeks turn them over, picking out the diseased tubers and rebuilding the clamp. *Edwin Beckett.*

PERPETUAL-FLOWERING CARNATIONS IN THE NORTH OF ENGLAND.

AROUND the large manufacturing towns in the north of England during the winter it is not uncommon to experience a succession of days with little more than seven hours of light, and this by no means clear. Under such conditions, despite modern houses and frequent washing of the glass outside, it is almost impossible to obtain strong, short-jointed cuttings of perpetual-flowering Carnations for insertion towards the end of January. Consequently valuable time is lost waiting for lighter days to strengthen the shoots. To avoid this difficulty autumn propagation becomes necessary. Cuttings of growths made during the summer root readily if inserted in very sandy soil, in a cold frame. After a watering to settle the soil the lights are kept closed, and shade afforded when necessary. When the cuttings have rooted, air is gradually admitted, and perfect hardiness is induced through the winter by means of free ventilation. Further watering during the dull days is seldom necessary.

Early in February some of these young plants are potted and grown in the usual manner, and they commence to bloom in September and continue to do so more or less all the winter, but after November climatic conditions are bad, the flowers lack substance, and the stems are rather weak. With increasing daylight, which extends rapidly after the turn of the year, the plants quickly make up for lost time.

The remaining plants are allowed to stay undisturbed in the frame until the middle of April, and are then planted out on a plot that has been well prepared during the winter. The soil is thrown out roughly, so that it can benefit by full exposure, and in March it is levelled and dug over, wood ash, lime rubble, and a sprinkling of artificials being worked in during the process. A dry day is selected for raking the bed level and firm, and the plants are set out a foot apart each way. In May they are pinched in the usual manner, and throughout the summer the routine of cultural details is rigidly attended to. Towards the end of July a further stopping of some of the growths may be necessary. This treatment results in well balanced, sturdy plants by September. A good compost of yellow, fibrous loam, wood ash and lime rubble, together with a small quantity of bone meal, is prepared and sufficient six-inch pots are well provided with drainage for these plants. Showery weather is chosen if possible for lifting, and potting; failing this it is necessary to thoroughly water the bed a day or two beforehand. If carefully lifted and placed in their flowering pots, the plants receive no check, and it only remains to encourage the roots to enter the soil by affording light shade and somewhat close conditions for a few days, with an occasional spraying overhead. Careful watering is necessary after the first soaking. Throughout the winter these plants are kept in cool conditions in order to keep them sturdy.

Under this mode of treatment early flowers are not the object, nor is it necessary if a batch of pot plants can be grown for early flowering, but it does produce excellent plants that furnish blooms of good quality from the end of March onwards. It also seems to impart a new vigour to the plants, as no indoor treatment we can provide gives us plants as strong, while still remarkably dwarf, and bushy. The labour saved in growing them thus is an item not to be overlooked. So far, neither the winter in the cold frame nor full exposure afterwards has encouraged any of the usual Carnation diseases.

Further evidence of the hardiness of perpetual-flowering Carnations I have found on returning from the Army. Four years ago several plants of Britannia, Empire Day, and Baroness de Brienen, remained after the general lifting. These have developed into large specimens, which this year have given a large supply of blooms, and although they have never been disturbed, they are quite dwarf, and the picture of health.

Where it is desirable to use these Carnations for bedding purposes, the above plan provides ideal plants, especially if, after being lifted, they can be kept in a cold house throughout the winter. Very little growth will then be made, but a display of bloom is assured from June onwards. In addition to the varieties named above the following stand outdoor treatment well: Triumph, Champion, Scarlet Glow, Gorgeous, Rosette, Winsor, May Day, Mary Allwood, and Snowstorm. *F. T., Rotherham.*

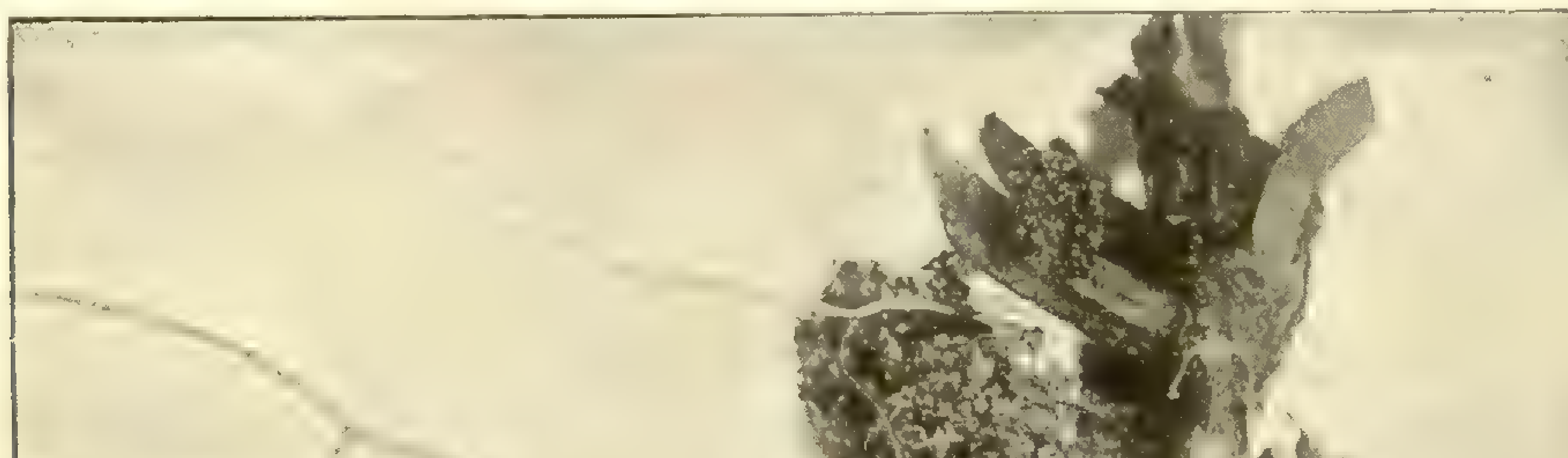

FIG. 86.—POTATO TUBERS AFFECTED WITH WART DISEASE.
(See p. 190.)

VEGETABLES.

POTATO GREAT SCOT.

I AM interested in vegetable culture, and I have grown some two acres of Potatos this year with varied success. The land may be divided into two classes: (a) Turf land, ploughed up in 1916, and consisting of good, sound loam; (b) woodland, with no turf, the wood having been cut down in 1916. The crop from the turf land has not been satisfactory, the haulm in many cases withering before the proper time, in patches, which has been ascribed to the turf not being fully decayed and to the dry weather in April and May. The yield has consequently been poor.

Plants in the woodland soil have produced a satisfactory yield, and I was induced to take a careful account of the crop. The variety was Great Scot and Scotch seed was used, all the tubers having been carefully sprouted.

Five rows were grown, and there was a space of 3 feet between the rows and 21 inches between the sets. The rows faced south-east. No. 1 row was against the path, and consequently had the greatest amount of sunshine, the succeeding rows had proportionately less sunshine, and No. 5 row was against the field of mowing grass, and suffered accordingly. Each row was 21 yards long and 1 yard wide, containing 21 square yards. The five rows contained a total of 105 square yards. Each row had 36 sets, making a total of 180 sets. The Potatos were lifted and weighed in groups of six plants each, consecutively; there was not one barren set in the whole lot grown.

Numbers of the Rows		1	2	3	4	5
Weight of Ist 6 plants		45	34½	38	32½	24½
,, ,, 2nd		50	38½	35½	29	31½
,, ,, 3rd		43	39½	29	33	24
,, ,, 4th		47½	42¼	28½	26½	29
,, ,, 5th		49	41½	34	29½	30½
,, ,, 6th		43½	44½	32	34	29½
Total weight in lbs.	1,069	278	240½	197	184½	169
Average weight per set	5 9	7.7	6.6	5.5	5.1	4.7
,, per square yard	10.18	13.24	11.5	9.4	8.8	8.0
Tons per acre ..	21.9	28.6	24.7	20.3	18.9	17.8

The land carried a crop last year; previous to that it was woodland. *H. Bostock.*

ROYAL BOTANIC SOCIETY.

THE Committee appointed by the Right Hon. Lord Ernle to enquire and report upon what steps should be taken to render the work of the Royal Botanic Society of London as useful as possible from the scientific and practical point of view held its first sitting on May 5. It has held six sittings, and has examined six witnesses. It also received statements from various gentlemen who could not attend personally, and has now presented its report.

After reviewing the attempts made to increase the usefulness of the gardens, the Committee states it has formed the opinion that the Royal Botanic Society could be made more useful both from the scientific and educational point of view by the establishment of—

(1) A School of Economic Botany at which a knowledge of the economic plants and their products, including those of tropical regions, might be obtained.

(2) An Institute which might be made a centre for research, more especially in plant physiology where the living plant is essential.

(3) A centre for teaching in Horticulture, the students of which could receive their necessary training in pure science at existing London colleges.

(4) Courses in "School Gardening" at times suitable for teachers in Elementary, Continuation and other schools.

As subsidiary to these activities the gardens might extend their present utility as a centre from which Colleges and Botany Schools could be supplied with material for teaching and research, and in which students could make use of the existing facilities for the study of systematic botany.

Appendix.

Having completed their report, the Committee took into consideration the financial consequences that such a scheme would entail, and attach as an appendix an approximate idea of the cost.

The suggestions made in the foregoing report need not entail in their initial stages any very great expenditure. The Committee is of an opinion that it would be well for buildings to be of a temporary nature and of not more than two storeys, and that these might be erected near to the present greenhouses. Such a building as is required should contain:—

(1) A fair-sized laboratory for general research work.

(2) A laboratory fitted for research in physiological botany.

(3) Various smaller rooms to be used for independent workers. (For these a reasonable charge might be made or arrangements made for them to be subsidised by organisations other than the Society, who would nominate workers.)

(4) Private laboratories for members of the staff.

(5) Directors' office, horticultural instructor's room, laboratories, etc.

(6) Balance room, general store-room, chemical store-room.

(7) At least two other rooms for eventualities.

The present rooms, library, museum, lecture room, etc., might also be used, while a sum should be set aside for the renovation and extension of existing Natural Order and other beds; for laying out of new beds, for research work and provision of necessary economic plants.

It is not anticipated that much provision, beyond what is already available when it has been suitably renovated, need be made for the course in Horticulture. Lectures would be given in the present lecture room, and use could be made of the everyday operations in the gardens, the present kitchen garden and ground occupied by the School of Gardening being also used.

As regards staff, the following suggestions are put forward:—

	Per annum.
Director: Should be chosen largely because of his (1) ability to co-operate with the teachers of botany in London; (2) administrative capacity; (3) knowledge of economic problems, or of vegetable physiology	£800—£1,000
Assistant Director: Should be appointed after the director, and his knowledge should supplement that of the director, *e.g.*, if the former be an economic botanist, the latter should be a physiological botanist	£500—£700
An Assistant: Who would act as curator of museums, librarian, etc. Is desirable he should have a general knowledge of plant diseases	£250—£400
(At least one of the above officers should have a practical knowledge of the tropics, tropical plants and their products.)	
Horticulture Instructor	£300—£400
Attendant (laboratory, museum, lectures, etc.)	£150—£200
Boy (laboratory, museum, lectures, etc.)	£80—£100
Upkeep of museum, laboratories, library, material, etc. ...	£400
Charge by Royal Botanic Society for use of ordinary garden staff, say	£350
	£2,780—£3,550
Say	£3,000—£3,500
Equal, pre-war, say	£2,000—£2,250
Buildings, say	£4,000
Equipment, say	£1,000
Equipment, laboratory and books, plants, horticulture, etc.	£500

A VETERAN GARDENER.

Mr. William Gullick, whose portrait appears on this page, has completed fifty years' service as gardener and bailiff on the Kelly estate, the seat of the Rev. Maitland Kelly, near Tavistock, Devonshire.

To mark the occasion Mr. Kelly recently entertained Mr. and Mrs. Gullick with their family and descendants and the employees on the estate, to supper. Mr. Kelly referred to the duties of stewardship faithfully performed by Mr. Gullick for so long a period and to the masterly skill with which he had controlled the estate and gardens, particularly during the recent difficult times. He presented a silver teapot to Mr. Gullick with a suitable inscription and a silver cream jug to Mrs. Gullick. Mr. Balsdon followed with a gift from the employees, whilst Miss Kelly, on behalf of the women of the parish, presented Mrs. Gullick with a shawl. Mr. Gullick suitably replied and Mr. Fred Gullick replied for his mother. Later, a concert and dance took place, and the village bells were rung in honour of the occasion. Both Mr. and Mrs. Gullick are in good health, notwithstanding their fourscore years, for sixty of which they have been married.

Mr. Gullick began his duties on August 28th, 1869, under the late Mr. Arthur Kelly. In April, 1873, his son Reginald succeeded to the estates, and on his death in 1899 his brother, the Rev. Maitland Kelly, became the proprietor, so that Mr. Gullick has served under three owners.

At the time of Mr. Gullick's appointment the gardens and pleasure grounds of the Kelly estate were much as they were planned and planted during Queen Anne's reign in the early part of the eighteenth century. Upon the accession of Mr. Reginald Kelly, whose wife was a keen horticulturist, the whole of the pleasure grounds and gardens were remodelled and the natural beauties enhanced by carefully considered schemes. The formal Dutch style of numerous small beds with clipped Box edgings and narrow

Mr. William Gullick.

gravel paths gave place to bold beds set in turf and co-ordinated with the character of the mansion. Large plantings of the common Laurel, sombre beds of Yews and other evergreens were cleared away and fine views opened up stretching to the Cornish moors. A rockery was built with the natural freestone of the locality; a bog garden and Lily pond made and the whole planted with suitable plants; the herbaceous borders, shrubberies and Rose garden were also remodelled and brought up to date. The stiff, straight hedges of Yew and Thorn were removed and winding paths made under the fine old Oaks, Beeches and Elms that abound on the place. A stream and chain of lakes, that give much charm to the pleasure grounds, were utilised to the best effect. Many Conifers and other trees were planted, and these have developed into magnificent specimens, including especially fine plants of Benthamia (Cornus) fragifera. A tree of Arbutus Unedo, the Winter Strawberry (which succeeds well in sheltered nooks in Devon and Cornwall), some twenty feet in diameter and 25 feet high, develops a profusion of its Strawberry-like fruits.

The old, flue-heated glass houses were dismantled and in their place a fine range of vineries, Peach, Orchid and plant houses was built, and later, a very pretty conservatory was added. Some 35 or 40 years ago Mr. Gullick was a successful exhibitor, in open classes, at the Plymouth, Exeter and other county shows. The vegetable and fruit departments have also been extended; the fruit garden, which was formerly in a deplorable condition, now contains as good a collection of Apples and other hardy fruits as can be found in any garden in the County of Devon.

Mr. Gullick has seven daughters and one son, Frederick, who is a successful nurseryman, seedsman and florist at Salisbury.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

A Good Crop of Peaches.—I have just finished gathering an exceptionally fine crop of Peaches of the Princess of Wales variety. The fruits were of unusual size, and the tree had a crop of over 70. The heaviest fruit weighed 13¼ ounces, other varying from that weight to 9 ounces—the smallest specimen. Several of the Peaches weighed 12 ounces. The tree was planted in the autumn of 1915. I should be glad to learn what is the heaviest recorded weight of a Peach. *Geo. Lloyd, Chilworth Manor Gardens, Romsey.*

[The largest Peach of which we have record is a fruit of the Dr. Hogg variety, weighing 23¾ ounces, grown by Mr. Alfred T. Goodwin, Roseholme, Maidstone. See *Gardeners' Chronicle* October 19th, 1918.—Eds.]

Late Culinary Apples.—In our district there are heavy crops of varieties of Apples that mature early, such as Mank's Codlin, Keswick Codlin, Lord Suffield, Lord Grosvenor, Warner's King, and Stirling Castle. Some of the trees are laden with fruit. Late varieties have, generally speaking, light crops, with here and there exceptions. Is this fact to be attributable in any way to the longer season of rest the trees bearing these early crops get, or are the blossoms less susceptible to the vagaries of our climate than the usual run of the later sorts? While the early varieties are always acceptable in their season, late keeping Apples are the most valuable. All the trees of both sections blossomed evenly, so far as I could judge. Cold weather was experienced at the latter end of April, whilst May and June were months of drought, with little sunshine—at least, such as one expects at this period—and growth of all vegetation was slow for that time. Pears are abundant, trees that have previously not borne at all, or had mediocre crops, are this year loaded. This remark applies particularly to old orchard trees. *G. Dyke.*

Potato Majestic.—Last season we heard, and again this season we hear, of want of success following the planting of cut sets of Potato Majestic. I made this season a series of experiments which seem to prove that on a small scale there should be no failure. In March I selected two lots of tubers from two different consignments of Majestic as follows: Twelve 3-ounce tubers, six 6-ounce tubers, and three 12-ounce tubers. These were placed in boxes for six weeks and then planted. The sprouts were showing nicely on all the tubers, *i.e.*, they were about half an inch long and strong and stubby. The boxes were carried to the field where the drills were already opened. The twelve 3-ounce sets were planted whole. The six 6-ounce tubers were cut in halves, and the three 12-ounce ones were quartered. We had these in duplicate, of course. I cut the tubers and handed them to Mr. Bone, who immediately placed them in position in the drills; they were not limed or treated in any way. They were covered up at once. Recently the crop was lifted and the outcome is as follows: Only one of the sets failed to grow—*i.e.*, one of the cut sets in No. 5:—

(No. 1)—Twelve 3-ounce sets, planted whole, produced 38 lbs.; (No. 2) Twelve sets (six 6-ounce tubers cut in halves) produced 44 lbs.; (No. 3) Twelve sets (three 12-ounce tubers cut in quarters) produced 36 lbs.

Second Test:—

(No. 4)—Twelve 3-ounce sets, 43¼ lbs.; (No. 5) Six 6-ounce tubers, halved (one set decayed), 31 lbs.; (No. 6) Three 12-ounce tubers, quartered, 42 lbs.

For a dry season in light land this is a splendid result, and the experience I think is worth placing before your readers. What I have been able to accomplish with Majestic anyone else can accomplish, I think, on a small scale. Why failures with cut seed are again pretty numerous in field culture I cannot explain.

Since I wrote my note on Potatos, which appeared in your issue of September 27th, the Government stock of Dargill Early has been on sale. It is offered in your advertisement columns in the issue for September 27th. *W. Cuthbertson.*

Gardeners' Wages.—As your columns have been open to the British Gardeners' Association, I may hope that you will give equal publicity to the view of owners of gardens. The proposals put forward by the Association are preposterous. Young gardeners at an age when they begin their journeyman's work are to be paid the wages given to head gardeners. It is overlooked that these young men are often allowed lodgings and a certain amount of food from the garden. The houses for their accommodation have to be built, paid for and tended, and are taxed. It is for the owners of gardens, surely, to fix the wages they can afford to pay. The effect of these thoughtless proposals will be greatly to reduce the rural labour of the land. It is one result of the State regulation of the wages paid by farmers, who are guaranteed a price for their crops. This is considered by many to be a step of very doubtful wisdom and will probably result in the ruin of the small farmer and nurseryman. Whilst the war was, to some extent, a justification of desperate measures, there is no excuse for the step taken by a body which gives no such guarantee. I suggest that the time is come for an association of garden owners and tenants to control this question of wages, as the parties most concerned. Not a few things are done by the trade which might well be settled by a society composed of the men who pay for all. Existing gardening societies are too much in the hands of the nursery and seed trades, so that the rights and interests of proprietors do not receive due consideration. My own labour is reduced by more than a half; and so it will be in very many cases, I fear, during the coming winter when, the probability is, there will be a great deal of unemployment. Be it noted that the age for which the Society fixes wages that cannot be paid is about that at which the trained gardener begins his journeyman's life. *An Employer.*

SOCIETIES.

ALTRINCHAM.

SEPTEMBER 24.—This Cheshire exhibition was held in the spacious "Devisable" grounds at Bowdon after a lapse of six years, and aroused keen interest amongst local horticulturists.

In the class for the most tastefully arranged exhibit of cut flowers (Orchids excluded) five entered, and the premier award was made to Mr J. NIXON, Alderley Edge; 2nd, Mr. A. J. BLAIR, Congleton.

For a display of cut Dahlias Mr. HARRY REEVES, Altrincham, was awarded the 1st prize.

Mr. J. MUTTER, Northwich, led in the class for twenty-four blooms of Cactus Dahlias. with fresh, well-coloured blooms.

For twelve vases of early flowering Chrysanthemums, Mr. G. PIMLOTT, Northenden, excelled; whilst Mr. A. J. BLAIR led in the class for six vases. The best exhibit of nine vases of Sweet Peas was shown by Mr. W. SCOTT, Styal, the varieties Breadmore and King White being specially noteworthy.

FIG. 87.—STORING POTATOS: UNLOADING THE TUBERS AT THE CLAMP.

Mr. J. SIMCOCK, Mobberley, won the 1st prize in the class for twelve varieties of hardy, herbaceous flowers; and for six varieties Mr. J. NIXON was successful.

Fruit was staged in good quantity and Apples generally were of good quality.

For six varieties of culinary Apples, Mr. J. KITCHEN, Winsford, led with Ecklinville Seedling, Warner's King, Charles Ross and Rival as his best varieties.

Mr. J. S. PROCTOR, Altrincham, excelled in the class for Lord Suffield; Mr. G. H. ASTALL, Warrington, for Lord Grosvenor; Mr. C. TRAVIS, Northenden, for Stirling Castle; Mr. A. THORPE, Altrincham, for Lane's Prince Albert; Mr. J. TOMLINSON, Northwich, for Worcester Pearmain; Mr. J. TOMLINSON, for King of the Pippins; Mr. J. KITCHEN, for Cox's Orange Pippin; Mr. A. THORPE, for Grenadier; Mr. G. A. ASTALL, Warrington, for Warner's King; and Mr. J. KITCHEN for any other variety.

Mr. W. DRONSFIELD, Northwich, Mr. J. TOMLINSON, and Mr. J. KITCHEN were successful in the classes for Pears.

For six kinds of hardy fruits Mr. J. TOMLINSON excelled; he had fine Plums, Damsons and Peasgood's Nonsuch Apples.

Vegetables were shown in considerable quantity.

For nine distinct varieties Mr. G. PIMLOTT led, and Mrs. HASLAM, Bowdon, was placed second.

Mr. TOMLINSON was also successful in the class for six kinds.

Mr. S. DAVIES, Heatley, was the most successful exhibitor of Potatos.

In the section for allotment holders Mr. J. DEAN, Bowdon, showed the best collection of six kinds.

Non-competitive exhibits were shown by Messrs. CLIBRANS, Altrincham; CALDWELL AND SONS, Knutsford; DICKSON AND ROBINSON, Manchester; DICKSON, BROWN, AND TAIT, Manchester; DICKSON'S, LTD., Chester; GARTON'S, Warrington; CHAS. JONES, Chester; and E. WEBB AND SONS, Stourbridge.

FOUR NORTHERN COUNTIES.

OCTOBER 3, 4.—The two days' fruit show and congress held under the auspices of the Four Northern Counties Society was held in the Drill Hall, Hexham, on the foregoing dates. The number of entries constituted a record for these shows, and the exhibition generally was a great success. It was opened by Countess Grey under the presidency of Dr. D. Stewart. The schedule included classes open to growers in the four Northern Counties and others for gentlemen's gardeners and amateurs.

In the former section Messrs. Walter Voss and Co., Ltd., offered a challenge cup, valued at ten guineas, for the best exhibit of 12 dishes of Apples, including nine culinary varieties and three dessert sorts. The trophy was won by Mrs. ALEXANDER, Hexham, and Mr. MILICAN, Scotby, was placed 2nd. Mr. HENDERSON, Falloden Hall, was the winner of the 1st prize in the class for three dishes of culinary Apples, in which Mrs. ALEXANDER was 2nd, whilst the best three dishes of culinary Apples in three varieties were shown by Mr. MILICAN, Scotby.

Mr. LEE, Stagshaw, had the best dish of Newton Wonder Apples, Mr. H. G. LLOYD, Hexham, the best six dishes of culinary and dessert Apples, and Mr. COWAN, Woodleyfield, the best three dishes of stewing Pears.

In the section open to private gardeners and amateurs, a Challenge Cup, valued ten guineas, open to growers in the County of Northumberland, was offered by Mr. Henry Bell, Hainingcroft, Hexham. Mr. H. G. LLOYD proved the winner in this class, followed by Mr. JOSEPH HENDERSON, Falloden Hall.

The Silver Challenge Cup, offered by Mrs. Bainbridge, Eshott Hall, Felton, for the best 12 dishes of Apples and Pears, not fewer than six varieties, staged by a Northumberland grower, was won by Mr. LLOYD, who was followed by Sir JAMES KNOTT, Wylam (gr. Mr. W. Anderson).

A Silver Fruit-bowl, offered by Mrs. J. G. Straker, Leazes, Hexham, for the best six dishes of hardy friuts from a grower in Northumberland, was won by Mr. LEE, Stagshaw, and the special prizes offered by Earl Grey, Howick, Lesbury, for six dishes of dessert Apples grown in Northumberland were won by Mrs. CLAYTON, Mr. HENDERSON and Mr. H. G. LLOYD, respectively.

Messrs. W. Fell and Co., Ltd., Hexham, offered prizes for six dishes of culinary and dessert Apples. The 1st prize, together with a silver medal presented by the Worshipful Company of Fruiterers, was won by Mr. S. MOORE, Hexham.

Mrs. Cuthbert, Beaufront Castle, showed the best two bunches of white Grapes and the best two bunches of black Grapes. Mr. Walker, Sandhae, held the best Peaches, and Sir James Knott the best three dishes of Pears.

Single dish classes for culinary and dessert Apples resulted in good competitions. There were also classes for Plums, Currants, Rubus fruits, Morello Cherries and preserved fruits and vegetables.

In the section for Cottagers, Mr. M. Willey won many 1st prizes, and this exhibitor had the best exhibit grown by an amateur.

Obituary.

William Swan.—We learn with much regret that Mr. William Swan, gardener to H. H. Maharajah Jam Saheb of Nawanagar (Prince Ranjitsinhji), died on Friday, October 3rd, 1919, aged 78 years.

The late Mr. Swan commenced his gardening career with the firm of Messrs. Hugh Low and Co., nurserymen, Upper Clapton, and during the two years that he remained at Clapton he became interested in Orchids and he retained an enthusiasm for these plants throughout his career as a gardener.

Mr. Swan left Messrs. Low and Co. to enter service with Mr. John Day, of Lower Tottenham, who was at that time an enthusiastic cultivator of Ferns. There were, however, a few Orchids, in which Mr. Swan naturally took a very keen interest, and as he had opportunities of visiting the nurseries of Messrs. Loddiges at Hackney, where new plants, including Orchids were a great feature, his knowledge of the latter increased rapidly. So much so, that he interested his employer in these plants and eventually the Ferns gave place to these aristocrats of the floral kingdom.

After three years service with Mr. Day, Mr. Swan became general foreman at Bowes Manor, Southgate, and he occupied himself with landscape work at Stroud Park for one season. He afterwards returned to the employ of Mr. Day, then living at High Cross Tottenham, who now had a large and valuable collection of Orchids, notably of Aerides, Vandas and Saccolabiums. While at High Cross a terrific storm burst over the district, and hailstones broke practically every pane of glass in the houses; many of the Orchids suffered in consequence.

Subsequently Mr. Swan took charge of the collection formed by Mr. S. Mendel, of Manley Hall, Manchester, a collection which three years later, *i.e.*, in April, 1873, was sold by auction and realised £6,000.

Mr. Swan was next employed at Oakley, Fallowfield, Manchester, by Mr. W. Leech, where he remained for 13 years and had charge of an extensive and important collection of Orchids; but when Mr. Leech and his family moved to London the whole of this valuable collection, including a large number of hybrids, was dispersed. After leaving Fallowfield, Mr. Swan was employed for two years at Howick House, Preston, where Mr. E. G. Wrigley had a large collection of plants, including over one thousand specimens of Cattleya Mossiae, which were grown without shading of any kind.

After doing duty for a short time at the public parks, Preston, Mr. Swan entered the service of Mr. G. C. Raphael, of Castle Hill, Englefield Green, Surrey, where he once again had charge of a large collection of Orchids and added thereto by raising large numbers of hybrid Cypripediums. After five years at Englefield Green, Mr. Swan accepted an engagement with Mr. J. P. Bryce, of Exmouth, in Devonshire, where for five years he had charge of that gentleman's very beautiful garden, with its extensive pleasure grounds and a good collection of indoor plants; the staff numbered about 30 employees. But here again, the removal of the family necessitated the sale by auction of all the valuable plants, and Mr. Swan was once again out of employment. In July, 1899, he went to Thorncote to take charge of Sir Edward Clarke's garden and estate, and for 12 years he remained in his service. In 1913, the estate was purchased by H.H. Maharajah Jam Saheb of Nawanagar (Prince Ranjitsinhji), in whose service Mr. Swan remained until his death.

Mr. Swan was recognised as one of the cleverest cultivators of Orchids and scarcely any other man had so large and varied an experience in dealing with these plants. He was at one time a fairly regular contributor to these columns and his writings and his name will be familiar to many of our older readers.

TRADE NOTES.

After a period of over four years with His Majesty's Forces, Messrs. Carter and Howard have returned to their pre-war business as horticultural builders. They have relinquished their former premises at Kingston-on-Thames and removed to Wimbledon. The firm is fortunate in having practically the same skilled staff as before the war.

An interesting meeting of the stand-holders was held in Covent Garden Market on Thursday, the 2nd inst., under the presidency of Mr. David Ingamells. The meeting was called by the British Florists' Federation for the purpose of considering the new rules and regulations embodied in the fresh agreements which the Covent Garden Estate Company propose to issue to the stand-holders, all of whom are for the moment under notice to quit in view of the increased rental.

About sixty salesmen and growers attended, and the agreements, copies of which had been furnished by the company, were considered clause by clause. Apparently, there are no vital differences of opinion as between the tenants and the company, but recommendations were made in connection with porterage, lighting, ventilation, repair of stands and hours of opening and closing. These recommendations, with a few other suggestions, will be placed before the Directors of the Estate Company at an early date. The Directors have agreed to meet a deputation of the tenants to discuss the various points. Those forming the deputation, elected on October 2nd, are Messrs. D. Ingamells, J. Collingridge, F. W. Ladds, W. A. Cull and C. H. Curtis.

The Board of Agriculture and Fisheries wish to point out to merchants and seedsmen selling immune varieties of seed Potatos for planting in areas infected with Wart Disease that it is proposed to issue at an early date an order which will modify the restriction now in force that merchants must obtain licences for selling such Potatos under the proposed order.

Stocks of approved immune varieties which were inspected whilst growing and certified as reasonably free from rogues by either the Board of Agriculture and Fisheries or the Board of Agriculture for Scotland, may be introduced to and sold for planting on infected areas without any licence. But on the occasion of a sale for planting, the serial numbers of the certificate must be quoted on the invoice or other written document given to purchasers. No Potatos for planting other than these can be brought or sent into infected areas except under the authority of a licence issued by the Board.

The Board propose to work in the closest cooperation with persons introducing Potatos for planting into infected areas to see that the introducer of such Potatos has obtained either the certificate number of the inspected seed or the special licence to introduce other seed.

It should be pointed out that it is not the Board's intention to grant licences for the introduction of non-certified stocks until they are satisfied that the supply of certified stocks has been used up.

Potatos imported into certain countries abroad from England and Wales must be accompanied by a certificate from the Board as to the freedom from Wart Disease of the locality where the Potatos were grown. Applications for such certificates must in all cases be accompanied by a declaration by the actual grower of the Potatos, giving the name of the farm, the parish and county in which it is situated, and stating that Wart Disease has not been known to exist on the premises. The application and the declaration must reach the Board at least three days before the consignment is to be shipped. No charge is made for these certificates.

Fig. 88.—Storing Potatos: arranging the tubers on straw; in the foreground is seen the end of a completed clamp.

CROPS AND STOCK ON THE HOME FARM.

Vetches.

Seed of Vetches intended for sheep food next June, or for seed, should be sown on any newly-ploughed, clean stubble. Two bushels of seed sown broadcast by the aid of the Massey-Harris cultivator, or drilled, is ample quantity per acre. If harrows are drawn over the plot once after sowing, that will suffice as it is not wise to break the clods too small at sowing time, as they act as a protection to the plants during the winter, and with the weathering effect the clods crumble. When rolled in the spring pressing the soil aids in making the plants firm at the roots, enabling them to grow rapidly. *E. Molyneux.*

ANSWERS TO CORRESPONDENTS.

ADDRESS: *J. F. C.* The address of Messrs. Silberrad and Co. is 25, Savage Gardens, London, E.C. The water weed you send is a common Duckweed, Lemna major. The best plan of ridding your pond of this troublesome plant is to skim it from the surface; drag a sheet of canvas over the surface in early summer and repeat the process at frequent intervals as the weed re-appears. It is most important to remove the weed before it flowers and if the work is carried out patiently throughout one season it should suffice to eradicate the Duckweed. Where water fowls have access to ponds or lakes this weed is rarely troublesome.

APPLE SHOOT WITHERED: *A. W.* There is no disease due to fungous attack on the Apple shoot submitted for inspection. The shrivelling is due to a lack of moisture at the roots or some other local cause which only those on the spot could determine.

BASIC SLAG: *J. E. D.* Now is a very suitable time to apply basic slag to your vegetable quarters. This fertiliser is slow acting, and would not injure growing crops. It is also a very lasting manure, and for this reason you can use it liberally. A dressing of 2 ozs. to the square yard may be recommended, but there is not so much need to preserve accurate quantities as in the result of quick-acting fertilisers such as sulphate of ammonia or nitrate of soda. The latter fertilisers are best applied in the spring and, as they are very soluble, especially nitrate of soda, they should be applied in small dressings, the rule being "little and often." One ounce of sulphate of ammonia is sufficient to each square yard, and in the case of nitrate of soda, half that quantity should be applied and the application repeated after a week or so.

BOTRYTIS ON TOMATO PLANTS: *J. W. C.* Where this disease appears year after year preventive measures should be adopted at a very early date. The house in which the plants have been growing should be thoroughly cleansed during the winter, and the walls, woodwork and other surfaces sprayed with a solution of sulphate of iron. All the old soil should be removed, and great care taken in the provision of fresh rooting material for another year. In addition to using sulphate of iron it is advisable to spray the Tomato plants at regular intervals with a solution of sulphide of potassium from the seedling until the fruiting stage.

CUCUMBER SCAB: *B. B.* The Cucumber fruit submitted shows evidence of attack by the disease known as Cucumber scab (Cladosporium scabies). This disease has been followed by Bacterial Soft Rot. Spray the plants at regular intervals with a solution of sulphide of potassium, and remove and burn all diseased fruits.

DAMSON ATTACKED BY FUNGOUS DISEASE: *J. E.* The fruits are attacked by Brown Fruit Rot (Monilia fructigena), a parasitic fungus that attacks many kinds of fruits. The disease is not restricted to the fruits, but frequently appears on the leaves and stems. All diseased fruits, whether they fall or shrivel and remain on the trees, should be collected and burned, otherwise they become centres of future infection. During the winter infected trees should be thoroughly drenched with a solution of sulphate of iron, and the ground immediately underneath and around them should be similarly treated. In the spring, when the leaves are about half developed, spray the trees with a weak solution of Bordeaux mixture.

FAILURE WITH CUCUMBERS: *T. B.* Your Cucumber plants appear to be suffering from wilt disease, which is caused by a species of Verticillium. When this disease appears in a Cucumber house all the plants eventually become infected. Remove every particle of old soil, and afterwards thoroughly drench every part of the interior of the structure with a solution of sulphide of copper, at a strength of about one pound in 15 gallons of water, and repeat the application at an interval of about three weeks. Soil from a fresh source, mixed with kainit, should be used next season; the kainit has the effect of destroying the mycelium or spores of the Collar-rot disease of Cucumbers.

FRUIT FROM SHRUB: *Miss B.* The fruit is that of Cydonia japonica. Such fruits are sometimes used for the making of jelly, in the same way as Crab Apples are used.

GRASS FOR NAMING: *J. J.* The grass is Lolium perenne (Rye Grass), which is strong growing, tillers freely and makes dense tufts, which become rather conspicuous owing to the long sheaths surrounding each crown of leaves. It is not so coarse, however, in this respect as Cock's-foot Grass, which sometimes gets into lawns on rich soil. The soil of your lawn is either poor or is suffering from the long drought, and you may remember that pastures are suffering from the latter cause for 200 miles to the north of your district, at least. The presence of Yarrow is another indication of poor or light soil, or the effects of drought, for this weed, Clover, Cerastium, Black Knapweed and others always assert themselves when grass fails. You would get a finer turf by sowing Festuca ovina, F. o. tenuifolia, Poa nemoralis, or some of its varieties, and Agrostis alba on the bare patches. You could also improve the sod of grass by top-dressing now with sifted, rich soil and well rotted manure. The application could be repeated in February, and this would make the lawn more retentive of moisture. Give water frequently in dry weather.

IVY LEAVES DYING: *M.* There is no fungous disease present on the Ivy leaves and stems, therefore the cause of the trouble must be sought for in other directions. It is possible that an escape of gas has injuriously affected the leaves and stems, but in any case the cause is a purely local one.

NAMES OF FRUITS: *F. J.* 1 and 2, Lane's Prince Albert; 4, Allington Pippin; 5, Nonesuch; 6, Triomphe de Jodoigne.—*T. H. C.*: Summer Golden Pippin.—*R. H. S. S.*: 1, Red Astrachan; 2, send a better specimen.—*G. B.*: 1, James Grieve; 2, Lane's Prince Albert.—*A. U. S.*: Cox's Pomona.—*F. J. R.*: Hambling's Seedling.—*F. J. A.*: Clapp's Favourite.—*A. W. G.*: 1, not recognised; 2, Duchess of Oldenburgh; 3, Hawthornden; 4, Potts's Seedling; 5, Ribston Pippin; 6, Bismarck.—*H. H. M.*: 1, Marie Louise; 2, not recognised; 3, 4 and 11, Doyenné du Comice; 5, Pitmaston Duchess; 6, Beurré Diel; 7, Clapp's Favourite; 8, Easter Beurré; 9, Comte de Flandre. Apples: 1, Allington Pippin; 2, King of the Pippins; 3, Newton Wonder; 4, Warner's King; 5, not recognised; 7, Small's Admirable; 10, Beurré Clairgeau; 11, not recognised; 12, Beurré Bachelier; the other fruits were decayed.—*H.*: Fondante d'Cuerne.—*C. H. L.*: 1, Lodgemore Nonpareil; 2, 36, 37, 40, 61, Warner's King; 7, Autumn Bergamotte; 8, Fertility; 10, Pitmaston Duchess; 12, 25, Cox's Orange Pippin; 15, 17, King of the Pippins; 16, Kerry Pippin; 22, Golden Pippin; 24, Dumelow's Seedling (syn. Wellington); 26, 34, 35, Lord Suffield; 28, 32, 55, Stone's Apple; 39, Pitmaston Pine; 33, Potts's Seedling; 41, Yellow Ingestrie; 43, Golden Noble; 45, Louise Bonne of Jersey; 47, The Queen; 48, Peasgood's Nonsuch; 51, 60, 77, 78, Ecklinville Seedling; 52, 72, decayed; 57, 58, De Neige; 59, Stirling Castle; 65, 66, 67, Beauty of Kent; 70, French Crab; 79, 80, Hanwell Souring.—*A. A. M.*; 1, Potts's Seedling; 2, Warner's King; 3, Peasgood's Nonsuch; 4, Annie Elizabeth.—*A. D.*: 1, Golden Noble (culinary); 2, Winter Strawberry (dessert); 3, Dean's Codlin (culinary); 4, Small's Admirable (culinary); 5, Annie Elizabeth (culinary).—*J. A. W.*: 1, Winter Hawthornden; 2, Early Joe; 3, Margil; 4, decayed; 5, Downton Pippin; 6, Plum Late Rivers.—*R. W. R.*; 1, Gravenstein; 2, Bramley's Seedling; 3, Alfriston; 4, Lane's Prince Albert; 5, Queen; 6, not recognised; 7, Duchess's Favourite.—*L. T.*: Gascoigne's Scarlet Seedling.—*F. D.*: 1, Lady Sudeley; 2, Warner's King.—*H. E. S.*: 1, Marguerite Marillat; 2, Cellini; 3, Williams' bon Chrêtien; 4, Lord Grosvenor; 5, Worcester Pearmain; 6, Lane's Prince Albert; 7, Warner's King; 8, Lord Suffield; 9, Souvenir du Congrés; 10, not recognised; 11, French Crab; 12, Cellini.—*H. H.*: 1, Lane's Prince Albert; 2, Golden Pippin; 3, Frogmore Prolific; 4, Newton Wonder; 5, Bramley's Seedling; 6, Newton Wonder; 7, Winter Ribston.—*E. H.*: The Pear is a small Marie Louise; the Plum was decayed.—*V. D. B.*: 1, Tyler's Kernel; 2, decayed; 3, Bramley's Seedling; 4, Gascoigne's Scarlet Seedling; 5, Queen; 6, King of the Pippins; 7, not recognised: 8, Cox's Orange Pippin; 9, Ecklinville; 10, Lord Suffield; 11, Keswick Codling; 12, Peasgood's Nonsuch; 13, Blenheim Pippin; 14, Tyler's Kernel; 15, Queen; 16, Newton Wonder. The Pears are—1, Durondean; 2, Williams' bon Chrêtien; 3, Marguerite Marillat; 4, Conference; 5, Fondante d'Automne.—*B. R. O., Thirsk*: 1, Rivers' Codlin; 2, Lord Grosvenor; 3, Warner's King; 4, Cornish Aromatic; 5, Winter Hawthornden; 6, not in character; 7, decayed; 8, 9 and 10, not in character, picked too soon; 11, King of the Pippins; the Pear was decayed.—*A. J.*: 1, not in character, send when ripe; 2, Dumelow's Seedling; 3, Lady Sudeley; 4, King of the Pippins; 5, not in character.—*M. C. D.*: 1, Emperor Alexander; 2, Lemon Pippin; 3, Blenheim Pippin; 4, not recognised; 5, Bielo Borodawka; 6, not recognised; 7, King of the Pippins; 8, Cox's Orange Pippin.—*A. D. and Sons*: An abnormal fruit of Marie Louise, produced probably from a late flower; no disease present.—*C. P.*: 1, Gravenstein; 2, King of the Pippins; 3, Gogar Pippin; 4, Cellini; the Pear is Durondean.—*W. R. P.*: 1, Blenheim Pippin; 2, Lane's Prince Albert; 3, Fearn's Pippin; 4, Court of Wick; 5, Emperor Alexander; 6, Warner's King; 7, Court-Pendû-Plat; 8, not in character; 9, Cellini; 10, Duchess's Favourite; 11, King of the Pippins; 12, not in character; 13, Chelmsford Wonder; 14, not recognised; 15, Yellow Ingestrie.—*J. G. C.*: Dutch Mignonne.—*B. W.*: 1, not recognised; 2, Bergamotte d'Esperen; 3, Beurré Hardy; 4, not recognised; 5, Beurré Hardy; 6, Doyenne du Comice; 7, decayed; 8, Marie Louise; 9, mishapen, quite out of character.—*C. P.*: 1, Mère de Ménage; 2, not recognised; 3, James Grieve; 4, Blue Pearmain; 5, a seedling Ribston Pippin; 6, Ecklinville; 7, Devonshire Quarrenden; 8, Citron des Carmes; 9, Beurré Clairgeau; 10, Nouveau Poiteau; 11, probably Beurré Bosc.—*D. C.*: 1, Conference; 2, Olivier de Serres; 3, Marie Louise; 4, Bergamotte d'Esperen; 5, Fondante de Thirriot; 6, Williams' bon Chrêtien; 7, Louise Bonne of Jersey; 8, not in character.—*W. S.*: 1, Bismarck; 2, Lane's Prince Albert; 3, Cox's Orange Pippin.

NAMES OF PLANTS: *C. E. W.* Chlorophytum elatum.—*L. A. R.* 1, Crataegus Pyracantha; 2, Buddleia variabilis. *J. A.*: Acer Ginnala, sometimes known as Acer tataricum var. Ginnala.—*S. L. H.*: Paulownia imperialis.

NATIONAL SWEET PEA SOCIETY: *A. C.* The National Sweet Pea Society not only continues to exist but is carrying on a good work on behalf of its name flower. The Secretary is Mr. H. D. Tigwell, and his address is Harrow View, Greenford, Middlesex.

WHITE FLY: *F. W. S.* The insect is Aleyrodes vaporariorum, and it is a very troublesome pest among plants in greenhouses. It may be destroyed by vaporising with hydrocyanic gas, or a nicotine compound, but it is necessary to repeat the fumigation at intervals of about eight days. For plants in the open, the best means of combating the pest is to syringe infested specimens with a nicotine solution.

Communications Received.—H J. E.—O. S.—S. A. W. R.—F. T.—H. A. S.—F. O.—E. W. T.—H. and Sons.—E. S.—G. Y.—J. A. W.—M. D.—W. D. and Sons.—A. W.—L. R.—H. P.—O. de V. C.—J. R.—T. B. A. H. M.—E. W. T.—A. Bros.—G. D.—O. R. B.—H. M. L.—H. M.—H. P.—J. K. B.—J. C.—H. T.—F. D.—H. H.—L. G. P.—E. L.—A. P.—C. E. W.—E. B. S.—C. A. S.—R. R. G.—A. J. D.—W. B.—A. T. H.—R. S.—H. G.—L. H. and K., Ltd.—R. C. P.—D. W.—A. H.—J. C.

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Fig. 1.

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Fig. 2. A or B Quality.

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*Belle Alliance, scarlet	14/-
*Montressor, yellow	25/-
Chrysolora, yellow	15/-
*Prince de Linge, yellow	15/.
*Coul de Cardinal, crim.	22/6
*Duchesse de Parma, orange-red .. .	14/-
*White Swan, pure white.. ..	15/-
Murillo, dble. pink	14/-
Rubra maxima, dble. red	13/-
Couronne D'or, dble. gold	18/-
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Clara Butt, the lovely self coloured soft pink that ladies so mnch admire	10/6
La Tulipe Noire, (black tulip)..	14/-
Farncombe Sanders, scarlet	13/6
Massachusetts, rose	10/6

	100
Snowdrops, double, 1,000 35/-	4/-
C ocus, yellow 9/- &	12/-
Crocus s, white and blue	7/6
Emperor Daffodil	10/-
Roman Hyacinths doz. 4/6,	35/-
Miniature Hyacinths, coloured doz. 1/6,	10/6
Bedding Hyacinths, 4 colours doz. 4/6,	26/-
*First Size Hyacinths, all colours doz. 7/-,	50/-
Freesia (white) ..	6/6
Span Iris, Thunderbolt	6/-
Iris, Reticulata ..	22/6
Scilla (bluebells) 1,000 30/-,	3/6
Crown Imperials doz. 8/-,	55/-
Madonna Lilies doz. 7/-,	50/-
St. Brigid Anemones	12/6
Ixias 7/6, Chionodoxa	6/6
Ranunculus	6/-
Winter Aconites, 1,000 35/,	4/

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MARKETS.

COVENT GARDEN, October 8.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Erica gracilis (contd.) 60's	12 0–18 0
Asparagus plumosus	12 0–15 0	72's	9 0–10 0
—Sprengeri ...	12 0–18 0	Erica nivalis— 48's	30 0–42 0
pidistra, green	48 0–72 0	60's	18 0–21 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	72's	10 0–15 0
Chrysanthemums 48's per doz. ...	9 0–18 6	Marguerites white	18 0–24 0
Erica gracilis— 48's per doz. ...	24 0–36 0	Palms, Kentia ...	18 0–24 0
		—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–15 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium. 48's...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

Cut Flowers &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Asters, coloured, per doz. bun. ...	6 0– 8 0	Cattleya Harrisoniæ per doz. blooms,	10 0–12 0
white ...	8 0–12 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Bouvardia white	15 0–18 0	— white, per doz. bunches ...	6 0– 9 0
Carnations, per doz. blooms, best American var.	3 0– 4 0	Physalis, per doz. bun. ...	12 0–18 0
Chrysanthemums— —White, per doz. blooms	4 0– 8 0	Roses, per dozen blooms— — Frau Karl Druschki...	2 0– 3 0
—Yellow ,,	3 0– 6 0	— Liberty ...	3 0– 6 0
—Pink ,,	4 0– 6 0	— Melody ..	3 0– 6 0
—Bronze ,,	3 0– 5 0	— Mme. Abel Chatenay ...	2 0– 4 0
—White per doz. bun.	24 0–36 0	— Ophelia ...	4 0– 6 0
—Coloured ,,	13 0–30 0	— Richmond, var.	2 6– 3 0
Gardenias, per box special ...	10 0–12 0	— Sunburst ...	3 0– 5 0
— ordinary ...	4 0– 5 0	—White Crawford	2 6– 4 0
Heather white — —per doz. bun.	12 0–10 0	Scabious, per doz. bun.	4 0– 6 0
Lapagerias, per doz. blooms ...	4 6– 5 0	Statice, mauve ...	6 0– 8 0
Lilium longiflorum, per bunch ...	15 0–18 0	— white... ...	6 0– 8 0
Lilium speciosum album per bunch	3 6– 4 0	— latifolia, per doz. bun. ...	12 0–18 0
—rubrum per bun.	3 6– 4 0	Stephanotis, 72 pips	4 0– 6 0
Michaelmas Daisies in variety ...	8 0–12 0	Stock, Dbl. White	8 0–12 0
Orchids per doz.:		Violets, Single large, per doz. bun.	8 0–12 0
— Cattleyas ...	18 0–24 0	—Ordinary ...	2 6– 3 6

REMARKS.—Cut Flowers. The prices for Chrysanthemums remained firm throughout last week, owing to a limited supply consequent on restricted transport and most of the outside bloom having been destroyed by frost. The quantities of Carnations, Roses, Liliums, and other choice flowers were more than sufficient for the demand, and up to Saturday last prices were much reduced. There was also an ample supply of foliage, such as Asparagus plumosus, A. sprengeri, Adiantum (Maidenhair Fern) and Smilax. From yesterday (Tuesday) small consignments were accepted by railway companies for the provinces, and a normal service will be available by the week-end to receive and dispatch goods by passenger train to and from London. The trade in pot-plants was practically at a standstill last week, very few consignments being sent to market.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Beans, French, per lb.	0 9– 1 0	Radishes, per doz. bunches ...	1 6– 2 6
Cucumbers, per flat	20 0–24 0	Spring Onions, per doz. bunches ...	4 0– 6 0
Garlic, per lb. ...	1 6– 1 8	Tomatos, English, per doz. lbs. ...	6 0– 9 0
Herbs, per doz. bun.	4 0– 6 0	— Dutch.. ..	3 0– 4 0
Mint, per doz. bun.	9 0–12 0	— French ...	3 0– 4 0
Mushrooms, per lb.	3 0– 4 6	— Outdoor Jersey	3 0– 4 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Watercress, per doz	0 9– —
Parsley, per doz. bunches ...	3 0– 4 0		

VEGETABLES: MAXIMUM WHOLESALE PRICES. — Beets, Carrots, Parsnips, and Turnips, £11 per ton; Swedes, £8 per ton; Onions, £14 per ton; Sprouts, £1 per cwt.; Potatos, £10 per ton; all plus reasonable expenses.

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d
Apples (English) —Worcester Pearmain per ½ bus.	4 0– 6 0	—Canon Hall	4 0– 8 0
—King Pippins per ½ bus.	4 0– 6 0	—Muscats, per lb.	2 0– 6 0
—Coxes per ½ bus	5 0– 10 0	Nuts—Brazils (new) per cwt.	110 0–115 0
— Warner's King per bus.	4 0– 7 0	Cob Nuts, per lb	1 0– 1 3
—Lane's Prince Albert per bus.	4 0– 8 0	Walnuts, English	1 0–1 3
—Bramleys Seedling per bus.	6 0– 8 0	Pineapples each ..	2 6– 6 6
—Bleuhein Pippin per bus. ...	8 0–12 0	Plums (English) per ½ bus. —Monarch ...	18 0–20 0
—Ecklinville Seedling per bus.	4 0– 6 0	— Prunes ...	14 0–16 0
Aubergines; pr doz	2 0– 3 0	—Presidents ...	18 0–20 0
Bananas, singles	25 0–35 0	Damsons ...	14 0–16 0
English Peaches per doz. ...	6 0–21 0	Pears English per ½ bus. — Marguerite Marillat	7 0– 10 0
Grapes:— — Alicante ...	1 3– 2 6	— Louise Bonne of Jersey	6 0–10 0
—Blk Hamburgh,	1 6– 2 6	—Beurre Capiamont per bus. ...	12 0– 14 0
		—Fertility bus.	12 0
		—Calabash ½ bus	10 0– 11 0

REMARKS.—The removal of the restrictive influence of railway labour friction has caused a general expansion of business, and all departments of the market have, in consequence, been bright in tone. Apples are in better supply, and the demand for coloured dessert varieties is brisk. The first arrivals of Nova Scotia Apples are now to hand, but at the time of writing both business and prices in that section have an unsteady tendency. A few small consignments of Plums are still coming to hand; their prices rule comparatively high. Hothouse fruits are available in fair quantities. Green vegetables are in short supply, and the temporary "order" controlling prices has not yet been removed. The quantities of Potatos available are ample for the demand.

THE WEATHER.

THE WEATHER IN SCOTLAND

A long succession of mild days was the outstanding feature of the weather during September; cold snaps were infrequent, while the mean temperature for the last day of the month was actually two degrees higher than that of the first day. Rain fell on 11 days, of which 7 were official "rain days," and yielded a total of 1.33 inch, the rainiest day being the first, with 0.32 inch. September was a month of bright sunshine, with a record of 52.5°, and a mean range of 17°. During the night of and a percentage of 40.3. There were only four sunless days, while the 3rd, 7th and 10th each contributed 10 hours. With a mean of 29.85 inches, the barometric pressure varied from a highest of 30.40 inches on the 15th to a lowest of 29.31 inches on the 26th. The highest maximum temperature was 70° on the 5th, and the lowest minimum 30° on the 28th, giving an absolute range of 40°. The lowest maximum was 50° on the 15th, and the highest minimum 56° on the 6th, while the means for the maximum and minimum were 61° and 44° respectively; thus we had a mean temperature of 52.5, and a mean range of 17°. During the night of the 27th-28th the mercury fell 2° below the freezing point of water. On the grass the mean minimum was 39°, with a lowest of 22° on the 28th; there were 7 nights of ground frost. At one foot deep the soil temperature showed considerable fluctuations from the 7th to the 11th, standing at 57° and falling to 48° on the 28th. The relative humidity for the month was 76 per cent. The prevailing winds were westerly, with gales from the 18th to the 24th. *James Malloch, Director of Studies, Training College Gardens, Kirkton-of-Mains, nr. Dundee.*

GARDENING APPOINTMENTS.

Mr. H. Burfoot, for 2½ years with His Majesty's Forces, previously Gardener at Milford Manor, Salisbury, and recently employed in the Royal Gardens, Kew, as Gardener to HERMAN LANDAU, Esq., Piper's Corner, High Wycombe, Buckinghamshire. (Thanks for 2s. for R.G.O.F. box.—EDS.).

Mr. Charles Brooks, as Gardener to A. HILL, Esq., Hawksdown House, Upper Walmer, Kent.

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GARDENER; life experienced in Fruit, Flowers and Vegetables; Indoors and Out; understanding poultry; abstainer; age 38; married; good references.—R. N., 15, Richmond Grove, Surbiton Hill.

GARDENER (SECOND), Inside or Inside and Out; age 27; good experience gained in well-kept establishments; well recommended. — W. MATSELL, 26, George Street, Wordsley, Stourbridge.

GARDENER (SECOND), Inside and Out, or SINGLE HANDED; experienced; excellent references; age 29 years; married (no family); Kent man.—PAGE, 58, Teviot Street, Poplar, London, E.

GARDENER (SECOND), Inside and Out or otherwise; experienced; good references; abstainer; married (no family); age 35. Please state terms.—RUSHEN, Dry street, Langdon Hills, Essex.

GARDENER - CHAUFFEUR (experienced); wife domesticated; live in, or cottage.—LAVENDER, Little Horwood, Bucks.

FOREMAN (Inside) or good SECOND; life experience in Fruit and Plants gained in good establishments; just demobilised; single; excellent references; age 30.—A. ELLIS, Havering Park, Romford, Essex.

FOREMAN (INSIDE) seeks situation; ten years first-class experience in Fruit and Plants gained in good establishments; good references; age 28 (single).—W. LITTLE, Folly Farm, Sulhamstead, near Reading, Berks.

FOREMAN, Fruit and Plant Houses or Second, Inside and Out; life experience; age 38; single; English counties preferred.—J. C., The Gardens, Rug, Corwen, N. Wales.

FOREMAN or good SECOND; 15 years' experience all branches; good references; demobilised; married; age 32.—T. A., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

JOURNEYMAN (INSIDE). — Mr. A. Wilson recommends his son; five years' experience in Fruit and Plant houses, also decorating; at liberty; age 21.—A. WILSON, Eridge Castle Gardens, Tunbridge Wells.

JOURNEYMAN seeks situation inside; age 22; bothy preferred; demobilised; 4 years' experience before joining the Army.—SMITH, c/o BISHOP, Creeksea Lodge, Burnham-on-Crouch, Essex.

WANTED, situation, Kitchen Garden, Pleasure Grounds, three years experience before enlistment; age 22.—TYLER, High Street, Downe, near Orpington, Kent.

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YOUNG MAN (demobilised) seeks situation as SECOND JOURNEYMAN; Inside and Out; age 26; good plantsman; 8 years' experience; can be well recommended.—Please state wages with bothy to W. MOODY, 2, Petham Place, Swanley, Kent.

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YOUNG MAN, age 19, seeks situation; look after live stock, help in garden; good milker.—A. HUTCHINSON, 26, Park Lane, Teddington, Middlesex.

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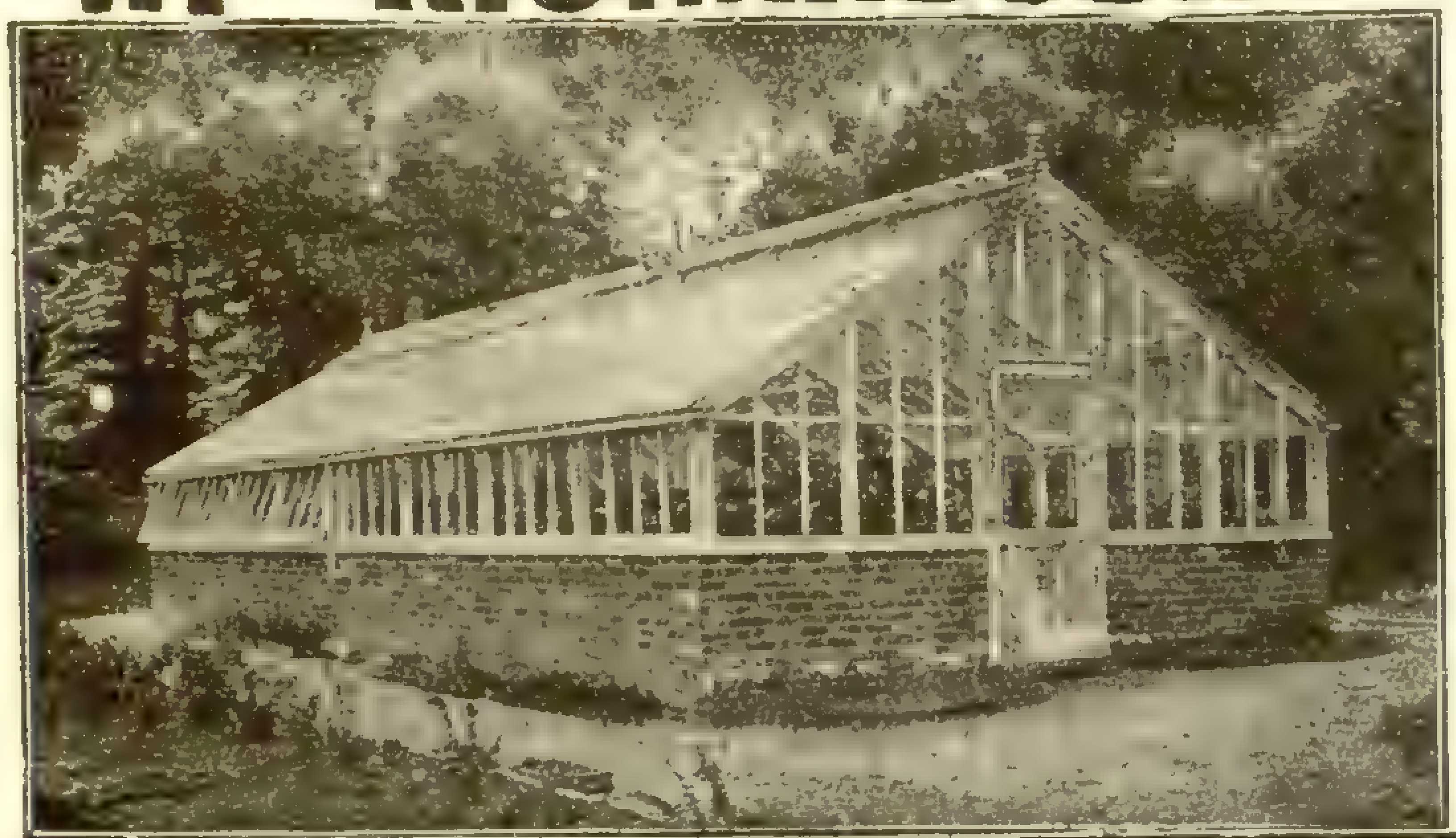

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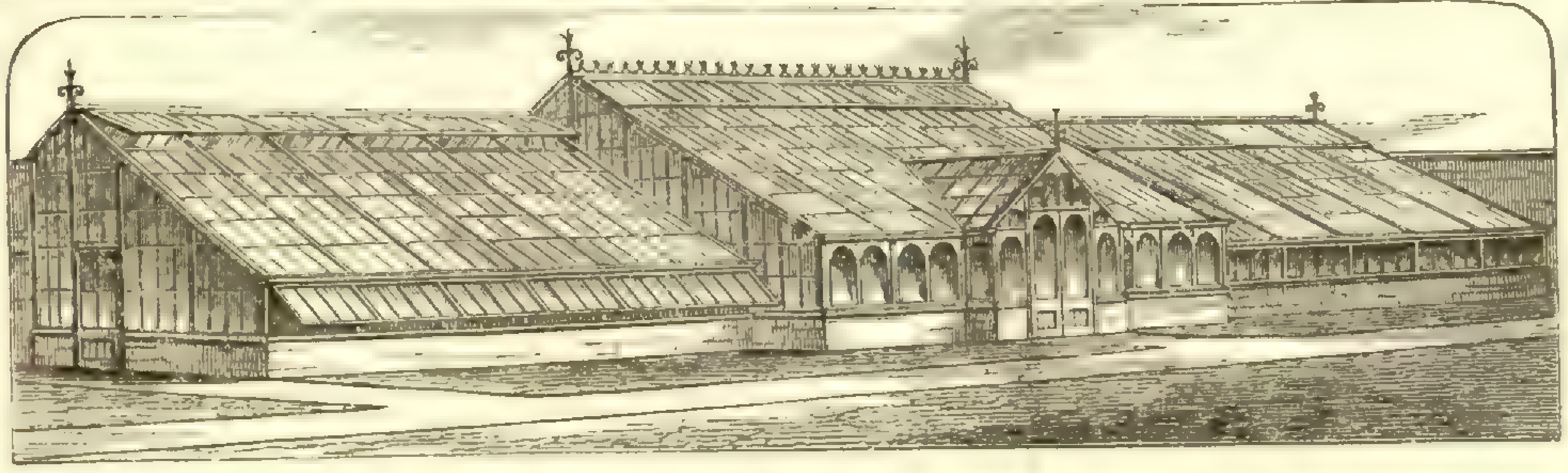

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ALL COMMUNICATIONS for the above Association should in future be addressed to: No. 1, Wellington Place, St. John's Wood, N.W.8.

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APPROVED SECTION 229.
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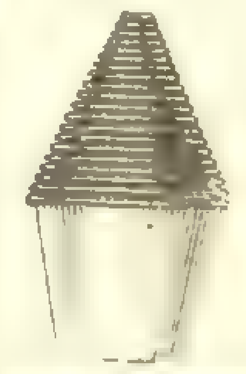

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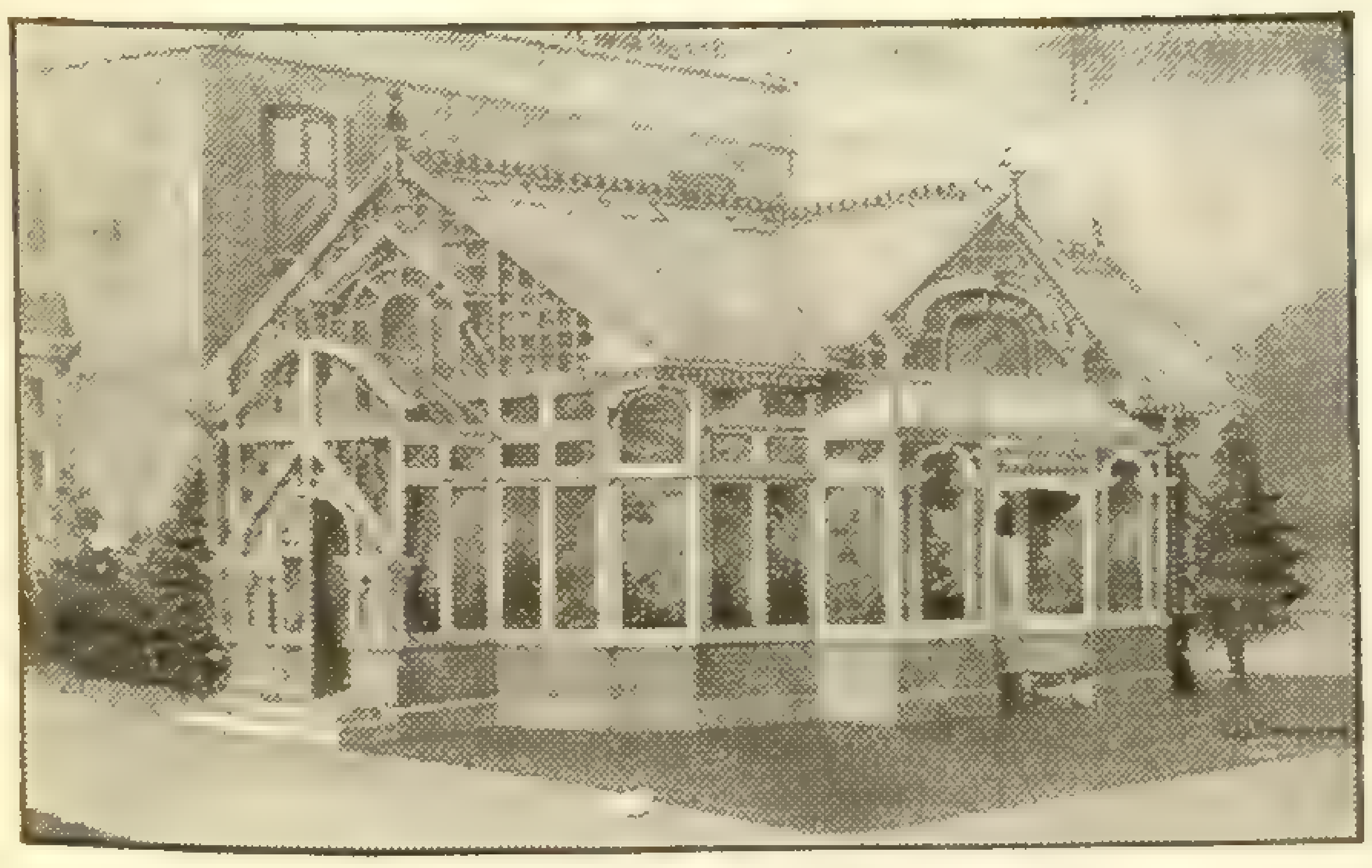

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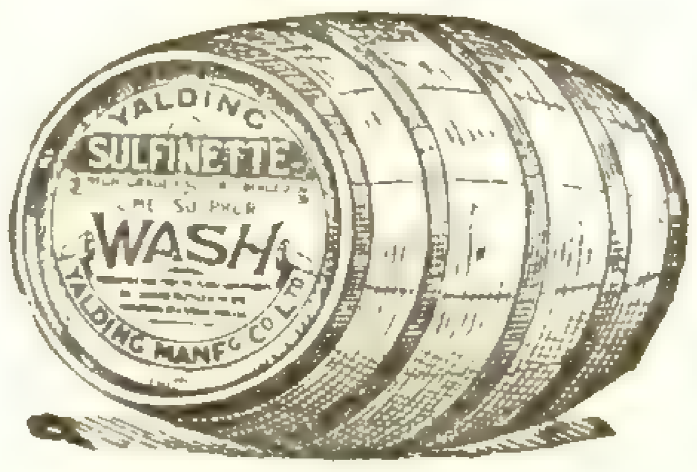

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No. 1712.—SATURDAY, OCTOBER 18, 1919.

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.*

No. 8.—On Sabiya-Kaw.

In the middle and upper woodlands of the great passes the English gardener is once more completely at home. The gloom of the undergrowth is occupied with Skimmia and Daphne and a small Holly: a small wood-Anemone of palest blue abounds, as does also a dowdy little white Trillium. But the glory of an Alpine forest, after all, is its trees: these woodlands promise us several of great value and perfect hardiness, hailing, as they do, from over 9,000 feet, in a region where the climate is both Alpine and English. Larch is not common; indeed, in the Hpimaw region I have seen none, and on the Sabiya-Kaw only three specimens so far. And these were not conspicuously unlike any ordinary Larch, though, of course, their seed will have to be looked for now that Larix is so nicely differentiated into species. The commonest Conifer of these high woods, though, is a Spruce. This, in its young stages rather dark and dull, develops a strange attractiveness in old specimens, for it forms, at last, only a flattened head of a few straight branches, very wide at the top, serried, and of an almost black-green, so that the gaunt, ungainly tree has a stark look like some old growth in a goblin forest. Exactly similar, too, in habit is what seems to me a tree-Juniper, over on the Chinese side of the Hpimaw Pass, ascending even to 12,000 feet, and at 10,500 feet bearing garlands of a dazzling white Coelogyne. But the finest tree of all is a Hemlock Spruce, which is comparatively rare on Sabiya-Kaw but abounds in the Hpimaw region. This, at all stages, is elegant and amply furnished, but as an aged specimen is quite superb in its many trunks and many-tiered, flat spread of branches, suggesting nothing less than some gigantic Lebanonian Cedar, though here the green is lighter and more vivid. And even in middle-life this tree is splendid, forming a wide, plumy pyramid, in colonies neatly disposed, so as not to crowd each tree, high up at intervals in the forested mountain side. But perhaps the most interesting and economically valuable of all Conifers here is the Coffin tree. From all South China, it seems, the dutiful and pious send over for thick coffin planks to these alpine valleys of Burmese No Man's Land, and will pay as much as six or seven hundred dollars for a fine set. And the tree that furnishes them, besides its merits of exquisitely fine-grained, scented, indestructible wood, has the further charm of a most noble and delicate carriage. It is a stately glaucous-grey Cupressus, like a narrow fountain of blue, for, tall as it is, its branches all droop and weep away earthward with inimitable grace. In the course of many ages it has been hunted down from valley to valley, yet still, all the cold weather through, long processions of Chinese go toiling, each man with a plank of it on his back, homeward over

Fig. 89.—Diapensia sp. Farrer's No. 932.

the high passes into China. Its main centre is said to be now in a northerly valley, but on the Hpimaw Pass it can still be seen, and yet less rarely on Sabiya-Kaw. Its habitat allows no doubt of its perfect prosperity and hardiness in any cool alpine climate of Great Britain.

After this the Red Birch and all the other deciduous fry of the forest are but *crambe repetita*, and the forest itself ere long dies out into a real high alpine valley—the first I have yet seen out here—folded on all sides by gaunt and bare snow mountains, and with its shallow trough filled only by dwarf Bamboo, with rare Firs occurring and little meandering becks amid thickets of low Willow and Alder and Rhododendron. As the wood fails the Blue Primula resumes possession in its upper reaches, but now fat and green and far on in seed: and in the wetter places are drifts of a golden Caltha that seem to me the same as the one I so well remember in China. But now the track (so to flatter it) deserts the valley and starkly climbs the mountain side, up the precipitous crest of a ravine. Down in the dark depths of this, and on the shady moss cushions of its rock-wall, a new Primula flares redly purple, while P. bella in sheeted masses twinkles up at you as you climb the break-leg stairway. The Primula will be seen at home higher up, but the gully contains other treasures in its recesses, for on its walls hang metallic-looking bronzy hassocks of Diapensia (see Fig. 89), thickly set with its lovely pure-white trumpets, over which the bees hover with a zeal that I cannot attribute to any special acuteness of fragrance.* But the plant is a beauty, and should give much pleasure at home—at least to all who have facilities for establishing it in its natural conditions, for I do not fancy it will easily be made happy in the garden. The other treasure also hugs these cool granite rock-crevices—a Lloydia, precisely repeating the tastes and charms of L. alpina at Tien Tang and Wolvesden, save that here the delicate bells are of golden yellow, astonishingly like buds of Narcissus Bulbocodium as they open, and light up the dark cold walls with their gleam most inimitably, as their bright sparks seem to hover and twinkle up the sheer granite.

A little higher, and the climb coils among Bamboo-scrub. And here there is a new Rhododendron, of which I have the highest opinion. Down by the beck-sides of the valley head it happily abounds, but this its real home in occasional drifts down some Bamboo-clad rib of the fell. It is a loose bush of some five feet, with dark oval foliage hemmed with purple, and smoothly primrose on the reverse. As for the flowers, they are large, waxy trumpets, and no two plants bear them of the same colour, but they range from pure white and pale sulphur through every shade of blush and flush and salmon and coral, to a rich, warm rose-crimson. And each bush is burdened down with blossom, so that the effect of a flowering colony is something to be astonished at. It even, if it were not earlier, might dim the effect of another very lovely little bush-Rhododendron of Sabiya-Kaw and Hpimaw Pass, in which the leaves are almost orbicular, and the blossom a loose head of bells, vermilion in the bud, flamed with scarlet and orange as they open, and, at their full expansion, of a pure and lovely citron-yellow.

Of Primulas, the red-purple now takes the field, in deep cushions of moss on cliffs or light cane-brake. It is a mass-forming Nivalid of a rich magnificence, making many-headed, almost woody stocks, and producing four-inch stems that carry flowers of remarkable amplitude and sumptuousness, vinous or blue-purple, swollen in the throat and underhung in the profile, and with their widened tube clad inside in so uniform a coat of creamy powder as to give the bloom a bland solid eye that makes one think of P. carniólica. Down below, on banks in the cane brake, is yet another Primula, too, of a meek and delicate loveliness, like a little bi- or tri-flowered Primrose, on a stem of one or two inches, but with larger flowers of a very soft, watery, china blue, often varying to white, and with a whitish margin to the lobes, and a rayed eye of greenish yellow. But above this life has not yet dawned, and the high tops of Sabiya-Kaw await a later visit. At present, in mid-May, all is still dead winter at 13-14,000 feet. I could discern a Gentian of the ornata group springing to life in a dense green tuffet, and the sere relics of a Meconopsis—M. rudis or M. Prattii; otherwise there was only the purple-rose firstlings of a Megasea Saxifrage, and the Blue Incomparable Primula here venturing out into the open alp in sheets of colour, amid which, hardly distinguishable in bud, was the promise of the red-purple Nivalid for later on. *Reginald Farrer.*

* The previous articles by Mr. Farrer were published in our issues for June 21, June 28, July 12, August 9, August 23, September 6 and September 27.

* Diapensia sp. F. 932.

ORCHID NOTES AND GLEANINGS.

CYMBIDIUM GRANDIFLORUM.

Flowers of this fine old Cymbidium in an immature condition have been sent by several correspondents, who state that although spikes were produced by their plants months ago, and the blooms were developed until half natural size, they remain in that stage with partially-closed, very fleshy sepals and petals and undeveloped lip.

The species was imported from the Eastern Himalaya and first flowered with Messrs. James Veitch and Sons in 1866, and from its earliest introduction this peculiarity of the frequent failure to develop its flowers has been noted, and attributed to the climatic differences between its own habitat and the conditions possible under cultivation. Nevertheless, perfect flowers are produced by the plants more often than not (see Fig. 90), and even those which take a long time to develop may perfect their blooms, or, when next flowering, show no departure from the normal.

The species has been used in crossing with about a dozen others, and we have never had attention called to a similar defect in any of its progeny. The retarded development generally coincides with the advent of winter, and a suggested remedy is to elevate the specimen in the warmest and sunniest position in the house it is grown in, or remove it to one a few degrees warmer.

Both as an ornamental plant, and as a showy and long-lasting flower it is one of the finest of Cymbidiums and well worthy of any care bestowed on it to ensure the perfect development of the flowers. The sepals and petals are bright green, the lip light yellow, and, like the face of the column, marked with red-purple. The plant is also known in gardens as C. Hookerianum. The illustration represents a single normal flower and a spike showing the retarded development that may last for many weeks.

Fig. 90.—Cymbidium grandiflorum: flowers greenish, lip rich crimson.

CYMBIDIUM NORMA.

A flower of a very pretty hybrid of a new section, and raised between the true Cymbidium Dayanum (*Gard. Chron.*, 1869, p. 710), and C. Winnianum (giganteum × Mastersii) is sent by Mr. W. E. Walker, gardener to G. Hamilton-Smith, Esq., Northside, Leigh Woods, Bristol, who has probably the most complete collection of hybrid Cymbidiums extant.

The flower is three inches across. The sepals and petals are lanceolate, the petals smaller than the sepals, both cream white with slight traces of purple in the veining, and a thin purple line along the middle. The lip has distinctly divided, erect side lobes, cream white with crimson-purple margins, and there are crimson coloured lines on the inside of the lower halves. The showy front lobe of the lip is recurved at the tip; it is coloured deep ruby red with yellow markings in the centre. The column is rather slender and deep claret red in colour; the anthers are pale yellow.

The recording of this pretty hybrid recalls the fact that in gardens C. Dayanum is confounded with C. eburneum, or as a variety of it. The true plant, however, is a smaller, elegant species identical with the C. pulcherrimum Hort Sander (*Gard. Chron.*, 1891, ii. p. 712), and C. Simonsianum, King and Pantling, 1895. Although totally different in habit and in the manner of producing its flowers, the blooms of C. Dayanum recall those of C. pendulum in a remarkable degree. The plant is a native of the Sikkim Himalaya, and was said to have been imported from Assam originally by the late J. Day, Esq.

NEW HYBRIDS.

J. Ansaldo, Esq., Rosebank, Mumbles, sends flowers of six new hybrids for recording, the long interval between the meetings of the Royal Horticultural Society's Orchid Committee preventing him from showing them as intended:—

Brasso-Laelio-Cattleya Gabriele D'Annunzio.—Raised between Brasso-Laelia Thwaitesii (B. Digbyana × L. grandiflora) and Cattleya Dowiana aurea, this has a rose-pink flower of firm substance and good shape, the broad fringed lip having a bronzy-yellow disc and distinct, purple spotting at the base and on the front lobe.

Brasso-Laelio-Cattleya Elvira.—A cross between B.-L. Digbyana-purpurata and L.-C. Dominiana langleyensis. It has pale lilac sepals, and darker petals, the lip being violet in the centre, shading to lilac in front, and the disc is sulphur yellow.

Brasso-Cattleya Delicata.—A very distinct hybrid with finely displayed flowers, raised between Cattleya Gertrude (Mossiae × superba) and Brasso-Cattleya Madame Chas. Maron (B. Digbyana × C. Warscewiczii). C. superba, in C. Gertrude, has strongly influenced the shape of the lip, which is white at the base and tinged and veined with purplish rose in front, the sepals and petals being greenish-white tinged with purple.

Laelio-Cattleya J. Ansaldo.—This cross between L.-C. Hildegard × L.-C. Lustre gives a grand flower, over eight inches across, and nearest in shape to L.-C. Lustre. The sepals and very broad petals are purplish rose, the lip Tyrian purple, shaded with crimson in the centre and having some thin gold lines at the base.

Sophro-Laelio-Cattleya Orlando.—Raised by crossing S.-C. Thwaitesii and L.-C. bletchleyensis. It has light gold sepals and petals tinged with rose, and a ruby-purple lip.

Sophro-Laelio-Cattleya Adelina.—This result of crossing C. Empress Frederick and S. L.-C. Dorila, is of good shape and purplish rose in colour. Both the last-named hybrids are from very small plants giving immature flowers.

VEGETABLES AT ELSTREE.

Mr. Edwin Beckett's skill as a vegetable grower is well known to readers of the *Gardeners' Chronicle*, and it is not surprising that, during the time when the food question was of such great importance to the nation, Mr. Beckett devoted his whole time and energies to the extended cultivation of vegetables, not only in the gardens at Aldenham House, but also in the district in which he lives. At Aldenham, park land and even shrubbery borders were devoted to the growing of vegetables, and on a recent visit I found he was still pursuing the subject with all the zeal of war time, as he was fully of the opinion that extended vegetable cultivation is still as necessary as in any period during the past five years.

I found vegetable crops in all kinds of places; Potatos and Brassicas were growing in the foreground of shrubbery plantations and Celery in the alleys between Asparagus beds; in fact, every possible foot of ground was being put to use in this direction, with the result that many tons of garden produce are being grown on land that was previously considered useless for vegetable cultivation. Nor was it the extent or the amount of crops produced that impressed me, but rather the endless variety and high quality of the various kinds of vegetables cultivated. Few are aware of the extent to which the intensive cultivation of vegetables is prac-

tised in these noted gardens, for no sooner is one crop harvested than another is sown or planted to take its place. It is the same in the extensive frame-yard as in the open vegetable quarters. The crops are utilised directly they are ready and nothing is allowed to become old or unfit for the best table use. Thus, not only is exhaustion of the soil prevented, but many valuable days and even weeks are saved.

In the single day of my visit I saw a fairly large area quite transformed in its appearance. The land, early in the day, was carrying early Potatos, partly intercropped with Cauliflowers, and, at noon, all evidence of the first-named crop had disappeared and Cauliflowers alone remained. Before the evening, Champion Horn Carrots and Globe Beet had been sown in the vacant land and other things were associated with the Cauliflowers. In a poorly or indifferently cultivated garden such continuous demands upon the soil would mean failure, but at Aldenham, where the soil is treated generously, this system is not only possible, but very successful.

I was interested in a crop of Vegetable Marrows which had been planted in frames on a bed of leaves. The frames were removed entirely as soon as the condition of the weather permitted and the plants produced hundreds of Marrows at a time when they were scarce and before those put out in the garden or field in the ordinary way had scarcely started to "run." Apart from the earliness and prolific crop, the rapid development of the fruits was one of the direct results of the plants grown under protection at an early date. Even at the end of August these same plants were still yielding abundantly.

Of the more important kinds of vegetables, all of which are grown very extensively, the Onion occupies a prominent place at Aldenham. The varieties principally cultivated are Autumn Giant, Rousham Park Hero, Bedfordshire Champion, Chelsea Main Crop, Long Keeping and James' Keeping. Most of the Onions are raised under glass in the spring, transplanted and finally transferred to their permanent quarters in May; many of the Onion rows are three hundred feet long. Peas are also raised in boxes and transplanted, with the result that there is a great economy of seed. The plants may be set out without crowding, admitting of spacing according to the variety, and they have ample room to branch freely and produce splendid crops. Runner Beans, growing to the tops of stakes ten feet high, were producing extraordinary crops. Both Leeks and Celery are specialities in this establishment and the plants of these were splendid, giving promise of excellent results. Of the more uncommon vegetables, I noticed Capsicums, Chilies, and the Asparagus Pea (Lotus Tetragonolobus). The crop, however, that impressed me most was the 40 acres of Potatos in the park, raised from Scotch seed. Only three sorts are cultivated in this park land: Arran Chief, King Edward VII., and President. *E. H. Jenkins.*

PERENNIAL CANDYTUFTS.

IBERISES, or perennial Candytufts, are of great value in practically all gardens. Most of them form neat bushes of pleasing foliage, and these are covered in spring or early summer with multitudes of flowers. Others, again, are more trailing in their habit, and are excellent for covering rockwork or for trailing over stone edgings. In the rock garden all are charming and some well-nigh indispensable.

With one or two exceptions, as noted in this article, they are hardy, and increase in beauty from year to year. The larger species, however, sometimes develop a hollowness in the centre of the bush, so that it is advisable to cut them well back after flowering. This is always beneficial, but the operation should be performed soon after the blooms are past, and not delayed too long, or flowering will be deficient the next season.

All species of Iberis are easily propagated by cuttings, inserted in summer under a handlight or in a frame or cool house. Cuttings may be either the ends of the growths, about two inches long, or branches taken off with a heel. With the exception of the named varieties. Climax, Little Gem, sempervirens plena and Snowflake, which must be increased by cuttings, the Candytufts are also easily raised from seeds, sown in spring under glass or in the open in the same way as those of other hardy perennials.

I. CORREAEFOLIA. — This late Candytuft is generally considered to be one of several hybrids which have been raised from time to time. It is a handsome plant, with shining leaves and large heads of pure white flowers, the individual flowers being of considerable size also. It is more trailing in habit than some of the other kinds mentioned, and is an excellent rock or border plant, readily increased by cuttings.

FIG. 91.—IBERIS GIBRALTARICA: FLOWERS WHITE, TINGED WITH ROSE.

I. CLIMAX.—A handsome hybrid Candytuft, with noble trusses of large, intensely white flowers. It is one of the best, a really good plant for the border or rockery, and was raised by Mr. James Grieve, of Edinburgh.

I. GIBRALTARICA (see Fig. 91). The Gibraltar Candytuft is not so hardy as the majority of species, but in many gardens is absolutely perennial. It has large heads of white flowers tinged with rose. The Candytuft named I. gibraltarica hybrida has brighter colouring. Both may be grown from cuttings. The variety hybrida is the hardier of the two.

I. LITTLE GEM.—Little Gem is the appropriate name of a charming variety, raised probably from I. sempervirens. It has small leaves and many heads of little white flowers. This is a beautiful plant for the rock garden or the front of the border, and one easily increased by cuttings.

I. SAXATILIS.—This is an excellent rock garden plant of trailing habit, and it bears a number of heads of small white flowers. It is a good grower, and looks well either over the stones of the rockwork or of an edging, as well as in a rough wall. It may be raised from cuttings or seeds.

I. SEMPERVIRENS. — One of the most useful species is I. sempervirens, the evergreen Candytuft. It has handsome heads of white flowers. The double variety, I. sempervirens fl. pl., is a little stiffer in appearance, but the flowers last longer. Both are excellent for the rock garden or the border. Increase is by means of cuttings in the case of the double variety, and seeds for the single form.

I. SNOWFLAKE.—This is one of the newest and best of the perennial Candytufts, although its flowers are not so large as those of I. Climax. It flowers very freely, and produces good heads of pure white blooms. Increase is by means of cuttings.

I. TENOREANA.—This is a charming rosy-lilac-flowered Candytuft, but it is not so long-lived as many, therefore it is desirable to maintain a stock by means of seedlings or cuttings. It seeds freely, however, and in a warm, sheltered spot may last for some years.

OTHER IBERISES.—Among the other kinds which may be mentioned are I. semperflorens, a winter and early spring bloomer, white in colour, but not very hardy; I. Perfection, a fine white hybrid; and I. pinifolia, white. There are other less common or desirable Iberises, but the above are the best of those in cultivation, and they will thrive in sun or partial shade. *S. Arnott.*

THE BULB GARDEN.

GLADIOLUS MARECHAL FOCH.

THE new Gladiolus named Maréchal Foch (see Fig. 92) is said to flower three weeks earlier than the varieties America and Panama. A well-developed spike will bear six or seven very large and quite open flowers of a soft but lively rose flower. These flowers often measure six inches in diameter. The variety is very effective by reason of its pure and lovely colour and its elegant and perfect shape. These qualities make it one of the best of new Gladioli and secured for it on July 22, 1918, a Certificate after it had been tested in the trial grounds at Haarlem, while this year, on August 4th, it was awarded a First Class Certificate. Gladiolus Maréchal Foch is a seedling raised by Mr. P. Van Deursen, at Sassenheim, Holland, and many of the leading Gladiolus growers have bought this novelty for propagating purposes.

PLANT NOTES.

SOLANUM WENDLANDII.

ONE of the finest species of the large Solanum family is undoubtedly S. Wendlandii, and as a decorative pot plant it is one of the most effective. It is an exceedingly quick growing, deciduous plant, and will make shoots from two to four feet in length before showing flower buds. The leaves are bright green, some of them plain and others are more or less lobed. The inflorescence consists of a long terminal cluster of lilac-blue flowers which are from $1\frac{1}{2}$ inches to $2\frac{1}{2}$ inches across, with yellow stamens.

S. Wendlandii will succeed if planted in a warm greenhouse and trained to the rafters, or up the tall pillars and under the roof of a warm conservatory, where it produces a most striking display during the months of June, July and August. The plants should be allowed to rest during the autumn and winter in order that the wood may be well ripened. In February they should be pruned back before they make fresh growth for flowering in the summer. March is a good time for planting this Solanum in turfy loam (stacked about twelve months) three parts, and one part of rich, half-decomposed cow manure, with silver sand added. The position should be well drained. When growth is free the plants require a fair supply of water at the roots, and when thoroughly established and showing flower buds liquid manure may be supplied occasionally. Syringing should be done two or three times a day when the plant is growing freely, before the flower buds open.

As a pot plant S. Wendlandii is invaluable for greenhouse, conservatory and other indoor decoration. After flowering the plants should be placed out-of-doors, there to remain during the autumn to well ripen the wood. To obtain a batch of plants for pot culture cut back well-ripened wood of the previous year's growth in February, leaving two to three eyes at the base for the production of summer growth for flowering. Cut the prunings into small lengths, with two or three eyes each, as in the case of vines; about half-inch of wood may be allowed above the eye, and cut with a slope away from the bud. These cuttings may be inserted singly in small pots, or several together in larger pots or pans, and plunged in a bottom heat of from 60° to 65°, under a hand-light in a warm greenhouse. Here they will soon take root, and when they have made 2in. to 3in. of growth, pot them in larger pots. They will give a few blooms in the autumn, but the best plan is to get the plants as strong and vigorous as possible and thoroughly ripen the wood for flowering the following summer. When such plants are cut back and have started into growth and made shoots of 3in. to 4in. long, the old loose soil of the previous year should be shaken away from the roots and the latter potted into moderately sized pots. Then place them in a temperature of about 60°. They will make growth from 1ft. to 3ft. long before showing flower buds, and when at that stage tie them upright to neat, green-painted sticks.

Solanum Wendlandii has grown out-of-doors in a warm and sheltered spot, by the side of a hot house and given protection during the winter months, but not with success. *John Heal, V.M.H.*

TREES AND SHRUBS.

LONICERA JAPONICA.

YOUR correspondent, *A. N.*, page 185, need not be in doubt as to his plant being the true species, at least as regards the colour of the blossoms and other particulars. Mr. Bean, in *Trees and Shrubs Hardy in the British Isles*, describes the flowers as having a corolla $1\frac{1}{4}$ to $1\frac{1}{2}$ inches long, two lipped, the tube slender, hairy, white, changing to yellow with age, and

FIG. 92.—GLADIOLUS MARECHAL FOCH: COLOUR SOFT ROSE.

sometimes tinged with red. He also states that its flowers are borne for a couple of months and have a charming odour. There are three or four varieties of this Honeysuckle, one of which—flexuosa—has blossoms pale red outside and white within.

Those who are fond of variegated-leaved plants will be pleased with Lonicera japonica aureo-reticulata, a somewhat delicate form, in which the leaves and principal veins are marked with bright yellow. In this variety some of the leaves are pinnately lobed. This Lonicera was, when first distributed, known as Lonicera brachypoda reticulata. It is less free flowering than the other forms. I have seen this very handsome and effective Honeysuckle bedded out during the summer, the plants being cut back hard in the spring before they were started into growth. *W. T.*

The Week's Work.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Sweet Peas.—Although it is somewhat speculative to sow Sweet Peas at this season with the object of securing very early flowers, good results frequently follow the practice. Choose a site that is well sheltered from the north and east winds. Trench and prepare the soil thoroughly; if light in texture tread it moderately firm and sow only good varieties of new seed. Rolling the seeds in red lead mixed with a little oil will, to a great extent, deter mice and rats from consuming them. When the seedlings are about an inch tall dust them with soot and wood ash to prevent damage by slugs and birds. Another method of obtaining early Sweet Peas is to sow in pots and winter the seedlings in frames. Drain a number of 48 sized pots thoroughly, fill them to within one inch from the rim with compost formed of good soil, leaf-mould and manure, sow five or six seeds in each pot; stand the pots on a layer of ashes where they may be protected more or less by the lights and coverings in very severe weather. Endeavour to obtain strong, sturdy plants for planting out-of-doors in April next. Make certain the seed is of good quality and select a few of the most useful varieties.

Roses.—If the work has not been done already, remove all suckers arising from the base of the plants, also all weeds and rubbish. If the soil is very heavy and the surface hard the latter may be slightly loosened and mulched with suitable manures.

Wallflowers.—As soon as the beds and borders have been cleared of their summer occupants, deeply dug and well manured, set out Wallflower plants. Lift them carefully with plenty of soil adhering to the roots and plant them forthwith. All other spring flowering plants should be planted as early as possible after this date.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Root Pruning.—Provided the soil is not too dry and otherwise in a suitable condition the work of root pruning fruit trees may be commenced. There is an advantage in doing the work early in the season, for then there is time for the plants to make new roots and to heal those that have been cut, before the advent of winter. Moreover, when this work is done in springtime the ground is then very cold and the roots will remain dormant until the weather becomes warm. The object of root pruning is to produce fertility and prevent the trees making an excess of wood and leaf growth. Root pruning results in the development of fibrous, surface-feeding roots which are necessary for fruit formation.

Method of Treatment.—It is necessary to discriminate between trees that are naturally strong growers on the free stock and those that have been grafted on dwarfing stocks, such as the Paradise. Those on the free stock may sometimes need root pruning, in which case the trench should be opened a considerable distance from the stem of the tree, but for those on dwarfing stocks a distance of 3 to 4 feet from the stem, according to the size and age of the individual tree, is suitable. Trees on the free stock make very few fibrous roots and if the trench is opened at a closer distance than 5 feet from the bole the majority of the small roots would be severed. When a suitable trench has been made and the roots pruned carefully fork the soil from under the centre of the tree to get to the tap roots; where a flagstone has been placed under the tree it will only be necessary to excavate to the edge of

this. Care should be taken to leave as much soil as possible attached to the roots in the soil above as it is only necessary to cut the strong shoots that are growing in an outward direction far from the tree and those growing downward underneath it. Use a sharp knife, for clean cuts heal quicker than those that are bruised, and when the wound has healed roots of a more fibrous nature will be made. Make the cut upwards so that the top side is longer than the bottom, as the new roots that form will then grow in an upward direction. Any roots that are damaged in the process of making the trench should be cut to a sound part and the large surface roots that have been severed pared clean. It is not advisable to prune all the roots of large trees in one season, but one half should be treated one season and the other completed the next.

Large Trees.—Large trees which have been undermined for the purpose of root-pruning should have a pillar of stone or bricks put underneath the centre, otherwise they are apt to settle too deeply; it is also advisable to attach a stout rope as a stay to large trees to steady them until the roots have become re-established. If the work is done when the soil is very dry the roots should be well watered after the pruning has been attended to. At this time of the year it is my practice to wash the soil amongst the roots by copious waterings instead of using a beater to make it firm, but I do not advise this method unless the ground is warm. If root pruning is managed judiciously very little branch pruning will be necessary. Fruit trees should not be root-pruned indiscriminately; the treatment is only necessary when they show a tendency to produce strong, unfruitful growth. Each tree should be considered on its condition, and the habit of the individual variety should be given consideration before the work of root pruning is undertaken.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Orchard House.—If fruits are still hanging on the trees, the ventilation of the orchard house should be done with great care. Where birds are troublesome, every opening should be netted to keep them out. Air should be admitted freely whenever the weather is favourable. If the house is unheated, it will be a difficult matter to maintain a dry, buoyant atmosphere during damp weather. In such conditions, the ventilators should be kept nearly closed, and as little moisture as possible used in the house. The time is now at hand for replanting or root-pruning trees that have made gross growths and failed to fruit satisfactorily. In a house in which the trees are planted out there are generally a few that require this attention. Either they have not formed and matured their fruit buds or the growth is too rank, and has few, if any, fruit buds. In the first case, the tree should be removed and planted out-of-doors, its place being filled by another tree from the reserve quarter. If there are sufficient surplus trees well set with fruit spurs to allow of the removal of the rank growers, it will be advisable to use them. Otherwise, lift and root-prune the trees, cutting back fairly closely all strong, fibreless roots. Notches should be made at intervals in the roots, and the cut parts kept open by placing a small piece of some imperishable material in them, and the tree afterwards replaced in position. A little sweet loam should be placed about the roots to encourage the development of fresh roots. If the soil is in a moist condition, it is advisable not to water it for some days afterwards, and then it may receive a good soaking.

Cleansing Fruit Trees.—As soon as the leaves have fallen, prune and thoroughly cleanse the trees. Paraffin emulsion is an excellent insecticide, and it is possible to use it in a much stronger form when the trees are at rest than at any other period. If badly infested with scale or American blight scrub the affected parts with the emulsion, working it well into the cracks and crevices. Should the trees be reasonably free from insect pests a thorough spraying with the insecticide will suffice. Caustic alkali wash will remove mossy growths, leaving the bark bright and clean; it will also destroy many insect pests. After the pruning and cleansing operations are completed remove the mulching material. The surface of the border should be lightly pricked up, and, if well filled with roots, apply a top-dressing of good loam mixed with a small quantity of broken plaster or old mortar rubble and wood ash.

Pot Trees.—Trees that require increased root room should be repotted, if possible, before the foliage has all fallen. The roots of each tree should be examined, and treatment afforded according to their condition. If the roots are much matted together, shift them into a pot one size larger, first disentangling the roots round the side of the ball. It may be necessary to replace the tree in a pot of the same size, in which case the ball should be reduced to allow room for fresh soil. Should the old soil be exhausted, or in poor condition, remove as much of it as possible; in bad cases repot the tree in a receptacle one size smaller. In many cases it is not necessary to disturb the roots, a top-dressing sufficing for another season. In applying this, remove as much as possible of the surface soil by using a pointed stick. Make the fresh material firm with a rammer. Use good, friable loam mixed with a liberal quantity of broken plaster and wood ash, adding a seven-inch potful of bonemeal to each barrow-load of soil.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, Hampshire.

Tomatos.—Tomato plants raised from seed sown in June and intended for winter fruiting should be removed to warmer quarters. A Melon house which has been cleared of its crop forms an ideal place in which to grow the plants. Admit air on all favourable occasions to maintain strong, healthy growth, and let the night temperature be 65° for the present. Water the roots with great care, and pollinate the late trusses of flowers as they open. Stop the leading shoots at the end of the present month.

French Beans.—Provided fuel is available, sow seeds of French Beans of a forcing variety in 7 inch pots. The glass house should be cleansed and the walls limewashed to make the interior as light as possible.

Frames.—Ordinary and skeleton frames should be used for protecting various plants from frost which is sometimes very severe at this time of the year. Covering material of any protective kind should be utilised, such as Bracken Fern, boughs and straw, and these materials should be got in readiness for use. Crops in frames, including Lettuces, Parsley and Cauliflowers should have the soil in which they are growing stirred and all decayed leaves removed. Earlier Endive should be covered completely to ensure blanching the leaves perfectly. Admit a little air to prevent decay by damping.

Celeriac.—The roots should be lifted at an early date. Trim the leaves, remove some of the fibrous roots, and store the roots in dry sand in a frost-proof store.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Conservatory.—Preparatory to the coming of winter and the introduction of a fresh set of plants, the conservatory should receive special attention. Remove blinds while they are dry and put them away for use another year. Wash the exterior of the house with warm, soapy water. Climbers which have made strong growth during the summer months should be cut back severely to allow more light to reach the plants growing underneath them. Before bringing in fresh plants the interior of the conservatory should be thoroughly cleansed.

Souvenir de la Malmaison Carnations.—Young plants sufficiently rooted in small pots may be shifted into 6-inch or 7-inch pots; the soil used should be the best loam procurable, with wood ash and mortar added to keep it open, and a little Carnation manure or soot. Pot firmly and give a thorough watering when finished, and place the plants in a cold house, keeping it closed for a few days and afterwards giving plenty of air. Guard against green fly by spraying the plants occasionally with an insecticide, and stake and tie the shoots as necessary.

Euphorbia pulcherrima.—Grown exposed to the sun during the summer months, Poinsettias should now be placed in a warm house, otherwise the lower leaves will fall. The plants should be kept well watered at the roots, and when the pots are filled with roots frequent waterings with an approved fertiliser should be afforded.

Marguerite Mrs. F. Sander.—Cuttings of this useful plant should be inserted in pots filled with sandy soil and plunged in a propagating frame. When rooted place them singly in small pots and stand them on a shelf in a greenhouse for the winter.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. Sir G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Seasonable Remarks.—Sharp frost occurred in the last week of September and brought a great change from the hot weather in the earlier part of that month. However, the weather experienced by day was all that could be desired, the sun-heat and light being most beneficial to all Orchids at this season—agreeable conditions that continue to prevail up to the time of writing. At this time of the year it is very necessary for the Orchid cultivator to watch for signs of change in the weather and changes of wind. Cold rains and high winds lower the temperature of a plant house more rapidly than a sudden sharp frost. On a still, clear, frosty night the temperature usually shows a sudden fall at or before daybreak. One can usually tell about 10 p.m. what the night is likely to be, and the fires should be banked up accordingly. If the temperature is a few degrees higher in the morning than was anticipated, a little damping should be done to counteract the effects of the drier atmosphere. If the temperature of the houses falls too low, it is better not to damp down until it commences to rise. Fuel is sometimes worse than wasted in the effort to raise the temperature in the early morning, especially if the stoking is not carefully done. Too much fuel is likely to be put on in haste, and the effects of the mistake will not be felt until the sun has risen; and in October the sun has considerable power. The correct thing is to put on a small quantity of fuel, which would quickly make a bright fire, so that it could be added to or checked by banking according to the weather. It is advisable to begin preparing for winter by reducing the temperature in all the houses a few degrees by night, and also by day in the absence of sun-heat. Henceforward all Orchids need all the sun-heat and light available, and, so long as the sun is capable of raising the degree of warmth in the houses considerably during the middle hours of the day, full advantage should be taken by the cultivator to admit fresh air. As the days get shorter, less atmospheric moisture will be required. The cooler divisions will require even less moisture than the warm houses, as there is less evaporation in them. All blinds that are not required for protecting the houses in winter should be taken down and dried thoroughly before putting them in store for the winter. A note should be made of any that require repairing or replacing.

Thunia.—After these plants have completed their growth and the leaves have fallen they require a thorough season of rest. They are, or should soon be, in that stage, and during the resting time they will not require watering. The pots may be placed on their sides on a shelf out of sight, where the temperature is not lower than 50° to 55°.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 48.3.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle **Office, 41, Wellington Street,** Covent Garden, London, *Wednesday,* Oct. 15, **10 a.m: Bar 29.9; temp., 49°. Weather—Dull.**

True and False Silver Leaf Disease*. The recently published researches of Mr. J. Bintner on Silver Leaf Disease provide a welcome and valuable addition to our knowledge of the symptoms and distribution of this most serious plant malady.

Mr. Bintner has demonstrated that the mycelium of the fungus (Stereum purpureum) may be observed after suitable preparation of the tissues in the wood of affected branches almost to the height at which the wood shows the characteristic brown discolouration. Like previous observers, he fails, however, to find any fungous hyphae in silvered leaves; from which it is to be inferred that the well-known effect of Silver Leaf on the leaves—the disintegration of the tissue into its individual cells—is determined by a toxin produced by the fungus and carried through the water channels to the leaf-tissues. It is interesting to note, however, that Mr. Bintner has proved, by inoculation tests, that the fungus may enter and develop in a leaf, provided the latter is punctured or so wounded as to expose its inner tissues. Evidence obtained in the field points to the conclusions first that—as is generally held—the fungus is a wound parasite, and second, that it may gain access to a plant through wounds either in the stem or in the superficial roots. Hence it follows that in some cases, for example in those in which infection has occurred among the higher branches, cutting out of all diseased wood below the point of discolouration may save the tree and, indeed, the chances that this will be the case are increased by the habit of the hyphae in growing more rapidly in an upward than in a downward direction.

Where, however, infection has taken place through the superficial roots, chances of effecting a cure by surgical means are remote.

It is evident from these considerations that the use of Plum stocks which are apt to sucker freely should be discarded so far as possible in favour of those which do not possess this habit; for with each removal of suckers wounds are caused which serve as entrances to the spores of the fungus. As an alternative, the use of the Pershore Plum which is highly resistant to Silver Leaf Disease, is to be recommended. Experiments described by Mr. Bintner and carried out at the Royal Horticultural Society's Gardens, Wisley, show that Stereum purpureum growing as a saprophyte on dead wood is just as capable of producing Silver Leaf as is the fungus obtained in its parasitic stage from silvered trees. Hence the spread of the disease, in recent views, cannot be attributed to any new development of a parasitic habit on the part of Stereum purpureum; though to what it is to be attributed remains unknown.

The list of plants in which Silver Leaf disease has been observed is an ever-lengthening one. Beside members of the Rosaceae, Mr. Bintner's list contains the names of members of Saxifragaceae (Ribes cereum, and cultivated varieties of Currants and Gooseberries); Leguminoseae Laburnum vulgare and L. alpinum, and with respect to the latter, Mr. Bintner observes that in a suburban district of London 25 per cent. of the trees were found to be bearing frutifications of Stereum purpureum; Oleaceae (Syringa sp.) Sapindaceae (Aesculus Hippocastaneum and A. carnea); Ericaceae (Pernettya mucronata). Among the Rosaceae Silver Leaf has been observed on Neviusia alabamensis, Spiraea japonica var. glabrata, Philadelphus sp. Pyrus Malus—cultivated varieties of Apples: Lord Grosvenor, Bramley's Seedling, Newton Wonder and Lord Suffield and also in Prunus prunifolia, P. triloba var. flore pleno, A. Amygdalus and cultivated Almonds, P. Armeniaca and cultivated Apricots, P. Avium, P. Cerasus and cultivated Cherries, P. japonica, P. lusitanica (Portugal Laurel), P. spinosa (Sloe), P. acida var. flore pleno and the cultivated varieties of Plums:—Pond's Seedling, Monarch, Gisborne's, Greengages, Victoria, Czar, Belgian Purple and Damsons, and in the following Plum stocks:—The Brompton, Myrobella (Prunus myrobalanus), and the common Plum stock.

Even more formidable then the list is the extent of the ravages wrought by Silver Leaf among Plum orchards, wherein it is computed that in Surrey, Middlesex, Kent and Worcester, from 60 to 95 per cent. of Victoria and Czar Plums have been attacked so severely as to require to be grubbed out. Mr. Bintner's observations which have led him to distinguish Silver Leaf disease as comprising two distinct maladies are particularly valuable. He finds that in certain Apples, *e.g.*, Grenadier and Bramley's Seedling, some cultivated Cherries, Peaches and Plums, a sham Silver Leaf disease exists—that is, one in which the leaf symptoms are exhibited, but in which no trace of fungus can be found. In view of the frequent reports that Silver Leaf disease has been cured, these observations are of special value; for it is at all events possible that some of these reports may have reference to the sham Silver Leaf. The false and the true may be distinguished from one another by the following means: In the false the tissues of the leaf do not separate easily, whereas in the true disease they do: in the false no regular discolouration occurs in the wood, and cut branches placed in water for 48 hours do not discolour the fluid as is the case with branches affected with true Silver Leaf.

The false disease appears to be an ailment due to unsuitable cultural conditions: when cultivation is improved it disappears: whereas in the case of true Silver Leaf once a tree is thoroughly infected no remedy appears to be of avail.

Nothing short of a crusade of extermination will apparently rid us of this insidious and pervasive pest.

* "Silver Leaf Disease (Stereum purpureum)," by J. Bintner. *Bulletin of Miscellaneous Information,*" Ry. Botanic Gardens, Kew, Nos. 6 and 7, 1919.

Rothamsted Experimental Station.—The new laboratories at the Rothamsted Experimental Station, Harpenden, will be formally opened on the 20th instant at 3.30 p.m. by the President of the Board of Agriculture, the Right Hon. Lord Lee, G.B.E., K.C.B.

Alterations in the Herbaceous and Alpine Departments at Kew.—Readers interested in the propagation of alpine and rock garden plants will hear with pleasure that the old, unsafe wall enclosing the Alpine Yard at Kew is being demolished and a new wall is to be built some yards further out, thus enlarging the area for the propagation of alpines.

Awards at the Newcastle Show.—The awards to non-competitive exhibits at the show of the Northumberland, Durham and Newcastle Horticultural Society, at Newcastle, included a silver medal for a group of Ferns and Palms staged by Mr. H. N. Ellison, West Bromwich.

Theft of Plants from the Arnold Arboretum.—Several rare and valuable plants have recently been stolen from the Arnold Arboretum, Massachusetts, U.S.A. The specimens taken include new species of Azalea, introduced to the gardens from China by Mr. E. H. Wilson. The Arnold Arboretum authorities have offered a reward of $200 for the apprehension of the thief. This is not the first time that rare plants have disappeared in this way from the Arnold Arboretum; only last spring a rare species of Rosa was stolen, and another stripped of its seeds.

Home Grown Sugar.—Sir Herbert Matthews, Secretary of the Central Chamber of Commerce, estimates that a single Sugar Beet factory in this country capable of dealing with 1,000 tons of Sugar Beetroots per day, during the winter, would enable British farmers to devote 10,000 acres to this crop. He estimates that the topped and washed roots would yield 12,000 tons of sugar. This quantity of sugar would represent a value of half a million pounds sterling, and, in addition, the by-products would provide valuable feeding stuffs for stock.

Women's Produce Exhibition Abandoned.—It was decided, because of the railway strike, to abandon the second annual exhibition organised by the National Federation of Women's Institutes, to which we referred on page 179. The organisers have carefully considered the question as to whether it would be advisable to hold the show on subsequent dates, and have come reluctantly to the conclusion that it is not. Quite apart from the question of attendance, they have to consider the difficulties of getting the exhibits brought by rail to their destination.

Phosphate Rock in Morocco.—The current number of *The Journal of the Board of Agriculture* records the discovery of very extensive deposits of phosphate rock at El Beroudj, in the French zone of Morocco. The centre of these deposits is about 78 miles from the port of Casablanca, and the deposits are said to extend as far as Oued Zem and to cover a very considerable area. The projected railway from Casablanca to Marrakesh will pass quite near the centre of the deposits, so there will be ample facilities for transit. It is estimated that the deposits amount to at least 1,000,000,000 tons, and the samples which have been analysed "give results of about 65 per cent." It is proposed to grant concessions for working these deposits, and it is considered that a capital of about £4,000,000 will be required to work them properly. All available information may be obtained from M. Savry, Chef du Service des Mines, Rabat, Morocco.

Gift of Water-Coloured Drawings to Kew.—We learn from the *Kew Bulletin* that Prof. F. W. Oliver, F.R.S., has presented five interesting and very beautiful early water-colour drawings of flowers for exhibition with Sir Arthur Church's collection of drawings in the North Gallery. These drawings come from the collection made by his father, the late Prof. Daniel Oliver, F.R.S., for many years Keeper of the Herbarium. Two are early works, probably of the Dutch school, but the artist or artists are not known; they formed part of the Sunder-

land collection which was sold in 1883. 1. Is an unfinished study of Tulips and double Anemones. 2. A study of three Anemones. The quality and tone of the paper adds greatly to the charm of these two fine drawings. 3. A group of Polyanthus and Primroses by Maria Sibylla Merian. This and the following picture were in Lord Bute's collection, and then in the Beale collection before they were acquired by Prof. D. Oliver. 4. A crimson Senecio, by Nicholas Juweel. 5. Fritillaria imperialis, with bulb, by an unknown artist, also from the Sunderland collection.

American Gooseberry Mildew.—The Board of Agriculture has issued a new Order dealing with American Gooseberry Mildew. This cancels all previous Orders (except the American Gooseberry Mildew Fruit Orders of 1915 and 1919), and alters considerably the previous restrictions relating to the movement of Gooseberry and Currant bushes in certain areas. Under the new Order the sale and movement of bushes visibly infected with the disease are prohibited absolutely, and persons growing bushes for sale must take responsibility for seeing that the pruning of the bushes is performed in an efficient manner. At the same time all outbreaks of disease on bushes grown for sale must be reported to the Board. Where fruit growers and private owners are concerned the Board have power under the new Order to deal with those who fail to take proper steps to check the disease on land under their control. During the period of the war the Board, although prohibiting the sale of mildewed berries, allowed the same to be sent direct to jam factories. This policy is now embodied in the new Order.

The Honey Harvest.—The honey harvest in Great Britain during the season of 1919 has been very variable. In some districts, notably those in which fruit is grown largely and beekeepers gave proper attention to their stocks during the autumn of 1918, a good harvest has been gathered. Owing to the fact that the weather during the flowering of the fruit trees was favourable to the secreting and gathering of nectar, an average return of 70 lbs. per stock is recorded. When white Clover was in bloom the weather was too dry and hot for nectar secretion, and consequently little honey was secured from this source. It was only from a few districts, where low-lying land provides moisture in dry seasons, that a good yield from white Clover is reported. The harvesting of honey from Lime trees was hindered by continuous rain during the flowering period. Speaking generally the honey harvest of 1919 has been disappointing.

Nerine Bowdenii in the Open.—At the foot of a sunny, south wall the charming South African Nerine Bowdenii is flowering freely in the open-air at Kew. The border is not more than two feet wide, with a brick wall at the back and a gravel walk in front. With loamy soil placed on the gravel subsoil of Kew warm and very well drained conditions favourable to the growth of this South African bulb are provided.

Working Hours on the Farm.—The Agricultural Wages Board, having confirmed on September 24 the Order reducing hours in excess of which overtime must be paid from 54 to 50 during October and through the summer months next year, the new conditions have now come into force. It will be remembered that the President of the Board of Agriculture and Fisheries, under powers conferred on him by Section 5 of the Corn Production Act, directed the Agricultural Wages Board to reconsider their decision, to which they ultimately decided to adhere. The *Wages Board Gazette* points out that this decision does not impose any limit on the number of hours which a farm labourer may contract with his employer to work. It is further stated that the membership of the Agricultural Labourers' Union has risen from 36,000 members in 1918 to 100,000 in 1919, and that no other trade has increased its union membership in like proportion.

Rat Poisons.—Some rat poisons are prepared with strychnine, arsenic or phosphorus. Of these the first two need expert handling, and are not to be commended for indiscriminate use by the general public. In the hands of gamekeepers and other trained workers preparations of a dangerous character produce splendid results, but every care is called for in putting the poisons down in the neighbourhood of domestic animals. The Board of Agriculture's investigations have proved that baits made from the red squills or from carbonate of barium, if applied with ordinary care, are comparatively harmless to domestic animals, and are the best destructive agents for use in the neighbourhood of the poultry run and farmyard. It is worth noting that rats welcome a change of diet, and it is often found necessary to vary the recipes of the baits, or even to try a change of poison. There are, of course, well known and widely advertised preparations containing other poisonous substances that have proved very effective in the proper hands and under the right conditions.

Kew Guild.—At the special general meeting of the Kew Guild, held in the Lecture Room, Kew, on October 7, to consider proposed alterations to three rules, there was a fair attendance of members. Rule 4 was altered so as to give the Committee greater freedom in electing a Chairman, who in future may be an Old Kewite and not necessarily a member of the Committee. Rule 6 relates to the subscriptions, and it was

Fig. 93.—Kalmia latifolia in the Arnold Arboretum, U.S.A.

unanimously agreed that in future the annual subscription shall be 2s. 6d. When Rule 7 came to be considered, the meeting felt that while it was urgently necessary to increase the life subscription from 20s. to 40s. if the *Kew Guild Journal* is to be continued in its present form, any increase of income from present Life Members must be left to their generosity. So future Life Members must pay 40s. and the Committee hopes that present life members will pay either 1s. 6d. annually or a further 20s., and we have no doubt that this will be done. The War Memorial to the 53 members of the Guild and other employees from the Gardens was considered. The President of the Board of Agriculture will permit the tablet to be placed in the Temple of Arethusa. The Committee invites subscriptions, which should be sent to Mr. J. Coutts, 3, The Gables, Kew Green. Altogether about £150 will be required, and we venture to remind Kewites that "He gives twice who gives quickly."

Plant Collecting in China.—In addition to the several expeditions made by plant collectors of this country and America, an Austrian expedition, conducted by Camillo Schneider and Dr. Handel-Mazzetti, started in March, 1914, under the auspices of the Academy of Sciences of Vienna, to South West China. Handel-Mazzetti has travelled extensively and won reputation as a botanical explorer and geographer. The *Akademischer Anzeiger* of the Vienna Academy for July 6, 1916, published an account of the regions studied by him, whilst a preliminary report on the vegetation of Kweichou and Hunan is in the press. The *Kew Bulletin* states that the most remarkable discoveries of the expedition include Taiwania cryptomeroides, a Conifer (so far only known from Formosa) as far West as the Salween; a Cedar on the Mekong; Juglans regia wild on the Salween; a practically black-flowered Rhododendron, and a saprophytic chlorophyll-less Orchid 8 ft. high.

Gardeners and the Minimum Wage.—A decision of considerable interest to gardeners was given by the Warwick County magistrates on the 11th inst. Lady Fairfax Lucy, of Charlecote Park, was summoned by the Board of Agriculture for not paying a gardener a minimum wage, under the Corn Production Act. The man in question had been paid £1 2s per week, whereas the minimum agricultural rate for the county is £1 16s. 6d. It was argued that, inasmuch as 50 per cent. of the produce of the gardens had been sold, they should be regarded as market gardens coming under the operations of the Act. The magistrates, however, decided that the employee was not a worker in agriculture within the meaning of the Act, and dismissed the case, which will probably be carried to a higher court.

Skin Spot Disease of Potatos.—An illustrated article by Mr. M. Nest Owen, on the Skin Spot disease of Potato tubers, caused by the fungus Oospora pustulans, is published in *Kew Bulletin* No. 8, 1919. The disease develops in store, and is not usually noticeable until early spring. The diseased areas are, for the most part, confined to the skin, and though the flesh of the tuber is sometimes slightly affected by the fungus, it entails no appreciable waste in peeling. The disease is more harmful in the case of seed Potatos, for tubers much affected may have the eyes injured. The only preventive measure which can be recommended is to avoid planting diseased tubers, for if badly affected sets are used, not only is there danger of the plant failing to grow owing to the eyes being destroyed, but the soil is likely to be seriously contaminated with the fungus.

A Potato Competition.—In a Potato competition open to allotment holders, promoted jointly by the Burnley Corporation and Burnley Horticultural Society, the prizes for the heaviest root of any variety were awarded as follow: 1st, Majestic, 9 lbs.; 2nd, Majestic, 8½ lbs.; 3rd, Kerr's Pink, 7¾ lbs. The heaviest yield from six square yards, of any variety, was 77 lbs., the variety being Majestic, which was also second, with 74 lbs. The third, fourth, fifth and sixth prizes were all won by Kerr's Pink, yielding respectively, 70¾ lbs., 70¼ lbs., 70 lbs., and 69½ lbs. Although Majestic heads the list in the above competitions, it did not give the best average yield. The results of average yields from 6 square yards on 55 allotments were: Kerr's Pink, 54½ lbs.; The Ally, 53 lbs.; Great Scot, 52¾ lbs.; Majestic, 52 lbs.; Lochar, 49 lbs.; Tinwald Perfection, 46 lbs.

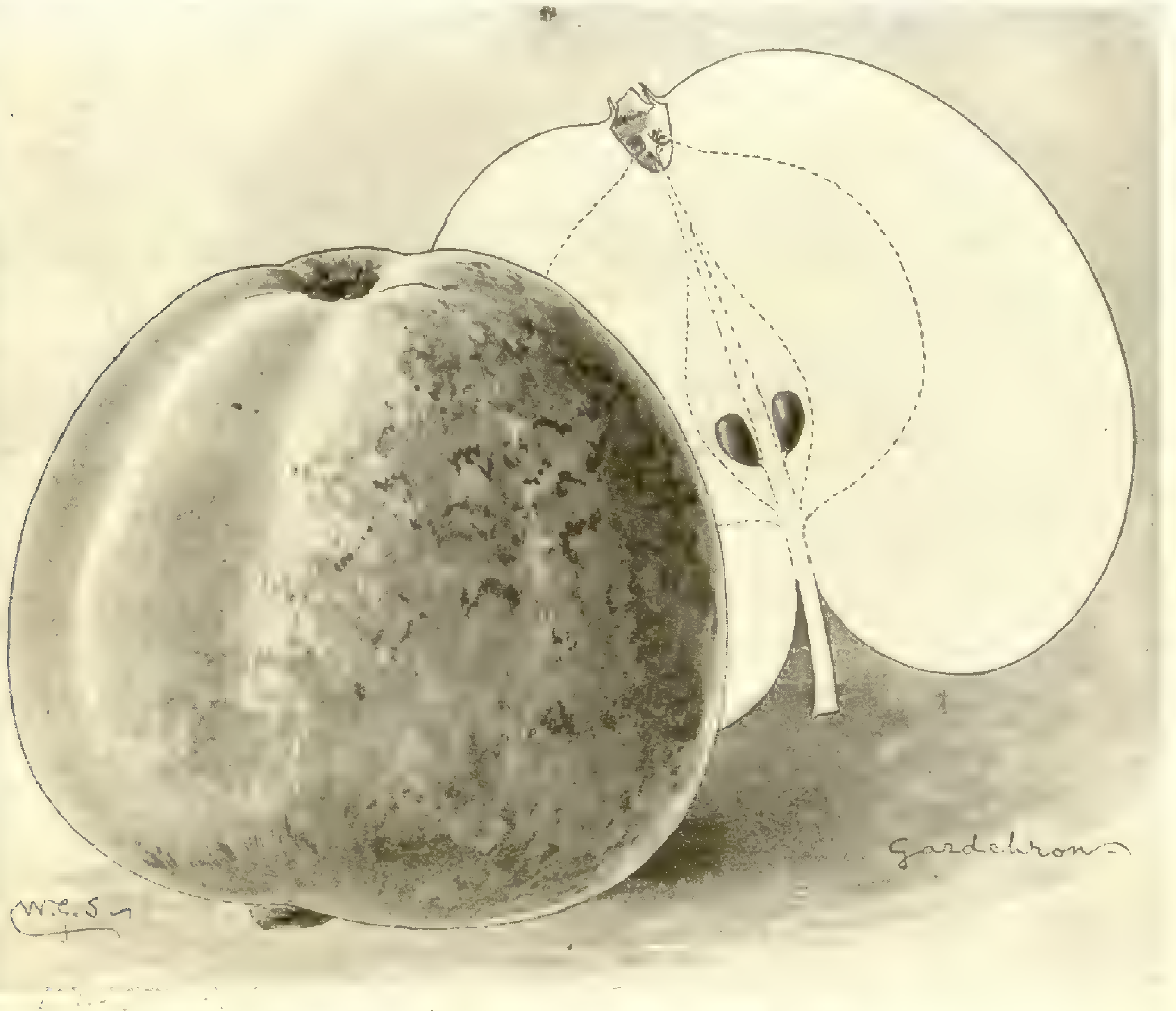

FIG. 94.—APPLE MILLER'S SEEDLING (see p. 206).

Hop Cultivation.—An increase in the Hop acreage up to the total of the 1914 acreage is to be permitted by the Board of Agriculture. Growers wishing to avail themselves of the concession must obtain licences from the Hop Controller.

Retirement of Mr. George Badderley.—Mr. George Badderley, who has held the office of preparer in the museums at Kew for 39 years, recently retired when within a few days of the completion of his 81st year. Mr. Badderley will be well-known to the majority of old Kewites, who will remember him as an official of great capability in the multitudinal services he was called upon to perform in connection with the museums, his cheerful disposition and readiness to impart his knowledge to others. Mr. Badderley was a carpenter by trade, and his knowledge of cabinet work fitted him for the post of preparer at the Indian Museum. When the Indian Museum's collections were transferred to Kew, Mr. Badderley was transferred with them, commencing his new duties on April 1, 1880. Frequenters of Kew will remember Mr. Badderley's wife, who died in 1915, as the caretaker of the North Gallery.

Water Fowl versus Water Lilies at Kew.—Mr. W. Robinson, Gravetye Manor, East Grinstead, Sussex, has sent us the following correspondence between himself and the President of the Board of Agriculture and Fisheries with regard to the damage caused by water fowl to aquatic plants at Kew Gardens:—

To the Right Hon. Lord Lee of Fareham, President of the Board of Agriculture and Fisheries.

My Lord.—I beg respectfully to call your attention to a serious misuse of the Royal Gardens at Kew. That is the artificial cultivation of water birds in waters that should be given to plants and flowers, as befits a botanic gardens. In our islands the cultivation of waterside and water plants is of high importance, and especially so of recent years, when the new and beautiful Water Lilies are come into use. For many years I have been a grower of these beautiful things, and have found that whenever the artificial propagation of ducks or other water birds was practised at the same time it meant ruin to the flowers and plants. In our island coast line and estuaries and rivers there is plenty of room for the propagation of these interesting birds. In my opinion no culture of such birds should be allowed in the Royal Gardens, though birds that come naturally, such as the kingfisher and a few others, would be unobjectionable there. I say nothing of the cost and labour in attending to such birds, where they are quite out of place, though no doubt that is worth considering. *W. Robinson.*

Board of Agriculture and Fisheries.

Sir,—I am directed by the President of the Board of Agriculture and Fisheries to thank you for your letter of the 2nd inst. relative to the artificial culture of birds at the Royal Botanic Gardens, Kew, but to say that there are other public reasons for maintaining a limited collection of birds at Kew, and that after careful consideration of all the circumstances the Board do not propose to make any change in this respect. *A. W. Anstruther, Assistant Secretary.*

Publications Received. — ***Fruit and Vegetable Bottling, Pulping and Drying.*** By Vincent and Georgiana Banks, London; Royal Horticultural Society. Price 1s. 6d. ***Proceedings of the Royal Irish Academy.*** Vol. XXXV., Section B, No. 4, on the History of the Dunkeld Hybrid Larch, Larix eurolepis, with notes on other hybrid Conifers. By Augustine Henry and Margaret G. Flood. Hodges, Figgis and Co., Ltd., 104, Grafton Street, Dublin. Price 6d. ***Private Companies. Their Utility and the Exemptions they Enjoy.*** By Herbert W. Jordan. Ninth Edition. London: Jordan & Sons, Ltd., 116, 117, Chancery Lane. Price 1s 4d. post free. ***Report on the Composition of Feeding Stuffs and Fertilisers Analysed during the years 1914-18.*** Compiled by Harold T Cranfield, Agricultural Analyst, the Midland Agricultural and Dairy College, Leicester. W. Thornley & Son, Printers, Bowling Green Street. Price 1s. 6d.

KALMIA LATIFOLIA.

When I visited the Arnold Arboretum, near Boston, Mass., in June, 1910, the most delightful display there was made by Kalmia latifolia. I believe I was fortunate in seeing it more than ordinarily fine, but Professor Sargent, who kindly sent the photograph reproduced on p. 203, Fig. 93, writes that the Kalmias this year have been even better than in 1910. It would be difficult to find in any garden a group of one species of flowering shrub more gorgeous or imposing than this, and the display it makes is in every way worthy of America's great Arboretum. According to my notes, the mass of plants is some 200 yards long and varies in width from 10 to 20 yards. The flowers on different plants vary considerably in depth of shade: some are pale pink, some deep pink, one (rubra) is almost red, and another (alba) has pure white flowers. Professor Sargent chose a most happy position for the display of the Kalmias. The noblest natural feature of the Arnold Arboretum is "Hemlock Hill," a bold prominence clothed with a primeval growth of Tsuga canadensis (the "Hemlock" of the Americans), many of them of magnificent dimensions. It is at the northern base of this hill that the Kalmias are placed. Here the plants have the full effects of the summer sun tempered for them and the soil is moist and cool, conditions which suit this shrub admirably and enable the flowers to retain their full beauty for a long time. The dark background of the Tsuga, too, greatly enhances the effect. The Kalmia is a native of the Eastern United States, and I made an excursion into New Hampshire to see it growing wild. It was common in woods, where, however, its growth was apt to be straggly and its flowering comparatively ineffective and nothing like so fine as I saw it on a grassy hill near Greenville, N.H., which was sprinkled over with bushes in full bloom, mostly five to six feet high.

The worth of Kalmia latifolia has never been thoroughly appreciated in England, although there are some fine plants to be found in the southern parts of the kingdom, few better, perhaps, than one in Bagshot Park, figured in the *Gardeners' Chronicle* for September 13, 1902. The Royal Horticultural Society has it also very fine at Wisley. *W. J. B.*

BOTANY AND THE EMPIRE.*

(*Continued from page* 188.)

Probably the most remarkable instance on record of the successful combination of science and enterprise in the Tropics is the establishment of a cacao-growing industry in the Colony of the Gold Coast, West Africa. Thirty years ago no cacao of any kind was produced on the Coast. Owing, however, to the foresight of the then Governor (Sir William Brandforth Griffith), who sought the powerful aid of Kew, cacao growing was started in a small way among the negro peasantry, with eventually extraordinary results. After selecting the locality for the experiments, seeds and plants were obtained through Kew, and a trained man was placed in charge.† The first exports in 1891 amounted to a value of £4 only. So rapid was the development of the industry that ten years later the exports reached a value of £43,000. By this time both the people and the Government had begun to realise the possibilities of the situation, and systematic steps were taken to organise under scientific control a staff of travelling agricultural instructors to advise and assist the cultivators in dealing with fungous and insect pests and improve the quality of the produce. In 1911 the exports had increased nearly fourfold, and reached a total value of £1,613,000, while in 1916, what may possibly be regarded as the maximum exports, were of the value of £3,847,720.

It should be borne in mind that this Gold Coast cacao industry, now one of the largest in the world, has been called into being and developed entirely by the agency of unskilled negro labour, and on small plots from one to five or ten acres in extent. The controlling factors were, first, the selection of suitable land for cacao growing; next, the selection and supply of seeds and plants of varieties adapted to local conditions; and, lastly, the advice and tactful assistance of trained Europeans backed by the resources of science.

Coming nearer home, Henry, well known from his association with Elwes in the production of *The Trees of Great Britain and Ireland*, by historical research and experiment has established the fact that many fast-growing trees in cultivation as the Lucombe Oak, Common Lime, Cricket-Bat Willow, Black Italian Poplar, and Huntingdon Elm, are hybrids. It was of high scientific importance to discover the origin of these valuable trees. Further, by artificial pollination Henry has succeeded in raising new hybrids which display the extraordinary vigour characteristic of the first generation cross. Perhaps the most notable, so far, is a new hybrid Poplar (Populus generosa), which makes the strongest shoots of all Poplars.

The astonishing vigour of hybrid trees is well illustrated in the case of the Cricket-Bat Willow, a natural cross between Salix fragilis and S. alba. "This often attains in fourteen or fifteen years, from the planting of sets, fifty to sixty feet in height, with three and a half to four feet in girth—a size suitable for cleaving into bats." It is claimed in the case of many hybrid trees "it is possible to produce much greater bulk of timber in a given time." The common belief that quickly-grown timbers are of inferior quality is said not to hold good in respect of any quality of Ash, Oak, and Walnut. In fact, according to Dawson, "with Oak, Ash, and Walnut the quicker their growth the better their quality in every way. They are more durable, more elastic, and less difficult to work."* It is further claimed that by hybridising it may be possible to produce disease-resisting varieties and varieties carrying with them other desirable characteristics.

Henry has recently made an elaborate investigation into the history of the London Plane (Platanus acerifolia).† He has established the fact that this tree, never seen anywhere in the wild state, is intermediate in character between an American and a European species. He claims it has all the peculiarities of a first cross. As usual in hybrids of the first generation, its seeds when sown produce a mixed and varied crop of seedlings, in which are variously combined the characters of the two parents.

Henry's researches show that the London Plane probably originated in the Oxford Botanic Gardens about the year 1670, when both the occidental and oriental Planes were established there. The finest and probably the oldest London Plane in Europe is growing in the Palace Garden at Ely. It was planted by Bishop Gunning between 1674 and 1684. The vigour of the London Plane is remarkable. It is extensively used for planting in London and other towns in this country, and also in Europe and North America, "as it has been found to surpass all other trees in its powers of resistance to drought, smoke, and other unfavourable conditions of soil and atmosphere."

In the Tropics breeding experiments in the case of india-rubber trees are likely to prove of great value. In the meantime, selection of seed from the best trees is being carefully carried out in the hope of increasing the general yield of the plantations. In Java the proportion of alkaloids in the bark of introduced Cinchona trees (yielding quinine) have nearly doubled by careful selection on these lines. In the case of rubber trees, which are known to possess marked individuality in regard to the amount of latex which can be drawn from them, it is suggested that seed for planting should be taken only from trees selected for their high-yielding capacity. Where good seed is not readily available Lock has suggested that the best trees might be raised from cuttings.

Plant-breeding experiments with india-rubber trees have already been attempted, but they are not likely to be of much value if they are confined to empirical and haphazard lines. It is suggested that they should be carried on at well-staffed and well-equipped stations devoted to breeding and kindred problems. Such stations should be established in each of the main rubber-growing regions. Work of this kind must be lengthy and complex, but it is absolutely essential to ensure the safety of an industry which is estimated to be of the annual value in the Middle East of about fifty millions sterling. The Agricultural Department of Ceylon, which is fully alive to the fundamental importance of selection and breeding india-rubber trees, has already taken some action in the matter. For instance, at the Heneratgoda Gardens there are fifty Hevea trees whose individual latex-yield has been recorded for every tapping since June 1908. One tree marked No. 2 has yielded an amount of rubber far in excess of any other tree. In 1912 seeds and stumps taken from this trees were established on a plot of three acres at the Experiment Station at Peradeniya. When the trees are fit for tapping and the good yielders are determined the others will be cut out and the remainder reserved for seed purposes.

Another investigation in hand is to determine whether the latex-yielding quality of Hevea trees can be associated with any definite botanical characters and to what extent such characters are transmitable. Twenty trees of the same age growing in a four-acre block have been selected for differences in leaf and bark characters. These are all tapped on the same system, and the yield of rubber from each tree is recorded separately for each tapping.*

The value of these and other experiments of a like nature may be realised when, according to Varnet, quoted by Johnson, the yield of rubber from different trees of Hevea growing under similar conditions in the same plantation may vary as regards volume of latex from 4 to 48, and in percentage of weight of dry rubber from 1.286 to 14,164.†

Bateson a few years ago expressed the opinion that nowhere is the need for wide views of our problems more evident than in the study of plant diseases. Hitherto, he said, "this side of agriculture and horticulture, though full of possibilities, for the introduction of scientific methods, has been examined only in the crudest and most empirical fashion."‡ Since then some advance has been made in the morbid physiology of plants, but such work to be carried to a successful and practical issue demands careful experiments carried on continuously by specialists for many years.

Keeble suggests that "the professional mycologist is accustomed to confine his attention too exclusively to the active agent of the disease," while, on the other hand, "the professional cultivator gives habitually great weight to the possibility of preserving plants from disease by improving his methods of cultivation. Both are right, yet neither is wholly wise, and there is much room for a race of mycologists who not only discover how to cure plants but know how to cultivate them."§ As we have already seen, Biffen and others have shown that under certain conditions the quality inherent in some varieties to resist disease may be utilised to great advantage. The national importance of such work is impressed upon us by the enormous losses sustained every year by rust in wheat, mould in Hops, and the widespread disease of Potatos. One of the most striking instances in recent times was the destruction of the valuable coffee plantations in Ceylon. The industry, an exceptionally valuable one, was wiped out in a comparatively few years by the coffee-leaf disease (Hemileia vastatrix). In the light of our present knowledge it is not improbable that this disease may have been checked by seed selection or raising an immune race of plants. Or, more probably, as suggested by Armstrong, by regulating the use of essentially nitrogenous manures, which are known in some cases to intensify the attacks of fungous pests and substituting the use of phosphates.

(*To be concluded.*)

* British Association for the Advancement of Science. Address to the Botanical Section by Sir Daniel Morris, K.C.M.G., M.A., D.Sc., D.C.L., LL.D., F.L.S., President of the Section.

† *Kew Bull.*, 1891, 169; 1895, 11.

* *Science and the Nation.* 138

† *Proc. Roy. Irish Acady.* XXXV. B.2.10.

* *Kew Bull.*, 1917, 118.

† *Jour. d'Agric. Tropicale.* 1907.

‡ Address, Section M., 1911.

§ *Science and the Nation*, 118.

FRUIT REGISTER.

SCARCITY OF DESIRABLE OCTOBER DESSERT APPLES.

In spite of almost a thousand varieties of Apples, it does seem strange that there are so few varieties of good dessert quality in use during the month of October. We have plenty in September and also in November. I know how certain sorts vary in the time they are at their best in different localities and soils, therefore many growers may not agree with the varieties I name.

Except from walls of various aspects, Plums are none too plentiful during the month of October, which is all the more reason for lamenting the dearth of really good dessert Apples. True, we have plenty of Pears, which eases the hardship of a short Apple supply. Still there are those who appreciate good Apples at any season.

For the early part of this month Benoni is quite the best I can find. This Apple, owing possibly to its shy bearing propensity, is not nearly as much grown as its merits deserve. This has certainly been my experience of this Apple until quite recently, when I have been fortunate in securing crops of high quality fruit. Of American origin, it was introduced to this country by Mr. Rivers. In the shape of the fruit it reminds one of King of the Pippins. The skin when fully ripe is a rich yellow with a crimson cheek next to the sun, and streaks of darker crimson. The flesh is yellow, tender and juicy, with a distinct Pineapple flavour.

Miller's Seedling (see Fig. 94) is a comparatively new Apple, and one well worthy of inclusion in any collection. The tree is vigorous, quite upright in growth, with ample leafage, and bears abundantly medium sized fruit, in fact just the type that are appreciated for dessert. The skin is pale yellow when ripe, delicately striped with crimson. The flesh is white, firm, juicy and pleasant in flavour.

James Grieve is now too well known to need a long description. As an October Apple it stands quite at the head of the list. So far as I know this Apple has only one fault—it crops so freely that the trees make little growth. The fruit is of medium size, lemon yellow, flushed with red. Flesh firm, tender, juicy and of high flavour.

American Mother is an American Apple that ripens well in this country, and as an October Apple possessing quality it deserves to be more cultivated. In shape it resembles Adams's Pearmain. The golden skin is covered with mottles and streaks of crimson. The flesh is very tender, crisp, juicy and sweet, with a balsam-like flavour.

Charles Ross, where it does not grow too large, is a desirable Apple, possessing in some soils good flavour; otherwise it has too much of the Peasgood taste and size to suit everyone.

St. Edmund's Russet, or Pippin, is quite one of the best of the early russet type; it is free bearing and has flat-topped fruit with golden yellow skin marked thickly with russet. The flesh is of pleasant aromatic flavour. *E. Molyneux.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

No American Blight (see p. 185).—I have exactly the some experience with Woolly Aphis here as *Market Grower*. Several old gnarled bush fruit trees, which have been for many years infested with Woolly Aphis, and on which much time has been expended in scrubbing and washing annually, are now absolutely free of any outward sign of the pest, notwithstanding that, owing to shortage of labour and materials, the trees were not washed last spring. *Head Gardener, Southover, Burwash, Sussex.*

Stay-at-Home Potatos.—Since the outbreak of war emphasised the need for increased food production, the importance of the Potato as an article of food has been brought before the public with greater force than ever. The Potato is a subject of perennial interest; indeed, it seems an inexhaustible subject. Very many matters relating to the tuber have been noted or discussed in the pages of the *Gardeners' Chronicle*, but I do not remember ever to have seen special reference made to the very distinct and differing ways in which Potatos produce their crop. For instance, Great Scot and Edzell Blue have their tubers clustering thickly at the base of the stem, while Witch Hill and Harlech Castle distribute their tubers over a fairly wide area. Why this difference? Can Mr. Cuthbertson, Mr. W. Taylor, Mr. F. J. Chittenden, Mr. Arthur Sutton or Mr. Snell give any explanation? Further, does a stay-at-home variety, on a given area, give a larger or a smaller crop than a spreading one? It occurs to me that it there is not much to choose in this respect, a race of small or medium-haulmed stay-at-home varieties would prove a great blessing to allotment holders and in private gardens, because the rows need not be so far apart as the spacing usually allowed for second early and late varieties. *West Middlesex.*

Experiments with Potatos.—I have again grown a few Potatos for experiment. The sets were placed in trays as soon as lifted, kept in a light shed, and covered with newspaper during severe frost. As many of the tubers produced last year were much too large, I decided, with regard to main crop and late varieties, to allow all the shoots on the upper sides of the sets to remain, and there certainly was more regularity in size. I cannot say the crop was as heavy as that of the previous year, but I think such was generally the case, and may be attributed to the dry weather. Trenches were prepared during the winter, four feet apart. The soil was turned two or three times before planting was done, and no manure, excepting superphosphate and wood ash was used, neither had any been applied the year before, when the crop was also Potatos. My aim was to obtain quality, which is very deficient in the lower parts of Bath. This year I have good quality, but that must be attributed to the season rather than to my cultivation. The method adopted could hardly be called planting. The tubers were laid on the surface of the soil in the trench, and each one covered separately with about a double handful of the pulverised surface soil, certainly not more than an inch above the shoots. There was no frost sufficient to penetrate the soil, and though a little more material was added when the shoots came through the tubers never had more than about two inches of covering throughout the season, and not a single leaf was buried. The haulm was allowed to grow till there was a risk of it falling about, then some more of the pulverised soil from between the trenches was pulled near to the stems, not so near as to touch them, but so as to leave the stems standing in a wide-mouthed V. The idea was to allow all the light possible to reach the base of the stems and the primary leaves, to harden them. These primary leaves remained green as long as any part of the plant, and though there was an occasional green tuber found at lifting time, certainly not more than in ordinary cases. Possibly the case might be different with some varieties which bear tubers close to the stem, but I think that is not the case with late sorts. On testing the soil between the rows, before the haulm was a foot in length, a mass of fibrous roots was found reaching right across from row to row. Think of this, you who practise what is locally called "hacking" previous to earthing up! I am of opinion that four feet between the rows is not too much for strong growing varieties when the soil is fairly rich in humus, and that it is possible to obtain quite as much weight per acre as when the rows are only two feet apart. I allow the haulm to fall about in a natural way, most of the foliage being thus exposed to the light, and there are no yellow leaves. The haulm also is not drawn out so long as when the plants are crowded, and the leaves have more substance. *Wm. Taylor.*

Onion Fly on Leeks.—In reply to *J. F.*, I have this year, for the first time, found the larva of the Onion fly on Leeks. On examining the larva with a lens I found the eight little projections on the square-cut tail end which is characteristic of Phorbia cepetorum. The Leeks were thinned and allowed to grow where they were sown. The fly has been very prevalent this season, and I have seen whole beds of Onions ruined by it, due, no doubt, to the dry, hot weather, which retarded the growth of the plants and favoured the development of the pest. I have caught a good many adult flies with dishes of poisoned syrup (molasses), as recommended by the Board of Agriculture. Paraffin emulsion is undoubtedly of great benefit, but spraying should be done every second day to be of any value. The syrup can be poisoned by mixing with it a little arsenite of soda. *H. A. Smith.*

Poplar Leaves (see p. 157).—The movements of Poplar leaves, branches and twigs have long excited my curiosity and engaged my attention. The Aspen, the grey and white Poplars, and all the black ones, have their motions and sounds. The Balsam Poplars have no flattened petioles, and do not quiver. All the others above mentioned have their petioles flattened vertically to their insertion, and may flap up and down, or right and left, through an angle of 90-180 degrees or more, according to the velocity of the wind. The Aspen and the grey Poplar are the most noisy in summer, when the leaves chiefly are concerned. Only a few weeks ago the grey Poplar startled me by giving me a reminder of its capabilities during a sudden but momentary acceleration of the breeze on an otherwise nearly still day. The noise the leaves made was a rapid and clattering one, but all at once they hung perfectly still. The Aspen, in my experience, most often produces the clattering noise, and in a manner may be said to measure the velocity of the wind and its steadiness or otherwise. The Black Poplars, Populus nigra, P. n. betulifolia, P. n. italica (Lombardy), P. serotina, and P. marylandica, only quiver or quaver in the wind, more or less rapidly. Their motions are various, but those leaves which have long petioles and hang down have the greatest variety of motions. I have often thought that Longfellow referred to the Poplars when he said :—

" And all the broad leaves over me
Clapped their little hands in glee."

I cannot pass over the many sounds that the Lombardy produces in winter when leafless. With a gentle but steady breeze laden with moisture, the tree seems to be singing, droning or moaning, while one stands close to the bole. Similar sounds, but chiefly a singing one, from the wires above, may be heard at the foot of a telegraph post. The tree often makes a droning sound in a stiff breeze, and when the air is heavily charged with moisture or wet and sleety snow, as on March 28th, 1916, the tree simply roars. The whole tree may wave from head to foot, if the trunk is not very thick. In summer, when the tree is in leaf, and a breeze is created as the result of sunshine, all the branches appear in lively motion, but suddenly stop with a lull in the wind. *J. F.*

Gardeners' Wages (see p. 194).—I was glad to see the letter on the question of gardeners' wages in last week's issue by *An Employer*. I quite agree with him that the time has come for the owners of gardens to look into the question of wages. As to an association of owners (being a non-unionist myself), I do not approve of the principle either for men or owners. If the rate of wages is not to be governed by trade unions it is up to employers to offer men an adequate salary, and the question is "What is a living wage?" Let me state my own case: At the age of 15 years I received 9s. per week, at 18 years I was receiving 17s. 6d. per week, at 28 years 26s. per week, rising to 32s., at the age of 38 years, just prior to enlistment, £2 2s. per week. On my return from foreign service all the wages I could get was 33s. per week, which I took for three months rather than receive the unemployment dole, but I could not pay my way on that sum: so after I had spent almost all my modest capital I went into the building trade at 11d. per hour until something better turned up. To-day I am working for a gentleman who has realised that a gardener requires a living wage as well as any other member of the community and I am paid £3 10s. per week, which does not allow any margin for luxuries, but is better than most of the situations advertised in *The Gardeners' Chronicle.*

According to my calculation, the weekly expenses of the average gardener are 130 to 140 per cent. in advance of pre-war times. Your correspondent states that young gardeners at an age when they begin their journeyman's work are to be paid the wages given to head gardeners. This is beside the point, as there is nothing to prevent employers paying head gardeners £5 or £6 per week. *Head Gardener.*

—— May I say a word in appreciation of *Employer's* letter on the wage question? His suggestion that owners of gardens should give their views on the subject has come at a most opportune moment, and if your correspondent would state what he considers a reasonable wage for a skilled gardener it would greatly help many who are in doubt on this matter. It is a difficult problem to say what remuneration would be applicable to all gardeners, as the capabilities of the men, and the responsibilities attaching to the positions they hold, vary greatly. No such difficulties are in the way in arriving at what should be a minimum, or, if I may use the term, "a living wage." *Interested.*

The Genus Rhododendron.—Having read the editorial appreciation of the *Notes from the Royal Botanic Gardens, Edinburgh*, on Rhododendrons, may I express the gratitude of one of the students of the genus to Prof. Bayley Balfour? He has helped us to elucidate many of the mysteries of our gardens concealed under numbers, and has been very patient with those who have sent him puzzles to explain in the shape of rogues which have appeared among the pans of Chinese seedlings. In addition to this, the descriptions in the *Notes* are given in English, and this is most welcome to those of us who are weak in botany, and whose Latin and Greek is not so fluent as it was some years ago. I well remember trying to puzzle out some of Franchet's descriptions; and what with ignorance of botanical terms and forgetfulness of Latin and French, it was no easy task, and has made me duly appreciative of the translations in the present *Notes.* As to the colours of the Chinese species, I can fully endorse the statement that they equal those of the plants from the Himalayas. R. neriiflorum, R. haematodes, and R. repens are quite as brilliant as R. barbatum, R. Thomsonii, R. fulgens, etc. R. repens (13,259 F.), a species which climbs like Ivy, and is closely connected with R. Forrestii, is in flower here now, and is the most lovely scarlet crimson; and since it comes from 11-12,000 ft. should be quite hardy. R. Valentinianum is another species of the same character, but has yellow flowers. Besides these there are the lavender blues of R. 4,238 W., R. Augustinii forma (?), R. intricatum, R. fastigiatum, and R. hippophaeoides forma (?), 12,623 F.; and the large yellows of R. lacteum, R. Wardii, R. croceum, etc. Of the small yellow Rhododendrons, R. flavidum and R. trichocladium now, and usually, have some flowers open in the autumn, and this spring two more with yellow flowers bloomed—*i.e.*, R. 13,512 F., R. pachypodum, and R. aneum Fr. This latter has rather small flowers, but they are as yellow as the tender R. Boothii, yet without the greenish tinge noticeable in that plant. Lastly, there is the orange form of R. dichroanthum, the colour of which is so far unapproached by that of any other hardy Rhododendron. Many of the Chinese species are dwarf, or at any rate small growing plants, and this is an advantage in many gardens where room is limited and there is no accommodation for the larger-growing species and hybrids. Another advantage of these Chinese species is the frequency with which they flower in autumn. At the present time of writing—October 7th—I have at least a dozen species in bloom in North Cornwall. R. hippophaeoides, R. fastigiatum and R. rupicolum may be said to be in full flower, and there are a good many flowers open on R. 1,769 W., R. haematocheilum (?), R. 5,868 F., R. adenogynum, and a very large-flowered unnamed rogue which appeared among seedlings of R. adenogynum. This I consider one of the finest Chinese species we have, since it has a fine truss of seven-lobed, white flowers, tinged with pink and spotted, and an excellent garden habit. So far I have not been able to get seed of it pure, but it has set well to pollen from the blood-red R. arboreum. *E. S. P. Magor, Lamellen, St. Tudy, Cornwall.*

SOCIETIES.

GENERAL BULB GROWERS OF HAARLEM.

THE different Floral Commitees made the following awards during August, 1919:—

FIRST-CLASS CERTIFICATES.

Gladiolus primulinus salmonea; bright salmon-shaded orange.
G. Maréchal Foch; soft lilac rose (see Fig 92.)
G. l'Immaculée; pure white.

AWARDS OF MERIT.

G. primulinus xanthia; bright orange, the lower petal striped orange red.
G. Victor; large flower, salmon red.
G. Odin; rose salmon, spotted carmine.
G. Edith Cavell; white, feathered lilac.
G. Elta; soft rose.
G. Sydonia; purple in the centre, feathered yellow.
G. White City; pure white.
Crinum Krelagei; bright rose, flower large.
Decorative Dahlia Jacques Urlus; salmon rose.
Paeony-flowered Dahlia Morgenster; bright scarlet, shaded orange.

CERTIFICATE OF THE HAARLEM TRIAL GARDENS.

Gladiolus General De Wet; clear orange.
G. Hecla; bright red.
G. Pandora; orange salmon.

CROPS AND STOCK ON THE HOME FARM.

PATCHING THE CLOVER PLANT.

THE excessively dry weather since Clover and grass seeds were sown in April militated against the successful germination of the seed, and afterwards against the free growth of the plants, so that on cutting the corn crops there were many bare patches of Clover. Copious rains have since fallen and great improvement is manifest in the plants that struggled through the adverse weather, so that the prospect for next year's hay crop is much more encouraging than formerly. Sow by hand where the vacant places are small, but for large areas use the hand seed barrow, sowing Broad Clover at the rate of 20 lbs. per acre, Trefoil 8 lbs. per acre and Grasses, Italian Rye, Hampshire or Devon Bents at the rate of one bushel per acre. Afterwards, on the large areas, use a light harrow, and then roll the whole field, choosing dry weather, with no dew upon the surface, or the seeds will stick to the roller with the soil. Rolling the field will be an advantage to the whole of the Clover plant, fining the soil about the roots and rendering the small plants less liable to suffer from upheaval by frost during the winter. The best Clover plants are usually found on the headlands, which should convince the cultivator that the soil should be firm.

WEEDS IN STUBBLES.

After the corn is cleared, a good opportunity occurs to remove such troublesome weeds as Docks, wild Scabious and wild Chamomile, commonly known as "Morgan." If the plants are carefully dug up and burnt, much labour will be saved in the future. Farmers, in some cases, are much too neglectful in getting rid of Docks, which, when allowed to seed, quickly become a pest not only to the growth of the corn, but the seed is not easily taken out of the corn when thrashed.

CLEANING STUBBLES.

Dry weather affords a good opportunity for cleaning stubbles that have many surface weeds growing upon them, but not Couch, because the only drastic way to deal with this pest is by ploughing sufficiently deep to bring the roots to the surface, afterwards cross-ploughing, cultivating, dragging and harrowing until the roots are freed from the land. Couch should be collected and burnt in small heaps; the ash may be used for mixing with various manures the following spring when sowing Swedes, Turnips, Rape or Kale. Surface-rooting weeds may be dealt with by a scarifier with broad tines, three inches deep, afterwards crossing the field in the opposite direction. The use of heavy drags afterwards will stir the weeds, exposing them to sun and wind. The majority of the weeds will be so wilted that they will not again grow and seed.

WHEAT SOWING.

The month of October, when the weather is suitably dry, is an ideal time for sowing Wheat. When, by early sowing, this cereal obtains a good roothold before winter sets in, the plant grows quickly in the spring and tillers much better than when sowing is deferred until the middle or end of November. Late sown corn does not germinate well when the soil is wet and cold, consequently the growth is less vigorous in spring. Last autumn the weather was unfavourable for autumn early sowing. In September the rainfall was 7.52 inches and there were only ten dry days. Although the October rainfall was not more than 1.90 inch, there were only ten dry days, consequently, on heavy land, harrowing and seeding were delayed. September and October have been fine this year and the soil is rather too dry for quick germination, which may deter some from sowing until rain comes. My advice is, sow at once, as the soil will be moist enough before long. The ploughing of the land, whether after sheep-fed Rape and Turnips, tall Mustard or summer fallow with farm-yard manure, has proceeded satisfactorily. Clover ley has been more difficult to plough in stiff soil owing to the hard and dry surface, but the soil, when turned up, is crumbly and all that is required for a good seed bed. On large areas the tractor has done very satisfactory work, expediting the ploughing while the horses were used for clearing up the harvest, carting manure on to the leys and sundry other work. One three-furrow plough with a heavy presser attached will get over three to four acres per day, in some cases more, making excellent work and burying Mustard, almost a yard high, quite well.

The quantity of seed sown per acre varies with the variety and the type of soil. During October 2½ to 3 bushels per acre is ample. For November sowing, and later, it is a good plan to add half a bushel more. Some varieties of Wheat tiller more freely than others, therefore less seed is required. The new Yeoman tillers freely, therefore I sow only 2½ bushels per acre. I have a high opinion of this Wheat, and as this is corroborated by experienced millers, I am giving the variety an extended trial and have already sown fifty acres. Red Standard is also a favourite Wheat here; it grows sturdily, produces good ears, yields freely and gives "strong" grain. In my case this year the natural weight of a bushel is 64½ lbs., which is 1½ lbs. beyond the standard weight required for sale. Red Bromich is an excellent Wheat, especially for light soil. Little Joss, too, is good for light soil. Square Head Masters is a popular Wheat, selected by Mr. Leverson and supposed to have been a cross between Scholey's Square Head and Golden Drop, naturally pollinated, at least so I learn from Mr. Dunn, of Salisbury, who publishes an interesting catalogue of no fewer than thirty varieties of Wheat, with excellent photographs of many sorts.

In some districts white Wheats are popular; they generally yield well but are not so much in favour with millers as the red varieties. Benefactor, Burgoyne Fife, Victor and Carter's Stand Up are good white varieties.

The preparation of the seed is important. New seed from seedsmen is usually sent out ready to sow, having been carefully screened or winnowed to remove small corn and seeds of weeds which the thrashing machine does not always take out. I carefully screen or winnow my own thrashed corn and am of the opinion that small corns are best taken out, as I fail to see how these can give such a strong plant as the more fully developed corns of the variety. All seed Wheat should be dressed before being sown as a preventive of smut, a fungus which attacks the Wheat plant and causes smutty grains which are most objectionable to the miller.

One pound of sulphate of copper dissolved in one gallon of water is sufficient for dressing four bushels of seed.

Spread the seed Wheat about 6 inches thick on a hard floor the day before sowing. Pour the liquid evenly over the Wheat, then turn the heap at least three times to ensure the wetting of every grain. Cover up the heap to prevent fowls eating the corn, which would be harmful to them.

There are various methods of sowing the seed. Certain farmers prefer the drill, which is no doubt the best method of sowing the seed evenly in depth; the land, however, requires thorough preparation first. In showery weather sometimes rain comes just when the land has been prepared for the drill and as a consequence the sowing may be hindered. I use a broad-caster, a machine which will sow evenly on a width of 16 feet: in level fields it is drawn by one horse. By this means the sowing can follow the plough closely and the "work"—as it is termed—of burying the seed by means of drags and harrows follows. Once the seed is "broken in" more "work" can follow during the next few days, if not on the same day. On small areas sowing by hand is sufficient, but experienced sowers are not so numerous as they were, hence the necessity for using machinery much more freely. Where the soil is light it is wise to harrow the land at least five times after sowing to obtain a firm seed bed, which is all in favour of the plant coming through the winter satisfactorily. Where the soil is cloddy owing to various reasons, such as sheep treading it during wet weather, I do not care to make it too fine; a few small clods are helpful to protect the Wheat during the winter and they crumble when the land is rolled in the spring.

If there is any doubt about the land not being sufficiently rich to carry a good crop, and farm-yard manure is not available, 6 cwt. of basic slag (30 per cent.) sown evenly over the surface before or immediately after sowing will be a good dressing, to be followed by 2 cwt. of sulphate of ammonia in January or February. *E. Molyneux, Swanmore Farm.*

TRADE NOTE.

Miss Sanderson, who for the past four years, has had charge of the glass department at Dunham Massey Hall Gardens, Altrincham, has taken Wergs Hall Gardens, Wolverhampton, for the purposes of a market garden.

Answers to Correspondents

Brussels Sprouts: *Correspondent.* The lower leaves of Brussels Sprouts, and especially where the plants are crowded, often turn yellow at this season and ultimately drop. When the leaves have deteriorated so as to become useless to the plants it is advisable to remove them, as this will permit of the air circulating more freely about the plants. Do not, however, remove leaves that are healthy, as these gather much of the material from which the sprouts themselves are formed. Probably the fact that the sprouts on your plants are small is due to drought.

Correction.—The silver fruit bowl offered by Mrs. J. C. Straker at the Four Northern Counties Fruit Show and Congress was won by Mr. W. E. Anderson, gardener to Sir James Knott, Bart., and not by Mr. Lee Stagshaw, as stated on p. 194.

Cucumbers Diseased: *L. R.* The plants are attacked by spot disease caused by the fungus Cercospora melonis. If the plants are very badly diseased it would be best to destroy them by burning. If the attack is a slight one spray with liver of sulphur. This specific should be used at the strength of ½ oz. in 2 gallons of water, and care must be taken not to syringe the white paint of the woodwork, for it would turn the paint black. At an early stage of the disease Bordeaux Mixture would probably arrest its development. Some growers use carbolic acid for watering the paths, but not the plants. A pint bottle of No. 5 Calvert's carbolic acid should be mixed with 5 quarts of water and the path watered with this fluid just before shutting up the house for the evening. It is also said that carbolic acid mixed with water and placed in saucers stood about the house will help in keeping the plants free from the disease. It must be remembered that carbolic acid is very poisonous, and should be used with extreme care.

Gladioli from Seed: *Flora.* Provided the seeds are perfectly matured you would be able to raise plants from them. Sow a portion of the crop of seeds now in a cold frame and the remainder in a little warmth next spring. The seedlings will require the usual attention in such matters as transplanting and growing on until they have made sufficient size for planting in a warm border in the open.

Manuring Young Apple Trees: *Miss R.* Your Apple trees are probably too young to produce heavy crops of fruit. The fact that they have made very little growth this summer is probably due to the very dry season. As your soil is heavy clay, we do not recommend you to use either the cow or pig dung, but to rely on stable manure, which you say you can obtain. Feeding the roots with liquid manure in the autumn is often beneficial to trees that have cropped heavily and have not made much wood and leaf growth. It is rather late in the season to apply this liquid fertiliser now, but it would do no harm, and might do good if the weather continues warm. Allow the manure to remain in a heap until the spring, then apply it as a top dressing to the roots, and lightly fork it under the surface. A barrowful spread over a considerable area would be a good dressing for each tree. The present is the best time to apply basic slag: it should be used at the rate of 3ozs. or 4ozs. to the square yard.

Names of Fruits: *J. O. J.* 1, Newton Wonder; 2, Pitmaston Duchess; 3, Dumelow's Seedling; 4, Northern Greening; 5, not recognised; 6, King Harry.—*A. E. E.* 1, Poor specimen, not recognised; 2, Keswick Codlin; 3, Ribston Pippin; 4, Bramley's Seedling; 5, Conference; 6, decayed; 7, Doyenné du Comicé. *A. A.* Lemon Pippin.

Names of Plants: *J. K.* 1, Pinus austriaca; 2, P. densiflora; 3, P. inops.—*Bracken, Berks.*: 1, Osmunda regalis; 2, Lomaria spicant; 3, Nephrodium Molle; 4. Lastrea dilatata; 5, Athyrium filix-foemina var. Victoriae; 6, Lastrea filix Mas.—*A. E. M.*: Pyrus Aria, White Beam-Tree.

Peach Buds Dropping: *J. W.* The dropping of Peach buds is a common trouble, and certain varieties are more susceptible to the defect than others. It results from a check of some kind and is usually due to excessive drought at the roots during the time when the trees are ripening their wood. Although it is necessary to reduce the amount of root watering after the fruits have been gathered, water must not be withheld entirely in autumn.

Pelargoniums Diseased: *W. and S.* The Pelargonium plants are attacked by the fungus Botrytis. Preventive measures include spraying with a solution of sulphide of potassium.

Potato for Naming: *H. H. B.* It is impossible to name the Potato from a single tuber. It is necessary to know the habit of growth, colour of flower, and time when ready for lifting before a variety could be correctly identified. The specimen you send resembles a variety of the Up to Date type.

Potatos with Hollow Centres: *H. P.* The formation of hollow spaces in the centres of your Potato tubers is not due to either insect or fungous pests. It is entirely a physiological condition, and you would probably find that your next season's crop grown from "seed" obtained from a fresh source would not include tubers having the defect.

Price of Fruit Trees: *A. H. M.* We believe that the members of the Horticultural Trades' Association have agreed on minimum prices for fruit trees sold retail. No nurseryman will sell at wholesale rates to a private customer.

Removing the Spurs from an Old Apple Tree: *J. T. D.* The large amount of wood growth made by the tree, together with its failure to fruit, points to the need for root pruning. If this is done, it is probable that the tree will commence to fruit satisfactorily again, but it will not be able to do this if you remove the fruiting spurs. It is sometimes necessary, in the case of old trees, and especially Pear trees, to thin out and shorten the fruit spurs, but it is not advisable in such a case as yours, where the tree has ceased to fruit and is making an excessive amount of growth.

Roses Under Glass: *G. Y.* You should be able to obtain satisfactory results with Roses under glass without the use of fire heat, but you must be cautious with the amount of moisture in the house, for damp conditions would favour the spread of mildew on the foliage. You will also need to exercise great care in watering the roots. It is unlikely that the plants will be troubled with red spider in winter, but if this pest puts in an appearance next spring, when fine weather sends up the temperature of the house, you could then syringe the foliage with clear water. If mildew appears dust a little black sulphur on the foliage; this is preferable to the yellow flowers of sulphur as its presence on the leaves is less noticeable.

Sycamore Disease: *S. C.* Your Sycamore trees are attacked by Sycamore leaf blotch caused by the fungus Phytisma acerinum. This is a very common disease of the Sycamore and forms large black spots, resembling blotches of pitch on the leaves. The only possible means of further infection is from spores alighting on the young leaves. The best method, therefore, of combating the disease is to gather and burn every fallen leaf, and thus destroy the source of infection.

Thermometer with Broken Column of Mercury: *J. R.* You would probably be successful in uniting the column of mercury again if you placed the instrument in fairly warm water to allow the quicksilver to rise, then take it out and agitate it gently by shaking and tapping the base on the hand. You may not be successful at first, but perhaps, after a time, the liquid would unite again. If this fails, your only recourse is to send the instrument to the makers.

Tomato Diseased: *A. H.* The disease is not Black Leg, as you suppose, but the common Potato Disease (Phytophthora infestans), and the same measures should be taken to guard against attacks on Tomatos as for Potatos, *i.e.*, Bordeaux mixture or a solution of sulphide of potassium should be used as a spraying fluid at frequent intervals.

Vine Leaves Diseased: *J. F. H.* The disease on the vine leaves is the Botrytis form of a fungus, possibly of Sclerotinia fuckeliana. Fallen leaves should be gathered at regular and brief intervals and burned. Spraying with sulphide of potassium in solution will arrest the disease, and may be used as a preventive measure; but where the fungus has become established, it is advisable to thoroughly spray the vines when they are at rest, and also the whole of the surroundings, with a solution of sulphate of iron.

Communications Received.—W. P.—A. C.—C. H. H.—W. F. D.—W. A.—W. A. E.—E. S.—Major P. W. S.—S. G.—W. D.—G. D.—Sir E. R. L.—C. K.—L. H.—T. B.—F. T.—G. C.—A. W.—D. J. D.—E. D.—K. C. H.—H. Y.—W. G.—R. D.—F. W. B.—J. C. T.—F. J.—K. A.—G. B.—R. S. L.—H. M.—R. F.—Sir F. F.—R. M.—J. S.—H. H. R.—V. C. A. F. G.—L. W.—E. H. W.—J. E. H.—W. W. S.—H. G. A.—S. A.—E. D. R.—G. T.—A. T. B.—J. C. W.—W. J. P.—A. T.—A. P.—W. D. & Sons—R. W. H.—A. S.—R. D.—C. C.—E. H. W.—G. W.—W. E.

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MARKETS.

COVENT GARDEN, October 15

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated).

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's, per doz.	10 0–12 0	Erica gracilis (contd.) 60's ...	12 0–18 0
Asparagus plumosus	12 0–15 0	72's	9 0–10 0
—Sprengeri ...	12 0–18 0	Erica nivalis— 48's	30 0–42 0
Aspidistra, green	48 0–72 0	60's	18 0–21 0
Cacti, per tray 12's, 15's ...	5 0– 6 0	72's	10 0–15 0
Chrysanthemums 48's per doz. ...	9 0–18 0	Marguerites white	18 0–24 0
Erica gracilis— 48's per doz. ...	24 0–36 0	Palms, Kentia ...	18 0–24 0
		—— 60's ...	15 0–18 0
		—Cocos ...	24 0–36 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's, per doz. ...	12 0–15 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ...	15 0–18 0	— 32's	24 0–36 0
Asplenium, 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ...	5 0– 6 0
— nidus, 48's ...	12 0–15 0	— small 60's ...	4 0– 4 6
Cyrtomium 48's ...	10 0–15 0	— 72's, per tray of 15's	3 6–4 0

REMARKS.—In addition to white and pink coloured Ericas and Marguerites, a few white Hydrangeas have been sold during the last week by Messrs. Thomas Rochford and Sons. This department is well supplied with Ferns of various sizes of the usual market varieties; also Palms.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Bouvardia white	15 0–18 0	Cattleya Harrisoniæ per doz. blooms,	12 0–15 0
Carnations, per doz. blooms, best American var.	3 6– 5 0	Pelargonium, double scarlet, per doz. bun. ...	8 0–10 0
Chrysanthemums— —White, per doz. blooms	4 0– 8 0	— white, per doz. bunches ...	6 0– 9 0
—Yellow ,,	3 0– 6 0	Physalis, per doz. bun. ...	12 0–18 0
—Pink ,,	4 0– 6 0	Richardia (Arums,) per doz. blms.	12 0 18 0
—Bronze ,,	3 0– 5 0	Roses, per dozen blooms—	
—White per doz. bun.	12 0–24 0	— Frau Karl Druschki...	2 0– 3 0
—Coloured ,,	15 0–18 0	— Liberty ...	3 0– 6 0
Gardenias, per box special ...	12 0–	— Melody ...	3 0– 6 0
— ordinary ...	5 0– 6 0	— Mme. Abel Chatenay ...	2 0– 4 0
Heather white — —per doz. bun.	12 0–10 0	— Ophelia ...	4 0– 6 0
Lapagerias, per doz. blooms ...	4 6– 5 0	— Richmond, var.	3 0– 4 0
Lilium longiflorum, per bunch ...	18 0–	— Sunburst ...	4 0– 6 0
Lilium speciosum album per bunch	4 0– 5 0	—White Crawford	2 6– 4 0
—rubrum per bun.	3 6– 4 0	Statice, mauve ...	6 0– 8 0
Michaelmas Daisies in variety ...	8 0–12 0	— white... ...	6 0– 8 0
Orchids per doz.: — Cattleyas ...	24 0 30 0	Stephanotis, 72 pips	4 0– 6 0
		Stock, Dbl. White	8 0–12 0
		Violets, Single large, per doz. bun.	8 0–12 0
		—Ordinary ...	2 6– 3 6

REMARKS.—With October well in, the majority of outside flowers are practically over. A few white Asters are still obtainable at high prices. There is also a good supply of Michaelmas Daisies, and where the flowers have been protected from frosts they are still arriving in excellent condition. Chrysanthemums are now the chief attraction, and the supplies of these flowers last week-end were the largest received this season. Varieties are more numerous. Some fine blooms of white, pink, yellow, and bronze colours are on sale; also some large exhibition blooms, which are selling at from 18s. to 30s. per dozen. Of spray blooms in bunches, white Rio de Blane is the most plentiful, and most in demand. Coloured sorts are not so numerous, the principal varieties being Horace Martin, Hollicot Bronze and Betty Spark (pink). Carnations and Roses are not so plentiful as last week, and the prices for these flowers are again firmer. Lilies are a limited supply; also Gardenias, Lapagerias, Stephanotis, and Lily-of-the-Valley. Violets are increasing in quantity and arriving in excellent condition. Physalis is now offered in limited quantities.

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Beans, French, per lb.	2 0– 2 6	Parsnips, per bag, ...	10 0–11 0
Beets, per bag,	10 0 11 0	Parsley, per doz. bunches ...	3 0– 4 0
Belgium Chicory, per lb. ...	0 6– 0 7	Potatos, per cwt,	8 0 10 0
Cabbage, per doz.	4 0– 4 6	Radishes, per doz. bunches ...	1 6– 2 0
Garlic, per lb. ...	1 0– 1 4	Spring Onions, per doz. bunches ...	5 0– 7 0
Carrots, per bag	9 0–10 0	Sprouts, per bus.	12 0 14 0
Cauliflower, per doz. ...	6 0 12 0	Tomatos, English, per doz. lbs. ...	6 0 11 6
Celery, per fan. (12 heads) ...	4 0 –5 0	— Dutch.. ..	4 0– 5 0
Cucumbers, per flat	24 0–26 0	— French ...	4 0– 4 6
Herbs, per doz. bun.	4 0– 6 0	— Outdoor Jersey	4 0– 6 0
Mint, per doz. bun.	9 0–12 0	Turnips, per bag	9 0 10 0
Mushrooms, per lb.	3 0– 4 6	Watercress, per doz	0 9—
Mustard and Cress, per doz. punnets	1 3– 1 6		
Onions, per cwt,	9 0 10 0		

Fruit: Average Wholesale Prices.

	s. d s. d.		s. d. s. d
Apples (English)	5 0– 7 0	—Muscats, per lb.	2 0– 5 0
—Worcester Pearmain per ½ bus.	5 0– 7 0	—Special per lb.	6 0– 8 0
—King of the Pippins per ½ bus.	5 0– 7 0	Nova Scotian Apples —Blenheim Pippin Nos. 1 and 2	34 0–38 0
—Coxs 's Orange Pippin per ½ bus	10 0 12 0	—Ribston Pippin	34 0–38 0
— Warner's King per bus.	4 0– 7 0	—Gravenstein ,,	34 0–38 0
—Lane's Prince Albert per bus.	6 0– 8 0	Nuts—Brazils (new) per cwt.	110 0–115 0
—Bramley's Seedling per bus.	7 0– 8 0	Cob Nuts, per lb	1 3– 1 4
—Blenheim Pippin per bus. ...	8 0–12 0	Walnuts, English	1 0–1 3
—Ecklinville Seedling per bus.	4 0– 6 0	Pineapples each...	2 6– 6 6
Aubergines; pr doz	2 0– 3 0	Plums (English) per ½ bus. — Prunes ...	14 0–16 0
Bananas, singles	25 0–35 0	—President ...	15 0–20 0
Grapes:— — Alicante ...	1 3– 2 0	Pears English per ½ bus. — Marguerite Marillat	7 0 10 0
—Blk. Hamburgh,	1 0– 1 6	— Louise Bonne of Jersey	7 0 10 0
—Gros Colmar	1 6– 2 6	—Beurre Capiaumont per bus. ...	12 0 14 0
—Almeria per barrel ...	30 0 45 0	—Fertility, per bus.	12 0–
—Canon Hall	3 0– 8 0	—Calabash ½ bus.	10 0–11 0

REMARKS.—Trade has been steady throughout the week. Orchard fruit continues in fair supply, although quantities available are not so large now that most mid-summer Apples have almost finished, and prices have hardened slightly. Hothouse fruits are in good demand, and prices show a slight increase. The temporary control on vegetables has been removed, and green vegetables are, in consequence, more expensive, but little variation has been exhibited in the prices of root crops. Potatos are plentiful, and in excess of the demand.

GARDENING APPOINTMENTS.

Mr. J. E. Fitt, for the past three years with His Majesty's Forces in France, and previously Alpine and Herbaceous Foreman to S. MORRIS, Esq., Earlham Hall, Norwich, succeeds the late G. HENLEY as Gardener to Mr. MORRIS, at Earlham Hall, Norwich. (Thanks for 2s. for R.G.O.F. Box.—EDS.)

Mr. W. J. Prewett, for the past 12 years Gardener to the Right Hon. the Earl of STAMFORD, Dunham Massey Hall, Altrincham, as Manager to Miss SANDERSON, at Wergs Hall Gardens, Wolverhampton.

CATALOGUES RECEIVED.

DICKSON & ROBINSON, Cathedral Street, Manchester—Bulbs.

PETER HENDERSON & CO., 35 and 37, Cortlandt Street, New York.—Seeds (wholesale).

DEBATING SOCIETIES.

Cardiff Gardeners.—A meeting of the Cardiff Gardeners' Association was held on the 7th inst. Mr. W. Davies presided over a large attendance of the members. A lecture on Potatos was delivered by Mr. J. Basham. A useful discussion, opened by Mr. A. Fry, followed the reading of the paper. A competition was held for the best all-round variety of Potato most suitable to the district The prizes were won by Messrs. W. Davies, P. Meyer, and W. Crouch in this order.

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For Forcing—Hyacinths, 1 Size, named in 10 several best leading sorts (red, white and blue varieties), equal quantities, our selection	36 0	Crocus, white, blue, yellow striped	4 0
Tulips, Single Early, 10 var.	12 6	Daffodils, in 5 varieties	12 6
,, Double ,, ,,	13 6	Polyanthus Narcissus, mix.	14 0
,, Duc van Tholl ,,	12 6	Narcissus, Poeticus Ornatus	5 6
Daffodils, in 10 varieties	15 0	Scilla sibirica, blue ..	5 6
Crocus, in 5 named sorts	5 6	Snowdrops, Single or Double	3 0
For Bedding—		Grape Hyacinths, blue ...	2 6
Hyacinths, finest mixed	14 6	Iris, Spanish, mixed ..	2 6
Tulips, single early mixed	7 6	,, English, ,, ..	4 0
,, double ,, ,,	8 0	Gladiolus, named in 10 varieties	10 0
,, single late ,,	8 0	Lilium umbellatum --	20 0
,, Darwin, named in 10 varieties	13 0	Chionodoxa luciliae --	3 6
		Frittelaria Meleagris --	4 0
		Ixia, mixed -- -- --	3 6
		Allium Molly -- --	3 0

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Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

GARDENER required by the GOVERNMENT OF GIBRALTAR for service at Government House for a period of three years with possible permanency; salary £84, rising to £102 per annum by annual increments of £3, plus a war bonus of 40 per cent. of salary, and exchange compensation so long as these are granted to the service; free unfurnished quarters and free passage; capable working gardeners with a good knowledge of flowers and shrubs should apply at once, by letter, stating age, qualifications and experience, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1., and quoting M.8962.

WANTED, GARDENER (HEAD WORKING); age 40-45; good Grape grower; Scotch for preference; wages 45s., cottage and vegetables. Also SECOND GARDENER, age 30-40; good wages.—Apply to F. F. McKENZIE, The Warren, Loughton, Essex.

WANTED, WORKING HEAD GARDENER, where two or three kept; Kitchen Garden, Greenhouse, Lawns, Shrubbery.—Lt. Col. BUCKTON, North Nibley, Dursley, Glosre.

WANTED, GARDENER (SINGLE-HANDED) Handyman, unmarried; live in.—Write, stating wages, age, references, Major FEILDEN, 80, Coleman Street, London, E.C.2.

GARDENER (single) wanted for Park and Pleasure Grounds; good wages, 48 hour week; overtime and Park duty extra.—Apply, to E. L. BESTER, Head Gardener, Public Park, 48, Glandwr Street, Abertillery, Mon.

WANTED, a MARRIED COUPLE, without children, to live in employer's house in Cambridgeshire; the wife must be experienced housemaid, the husband SINGLE HANDED GARDENER, with boy to help.—Write, Lady W., c/o Henningham, 4, Mount Street, W.1.

WANTED, for British Columbia, nr. Victoria, Vancouver, a good WORKING GARDENER, well up in Flowers, especially Rock Plants and Landscape work. Applicants should apply in writing in the first instance to the MANAGING DIRECTOR, C.G.A., Letchworth.

WANTED, GARDENER; thoroughly experienced, Inside and Out; one used to Poultry. Wages £2.—QUITMANN, Forest Holme, Queen's Road, Forest Hill, S.E.

WANTED, an experienced GARDENER with thorough knowledge of Glass; wages £3 per week.—Apply, JOHN L. GREEN, "Springfield," Bargate, Grimsby.

WANTED, SECOND GARDENER (single), for Kitchen and Pleasure Grounds. State wages and experience. 1 o'clock on Saturdays.—T. STEVENS, Head Gardener, Hayes Court, Kenley, Surrey.

UNDER-GARDENER wanted, Inside and Out; experienced in Vines, Peaches, Carnations, etc; bothy, vegetables and milk, 35s. per week.—J. LOVATT, The Gardens, Wingerworth Hall, Chesterfield, Derby.

UNDER-GARDENER for South Croydon; five kept; preference given to demobilised man who is willing and hard worker. Write, stating age, experience, wages required, with copies of testimonials and Army discharge.—Write, C. G. 933, care Deacon's, Leadenhall Street, E.C.

WANTED, GENERAL FOREMAN, used to growing surplus for market; also JOURNEYMAN for Outside.—Full particulars, wages required, with bothy, to A. GILLINGS, The Hoo Gardens, Welwyn, Herts.

WANTED, FOREMAN (Inside); Flowers, Fruit, Decorating, etc.—Write stating experience, wages expected, with bothy, 1 o'clock Sat., GEO. LLOYD, Chilworth Manor, Romsey, Hants.

WANTED immediately, FOREMAN (Inside) thoroughly experienced in Fruits, Orchids, Carnations and general Inside work; wages 38s. per week. with bothy, etc.; Sunday duty paid.—Particulars to A. E. SUTTON, Byram, Ferrybridge, Yorks.

WANTED, strong JOURNEYMAN for outside, with a view to going Inside; bothy, potatos and vegetables; 32s. 6d. per week.—Apply. BOYD, Haigh Hall Gardens, Wigan.

WANTED, JOURNEYMAN for the houses; age 20-22; excellent bothy, vegetables and attendance. Please state wages.—Apply, with refs., to D. D. ROBERTSON, Ashridge, Berkhamsted, Herts.

WANTED immediately, INSIDE JOURNEYMAN, OUTSIDE JOURNEYMAN, an IMPROVER and a married GARDEN LABOURER.—Applicants, state wages expected, ages, and enclose copies of testimonials when communicating with Kensington Estate Office, St. Bride's, Little Haven, Pembrokeshire.

WANTED, JOURNEYMAN for Pleasure Grounds, to take duty; must be thoroughly recommended; good wages to a suitable man.—Apply to HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, several JOURNEYMEN for Inside, also Pleasure Ground; also man for Kitchen Garden.—Apply, giving experience, wages expected, with bothy, 1 o'clock Sat., to GEO. LLOYD, Chilworth Manor Gardens, Romsey, Hants.

WANTED, JOURNEYMAN (Inside); bothy milk and vegetables provided. Apply with full particulars and wages required to T. DENT, Brynkinalt Gardens, Chirk, Denbighshire.

WANTED, two JOURNEYMEN, one Outside, one Inside and Out (Gloucestershire).—Apply, with full particulars, wages, refs., etc. (with bothy), to J. D., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, two IMPROVERS for Kitchen Garden and Grounds; comfortable bothy; good wages; duty paid; two with musical instruments or abilities preferred. Apply, J. A., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, strong, active, reliable MAN, age about 24, to take charge of Glass; a good knowledge of Perpetual Carnations essential; wages 35s., with bothy; duty paid.—Apply, stating experience, J. JONES, Knoyle House Gardens, East Knoyle, Salisbury.

WANTED, good MAN for Kitchen Garden and Pleasure Grounds; wages 35s. per week with bothy.—BAILEY, Girsby Manor Gardens, Lincoln.

WANTED, MARRIED MAN for Pleasure Grounds, able to take duty and assist as required. Wages 36s. 6d. per week, good cottage and garden.—State full particulars and age to HEAD GARDENER, Dynevor Castle, Llandilo, S. Wales.

WANTED, YOUNG MAN for Pleasure Grounds; knowledge of Inside; wages £2 to £2 2s., bothy, etc.—J. SHEPHERD, Thorpe Hall Gardens, Bridlington.

WANTED, good MAN for Pleasure Grounds; wages 35s. weekly and room; 1 o'clock Saturdays. —HEAD GARDENER, The Moat Gardens, Charing, Kent.

WANTED, good MAN for Kitchen Garden, wages 36s. 6d., bothy, spare vegetables; duty once in five weeks.—LOWE, Grendon Hall Gardens, Aylesbury, Bucks.

WANTED, experienced MARRIED MAN for Pleasure Grounds (no children), wife to attend bothy; 1 o'clock Sat.—Write stating experience and wages expected, to GEO. LLOYD, Chilworth Manor, Romsey, Hants.

REQUIRED, YOUNG MAN to help in Kitchen Garden and Pleasure Ground; wages 28s, week, good bothy, vegetables, etc.; hours, 7 to 5, 12 o'clock Saturdays.—HEAD GARDENER, Barnacre Lodge, Garstang, Lancs.

WANTED, intelligent YOUNG MAN for Kitchen Gardens, assist other departments when required.—Apply, stating full particulars, wages with bothy, etc., duty paid, to HEAD GARDENER, Revesby Abbey, Boston, Lincs.

WANTED, YOUNG MAN for Inside and Out; take duty in turn; wages 31s. 6d. weekly, bothy, milk, vegetables, and attendance; 1 o'clock Saturdays.—State age and experience, G. E. WEEKES, Penoyre Gardens, Brecon.

WANTED for Garden in Ireland, YOUNG MAN for Herbaceous Borders, Rose and Alpine gardens. Wages 38s. per week with bothy, milk and vegetables; hours 7.30 a.m. to 5.30 p.m., Saturday 1 oclock. Apply with copies of testimonals.—W. P., Box 8, 41, Welllington Street, Covent Garden, W.C.2.

WANTED, MAN thoroughly experienced for Herbaceous Plants and Roses; good wages, bothy and vegetables.—HEAD GARDENER, Colwood Gardens, Warninglid, Haywards Heath, Sussex.

WANTED, smart LAD, 18 to 20, to help with pedigree Jersey herd.—Apply, with particulars. Bothy, milk and vegetables found. — A. TOWN, Kingston Gardens, Abingdon.

WANTED, strong, willing LAD, about 16, to work Inside and Out; live in bothy.—Apply, with particulars, R. CROCKFORD, The Gardens, Weston Park, Stevenage, Herts.

WANTED, reliable, trustworthy MARRIED COUPLE as ODD MAN for Mansion House, wife to cook and attend to Gardeners' Quarters and make themselves generally useful.—Applicants, give ages and wages required.—J. Y., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

GENTLEWOMAN required as HEAD GARDENER, to take sole charge of establishment; four to five under; chiefly Outdoors and little Glass.—Replies treated as strictly confidential.—Write c/o B. S., Box 26, 41, Wellington Street, Covent Garden, W.C.2.

TWO WOMEN GARDENERS wanted; must be young and strong; training and experience not essential.—Apply, Miss SMALLBONE, Head Gardener, Homerton College, Cambridge.

WANTED, an experienced GARDEN LABOURER used to scythe and machine, repairs to greenhouses; married; family of two; wife to cook, clean bothy; furnished cottage, coal, light.—Age wages, refs., GARDENER, Hopwood Hall, Middleton, Lancashire.

TRADE.

WORKING MANAGER, well up in Roses and Fruit Tree propagation; entire charge in North Essex; splendid opportunities for advancement. Write, stating salary, age, experience, references, and if married.—W. A., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, a MAN to take charge of Forest and Fruit Tree, etc., Nursery; must be well up in Budding and Grafting.—Apply, with testimonials and salary asked for, to MANAGER, Lissadell, Sligo.

WANTED at once for a medium-sized Nursery in Bedfordshire, a competent and reliable man with a thorough knowledge of Cucumbers and Tomatos, to take charge; must be used to handling labour; comfortable, permanent position to the right man; wages £3 10s. per week, with free insurance but no house or bothy; first-class references required; please state age, if married or single, and when at liberty.—Address, H. S., Box 23, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, LANDSCAPE GARDENER; good budder and grafter; excellent 6 roomed house available shortly.—RAMSBOTHAM & CO., Bletchley Junction.

LANDSCAPE GARDENER wanted at once; must be capable of laying out from plan.—State wages and experience, JAMES WRIGHT, Landscape Gardener, 13, College Avenue, Leicester.

WANTED, WORKING FOREMAN for General Retail Nursery. Only those with a thorough knowledge of the trade need apply.—PITT & CO., Brecon Road Nursery, Abergavenny.

NURSERY FOREMAN. — Wanted, NURSERY FOREMAN, principally Forest, Fruit and Ornamental Trees; should have good experience and used to directing labour; excellent accommodation for married man.—Apply, with full particulars, age, married or single, with copies of testimonials and salary, to WM. POWER & CO., Nurserymen, Waterford.

WANTED at once, several first-class FOREMEN for Landscape Department; must be capable in Rock, Water and Old-World Gardening and able to undertake charge of work.—Apply, J. PIPER & SONS, LTD., Langley, Bucks.

WANTED, an up-to-date Grower of Tomatos, Chrysanthemums, Bedding Plants and Bulbs. —State age, experience, wages, if married, number of family, NURTON, Eastbrook Nurseries, Dinas Powis, nr. Cardiff.

WANTED, YOUNG MAN used to Floral Decorating for Theatre and Hotel work; fill in time under Glass. — BROOKE, BRAY & SONS Sheffield.

WANTED, MEN for General Nursery Work; a permanency for good workers.—ICETON, Putney Park Lane, Putney, S.W.

WANTED, experienced PACKER; single man preferred.—State experience and salary required to JOHN WATERER, SONS AND CRISP, LTD., Hare Hatch, Twyford, Berks.

SEED TRADE.—Wanted, Assistant, used to brisk counter trade; state age, experience and wages required.—E. P. DIXON & SONS, Ltd., Hull.

KNIFESMAN wanted for Fruit Dept., able to take charge of a lifting gang.—State experience and wages required.—CLIBRANS, Altrincham.

WANTED, Young Lady IMPROVERS and SECOND HANDS, for Florist Dept.—Apply, stating experience, to WILLS & SEGAR, Royal Exotic Nursery, Onslow Crescent, South Kensington, S.W.7.

FLORIST wanted in Manchester; must be good Designer and first-class Saleswoman, capable of taking charge; good salary and prospects to enterprising lady. Apply, with full particulars, L. D., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

FLORIST WANTED: experienced: good Design Maker and Decorator; liberal remuneration. Full particulars to C. H. S., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FLORIST, male or female, quick and original with designs. Also general Outside NURSERY HAND.—Apply in each case to J. SLATER, Nurseryman, Skipton.

FLORIST.—FURNISHER and DECORATOR required for West-end trade; experienced. Apply, ROBERT GREEN, 1911, Ltd., 28, Crawford Street, London, W.

SITUATIONS WANTED.

Twenty-six words 1s. 6d., and 6d. for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office, 6d.

PRIVATE.

MR. YOUNG, Agent to Lord Kensington, D.S.O., highly recommends his General Foreman as HEAD GARDENER to any lady or gentleman requiring a good man; life experience in all branches; age 29, married when suited.—E. RAYNER, The Gardens, St. Bride's, Little Haven, S.O., South Wales.

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER; thorough experienced man in all branches; management of men, land and stock; 22 years Head.—ROBERT HALE, Bushey House, Bushey, Herts.

LADY giving up estate wishes to thoroughly recommend her HEAD GARDENER to Lady or Gentleman requiring services of competent Man, age 34; married (2 children); demobilised. W. ELKIN, 12, Brocas Street, Eton, Bucks.

GARDENER (HEAD).—Major H. E. Wilbraham, J.P., can with confidence highly recommend GARDENER, who is thoroughly experienced in the management of a large establishment; life experience in all branches, including Estate work; good manager; age 30; married when suited; excellent references; demobilised.—Full particulars to J. THOMPSON, Delamere House Gardens, Northwich, Cheshire.

MRS. TRUMAN highly recommends R. WHERE, for 3 years her HEAD GARDENER; life experience in production of high-class Fruit, Flowers and Vegetables, with general upkeep. Disengaged through estate being given up while on military service, age 34; married (one child). -WHERE, Helen Cottages, Bonchurch, Isle of Wight.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good reference; married; just demobilised; age 32.—W. H. WEBBER, Sunnyside, Headley, Newbury, Berks.

GARDENER (HEAD), manage estate if required; life experience in all branches gained in large establishments; age 34; demobilised; excellent references.—GARDENER, 2, Gladstone Road, Buckhurst Hill, Essex.

GARDENER (HEAD), highly recommended for the production of high-class Flowers, Fruit, and Vegetables where a large supply is required; experienced in the management of a large estate where several men are kept; life experience in good establishments.—FRANCIS, Bungalow, Philippines, Brasted, Kent.

GARDENER (HEAD of five or more); life experience in all branches; excellent references from present and previous employers; abstainer; married; age 47 (2 children, 14 and 12). A LANGFORD, The Gardens, Thamesfield, Henley-on-Thames.

GARDENER (HEAD) where three or four are kept; life experience all-round gardening; age 32; married (3 children); good recommendations.—N. CURD, Essendene, Shakespeare Road, Harpenden, Herts.

HEAD GARDENER.—Ex-Service man, married (1 child); qualified by experience and well recommended; seeks and desires permanent appointment.—Apply in first place, T. LEWIS, 45, Uxbridge Road, Hanwell, W.1.

GARDENER (Sergt.), recently demobilised, seeks situation as HEAD on a medium-sized place, or as Foreman, Inside; life experience in all branches Inside and Out; married (1 child), served 3½ years with colours.—H. SCULL, The Mount Gardens, Whitchurch, Oxon.

GARDENER (HEAD); where several are kept; life experience in all branches, Inside and Out; highly recommended; discharged soldier; married (2 children). -DAY, Gardener's Cottage, Wolverton, Beckington, Bath.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; 12 years' reference; just demobilised; age 32; married (no family); cottage required.—STUDD, Police Cottage, Hookwood, Horley, Surrey.

GARDENER (HEAD of several).—Advertiser with life experience, all branches, in first-class establishments; would like to meet with Lady or Gentleman who requires keen, energetic, and skilful cultivator; excellent references for abilities and integrity, from Eastnor, Harewood, Nonsuch, and Bracken Hill, Bristol; married; age 31.—BOOTH, Bracken Hill, Leigh Woods, Bristol.

GARDENER (HEAD); life experience in large establishments, private and commercial; experience with stock and electric light; good testimonials; married; age 44.—JONES, Glenleith, Bushey Heath, Herts

GARDENER (HEAD), where several are kept; life experience; Fruit, Flowers, Vegetables, Orchids, Carnations; early and late forcing; age 40; no family; just demobilised.—Full particulars, wages, VOLLER, c/o Wright, Little Parndon, Burnt Mill, Essex.

GARDENER (HEAD), demobilised N.C.O., seeks engagement; 17 years' experience gained in good establishments; thoroughly competent in all branches; keen and methodical; excellent references; age 34; married.—FREDK. BROOKER, Willington Lodge, Maidstone, Kent.

GARDENER (HEAD); 13 years' experience in all branches; expert cultivator; good organiser; excellent references; age 31; married (one child), Army 4 years 10 months, last 19 commissioned; demobilised.—F. H. S., 55, Albert Road, Wellingboro'.

GARDENER (HEAD) seeks re-engagement; 20 years' highest experience gained in good establishments, including Orchids; keen, energetic; married (no family); excellent references; over 2½ years' service. —F. PERKINS, 101, Flax Road, Leicester.

GARDENER (HEAD or good SINGLE-HANDED); life experience, Inside and Out; good refs.; married; age 35; demobilised.—G. BOOKER, Perseverance Cottage, Hermitage, Newbury, Berks.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, Inside and Outside; marketing produce; abstainer; age 46.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

GENTLEMAN highly recommends first-class HEAD WORKING GARDENER, where a fully competent Man is required for producing choice produce, Inside and Out, and where the upkeep of a good place is required; can also undertake to manage estate for any lady or gentleman.—W. KEEN, New Cottages, Bookham, Surrey.

GARDENER (HEAD WORKING).—The Earl of Dunraven highly recommends WM. PRESTON as such; life experience in all branches, including floral work; keen, energetic, and attentive; also had Nursery training; excellent references from good places; age 36. W. P., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

GENTLEMAN highly recommends late HEAD WORKING GARDENER; thorough capable man, all branches; age 45; two sons, 23 and 21.—HOWARD, c/o G.P.O., Welwyn, Herts

GENTLEMAN highly recommends HEAD WORKING GARDENER; thorough practical life experience in all branches of Gardening Inside and Out; excellent references from good places.—VICTOR, Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GENTLEMAN can confidently recommend his HEAD WORKING GARDENER, leaving through estate sold; 24 years' practical experience in culture of every kind, Flowers, Fruits, and Vegetables; 12 years' as Head; age 38; one child; highest references as to ability and integrity.—GARDENER, Caerberis, Builth Wells.

HEAD WORKING GARDENER seeks situation where two or three are kept; life experience in all branches; age 44; married; disengaged when suited.—RENYARD, Exbury Lodge, Fawley, Southampton.

GARDENER (HEAD WORKING).—Smart young man, experienced in all branches, desires situation; married (no children); age 29.—SOLLEY, "St Clare," Four Marks, nr. Alton, Hants.

HEAD WORKING GARDENER and MANAGER of a good place; well up in his work; highly recommended; excellent characters; can undertake to make any alterations that are being contemplated.—SOLENT, Box 11, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING); life experience Inside and Out, Plants, Fruit, Flowers and Vegetables; six years Head before enlistment; age 34; married (two children); abstainer; good references; disengaged. Please state wages. BEAMES, The Knapp, Thornbury, Glos

GARDENER (HEAD WORKING), several kept; demobilised; life experience all branches; excellent references; 4 years Head previous Army; age 32; married (no family).—P. BARNES, Heywood Lodge, Westbury, Wilts.

GARDENER (HEAD WORKING or SINGLE-HANDED with help); life experience, Inside and Out; five years' reference; seven previous; married; age 43; cottage required.—KIY, 56, Southwood Lane, Highgate, N.6.

GARDENER (HEAD WORKING) or good Single-handed (with help; thorough practical knowledge in all branches; age 31; married (no family); good references. -Please state terms, W. OSBORNE, Beenham, nr. Reading.

HEAD WORKING GARDENER; practical life experience in all branches, 22 years as Head, and well versed in the requirements of a good establishment; excellent references as to abilities and personal character; age 46; married.—F. E. BRINICOMBE, The Gardens, Ewhurst Park, Basingstoke.

HEAD GARDENER (WORKING), five or more; life thorough practical experience all branches Inside and Outside; skilled cultivator of Fruits and Plants under glass, Vegetables, Salads, Hardy Fruits, Rose, Rock, and Flower Gardens; highest references; age 46; married.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD WORKING of two); life experience in all branches; good references; well recommended; married (no family); age 30; demobilised. S. SMITH, 38, Alma Road, Sidcup.

GARDENER (HEAD WORKING), practical seeks re-engagement, good references; recently demobilised; also experienced with stock and Poultry etc.; age 41 (4 in family). HAINES, Henfords Marsh, Warminster, Wilts.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; thorough practical life experience all branches; several years Head in good families; thoroughly reliable and highly recommended; married (family out). W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING), thoroughly experienced under Glass and Outside; methodical and trustworthy; married; aged 36; wife useful; state wages; disengaged. DRAGE, Hail Weston, St. Neots, Hunts.

GARDENER (HEAD WORKING); thorough practical experience, Inside and Out; highest references; age 30; married.—E. G. DAY, Queen Anne's Gardens, Caversham, Reading.

GARDENER (HEAD WORKING) where two or three are kept, or good Single-handed, life experience in Fruit, Flowers, and Vegetables; age 37, abstainer; married (1 child age 12); knowledge of combustion engines; 13 years present situation; full charge of gentleman's country house; highly recommended.—THORNE, Fawke Wood, Sevenoaks, Kent.

GARDENER (HEAD WORKING or good SECOND); life experience in good establishments, highest references for character and ability; age 35; married when suited.—W. E., Box 19, 41, Wellington Street, Covent Garden, W.C.2.

HEAD WORKING GARDENER seeks re-engagement; 30 years' experience Vines, Peaches, etc.; experience with stock and electric light, good refs.; disengaged; married; age 52.—MANSBRIDGE, 196, Crawley Road, Horsham, Sussex.

GARDENER (HEAD WORKING), where two or more kept; 18 years' practical experience in all branches; excellent references; married (two children; age 34; Reading district preferred; discharged Army.—WHETTON, 35, King's End, Bicester, Oxon.

HEAD WORKING GARDENER; life experience; age 38; no family; discharged with artificial foot; excellent references; not afraid of work.—GARDENER, Lilium Cottages, Old Windsor, Berks.

HEAD WORKING GARDENER seeks re-engagement in good establishment; 25 years practical experience Inside and Out, in all branches; including commercial gardening; excellent references for abilities and management; good organiser; age 40 married; life abstainer. Please state terms. STEDMAN, Dwygyfylchi, Penmaenmawr, N. Wales.

GARDENER (HEAD WORKING) seeks situation; good references; life experience; age 32 years.—A. CHANT, "The Rest," Tilford, Farnham, Surrey.

GARDENER (HEAD WORKING).—Edith Lady Auckland has much pleasure in recommending Wm. Wenban as above to any lady or gentleman requiring a thoroughly competent and trustworthy man; practical life experience in all branches, disengaged through place being sold; excellent refs.; married when suited; age 33. -WM. WENBAN, Seal Chart, Sevenoaks.

GARDENER (HEAD WORKING) where several are kept; life experience; Inside and Out; Fruit, Flowers, Vegetables, early and late forcing; Orchids, Carnations, Rock and Water gardens; very highly recommended; excellent references from large establishments; demobilised; unable to be reinstated; age 35; married (two children). Apply, W. T., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

MR. T. BURN, Cuerdon Hall, Bamber Bridge, Preston, wishes to highly recommend his late General Foreman, now discharged from H.M. Forces, as HEAD GARDENER to any lady or gentleman in want of a thorough, reliable, and competent man in all branches; capable of taking charge of large establishment; age 34; married; no family.—Particulars, J. T. TILDESLEY, Church Eaton, near Stafford.

GARDENER (HEAD WORKING), Scotch, just demobilised; life experience in all branches; Flowers, Fruit, Vegetables, Lawns, Stock and Electric Power Plant; good refs.; married, two children (9 and 5). age 42.—DONALDSON, 5, High Street, Sandy.

GARDENER (HEAD WORKING), thoroughly experienced in all branches; successful cultivator of Carnations and Chrysanthemums; good references; disengaged.—A. LONG, Harwood Gardens, Woolton Hill, Newbury.

GARDENER (HEAD WORKING), where two or more are kept; thorough practical man; life experience in all branches; Inside and Out; excellent references; married (family grown up).—PENDLE, Oaklands Lodge, Leigh-Reigate, Surrey.

GARDENER (HEAD WORKING); life experience; good references; age 38; married (no family); disengaged.—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

GARDENER (HEAD WORKING) where several are kept; thorough practical experience in all branches, both Inside and Outdoor work, including Orchids, Carnations, and Chrysanthemums; age 41; married; please state wages.—HEAVER, 14, Elton Road, Kingston-on-Thames.

GARDENER (HEAD WORKING); thorough practical experience in the cultivation of choice Fruits and Flowers, both Inside and Outside, Vegetables, etc., gained in good Gardens; age 36.—W. KING, The Gardens, Woodcote Grove House, Coulsdon, Surrey.

GARDENER (HEAD WORKING) seeks re-engagement; life experience Inside and Out; Fruit, Flowers, Vegetables; good Manager and Cultivator; highly recommended; good references; age 35; married.—F. SLANEY, 1a, Merry Hill Mount, Bushey, Herts.

GARDENER (demobilised) seeks situation as HEAD or good SINGLE-HANDED; life experience; especially Fruit, Flowers, and Vegetables; well recommended; age 29; married (one child); cottage required.—S. ESSEX, 5, Union Street, High Wycombe, Bucks.

ORCHID GROWER, many years' practical experience species Hybrids and Seedlings, desires charge of choice collection, private or trade.—CATTLEYA, Box 11, 41, Wellington Street, Covent Garden, W.C.2.

ORCHID GROWER and GARDENER; 32 years' practical experience in Horticulture generally; certified R.H.S.; 13 years Orchid Grower to late J. Leemann, Esq., West Bank House, Heaton, Mersey; also Cannon Hill Park, Birmingham.—S. SMITH, Corporation Street, Clitheroe.

MRS. FENWICK can highly recommend her late GARDENER (single-handed or with help); thoroughly experienced in all branches; can attend to electric light apparatus and milk a cow if required; widower; been 29 years in situation; very steady and trustworthy.—Berkeley House, Hay Hill, London, W.

MR. J. DEAN WILLIS wishes to confidently recommend R. WOODFORD as GARDENER, Single-Handed or with help; good all-round man; good references; married.—Bapton, Codford, Wilts.

GARDENER (good SINGLE-HANDED or with help); life experience; Inside and Out; 7 years' last situation; married (one boy, 13); good references; wife willing to help if required.—H. HILL, 57, Hartford Road, East Finchley, N.

GARDENER (SINGLE-HANDED or with help); life experience Inside and Out; married (1 child); age 33; excellent references; abstainer.—H. DUNWALL, 2, De Montfort Road, Lewes.

GARDENER (SINGLE-HANDED or with help); good all-round experience and references; age 36; married; just demobilised.—A. R., Rectory Cottage, Blisworth, Northants.

WANTED, post as SINGLE-HANDED GARDENER; married (2 in family); age 49; wages £2 15s. per week; 14 years' character; S.E. district preferred.—Address, G. MORGAN, 18a, George Lane, Lewisham, S.E.

GARDENER (SINGLE-HANDED or with help), requires situation; age 22; life experience in Kitchen Garden, Lawns and Herbaceous Borders; good knowledge of Inside work; first-class testimonials.—Apply to A. G. WELLS, Homestead, Rydes Hill, Guildford.

GARDENER (SINGLE-HANDED); life experience, also with Cows and Poultry; married; seven years' ref.—B. E., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER, good SINGLE-HANDED or with help; life experience; age 40; single; good references.—Please state terms, W. GREEN, 35, Eamont Street, St. John's Wood, N.W.8.

GARDENER and HANDYMAN seeks situation; Single-handed preferred; good Fruit and Vegetable grower; good references.—Address, WILLIAM PARKER, 63, Hurley Road, Kennington, S.E.

MR. CONWAY thoroughly recommends his late GARDENER, W. HOWARTH; life experience in all branches; previously 11½ years Head at Selsdon Park, Croydon; disengaged through estate being sold.—W. HOWARTH, The Gardens, High Beech, Hollington, Sussex.

GARDENER seeks situation; life experience. Inside and Out is finding it very difficult to get a situation on account of a family; willing to do any work on gentleman's estate to maintain his wife and family; good character, age 39.—W. CHARLTON, Hennerton Gardens, nr. Henley on Thame.

GARDENER, demobilised; 12 years' experience, age 30, seeks situation, single, chiefly Inside; would prefer outside; private or nursery; good refs.—W. PRATT, 134, Coldharbour Lane, Brixton, London, S.W.9.

GARDENER, age 36, seeks situation; 16 years' experience, Inside and Out; good references; bothy or lodgings required.—E. SLOSS, 4, Foots Cottages, The Hyde, London, N.W.

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GARDENER desires employment.—Box H.M., c/o The Old Library, Sunbury.

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GARDENER; lite experienced in Fruit, Flowers and Vegetables; Indoors and Out; understanding poultry; abstainer; age 38; married; good references.—R. N., 15, Richmond Grove, Surbiton Hill.

GARDENER (WORKING) seeks situation; married (no family); age 29; trustworthy; good references. DINNAGE, 20, Blakesley Avenue, Ealing, W.5.

GARDENER seeks situation; married (one boy age 5); experienced Pleasure Grounds, Wild Gardens, etc.; recently demobilised.—F. STEMP, Gardner Street, Hurstmonceaux, Sussex.

GARDENER, married (one child), seeks situation as HEAD or FOREMAN; 14 years' experience in good establishments; well recommended; just demobilised.—E. COOMBER, 5, Mill Cottages, Dunnings Road, East Grinstead, Sussex.

GARDENER seeks situation as KITCHEN GARDENER; 17 years' experience, also 2½ years Single-handed Gardener; served 3 years in Army; aged 42; married.—Apply, H. VALENTINE, Willow Terrace, Roade, Northants.

GARDENER (SECOND), Inside and Out, or otherwise; experienced; good references; abstainer; married (no family); age 35. Please state terms. RUSHEN, Dry Street, Langdon Hills, Essex.

GARDENER; six years' reference as Head; 22 years' experience; age 38; married; well recommended; home counties preferred.—J. C., Box 27, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (SECOND), Inside or Inside and Out; age 27; experience gained in well kept establishments; well recommended; single.—W. MATSELL, Barwood, 839, Chester Road, Erdington, Birmingham.

UNDER-GARDENER (single, age 24) seeks situation, Inside or Out, 4 years' experience previous to war and 6 months since demobilisation; can be well recommended.—State terms to F. TAYLOR, Woolverton Cottage, West Street, Ventnor, I. of W.

FOREMAN or good SECOND; 15 years' experience all branches; good references; demobilised; married; age 32. T. A., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (Inside); life experience in Fruit and Plants, House and Table Decorations, gained in first-class establishments in England and Scotland; excellent references; at liberty; single; age 29.—F. DENNISON, Institute House, Escrick, York.

JOURNEYMAN, Inside or Inside and Out; age 28; good references.—H. M., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

JOURNEYMAN (20) seeks situation, Inside or Inside and Out; experienced; Midlands. Please state wages, with or without bothy.—G. F. W., 277, Clifton Road, Sparkbrook, Birmingham.

JOURNEYMAN, Inside and Out, age 21.—Mr. Tamplin can with confidence recommend A. TOMS as above.—The Gardens, Seaborough Court, Crewkerne.

JOURNEYMAN (INSIDE).—Mr. A. Wilson recommends his son; five years' experience in Fruit and Plant houses, also decorating, at liberty, age 21. A. WILSON, Eridge Castle Gardens, Tunbridge Wells.

JOURNEYMAN seeks situation, Inside and Out; demobilised; age 26; good plantsman; 8 years' experience; can be well recommended. Please state wages with bothy to W. MOODY, 2, Petham Place, Swanley, Kent.

YOUNG MAN seeks situation as SECOND JOURNEYMAN; four years' experience, Inside; age 18.—Apply, E. FREEMAN, Gt. Witley, Worcester.

YOUNG MAN, age 19, seeks situation as Improver (Inside); bothy preferred. Write, stating wages and other particulars.—R. WIGGINS, 52, Upton Road, Newport, Mon.

LAD (17) seeks situation GARDENER'S BOY; good references.—SMITH, Longbridge Deverill, Warminster, Wilts.

GARDENER-CHAUFFEUR; all running repairs; life experience private service; highest references; married; age 37 (1 son); wife assist in house if required; cottage.—E. M., Box 20, 41, Wellington Street, Covent Garden, W.C.2.

CHAUFFEUR-GARDENER seeks situation; running repairs; good references; age 19.—S. HOBBS, 3, Cuddington Cottages, Cheam, Surrey.

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On view. Catalogues had on the premises, at Mr. Bryant's Home Nursery (opposite Station), and of the Auctioneers, 67 and 68, Cheapside, E.C.2.

THE "OAKWOOD" COLLECTION OF ORCHIDS.

MESSRS. PROTHEROE & MORRIS have received instructions from Mrs. NORMAN COOKSON to dispose of this well-known collection, which will be sold by Auction at their

Central Auction Rooms, 67 & 68, Cheapside, London, E.C.2.

On THURSDAY, NOVEMBER 6th, 1919, at 1 O'CLOCK.

The Collection contains about 1,500 selected plants, about 1,300 of which are Odontoglossums, including such celebrated varieties as O. crispum Pittianum, O. c. Leonard Perfect, O. c. Fearnley Sander, O. c. Theodore Pauwels, O. c. Cooksonianum, O. c. Luciani, O. c. Orvieto, O. c. Mrs. Peeters, O. c. Angela, etc., etc. There are also about 200 choice Cypripediums, also Phaius, Calanthes, Anguloas and Cattleyas.

Catalogues of the Auctioneers—
67 and 68, Cheapside, London, E.C.2

THE "LEYSWOOD" COLLECTION OF ORCHIDS.

MESSRS. PROTHEROE & MORRIS have received instructions to dispose of the entire Collection of Orchids formed by the late J. W. TEMPLE, Esq. The Sale will be held upon the premises,

"LEYSWOOD," GROOMBRIDGE.

On TUESDAY & WEDNESDAY, NOVEMBER 11 & 12, 1919.

The whole Collection is in a fine, healthy condition, and includes a number of rare species now seldom met with, as well as large quantities of well-grown Cattleya and Odontoglossum species particularly suitable for production of the finest cut flowers.

Catalogues of the Auctioneers—
67 & 68, Cheapside, London, E.C.2.

TO FLORISTS, NURSERYMEN, AND MARKET GARDENERS.

GREENHILL BANK, NEAR ELLESMERE, SALOP.

Valuable Freehold Nurseries, Market Garden and Small Holding to be sold by Auction by

MESSRS. PARRY AND BATHO, at the

BRIDGEWATER ARMS HOTEL, ELLESMERE,

On TUESDAY, OCTOBER 28, 1919, at 3 p.m. PROMPT (subject to conditions to be then read), all that valuable Nursery, Market Garden and Small Holding, with the messuage or dwelling-house, out-buildings, yards, greenhouses, gardens, and several closes or parcels of land belonging thereto known as

"THE NURSERY,"

situate at Greenhill Bank, in the parish of Ellesmere Rural, in the County of Salop, containing 10 acres 1 rood 36 perches or thereabouts, in the occupation of the owner, Mr. William Forster.

The dwelling-house is brick built and slated, and contains sitting-room, kitchen, back kitchen, larder, and four bedrooms, wash-house, with boiler and two coal sheds.

The out-buildings comprise shippon for five cows, two cart sheds, large motor shed, two pigstyes, corrugated iron Dutch barn (18ft. × 15ft.) on iron pillars, large potato cellar, tool and potting sheds, together with two Greenhouses, 65ft. × 12ft. and 30ft. × 12ft. respectively, both heated throughout by hot water, with 4-inch pipes connected to "Kinnell" Horseshoe Boilers.

The whole of the gardens and land are in an excellent state of cultivation, and a large and lucrative trade has for many years been carried on by the present owner, who is now retiring from market gardening.

Possession of the land (except a small croft) will be given to the purchaser on the 2nd February, 1920, and the remainder of the holding on the 1st May, 1920.

The property is situate about two miles from Ellesmere, and forms a most valuable investment for Market Gardening, so much in demand at the present time.

Any further particulars may be obtained from the Auctioneers' Offices, High Street, Ellesmere, or from W. GOUGH THOMAS, Solicitor, Ellesmere, Salop.

HAMPTON, MIDDLESEX.

By order of Mr. Will Tayler, who is retiring from business.

Messrs. GOODMAN & MANN

have received instructions to sell by auction the entire stock of Fruit Trees (including the unique Collections of Peaches and Nectarines), Rose Trees, Seakale, Ornamental Trees, etc., also the Freehold Land and Buildings comprising Glass Houses, Packing Sheds, Office, etc., upon the premises, Osborn Nurseries, Hampton-on-Thames, on November 4th and 5th, at 10.30 precisely. May be viewed.

Catalogues and Particulars of Mr. Will Tayler and the Auctioneers, Hampton Court Station, East Molesey, Surrey.

BUSINESS FOR SALE.

OLD-ESTABLISHED Seed and Nursery business, including 8 acres freehold land, 3 houses covering 60 by 42, heated, planted with Chrysanthemums; Manchester district. Or partnership arranged. —H. E., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

PROPERTY TO LET.

TO LET, in Hampshire, one mile from a main-line station, a Garden with Fruit and Walnut Orchards, good walls, enclosed fruit-run and Asparagus beds; the whole over 4 acres; more land might be obtained.—Apply to Mrs. S., Halcyon Club, 13, 14, Cork Street, W.1.

PROPERTY WANTED.

WANTED TO RENT, four to five acres, with run of Glass, 1,000 feet upwards, district no objection. Apply, L. O., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, 1½ acres ground, some Glass, suitable for Market Gardening; near a town; with 6 roomed cottage; Kent or Essex preferred; rent or purchase.—A., 59, London Road, Twickenham.

NOTICE.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY, established in 1865, has invested funds amounting to £54,800. It assists members during Sickness, Convalescence and Distress, and enables them to make some provision for old age. All Gardeners are invited to join the Society. Lads over 12 years of age are admitted to the Juvenile Branch.—Full particulars from A. C. HILL, Secretary, 35, Alexandra Road, West Kensington Park, W.14.

BUSINESS CARDS.

BRITISH CORRESPONDENCE SCHOOL OF HORTICULTURE, PENNINGTONS, 254, Oxford Road, Manchester.—Complete courses for R.H.S., Senior, Junior Teachers', and National Diploma of Horticultural Examinations. Fees moderate.—Write SECRETARY.

R.H.S. GENERAL EXAM.—Correspondence Class conducted by a practical gardener.—Particulars from the HEAD GARDENER, Heath End House, near Basingstoke.

AUBREY & CO., Nurserymen's Agents, 28, Watling Street, London, E.C.4, require several small concerns.—Write, call, or 'phone City 1097.

EXHIBITIONS.

The Ormskirk Potato Show
will be held at
Ormskirk on Wednesday and Thursday, October 29th and 30th.

NATIONAL POTATO EXHIBITION
AND
BIRMINGHAM CHRYSANTHEMUM SHOW.

BINGLEY HALL, BIRMINGHAM,
12th, 13th, 14th & 15th, NOV., 1919

For schedules and particulars as to space lettings, etc., also advertisements in Catalogue, apply to the

HON. SECRETARY, National Potato Society, Council House, BIRMINGHAM.

ENTRIES CLOSE 1st NOVEMBER.

PLANTS, &c., FOR SALE.

FERNS! FERNS!! — Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinas, Lilies, Hydrangeas, etc.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.9.

HYACINTHS FOR CHRISTMAS, Red, Pink, Blue, White, Yellow, 2s. 6d. doz. Immediate delivery; limited supply. Bulb Catalogue post free.—ELLISON, West Bromwich. Established 1890. SNOWDROPS, single 3/6; double 4/6, 100.

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AZALEA INDICA, splendid plants, in all the best varieties, including Mrs. Patrick and Fervaeniana, 12 to 15 inches across, earliest to flower, covered with buds; 24s. and 30s. doz. Azalea Mollis, Spiraeas and other plants for forcing later; inquiries solicited.—MORLE and Co., LTD., 150-156, Finchley Road, London, N.W.

ALPINES, 100,000 to offer; sample dozen 3s., 50 10s 6d., named; carriage paid. Catalogues free.—TAYLOR'S NURSERIES, New Eltham, S.E.9.

50,000 STRAWBERRY PLANTS in several of the best varieties, 35s. per 1,000. Also 20,000 KILOGRAMS of fine DUTCH SHALLOTS, delivered in large quantities.—For particulars, apply J. VAN DER TUIN, 150, Dyson's Road, Edmonton, London.

FOR SALE, well-trained fruiting PEACH TREES: two Royal George, two Early Alexander, two Duke of York, 1 ft. stems; one Amsden June, 2 ft. stem; all about 9 ft. spreads.—Further particulars from T. E. FURNELL, Quakies Hall Nursery, Sevenoaks.

ROCK GARDEN PLANTS, Where and in What Soils to Plant Them," a useful guide to garden lovers, with catalogue, 48 pages, post free. —G. R. PHIPPS, Alpine Nursery, Barnham, Bognor.

BAY TREES, magnificent selection, Pyramids and Standards for Sale, in all sizes.—Sizes and prices on application. ROBERT GREEN (1911), Ltd., 28, Crawford Street, London, W.

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TO NURSERYMEN.—Erodium chrysanthum. What offers in cash or in rare Alpines for 250 seeds of above?—BARTHOLOMEW, 75, Tilehurst Road, Reading.

PERPETUAL-FLOWERING CARNATIONS, of the leading and most up-to-date varieties, in 5in. and 6in. pots, in full bud, price 32/6 per dozen; special quotations for larger quantities.—K. LUXFORD & CO., Sheering Nurseries, Harlow, Essex.

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PLANTS, &c., WANTED.

WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free.—SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

WANTED, large Kentia Forsteriana Palms, from 5ft. to 25 ft. in height; large, well-coloured Dracaenas and Crotons; for cash or exchange.—ROBERT GREEN (1911), LTD., 28, Crawford Street, W.

WANTED, Seeds of SPANISH CHESTNUT (home collected), Oak (acorns), Larch (cones, this season's crop), Beech Seed (good); Box edging in large quantities); Gooseberries and Currants, 2, 3, and 4 years old, per 100 and per 1,000. Say quantities and lowest cash price to W. S., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

GERANIUMS, PAUL CRAMPEL, wanted; also Violas (named) and Salvias; old plants; cash.—Mr. WATSON, Woodside Nursery, New Eltham.

WANTED, about 3,000 extra good LAWN TURVES for Bowling Green, &c. — Price, EATON, Langleigh, Sunnydene Road, Purley, Surrey.

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CUT FOLIAGE.—Wanted, Coloured Berberis and Box, Retinospora Aurea, Green Plumosa, Squarrosa, and all kinds of good foliage, for cash.—WILLIAM GRAY, Nurseryman, Brox, Chertsey, Surrey.

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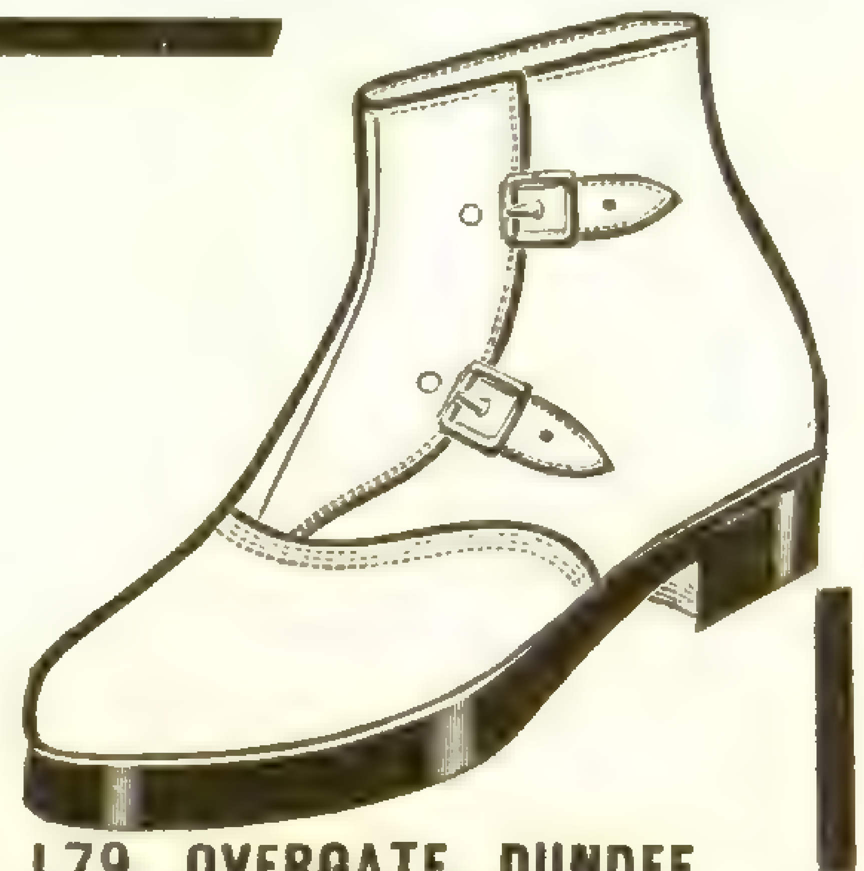

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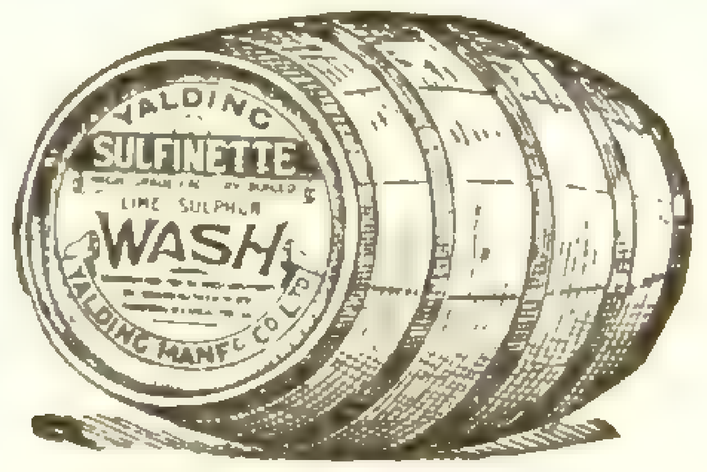

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THE
Gardeners' Chronicle
No. 1713.—SATURDAY, OCTOBER 25, 1919.

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SUMMER FRUITING RASPBERRIES.

THE Raspberry thrives best in a moist, yet not waterlogged soil; one that is not too heavy, or of a strong, clay-like character. The plant has two distinct kinds of roots, one, whose chief value is in building up the growth of the canes, the other mainly concerned with developing the plants' fruiting capacities. The former grow deeply in the soil, the latter are surface rooting. To aid the development of the stronger, deeply-growing roots, the soil should be well trenched previous to planting, whilst the fibrous surface roots are encouraged by annual top-dressings and a free use of the hoe, rather than disturbing the soil by deep forking or digging. It well repays the grower to make the soil as rich and suitable for the plant as possible.

The ground should be trenched at least two spits deep and the subsoil disturbed where this is found to be necessary. Raspberries are often cultivated very largely for market, and it may be urged that trenching is not practicable in such cases, the grower having to rely on the deep working of a plough. In such cases only soil that does not need such deep working should be chosen.

For heavy soils the best manure is stable dung, with the addition, if available, of well-rotted leaves such as are obtainable in most large gardens. Trimmings and edgings of verges by paths should also be incorporated in the soil. The manure should be turned on one or two occasions whilst it is in the heap. For light or sandy soils, well decomposed farmyard manure is better than stable dung and it should be well broken before being used. For very light soils add pig manure in addition to the farmyard dung. A valuable material for use in all soils is old mortar rubble, and it should be employed, and even broken bricks with mortar attached may be included. Reduce these materials to the size of acorns. I attach very great importance to the use of old mortar.

I once made a Raspberry plantation on pasture land which had hidden under the surface a quantity of broken bricks and the foundations of an ancient farmyard. (It is a waste of good plant food to use such materials for the making of roads.) The ground was well trenched and the coarser rubble placed in the bottom spit, the finer particles being mixed with the upper layer and the manure. This ground grew the best Raspberries I had for many years.

Where a continuous supply of Raspberries is essential, at least two aspects should be chosen: one exposed to full sunshine and sheltered, the other where the crop will be somewhat retarded and the ground, perhaps, is cooler. The difference in the time of the fruits ripening may only be a few days or a week, but it is all important to have fruit ripe early, and thus prolong the supply. The earliest berries to ripen will assist in the provision of dessert fruits, especially for breakfast.

It does not pay to retain the plants when it is evident that the canes are becoming exhausted. These old plants should not be destroyed before making preparations for a new plantation. Do not, on any account, use any of the old canes, or stools, for this purpose, but obtain a fresh stock from another locality and soil. If it be possible, the new plants should be examined before they are purchased, to form an idea of their vigour and fitness. If the old plantations are not much exhausted the rows should be treated liberally with manure. At the same time thin out more of the weaker shoots and work in the manure about the stools. Assuming that the rows are, say, five feet apart, dig in some of the manure one spit deep and two spits in width between the rows.

This work should, if possible, be done early in the autumn, as soon as the soil has settled to its former level again after its disturbance in digging. Arrange that the plants arrive when the ground is ready to receive them, for it is not advisable to lay them in temporarily for more than a day or so. It is essential to take the utmost care of the fine, fibrous roots and, for this reason, arrange for good packing to keep the roots moist. Plant firmly, but not too deeply, and cut back the canes to at least 18 inches from the base. The following February they should be cut down to within a few inches of the soil, but not in frosty weather. Place a mulch of manure about the stools after they are planted to prevent drought from acting injuriously on the roots. One watering after planting will assist in settling the soil firmly about the roots.

In districts where good stakes can be secured from woodlands, these form an easy and economical way in which to train the plants by the independent system. For this method of training three planting canes are ample for each stool. Plant in lines with the aid of stakes, tie the canes to other stakes on either side of the stool and leave the central stake for the young canes. I prefer to train the plants on wires supported on stakes, with iron supports at the ends, the rows arranged with means for tightening the wires. These end posts should be at least one foot higher than the fence itself in order to make provision for a wire being strained from post to post to support the netting used as a safeguard against birds. In this way the canes may be trained easily in a fan-like form and at a good distance apart. The fence may be 5½ feet high and the strongest canes will grow to the top wire, whilst others may be shortened to fit in so that all the space is occupied between stool and stool. By this method the stools may be 4 feet apart with two plants to each stool, and the rows from 5 to 6 feet asunder.

When tied upright to stakes the stools may be 4 feet apart each way. It is an easy matter to do without stakes when growing for market by tying each set of canes from one crown together. But in this manner there is some risk of high winds swaying the canes about too freely when the fruits are ripening. Pruning is a simple matter, and consists in shortening the canes and cutting out sappy and badly ripened wood. Always cut out the old canes entirely as soon as the fruits are all gathered.

I have found the plants respond well to artificial manures used in alternate years. Fertilisers containing a large percentage of phosphates and potash are preferable. Blood manure and Peruvian guano are a little too strong, exciting growth too much, and are not to be recommended except when the canes are bearing an extra heavy crop or lack vigour. When applying any of these manures use the hoe freely after each application to work the fertiliser well into the surface soil.

Different varieties thrive better in some districts than in others. In Kent I have noted that Superlative is pre-eminently the Raspberry of the county, whereas in other districts Hornet is preferred above all others. This latter variety thrived best at Gunnersbury. In the North of England, Baumforth's Seedling is considered one of the best sorts, better even than Northumberland Fillbasket. In the East of England, Norwich Wonder is extensively cultivated, being recommended where Superlative has failed. Fastolf was more grown in gardens around London in the past than in the present. The berries of Semper Fidelis are excellent for preserving purposes, and this is a good market variety. For flavour I prefer Hornet. Superlative keeps well; the plant thrives best on moist soils. It did not do well at Gunnersbury, as the soil was of a light texture, and the plants did not develop much vigour. *J. Hudson.*

ORCHID NOTES AND GLEANINGS.

CATTLEYA EVELYN LISTER.

THE first flower of a promising cross between Cattleya Luddemanniana and C. Iris (bicolor × Dowiana aurea) is sent by the raisers, Messrs. Mansell and Hatcher, Rawdon, Yorkshire. It is shaped like C. Iris but has broader petals and lip. The sepals are pale yellow shaded with green, and the broader petals, which are two inches in width, are similar in colour but with a slight rose flush and veining. The base of the lip, with the short side lobes folded over the column, is yellowish white, the elongated middle yellow, with red lines from the base, the broadly expanded front lobe closely veined with rosy-mauve, and the fringed margin white. It is a pretty addition to the class, which includes C. Adula and C. Iris, and will probably extend the season of flowering of this section into the winter.

ODONTIODA HARLEQUIN.

PANTIA RALLI, Esq., Ashtead Park, Surrey (orchid grower Mr. Farnes), sends a flower of a pretty Odontioda, of very delicate and unusual colour, raised by crossing Odontoglossum The Premier and Odontioda Cooksoniae (Odm. ardentissimum × Cochlioda Noezliana). In the size and shape of its flower it resembles a good Odm. crispum, the sepals and petals being equally broad and the lip well displayed. All the segments are light orange-buff, lighter towards the margins, which, with the tips, are primrose-yellow. The base of the lip and face of the column are slightly darker and more decided in colour than the rest of the flower, and the apex of the column is white. A slight rose tint may be detected on the petals, especially when seen by artificial light, under which it appears most effectively.

NEW OR NOTEWORTHY PLANTS.

GUNNERA CHILENSIS AND G. MANICATA.

In February, 1902, I found on the lower end of the glacier of the Tronador Mountain in Chile (about lat. 41° 20′ S.) at about 2,000 feet above sea-level, growing on a thin stratum of stony debris which had fallen from the rocks above, a Gunnera in fruit, from which I raised and gave to several friends plants which have grown very vigorously and some have ripened seed, as at Colesborne and elsewhere. Some of the largest are at Poltalloch, Argyllshire, others at Heythrop Park, Oxon, at Aldenham and at South Lodge, Sussex. On one occasion Mr. Vicary Gibbs sent specimens in flower to the R.H.S., which he considered distinct from the Gunnera usually called chilensis or scabra in English gardens. As, however, I could not make out any characters by which it could be distinguished from G. chilensis, I brought up a very fine specimen from Wakehurst Place, where my friend Mr. G. Loder grows it very well, to Kew. Dr. Stapf assured me that it was just an exceptionally fine specimen of G. chilensis. *H. J. Elwes.*

THERE are two giant species of Gunnera in cultivation in Britain which are apt to be confused in the barren state, but should easily be distinguished when in flower or fruit. A brief exposition of the differential characters may, therefore, be welcome. The species in question are G. manicata, Lind. and G. chilensis, Lam. (1789), or G. scabra, Ruiz et Pavon (1798). The former is a native of South Brazil, the latter has its home in Chile, from Valparaiso southwards. G. manicata (see Fig 95), has recently been renamed G. brasiliensis, owing to some misunderstanding which will be explained in one of the next numbers of the *Kew Bulletin*. In this place it is sufficient to say that there is no justification for this change of name. Both are hardy over a great part of Britain and in Ireland; G. chilensis perhaps on the whole more so than G. manicata, which, however, flourishes well in the south and the west. G. chilensis was introduced into this country about 1849, although it had been discovered almost 70 years before that date. G. manicata is a more recent acquisition. When in leaf only the two species are somewhat difficult to distinguish and such differences as there are are still more difficult to express in words. Given equally favourable conditions G. manicata would probably have the larger leaves with shorter and broader lobes and lobules, their tips being acute, but hardly acuminate as is frequently the case in G. chilensis. Both may have the upper surface of the blades either very rough from sharply pointed verrucosities or more or less smooth with the asperities confined to a submarginal zone or variously disposed small areas. The peculiar ligular appendages which cover the massive terminal buds are usually more finely cut up and more intensely coloured in G. manicata than in G. chilensis, but I am not certain how far this character can be depended on. The specific distinctiveness of the two species becomes manifest at the time of flowering and remains so until the decay of the infructescences. However much the length of the inflorescences may vary—and it varies much—those of G. manicata possess always slender flexuous branches up to over 6 inches long and supported by very much shorter linear bracts, whilst the branches of G. chilensis are rigid, rather stout, and only 1-3 inch long and are equalled or exceeded by their bracts. In the process of fruiting the axes of the inflorescences of both increase in diameter, but so that the branches of G. manicata remain slender and perfectly distinct—they might be described as virgate—whilst those of G. chilensis become fleshy and more or less contiguous so that the mature infructescence assumes the shape of a cone studded all over with orange-coloured small fruits. At Kew the fruits of G. manicata remain green; but as experiments to germinate them have failed, they evidently do not mature here. Where they do so they are, I believe, yellow. The parts of the flower are so minute and the petals so fugacious that they do not afford a ready means for discrimination. On the other hand the anthers of both species differ enough in size to allow of their distinction, those of G. manicata being very small (about ¼ lin.) whilst in G. chilensis they are quite conspicuous objects, measuring up to over ½ lin. in diameter. *O. Stapf.*

FIG. 95.—GUNNERA MANICATA.

BOTANY AND THE EMPIRE.*

(*Concluded from page* 205.)

IN the Malay States the life history of some of the more prominent diseases of rubber trees has received close attention. Fomes lignosus, a root fungus, is local in character, and as its effects quickly appear there is time to take remedial measures before the neighbouring trees are effected. Ustulina zonata, causing collar-rot, on the other hand, is slow in action, and therefore all the more dangerous. A third rubber disease, Fomes pseudo-ferreus, spreads entirely by the contact of the roots with diseased jungle stumps, or roots of other diseased rubber trees.

* British Association for the Advancement of Science. Address to the Botanical Section by Sir Daniel Morris, K.C.M.G., M.A., D.Sc., D.C.L., LL.D., F.L.S., President of the Section.

As remedial measures are impossible in this instance a clean-clearing policy is being vigorously advocated, and under scientific advice this may become the rule on all young rubber estates in the East. In this country Salmon, who is undertaking a detailed study of the hop mildew (Sphaerotheca humili), has obtained seedlings which he states "have retained immunity after four years' trial in a hop garden under normal conditions of cultivation and manuring." As the depredation of mildew, commonly known as mould, causes great loss to hop growers, the reseach work carried on by Salmon is watched with great interest. Progress is necessarily slow, but a hop immune to mould would be a valuable acquisition in hop-growing districts. In the successful treatment of the disease of plants the field of work in the Empire is realised as practically without limit; but it is one in which advance must be made by the development of pure science, and by men with a broad outlook and fully in touch with the practical as well as the scientific side.

As illustrating the occurence of an incidental result arising from a purely scientific investigation, mention may be made of the discovery of a remarkably tall strain of flax at the John Innes Institution. This, if capable of being established on pure lines, may prove of economic value. It is a hopeful sign that the appreciation of the work done at this institution, under the stimulating energy of Bateson, is increasing day by day. The broad minded interpretation that has been placed on the generous bequest made by Mr. Innes and the recognition of the fact that an accurate knowledge of heredity must form the basis of the bulk of new work in horticultural breeding are full of promise. We have, further, the assurance that recognition will be given to the principle that if progress is to be made theory and practice must be closely interwoven. Amongst other important investigations undertaken at the John Innes Institution, Miss Ida Sutton has recently published a Report on Self-sterility in such fruit-trees as Plums, Cherries, and Apples. It has been recognised that failure in fruit crops is not infrequently due to self-sterility. Two main questions were dealt with, (1) whether self-sterility is a simple Mendelian recessive character, and (2) whether self-steriles are fertile with the pollen of any other variety. So far, with regard to (1), the results show there is nothing which negatives the view that the property of self-sterility may be recessive, and in regard to (2) what East has called "cross incompatibility" is not confirmed by Miss Sutton's reseaches. The general conclusions arrived at by Miss Sutton are: (a) that many important commercial varieties of fruit trees set little or nothing unless cross-pollinated; (b) that for the pollination of these self-sterile kinds pollinisers must be planted; (c) that provided a variety produces plenty of pollen and flowers simultaneously with the variety which it is intended to pollinate, any variety, at least of Plums and Apples, will probably serve for this purpose, apart from the special case of the Coe varieties of Plums and their presumable co-derivative, Jefferson. We may mention the great success which is attending the establishment of a school of technical education and research by the Royal Horticultural Society at Wisley. This is maintained by liberal funds, and by means of its well equipped laboratories and extensive trial grounds it offers unique facilities for solving problems of great value as affecting the future of British horticulture. In sympathy with the work at Wisley private firms are also setting up laboratories of their own and employing men of high standing so that a just balance will be maintained between science and practice. By such means research will be stimulated and encouragement given to individual initiative which is recognised as fundamentally important in the advancement of science.

In schemes of intensive cultivation so ably advocated in reference to food production, it is well to bear in mind that it may be possible in some instances to go beyond what is necessary to achieve the object in view. Russel is of opinion that the more intensive the cropping the greater the opportunity for the various pests to live. . . . Further, most pests have their parasites, and wholesale sterilisation may help the pest by destroying the parasites. Imms has recently noted two cases where this is said to have happened.* I may add a third instance of this character in the case of the Moth Borer attacking sugar-canes in the West Indies. For probably something like two hundred years the moth borer had been regarded as the most destructive enemy of the sugar-cane. Its life history was unknown until Lefroy, then attached to the Imperial Department of Agriculture, discovered the eggs which were deposited in a greenish cluster on the back of the leaves of the sugar-cane. The egg clusters were so inconspicuous that they had entirely escaped notice. The first steps were to employ boys to cut off portions of the leaves with the eggs and burn them. It was afterwards discovered that many of the eggs were parasitised, and the planters were thus unknowingly destroying the parasite, and practically increasing rather than diminishing the attacks of the moth borer. On the further advice of Lefroy the leaves with the egg clusters were not burned but spread out in the shade to enable the parasites to hatch out, with the result that in the later stages of the crop nearly all the moth-borer eggs were parasitised, and the loss in canes in that and the succeeding crop was largely reduced by natural means.

The progress made in the elucidation of problems in tropical plant pathology shows not only the necessity for well trained and experienced mycologists and entomologists, but also for the correlation and combination of knowledge gained in their several lines of study. It is suggested that research work should be organised on the broadest possible lines, and combine the biological services of the whole Empire. We have a first step in this direction in the Imperial Bureau of Entomology, with its headquarters at the British Museum. Those acquainted with the efficient work done by this Bureau and the excellent publications issued by it will very heartily welcome the establishment of the proposed Imperial Bureau of Mycology, to carry on its work on similar lines.

* Address, 1916, p. 17.

In this brief review I have endeavoured, however imperfectly, to place on record some of the activities that have taken place in the domain of Botany in recent years. It has only been possible to select a few of the most striking incidents where progress has been made. This has been done in the hope of arousing wider interest in work of prime importance as affecting the interests of the home country and the Empire. Botany in its widest aspects affects so largely the welfare of the human race it is impossible to slacken our efforts. Advance has necessarily been slow, but the creative impulse of science cannot fail to bring in a large harvest of results. This may be possible by encouraging individual efforts, by organising active co-operation and in associating with us men who are practically grappling with difficulties that seem almost impossible to solve. I have attempted to show in what vast fields of enterprise botanical science has already rendered signal service. As regards the future, if we enlist the best intellects imbued with the true spirit of progressive research, we shall ensure a continuance of discoveries that have proved so effectual. We must also call to our assistance some of that wonderful energy developed during the war and divert it to the work before us.

Certainly one of the outstanding features that emerges from a record of botanical research during the last decade or two is the prominent position occupied by plant-breeding on Mendelian lines. In proof of this we have the numerous well-equipped plant-breeding institutes established and maintained by Government and private funds. Plant-breeding is now in the forefront in relation to the improvement of crops, and the value of it is officially acknowledged as "a vital element in the national policy." According to the Secretary of the Board of Agriculture, what we want "are new races of plants adapted to intensive cultivation," and, he adds, "it is my deliberate opinion that an increase in the production of our land is much more easily attainable in that direction than in any other."

FIG. 96.—FRUITS AND FOLIAGE OF DIPTERONIA SINENSIS.
(See p. 212.)

TREES AND SHRUBS.

DIPTERONIA SINENSIS.

On page 174, Mr. Edwin Beckett referred to the fruiting of this new Chinese shrub in the Hon. Vicary Gibb's gardens at Aldenham House, Elstree, Hertfordshire. Mr. Beckett has since sent us a photograph of a fruiting spray, which is reproduced in Fig. 96. The fruits consist of two spreading, flat-winged carpels, each ¾ to 1 inch long, obovate in outline. Seen without foliage, the fruits at once suggest a Ptelea or Wych Elm. The principal beauty of Dipteronia sinensis lies in the attractive, pinnate foliage. The leaves are opposite, up to 10 or 12 inches long, the leaflets from about seven to thirteen or fifteen in number, unevenly and coarsely toothed. The small, greenish-white flowers are freely borne during June in an erect pyramidal panicle up to 10 or 12 inches long. The cultivation of Dipteronia sinensis presents no problems. Cuttings formed of the young shoots root readily towards the end of the summer in a slightly heated propagating frame, and the lower branches may be layered. The plant thrives in ordinary, well-cultivated garden soil.

Fig. 97.—Rubus biflorus, var. quinqueflorus.

RUBUS BIFLORUS, VAR. QUINQUEFLORUS.

At the meeting of the Royal Horticultural Society on July 29th last, the Superintendent, Mr. S. T. Wright, brought to the notice of the members of the Fruit Committee a new form of Rubus biflorus, in which the fruits are produced in clusters of five. The colour of the berries of the variety is orange-yellow, a more striking tone than in the fruits of the type. Mr. Wright stated that the plant was very ornamental and produced its berries over so long a period as to be almost perpetual-fruiting. The variety was discovered by Mr. E. H. Wilson in Western Szechuan, south-east of Tachien-lu, in thickets at an altitude of 1,800—2,100 mm., in July, 1908. The Wisley plant was raised from seeds brought by Mr. F. R. S. Balfour, from the Arnold Arboretum. Mr. Balfour informs us that Professor Sargent gave him seeds of several of Wilson's plants which had seeded in the Arnold Arboretum, and that he presented many of these seeds to the R.H.S. Gardens at Wisley. The plant illustrated in Fig. 97 was probably raised from these. Rubus biflorus is one of the most striking plants in the garden in autumn and winter by reason of its white stems, due to a waxy coating. The flowers are white and not very attractive.

FRUIT PROBLEMS.

Two important matters are referred to by *Market Grower* on p. 137: (a) Silver Leaf among Plums. (b) Double Grafting of Apples.

With reference to the former, one is led to ask the question, Has any cultivator studied the subject? I have, so far as was possible, investigated the cause of silver leaf, and recommend spraying. This should be carried out first as soon after the fall of the leaf as it is possible, and again in the spring of the year shortly before the new leaves are visible. I have used a preparation which is effective for the riddance, as well as the prevention of silver leaf. Besides spraying, it would be advisable to grease band the stem with a fungicidal paste. If these precautions were adopted the life of many hundreds of trees would be saved to the nation to produce home-grown food.

The question of double grafting of Apples is ancient. Nurserymen double graft, or re-work, various varieties of Pears in order, primarily, to obtain saleable trees in a short space of time and at a profit. Apples, on the contrary, are more easy of propagation. It is often stated that certain varieties of Apples do not colour in some districts. Then why not graft a pale skinned Apple on to the stem of a highly coloured variety? I have known a number of varieties worked on Devonshire Quarrenden give fruits with more colouring than when grafted solely on the Crab. With regard to fruitfulness, why should not the prolific character of a Stirling Castle or a Lane's Prince Albert be imparted to a shy, but first-class member of the Apple family? One excellent intermediary is the John Downie Crab, a good agent to assist colour and crop. There is another important subject, *viz.*, the retarding of the flowering season to miss damage to the crop by late spring frosts. Crawley Beauty, Court-Pendu-Plat and Bess Pool seldom fail to crop freely, because these varieties are very late in opening their blossoms. Use them as agents, first worked upon the stock and regrafted with the desired kind to impart their late flowering nature to the other sort worked on them. Then there is the question of canker. How many Apples are discarded owing to their tendency to canker? To overcome a good deal of this evil, highly susceptible varieties might be worked on Bramley's Seedling. *Magister Palae.*

The Week's Work.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Standard Roses.—Those about to plant standard Roses should select, as far as possible, the best and hardiest varieties. As the plants will remain in the same position for a considerable time the ground should be thoroughly prepared by digging and manuring. Move the soil to a good depth, break up the subsoil, and employ ample material for drainage, especially in gardens in low situations and where the soil is of a heavy, clayey texture. In some instances it may be desirable to employ drain pipes, as nothing is more detrimental to Roses than bad drainage. Do not plant the roots very deeply, but spread them out evenly and scatter a small quantity of finer soil amongst the small fibrous ones. Make the soil moderately firm and apply a mulching of manure. Plant with a view to the best colour effect. Fasten the plants to strong, lasting supports, placed where they will not injure the stems. Galvanised water pipes painted a drab colour make very suitable and endurable stakes. Apart from the H.P.'s and H.T.'s, weeping standards of suitable varieties should be planted freely in different parts of the garden.

Lawns.—When the grass is dry it should be mown as short as possible. This will probably be the last mowing of the season. Make the verges neat and remove all fallen tree leaves. Leaf-mould is valuable material for a variety of purposes. If used for top-dressing lawns it should be free from gravel. When the grass has received its final mowing let the machines be thoroughly overhauled, cleaned, oiled and stored in a dry shed for the winter.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Roses in Pots.—Roses in pots that have been standing out of doors all the summer in a plunge bed and are intended for early forcing should now be repotted. Remove a large portion of the old soil from the roots and use a compost of three parts good turfy loam, one part dried manure and a 6-inch potful of sulphate of ammonia to each barrowful of this material. Pot firmly, plunge the plants in a frame filled with leaves and protect them from heavy rains by means of the lights. Remove weak growths from the Tea varieties and train the stronger growths to suitable stakes. The Hybrid Perpetual varieties should be close pruned, leaving six or eight eyes on strong shoots, and cutting away all weak and dead wood.

Campanula pyramidalis.—The Chimney Campanula is a suitable greenhouse plant for cool treatment. Plants raised from seed this year may be potted into 7-inch pots, and plunged in coal ash in a cold frame. Keep them somewhat dry at the roots during the winter and cover the frames with lights during rainy periods, but remove the lights during favourable weather, thus affording the plants as much air as possible. Older plants that had not flowered may be placed in larger pots and be given similar treatment.

Zonal Pelargoniums.—Plants suitably prepared out of doors during the summer for flowering in winter will now begin to bloom and make useful additions to other flowering plants in the greenhouse or conservatory, the dry, airy atmosphere of which is suited to them. During cold, wet weather provide sufficient fire heat to maintain the desired temperature, and water the roots occasionally with liquid manure.

Roman Hyacinths.—Roman Hyacinths and other early-flowering bulbs that were potted and plunged in ash may be removed to a cold frame if the pots are sufficiently filled with roots.

Afford shade until the leaves become green, when those with the strongest growths may be selected and placed in a warm house. Hard forcing is undesirable because steady development ensures good flowers.

Freesias. — Freesias which were potted early in August have made some growth and should be supported with light twigs. A cool, airy shelf is the most suitable place for the development of these beautiful plants. Syringe the foliage daily and keep the roots well watered. Later batches should be grown in cool conditions.

Primulas.—The latest batch of Primulas should be potted into 5-inch or 6-inch pots and placed on a shelf near the glass in a house kept pleasantly warm. The earlier plants, now established in their flowering pots, should be watered with great care and given occasional waterings with liquid manure.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Seakale.—Where early supplies of Seakale are required prepare the crowns for forcing forthwith. The dry weather has favoured the ripening of the crowns, which are in splendid condition for forcing. A simple and efficient method of forcing Seakale is to dig up the roots and expose them on the ground for a few days. This treatment will tend to ripen any leaves that remain. Considerable warmth will be necessary to force the crowns during the two coming months, after which growth will respond more readily with less heat. The crowns may be placed in pots in a warm house, or in a prepared bed in the Mushroom house, over the hot water pipes for preference. The soil should be not less than eight inches in depth, and should consist of equal parts loam and leaf-mould. Spray the crowns with clear water and keep them in total darkness.

Rhubarb.—The forcing of Rhubarb is the more successful when the roots are dug, lifted and exposed entirely on the surface of the soil for a week or longer. When the crowns are placed in a moist atmosphere and warm temperature they will readily respond to forcing. Treat them as advised for Seakale.

Turnips.—Roots that are large enough should be pulled up, the tops cut off, and the crop stored in a cool place. A covering of soil is necessary to retain the crisp qualities in the roots and ward off frosts.

Celery.—The main batch of Celery should be earthed for the final time. The season has suited Celery splendidly, and there are promises of grand heads, free from rust and maggot. Late plants intended for use in spring need the first slight earthing up, as they are unusually strong this season. Dust the plants of this batch regularly with soot as a deterrent to slugs.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Pineapples.—An occasional application of liquid manure to fruiting Pines will materially assist them until the fruits have developed fully, when stimulants should be withheld. When the fruits are ripe, clear water only should be given, and that very sparingly. Grow the plants in a temperature of 70° at night, and, with sun-heat, from 80° to 85° by day, admitting a little air through the top ventilators at all times. If the bottom heat over which late fruiting plants are grown is likely to decline below 75° to 80°, the bed should be renewed without delay. Care must be taken not to use material that will become overheated, for excessive warmth would cause damage to the roots. The plants should be grown as near the roof-glass as is practicable, for they need all the sunlight available. The temperature of the house should range from 70° to 75°. Apply water with extreme care, for an excess of moisture would cause the roots to decay. When the fruits are swelling, the atmosphere of the house should be kept fairly moist by damping the walls and paths several times daily. Successional plants should be kept growing steadily in a temperature of 60° at night and about 70° by day.

Melons.—As Melons approach the ripening stage, the plants should be grown in a night temperature of 65° to 70° and a dry atmosphere. The roots should not be allowed to become excessively dry before affording them water, as sudden fluctuations of moisture at the roots or in the atmosphere would cause the fruits to crack. If a mulching of short manure is placed over the roots it will not be necessary to apply water so frequently. Water the plants on bright, sunny mornings, and while the house is freely ventilated, allowing a few hours to elapse before closing the house. Later plants with swelling fruits should be kept warm and moist, and the house closed early on sunny days. Very little syringing should be done, and then only on bright mornings. Stop and regulate the growths, and, if there be signs of canker, apply a mixture of powdered charcoal and lime to the affected parts. A night temperature of about 70° with a rise of 10° to 15° with sun-heat is necessary to keep the plants vigorous.

Strawberries in Pots.—Protect Strawberry plants intended for forcing from heavy rains and frost. Spare lights are useful to give the necessary protection for a few weeks; later, as frost becomes severe, it will be necessary to provide more protection by placing the plants in cold frames or pits. Remove the lights entirely whenever the weather is favourable. Continue to give the plants weak liquid manure in the case of those that are well rooted. Forward plants should be placed in a cool house during the early part of next month, preparatory to forcing. Examine the drainage and select plants with the strongest crowns. If red spider is detected on the foliage, dip the plants in a suitable insecticide.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Calanthe.—Amongst winter-flowering Orchids, none is more useful than the deciduous section of the genus Calanthe, which commences to bloom in late autumn and maintains a succession of flowers throughout the winter. These plants are now ripening their foliage and pushing forth flower spikes, which should be given every encouragement to develop their blossoms. The water supply at the roots should be gradually reduced until all the leaves have fallen, after which, only sufficient moisture to keep the flower-spikes from drooping is necessary. At this stage, the atmosphere of the house should be kept somewhat drier than hitherto, and especially when the flowers begin to open.

Vanda coerulea.—When this Vanda is at its best it is one of the noblest of Orchids. In districts where the atmosphere is pure the blossoms are always of a much better colour than in the vicinity of the metropolis and other large towns. The summer and early autumn have been favourable for the welfare of this species, and at Westonbirt the plants flowered early this year, the last of the fully developed flower spikes being cut by the middle of October. Plants flowering during late summer and early autumn always develop better blooms than in late autumn and early winter, owing to the better light. It is no easy matter to maintain this species in a robust condition. A constant supply of fresh air, a humid atmosphere, and plenty of sunlight are necessary to obtain good results. Recently imported plants may grow very well for a time in a hot, moist, shady house, but eventually the plants become affected with leaf spot, which gives them an unsightly appearance, and it is difficult to bring them back to health. The troublesome watery spots that appear in the leaves and afterwards turn black are most prevalent during the winter, when the plants are least active. An abundance of light and air during the growing season causes the foliage to become hard and solid and not so liable to spotting. The only method of combating this trouble is to avoid an excess of moisture, both at the roots and in the atmosphere, and, at the same time, to admit air in abundance whenever the weather is favourable. The water supply at the roots should be gradually reduced as the large fleshy roots seal over, and very little moisture will suffice during the resting period, but it is not advisable to dry the plants to the point of shrivelling the foliage. The Cattleya or similar house is the most suitable place in which to rest plants.

Vanda Kimballiana.—The more forward flower-spikes of this species are just commencing to open their blooms, and, at this stage, if the plants are grown in slightly warmer and drier conditions the flowers will expand more kindly, and be less likely to become spotted than if left in a cool, moist house. The flowering season over, the amount of water at the roots should be reduced gradually as the tips of the latter become sealed over. During winter the resting season—the plants should be grown in a light position in a house having a cool, intermediate temperature, and water given only when the leaves show signs of shrivelling.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Wall Trees.—With a light brush, made either of Birch or Snowberry twigs, gently sweep the yellow leaves from wall fruit trees to expose the wood to sunlight and air. The work should be done carefully, so as not to injure the buds, and only leaves removed that are perfectly ready to drop, working the brush in an upward direction. Owing to the long season of drought, with dry weather continuing, wall trees need copious waterings, especially those that were root-pruned early.

Planting Fruit Trees.—All kinds of fruit trees may be planted forthwith. Cherries and Plums planted now will form new roots immediately and break stronger in the spring than those planted later. The weather has been favourable to the ripening of the wood, so that trees may be shifted earlier than in seasons when growth is late in maturing.

Peaches and Nectarines on Walls.—Home-grown trees of Peach and Nectarine which can be lifted with a ball of soil may be planted in their permanent positions. The distance at which to plant depends on the method of training. Fan-trained trees may be set 15 feet apart where the walls are high, with a standard tree between to furnish the top of the wall. On lower walls, the trees may be from 18 feet to 20 feet apart. It is best to have a concrete bottom beneath the soil in which the trees are planted, but the trees can be grown successfully without concrete, provided plenty of drainage material is used. The soil should be excavated to a depth of 3 feet, and the layer of concrete made about 10 inches thick. If a concrete bottom is not provided, the hole should be made 6 inches deeper and about 15 inches of brick rubble placed in the bottom. It is best, in all cases, to have a drain from the bottom of the trench to carry away surplus water. The drainage should be covered with good turves, placed grass side downwards, and the trench filled with good turfy loam, lime-rubble, wood ash and bones. Light or sandy loam will not require so much lime-rubble as heavy soils. In planting the trees, lift them with as large a ball of soil and roots as possible; cut off all damaged roots and spread the others evenly. Plant a little above the soil-level to allow for the plant settling. Make the soil firm about the roots, and if the weather is dry water it freely. Do not fasten the tree permanently to the wall until the spring, but secure the branches loosely to the wall. Defer pruning the trees until the spring. After the trees are planted, mulch them with good litter, which keeps them from drying and acts later as a protection to the roots from frost.

Apricots.—These may be planted and treated in a similar manner to the above. The distances between the trees should be 5 or 6 feet more than for Peaches.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Editors and Publisher. — *Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* Publisher; *and that all communications intended for publication or referring to the Literary department, and all plants to be named, should be directed to the* Editors. *The two departments Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, OCTOBER 28.—
Kent Commercial Fruit Show.

WEDNESDAY, OCTOBER 29.—
Ormskirk Potato Show (two days). Scottish Horticultural Association Potato Exhibition (two days) in the Waverley Market, Edinburgh.

THURSDAY, OCTOBER 30.—
Deal, Walmer and Districts. Horticultural Society's Flower Show.

Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 47.3.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Oct. 22, 10 a.m.: Bar. 30.3; temp., 54°. Weather—Bright.

The Architect in the Garden. In publishing a pamphlet under this title, Mr. William Robinson has performed a public service which will be appreciated by all gardeners. We hope that it will be no less appreciated and laid to heart by all architects. Brief though the pamphlet be, the attentive perusal of its pages will save many a garden architect, be he professional or amateur, from fundamental errors; for by teaching what to avoid Mr. Robinson shows by implication which are the essential principles on which garden designs must rest. No one who has not had experience in laying out a garden can realise how easy it is if taste and knowledge are his guides, nor how difficult is the task and disappointing the result if either of these aids be absent. But, as indeed is the case in all constructive things, the principles on which plans are based, whether they be recognised consciously or instinctively, must be well and truly laid in the mind of the garden architect, for they are the corner stone of the edifice. It is perhaps because of the general disaffection for principles and the misprision of them as a sort of pedantry, that so much of our architecture both of gardens and buildings, is weak and insignificant, and therefore ugly. In illustration of the study of avoidances, as we may call Mr. Robinson's pamphlet, we may cite his condemnation of the gardening in front of Buckingham Palace. We ourselves have to pass that building many times in the year, and in the summer never fail to receive a shock from the scarlet glare of the Pelargoniums. We have often been puzzled to know what to suggest in the place of this manifestly unpleasing scheme of decoration. The war-time Potatos which filled the beds were less offensive in spite of the fact that aphis and petrol fumes sapped their strength, and Bordeaux mixture—too strong a meat for such weaklings—gave them the *coup de grace*. Mr. Robinson has no hesitation in prescribing the remedy. "The spot is wholly unfit for a flower garden." This judgment we are satisfied is the correct one, and we suggest that it be applied practically, that the Pelargoniums be banished next year, and the ground which they occupy be laid down to grass. Of course, not all the avoidances insisted upon by Mr. Robinson will commend themselves to everyone, though his recommendations—to terrace only when terraces are really needed; to make pergolas only if they will serve to provide shady walks or ways from one part of the garden to another—should be laid to heart. So also should his advice to keep the water garden away from the house, or to dispense with it altogether if the site does not sanction or require it.

Mr. Robinson makes the excellent point that the chopping and shaping of forest trees and the like is practised largely as the result of ignorance of the wealth of plants which are suited by their natural mode of growth to replace the subjects of this seasonal surgery. For our part, however, we dare to avow ourselves addicted to heresy in this doctrine, and as having a penchant for quaint topiary. Mr. Robinson, we hope, will forgive us this sign of lack of grace, if only because we so whole-heartedly concur in his general principles of garden design It is rare indeed that we have derived so much pleasure from reading about garden architecture as we have gained from a study of these all too brief pages, where, among much wisdom, is to be found the charming description of what our garden should be:—"The flower garden should abound in life and beauty of form all through the summer and be the scene of the labours of men every fine day in winter and spring . . . How stupid to stamp all life and change out of a garden."

Under the scheme of land settlement many thousands of cottages are to be built in rural districts. To the cottages gardens are to be attached. The major part of each garden must necessarily and rightly be put to utilitarian purposes; but we would fain ask whether these new cottages are to be left without space for flower gardens, or whether care and thought have been spent, not by the builders only, but also by those knowledgable in cottage gardening, on the amenities of flower gardening in order to prevent the planting of the ugliness of our suburbs in the field of the countryside.

National Chrysanthemum Society.—The annual exhibition of this Society will be held at the Royal Horticultural Hall, Westminster, on Tuesday, November 4, and present advices suggest that the show will be much larger than those held in recent years. It is expected that His Excellency the Japanese Ambassador, Viscount Chinda, with Viscountess Chinda, will be present at the opening of the exhibition.

War Horticultural Relief Fund: Seeds and Fruit Trees for Our Allies.—The Committee of the Royal Horticultural Society's War Relief Fund has allocated a first instalment of £10,000 for the purpose of purchasing seeds and fruit trees with a view of immediately relieving the devastated districts in France, and has already sent material relief to Belgium and Roumania. The British Committee of the French Red Cross has kindly undertaken to assist in the general distribution of the supplies. Arrangements have been made for the immediate dispatch of over 30,000 packets of vegetable seeds, and further arrangements are being made for a large supply of seeds and fruit trees to follow this autumn. Hundreds of thousands of packets of seed are required. The Hon. Treasurer, Sir Harry J. Veitch, is making a special appeal for funds, which will be gratefully received by him at 17, Victoria Street, London, S.W.1.

Biennial Fruiting of Apples.—The well-known habit of certain varieties of Apples to bear heavy crops only in alternate years is strikingly illustrated by Mr. Brown (in the *Journal of Heredity*), who cites the case of a tree on one half of which had been grafted Gravenstein whilst the other half consisted of the original variety (of a Russian type). Each half chooses different years for cropping, so that in any year one side is full of bloom or fruit and the other bare—waiting its turn in the coming year.

Research in Agriculture.—New laboratories devoted to physics, protozoology, entomology and mycology were opened by Sir A. Griffith-Boscawen at Rothamsted Experimental Station, Harpenden, on Monday last. Professor H. E. Armstrong (vice-chairman of the Lawes Agricultural Trust) presided. Sir A. Griffith-Boscawen said that for many years agriculture had been neglected by the State, but its national importance was discovered during the war, and he knew it was the intention of the Government, and the Prime Minister in particular, that agriculture should not be neglected in the future as it had been in the past. Agriculture had been neglected in the matter of research, invention and experimentation. Then various institutions grew up, and the Board of Agriculture had adapted their policy on what they had learnt from them, and were now spending a respectable sum of State money in agricultural educational research.

Welsh Secretary for Agriculture.—The President of the Board of Agriculture and Fisheries has appointed Mr. C. Bryner Jones, an assistant secretary to the Board, to be Welsh Secretary to the Board and to control the business of the Board's Welsh Office at Aberystwyth. Lord Lee has decided to make special provision for dealing with the Board's work in Wales, and is attaching to the Welsh Office the necessary staff to administer locally such branches of the Board's work relating to Wales as may be delegated to it. The Welsh Office will be responsible in future for all the work connected with agricultural education, land settlement, and certain branches of the work of the agricultural executive committees, and will also, as hitherto, conduct the business of the Welsh Agricultural Council. Mr. C. B. Jones was Professor of Agriculture and Director of the College Farm, University College of Wales, Aberystwyth, from 1907 to 1912, and in the latter year was appointed Agricultural Commissioner for Wales and Chairman of the Welsh Agricultural Council.

Le Mérite Agricole.—This French Order is conferred on those who have rendered conspicuous service in connection with agriculture and horticulture. It is essentially a civil decoration and has been occasionally conferred on British subjects who have distinguished themselves in connection with French horticulture. and, probably, agriculture. The first Englishman, so far as we can gather, to receive the distinction was the late Mr. Edward Beale, of the firm of Messrs. James Carter and Co., who was awarded the Cross of Chevalier. The next was Mr. Harman Payne, who was first made a Chevalier and then promoted to the rank of Officier. Mr. George Stanton, gardener at Park Place, Henley, followed. He, too, was appointed a Chevalier, and the same rank was subsequently accorded to the late Mr. Martin Sutton, of Reading. When Sir Thomas Elliott retired from the chairmanship of the Board of Agriculture and Fisheries, the French Government conferred on him the Cross of Commandeur, and this completes the list so far as we are aware We refer to these few cases chiefly to draw attention to a very lengthy list of decorations recently bestowed upon British Army officers by the President of the French Republic for services in the great war In that list, under the heading "Ordre du Mérite Agricole," it will be seen that eleven of our countrymen receive the highest rank, *i.e.*, of Commandeur, forty-four are made Officiers, and one hundred and twelve are given the Cross of Chevalier. Among the British Army officers thus honoured we are pleased to notice the name of Mr. Harold Beale, of Messrs. James Carter and Co. Mr. Beale is among those who have been appointed Chevaliers. As Mr. Harold Beale's father was the first Englishman to receive the Order, the conferring of it upon the son constitutes a record, for it is the first case in which an English nurseryman and his son have been nominated Chevaliers of this Order.

Two New Dessert Apples.—The new variety of Apple illustrated in Fig. 98 received the R.H.S. Award of Merit on September 23rd last, when specimens were submitted to the Fruit and Vegetable Committee by Mr. W. Pope, Welford Gardens, Newbury. The fruits are illustrated natural size. It is a remarkably choice dessert Apple, ripening in September. The flavour is excellent and the exterior of very handsome appearance, the skin being richly coloured with red. The second variety, Lord Beattie, illustrated in Fig. 99, page 219, is the result of a cross between Cox's Orange Pippin and Lady Sudeley. Specimens were exhibited by the raisers, Messrs. Laxton Brothers, Bedford, at the meeting of the Royal Horticultural Society on September 23rd last. The fruit is similar in shape to Lady Sudeley, but in colour and in general appearance it resembles Cox's Orange Pippin, with the high colour of the former parent. The flesh is firm, crisp, and not in the least woolly. Messrs. Laxton Brothers inform us that the variety crops freely and the fruits ripen in October, but will keep until the middle of November.

Eastern Counties Commercial Fruit Show.—The first Eastern Counties Commercial Fruit Show will be held in the Corn Exchange, Cambridge, on Wednesday and Thursday, November 5th and 6th. The exhibition will open on the first day at 12 noon, and at 2.30 p.m. a conference (opened by Dr. F. Keeble, F.R.S.), will be held. Papers will be read on "Method of Growing in Different Districts," by Mr. C. S. Smith and Mr. W. Seabrook; on "Stocks" by Mr. R. E. Hatton; on "Classification of Fruits" by Mr. F. J. Chittenden; and on "Plant Sanitation in Fruit Plantations" by Mr. F. T. Brooks. On the Thursday a lecture on "Co-operation" will be delivered by Mr. R. Wynne at 6.30 p.m.

Ormskirk Potato Show.—This annual show will be held at the Drill Hall, Ormskirk, Lancashire. It will open at 3 p.m. on Wednesday, October 29th, and will close on the evening of the following day. All the leading immune varieties of Potatos tested this year by the Board of Agriculture on the Ormskirk trial grounds will be exhibited, and on the morning of October 30 Dr. Keeble, Assistant Secretary of the Board of Agriculture and Fisheries, will preside over a conference. At this gathering the chief features of the 1919 trials will be discussed, and special attention will be directed to varieties which, although sent in as new ones in the seedling stage, turned out on full growth to be familiar and long-established kinds. All who are interested in Potato growing and in the raising of new varieties are invited to attend the conference. The counties of Lancashire and Cheshire are second only in importance to the Eastern Counties as a great Potato growing district. The area under Potatos in these two counties is no less than 70,000 acres. Growers in Lancashire and Cheshire have, however, had to meet and overcome most serious difficulties in connection with their industry of Potato raising, for it is in their region that Wart Disease has done the greatest amount of damage.

The Potato Crop.—The monthly agricultural report of the Board of Agriculture and Fisheries states that in the more important Potato-growing districts the main crop is now being lifted. There is little disease anywhere, although some is reported from the south-western counties, and on the whole the Potatos appear to be unusually healthy. Prospects have improved a little during the month, but the yield on the whole is expected to prove some 7 or 8 per cent. below the average.

Mendelism in Relation to Horticulture.—The renewed activities of the North of Scotland Horticultural Association received an auspicious start on the 15th inst., when Professor J. Arthur Thomson, Aberdeen University, inaugurated the winter's programme with an instructive lecture on "Mendelism in Relation to Horticulture." Mr. William Lockhart, President of the Association, presided and introduced Professor Thomson, who opened with a brief sketch of the life of Mendel (1822—1884) and an explanation of Mendelism—the hereditary items contributed by two parents, divergent as regards certain characters, separating out in the germ cells of the offspring without having had any influence on each other and stated that since the beginning of the twentieth century Mendelism had developed greatly, and its practical applications were many and full of promise. Some of the changes in the way of deepening and broadening Mendelian theory were briefly discussed. The lecturer then proceeded to speak of plant breeding, and said various methods had been pursued in order to secure improvement. There had been Darwinian selection—picking out the best and sowing *en masse*. There had been what was called clonal selection—utilising a sexual multiplication, as in the case of Potatos. Then we had "line selection," as in the Svalof Wheat experiments, starting from a single plant of merit in itself and in its immediate progeny. Fourthly, there had been Mendelian hybridisation, by which it had been possible to combine in one stock the valuable unit characters of several. The chief use of the Mendelian clue was to enable the plant breeder to attain a desired result quickly and surely; its application to Wheat alone had justified it practically. It should be noted, however, that crossing had other values besides effecting a particular combination of good qualities in a stock of Wheat or Apples, Maize or Alfalfa; it seemed sometimes to bring about new departures or mutations, and it seemed sometimes, as in cereals, fruit trees, and vegetables, to give the offspring increased vigour in many directions. Put in the most general terms, the practical value of Mendel's discovery lay in the means it afforded of distinguishing the fundamental make-up of a plant or animal from the bodily expression of this in the individual and of rapidly effecting desirable combinations of unit characters. It is of incalculable practical importance and a torch that man must use in his ascent. Mendel was one of the children of poverty who have made the world rich. Mr. Alex. Robson, in proposing a vote of thanks to Prof. Thomson, spoke of the movement for the establishment of a Scottish plant-rearing centre, and said such an institution could do an incalculable amount of good with a man like Professor Thomson at its head. The vote was heartily accorded. Prof. Thomson said that through Mendelian experiments in Wheat the increase in Indian provinces had been very great, whilst several millions in value had been added to the productivity of Canada.

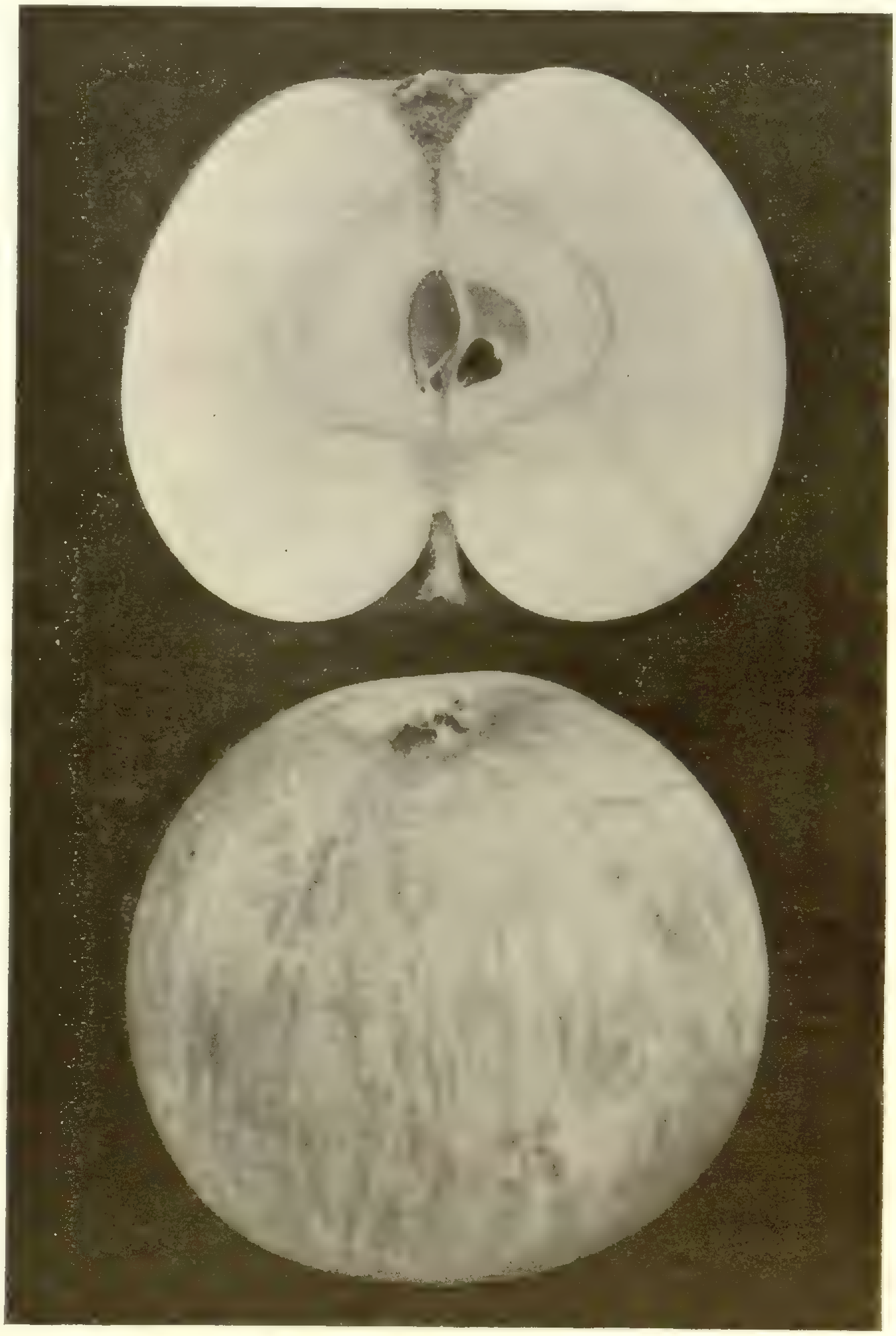

Fig. 98.—Apple Welford Beauty.
R.H.S. Award of Merit, September 23, 1919.

WINTER SPRAYING.

IN the past a great deal too much has been expected from winter spraying, and, unfortunately, many who were disappointed at finding that one spraying proved unequal to the task of cleansing their fruit trees from every pest and disease decided that spraying was but a fad and an irksome task which failed in its purpose. A reasonable consideration of the number and variety of the pests that infest orchards and gardens will convince anyone of the impossibility of concocting one spray-fluid that will prove effective against all, whilst no argument should be required to establish the fact that one pest will be quite immune from attack at a season when quite a different insect or disease may be checked or killed.

The tremendous financial loss caused by the many enemies of our finest fruits should be recognised by every owner of an orchard or garden, and it is an ample reason for waging incessant warfare upon them, with determination to utilise every means that has practical possibilities for freeing the cultivated areas of pests.

Summer spraying has its uses, but, as winter is approaching, a study of winter sprays and the particular pests they are designed to eradicate should be profitable. The secret of success in regard to winter spraying is that when the trees are leafless very much stronger fluids may be used than is possible during the season of growth. Thus, in winter, a caustic alkali spray will remove all moss, lichen, and green coating from the bark of the trees and not merely improve the appearance of the latter, but dispose of these growths, which provide secure shelter for pupae and ova of hosts of injurious insects. A caustic alkali wash may be made by heating 7½ gallons of soft water and thoroughly stirring into it 5 pints of paraffin (solar distillate); dissolve 1½ lbs. of copper sulphate in 1 gallon of water, using an earthenware or a wooden vessel; dissolve ½ lb. quick-lime in another gallon of water, and add the two mixtures simultaneously to the paraffin solution and stir vigorously whilst mixing. Lastly, add very gradually, and whilst stirring, 2 lb. of caustic soda, which should be 98 per cent. purity. This is a Woburn formula which Mr. Spencer U. Pickering found excellent both for removing lichen and moss, and as a fungicide. November is a good month during which to spray with this wash, although sometimes it is recommended for use in February.

Sulphate of copper alone is a powerful spray which may be used on dormant trees which are affected with such fungoid diseases as Apple and Pear Scab (Fusicladium dendriticum), Brown Rot (Monilia fructigena), Coral Spot (Nectria cinnabarina), and it has even a marked effect upon Canker if this is tackled in the early stages of development. Opinion varies as to the correct strength at which copper sulphate should be used, but if disease is present it is well to use 7 lb. or 8 lb. to 100 gallons of rain water, and while the trees are in a dormant condition a spray of this strength will have no ill effects.

A simple, safe, and very useful winter spray is lime-sulphur, which will remove filth from the trees, and also check a large number of insects and some fungus diseases: 15 lb. of quick-lime should first be placed in a tub and covered with 3 gallons of boiling water; add 1 lb. flowers of sulphur, and a further 3 gallons of boiling water. Cover the mixture closely with a mat or sack, allowing it to boil, which it will do of its own accord, for about 20 minutes. When boiling ceases, add the remainder of 50 gallons of water and strain before putting the liquid into the spraying machine.

A more powerful wash may be made by mixing 3 lb. of lime with 1 lb. of caustic soda; slake this with hot water in which 3 lb. of flowers of sulphur have been stirred. Keep this mixture well stirred while gradually adding 3 lb. of common salt; let the whole stand until boiling ceases, then add the remainder of 10 gallons of water. This spray may be used for combating Mussel and Oyster Scale, for the Pear Blister Mite, and various other pests.

There are various proprietary brands of lime-sulphur and lime-salt sprays on the market which may be procured in convenient quantity, thus avoiding the trouble of mixing the fluids at home. It may be added that the above lime sprays have the additional advantage of rendering buds distasteful to birds, and if applied early in winter will do much toward preserving the buds from the unwelcome attentions of sparrows and finches.

By the addition of nicotine to a caustic soda spray it has been found that American Blight may be destroyed if sprayed on the trees with a coarse-nozzled machine and a powerful pump during November. Nicotine is incorporated with the sprays offered in ready-made form by some chemists.

For a small number of trees, a knapsack sprayer fitted with a long lance, and interchangeable fine and coarse nozzles, will be equal to requirements. For orchards of moderate extent there are excellent tank or barrel machines on wheels, the wooden barrels being better than metal for caustic washes. These are generally fitted with two spraying lances, so that two men, and a lad for pumping, can deal with a large number of trees per day. The chief points desirable in wheeled machines are that they shall be narrow enough to pass between rows of trees and bushes; that the pump shall be powerful enough to throw the spray to the tops of the trees; that an agitator shall be fitted inside the tank or barrel to keep the fluid in constant motion, thus preventing settlement of any ingredients of the mixture; and that all washers shall be either of lead or some composition which will withstand the caustic properties of the sprays used.

It should be unnecessary to urge that the sprayer should be thoroughly cleansed immediately after use, otherwise corrosion will quickly render the machine defective. *Malus.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Potato Growing.—I was much interested in the remarks on Potato growing by Mr. W. Taylor on p. 206, and I should have been pleased if he had given some particulars of the crop that resulted. I am preparing ground for the Potato crop of next year, and the method resembles Mr. Taylor's to some extent. The soil is stiff loam with a good supply of humus; it is first covered with a light dressing of lime and rotted horse manure, and in some parts with a dressing of soot. It is then dug into trenches and ridges, each eighteen inches wide, and running north and south. Each alternate strip is dug six inches deep and the soil placed on the adjoining strip which thus becomes a ridge. After the land is trenched and ridged, I purpose digging the trenches and incorporating some manure, that is turning over the soil at the bottom of the trenches. When the ground is trenched it has the appearance of ground trenched for Celery. By this means I get a narrow ridge of ground fully exposed to the air and frost, and thus thoroughly aerated. It will remain in this state till planting time. The bottom of the trench is also broken up. At planting time the Potatos will be placed at the bottom of the trenches and some of the soil from the ridges drawn over them. When the soil from the ridges is all drawn into the trenches, I shall run a Planet Junior cultivator down the land that had been a ridge, and which had not been dug. It appears to me that trenches so prepared will form an excellent bed for Potatos, or, in fact, for many other crops. I am an amateur, but very interested in Potato cultivation, and I should welcome any criticism, warning or advice, on the method I have outlined. *H. Bostock.*

Scarcity of Desirable October Dessert Apples (see p. 206).—I had the gathering and storing of the collection of Apples at the R.H.S. Gardens at Wisley last year, where the crop was exceptionally full and fine. The following dozen varieties were at their best during October:—September Beauty, Belle de Boskoop, Wealthy, Caville Rouge Précoce, Margil, Caville Blanche, St. Martin, Bowhill Pippin, Endsleigh Beauty, Golden Reinette, Warder's Golden Reinette, and Ross Nonpareil. Perhaps some of these sorts are not well known to gardeners. The R.H.S. collection contains three trees of each variety, hence the bees make cross pollination certain. *C. A. Jardine.*

Gardeners' Wages. *An Employer* has very wisely drawn attention to the matter of gardeners' wages. He is quite right in saying the proposals put forward by the B.G. Association are preposterous. Employers of labour on the land, who live by the land, are governed by the wages laid down in the Corn Production Act, 1917. Various amounts are fixed for lads of fourteen years and upwards, and on reaching twenty-one the minimum wage is 36s. 6d. per week. The Corn Production Act does not apply to private places, even if the employer sells his surplus produce. The B.G.A. is powerless to call a strike. Its object is to send deputies from place to place agitating gardeners to bring pressure upon the local M.P. to represent them in Parliament and secure, if possible, the higher, preposterous rate of wages. *A Nurseryman.*

Potato Majestic.—I am fully in agreement with Mr. Cuthbertson's remarks on page 193, October 11th. This year I planted 56 lbs. of this Potato. The tubers when I received them more resembled ware than seed. As soon as received they were placed in boxes for sprouting, and when planting time came all the largest sets were cut and planted. Some tubers were cut to two sets, others three and four, but all cut sets were planted first and immediately after cutting, and none failed. The whole sets were planted by the side of the cut ones on the same flat, and all grew equally well. When the crop was lifted the yield was quite an even one from both cut and whole sets, and I had a splendid lot of clean tubers. They were kidney shaped, somewhat irregular; the flesh and skin white, and of excellent quality. Other wart resistant varieties I have grown this season, and treated like the foregoing, are Witch Hill, an early white kidney variety, good cropper and of good quality; Edzell Blue, round, eyes inclined to be deep, skin reddish purple, flesh pure white, good cropper and good quality when matured, but cannot be classed as a first-early; King George, inclined to be elongated in shape, shallow eye, skin and flesh white, quality moderate, good cropper; Great Scott, round, eyes medium depth, skin and flesh white, good cropper; The Ally, oval inclined to be flat, eyes shallow, skin and flesh white, a heavy cropping Potato of excellent quality. This last and Majestic should prove two useful varieties for use as second and main crop sorts and, with me, have given a heavy crop of tubers of excellent table quality. *Hy. Young, Acton Park, Wrexham.*

Fruits of the Japanese Quince.—On p. 196 you reply to a question as to the fruit of Cydonia japonica; I also noticed a communication from Mr. Bennett on the subject some months ago. Few people know that the fruits of Cydonia japonica are most valuable. I have four trees, some nine or ten years old. This year I shall harvest about a couple of bushels of the fruits. I ordered the trees for ornamental purposes, and chose the variety coccinea. I was sent one plant of coccinea, two of cardinalis, and one pink variety. This last is, with me, a shy bloomer and fruiter; coccinea flowers very abundantly, but, as a rule, too early for the fruits to set; the other two flower and fruit well. The fruit makes excellent jelly and marmalade, without the Onion flavour of ordinary Quinces; more than this, the preserve keeps well and improves by keeping. The fruit when kept turns a beautiful golden yellow, loses much of its acidity, and acquires a fine perfume. I have been asked how I managed to get fresh Apricots for a tart at Christmas! Grown as it usually is against a wall the Cydonia flowers too early to set its fruit, but as a shrub in the open the fruits set freely. The tree is, in one respect, most accommodating, for if the first buds are killed by frost, or eaten by bullfinches, it flowers again. The Cydonia has a curious habit of flowering and fruiting right down to the soil level. *J. C. Turner.*

Exhibition of British-Grown Fruits.

October 21.

The resumption of the Royal Horticultural Society's competitive fruit show on Tuesday last was an auspicious event in British horticulture, for it synchronised with the return of the Society to its hall in Vincent Square, Westminster, after the building had been in the occupancy of the Australian Military Authorities for several years. It is a happy augury for success in the future that, not only was the exhibition one of the best of the long series of these autumn fruit shows, but it was largely attended by Fellows and visitors. Happily there is, this season, no lack of hardy fruits, and we have been favoured with one of the most glorious autumns for several years past, so that quality and colour went hand in hand with quantity.

High quality and keen competition not only obtained in the classes for hardy fruits, but the high standard of the hot-house fruits was equally remarkable, and the classes well contested. Grapes were shown finely and most of the berries gave evidence of perfect finish, for which, perhaps, the season has been partly responsible.

The date of the show having been originally fixed for an ordinary fortnightly meeting, the various committees sat and adjudicated on novelties submitted for award. The Orchid, Floral and Fruit and Vegetable Committees all made awards, as will be seen below.

Dessert Fruits.

(Open to Gardeners and Amateurs only.)

The leading class in this section was for nine dishes of dessert fruits, representing at least six kinds, and not including more than two varieties of any kind. There were two competitors and the premier award of a Silver Hogg Medal and £5 was won by Mr. Jas. Lock, Oatlands Lodge Gardens, Weybridge, with a capital collection of Muscat of Alexandria and Alicante Grapes, well coloured Hero of Lockinge Melon, Durondeau and Doyenné du Comice Pears, Wealthy and Cox's Orange Pippin Apples, Princess of Wales Peaches, and Brunswick Figs, which were rather small. The 2nd prize was awarded to C. A. Cain, Esq. (gr. Mr. T. Pateman), the Node, Welwyn, whose best dishes were Madresfield Court Grapes, Pitmaston Duchess Pears, and Cox's Orange Pippin Apples, the last most intensely coloured.

There were four competitors in the succeeding class, for six dishes of ripe dessert fruit, and competition was keen. The 1st prize was won by Lord Hillingdon (gr. Mr. J. Shelton), The Wilderness, Sevenoaks, who showed excellent Muscat of Alexandria and Muscat Hamburgh Grapes, Lady Palmerston and Sea Eagle Peaches, Cox's Orange Pippin Apples, and fine Pitmaston Duchess Pears; 2nd, G. Miller, Esq. (gr. Mr. J. Kidd), Newberries, Radlett, who showed well-coloured Muscat of Alexandria Grapes and capital dishes of Rival and Charles Ross Apples; 3rd, Mr. J. T. Tubb, Bearwood Gardens, Wokingham.

Grapes.

Grapes were very well shown on this occasion, and the quality throughout was high, considering the difficulties consequent upon lack of labour and fuel due to war time.

There was but one entrant in the class for six varieties of Grapes, two bunches of each, and this was G. Miller, Esq., who showed nicely-formed, well-berried and good-coloured bunches of Appley Towers, Muscat of Alexandria (in capital condition), Alicante, Mrs. Pince, Mrs. Pearson, and Madresfield Court.

For four varieties of Grapes, two bunches of each, Lord Hillingdon, Sevenoaks, was awarded the 1st prize. The set comprised Muscat Hamburgh, Mrs. Pearson, Muscat of Alexandria (heavy bunches), and Madresfield Court. There was only one exhibitor in this class.

In the class for two bunches of Black Hamburgh Grapes, Lord Hillingdon was placed 1st with neat bunches of closely packed, richly-coloured berries of good size; Major J. A. Berners (gr. Mr. W. Messenger), Woolverstone Park, Ipswich, was placed 2nd, with large-berried but less shapely bunches; 3rd, Mr. T. Bowset, Montacute Gardens, Somerset. Lord Hillingdon was first and Sir W. Greenwell (gr. Mr. W. Lintott), Marsden Park, Woldingham, 2nd, in the class for two bunches of Mrs. Pince variety.

Out of six competitors in the class for two bunches of Alicante, Mrs. W. Raphael (gr. Mr. H. Brown), Castle Hill, Englefield Green, was easily first with massive bunches of large, fine-coloured berries; 2nd, Lord Hillingdon. Madresfield Court was represented by four pairs of bunches, and the best pair was shown by Lord Hillingdon, who had short, very large-berried, perfectly coloured bunches; 2nd, H. W. Henderson, Esq. (gr. Mr. F. L. Pike), Serge Hill, King's Langley, with very fine bunches of admirable berries but lacking in colour.

The 1st prize for two bunches of Prince of Wales variety was won by G. Mayer, Esq. (gr. Mr. W. Sayer), Wistler's Wood, Woldingham, whose bunches of huge berries had been rubbed a little during the journey to Westminster; 2nd, Sir Walpole Greenwell. There were four entries.

In the class for any other black Grape than previously specified, Lord Hillingdon gained 1st prize with Muscat Hamburgh in good condition; Lt.-Col. St. Maur, Stover Park, Newton Abbott, 2nd, with Gros Colman.

In the Muscat of Alexandria class, Lord Hillingdon worthily upheld previous successes by winning the 1st prize easily with finely coloured bunches; 2nd, Mr. Jas Lock. For any other white Grape C. H. Cain, Esq., excelled with Lady Hutt; G. Miller, Esq., coming 2nd.

Single Dish Classes.

In these classes the competition was excellent throughout and the colouring of the Apples was splendid. In the following notes we give the name of the variety of fruit required by the schedule, the number of dishes staged and the first prize winners in the chief classes.

Dessert Apples.

Charles Ross (seventeen). A remarkably well coloured lot of good size and even quality throughout: 1st, Mr. F. Bibby (gr. Mr. J. Taylor), Hardwicke Grange, Shrewsbury.—*Claygate Pearmain* (eleven): 1st, Mr. J. T. Tubb, Bear Wood Gardens, Wokingham, for very clean samples.—*Cox's Orange Pippin* (thirty-three). A wonderful display of this popular variety, the colour in the majority being extraordinary: 1st, Rev. G. H. Engleheart, Dinton, Salisbury.—*Egremont Russet* (five). All the exhibits were good: 1st, Mrs. Helsham Jones, The Barn, Woolton Hill, Newbury (gr. Mr. F. Lock).—*James Grieve* (fourteen). The majority of the fruits were perfectly finished: 1st, Mr. J. Copp, Ferndale, Teignmouth, Devon.—*Lord Hindlip* (five). A rather mixed sample: 1st, Lt.-Col. St. Maur, Stover Park, Newton Abbot, Devon, who won easily.—*Margil* (five). The fruits shown were very little recommendation to the variety: 1st, Lt.-Col. St. Maur.

Culinary Apples.

Bismarck (twelve). All the fruits were large and the majority of high colour: 1st, Mr. J. A. Stidston, Bishop's Leighton, Teignmouth, Devon.—*Blenheim Pippin* (eleven). This variety appears to have cropped very well this season. There was nothing of a sensational character in the class: 1st, Rev. J. R. Leigh (gr. Mr. G. Johnston), The Vicarage, Yalding, Kent.—*Bramley's Seedling* (sixteen). A very fine display of this popular variety: 1st, G. C. W. Fitzwilliam, Esq. (gr. Mr. W. D. Green), Milton Park, Peterborough.—*Dumelow's Seedling* (six). The fruits were of average size and perfectly developed: 1st, C. W. Darley, Esq., (gr. Mr. A. Hester), Longheath, Little Bookham, Surrey.—*Ecklinville Seedling* (six): 1st, Mr. W. Orr, Woodwell House, Silverdale, *via* Carnforth.—*Edward VII.* (four). Choice, clean fruits: 1st, Mr. J. T. Tubb, Bear Wood Gardens, Wokingham.—*Gascoyne's Scarlet* (seven). The fruits were particularly well coloured, especially those of the first prize winner, Lt.-Col. St. Maur.—*Golden Noble* (six): 1st, Mr. J. T. Tubb.—*Grenadier* (three): 1st, J. H. Loudon, Esq. (gr. Mr. P. Bond), Olantigh Gardens, Wye, Kent, who showed a first rate dish.—*Lane's Prince Albert* (sixteen). A capital exhibit of this well known and popular variety, most of the fruits being especially fine: 1st, C. H. Coombe, Esq. (gr. Mr. G. A. Kember), who staged splendid specimens.—*Lord Derby* (nine). The average quality was good, and the first prize fruits from the Rev. J. R. Leigh were especially choice.

Pears.

Fondante d'Automne (four): 1st, H. Coombe, Esq., whose fruits were beautifully finished.—*Glou Morceau* (six): 1st, Major J. A. Berners (gr. Mr. W. Messenger).—*Josephine de Malines* (three): 1st, Major J. A. Berners, who had fine, typical fruits.—*Louise Bonne of Jersey* (ten). The bulk were fine specimens, well coloured, though some fruits were obviously past: 1st, Mr. E. J. Holland, with extra large specimens of brilliant colouring.—*Marie Louise* (six). These were staged in varying degrees of development, some being quite ripe, whilst others were quite green: 1st, C. H. Coombe, Esq.—*Nouvelle Fulvie* (two): 1st, Major F. J. B. Wingfield Digby, D.S.O. (gr. Mr. T. Turton), Sherborne Castle, Dorset.—*Thompson* (one): 1st, Major F. J. B. Wingfield Digby, for clean, well grown fruits.—*Winter Nelis* (four). The fruits were of medium quality only, except those shown by Major F. J. B. Wingfield Digby, who was placed 1st.—"*Any other variety*" (eleven). A remarkably fine display: 1st, Major J. A. Berners, with a splendid dish of Pitmaston Duchess, which variety comprised most of the dishes staged.

Nurserymen's Classes.

The general public have become educated to very high class Apples and Pears by the splendid produce which is now seen in so many fruiterers' shops all over the country, but many were frankly astonished at the great excellence of these incomparable trade displays. In this great Apple year high colour was to be expected, but the bloom on many sorts, particularly Blue Pearmain and Mère de Ménage, was a revelation to many. Apples and Pears predominated, but we were pleased to see more dishes of late Plums than at some former fruit shows, though we should have liked to have seen some of the other fruits represented in greater quantities. Medlars were there, it is true, and also Nuts, but in isolated instances. In such a dry and sunny year we should have expected to see good bunches of some of the hardy Grapes in these collections.

In the large class, which allows 30 feet by 6 feet of tabling, Messrs. G. Bunyard and Co. received the high award of a Gold Medal for a splendid collection. The finish in the fruits of Apples Autumn Pearmain, Blue Pearmain, Cellini, May Queen, Wiseman's Dessert, Wealthy and Twenty Ounce was wonderful. Of the various Pears the very best were Fondante de Cuerne, Fondante de Thirriot, Beurré Hardy, Beurré Dumont and Beurré Superfin.

Messrs. H. Cannell and Sons were rewarded with a Silver-gilt Hogg Memorial Medal for one of their characteristically high-class exhibits. The enormous, perfectly-finished fruits of Peasgood's Nonsuch, Emperor Alexander, the dishes of Annie Elizabeth, Rival, Cox's Orange Pippin, Hereford Beaufin and James Grieve were all that could be wished. Baskets of Kentish Nuts and gloriously coloured Dartmouth Crabs added interest and variety to the splendid Apples and Pears.

Competition was greater and the quality equally as good in the smaller class, which required a collection filling 20 feet by 6 feet of tabling. Mr. R. C. Notcutt was awarded a Gold Hogg Memorial Medal for an exhibit of great merit which included large boxes of Charles Ross and Peasgood's Nonsuch, while other well-known Apples were represented by finely-coloured and well-formed specimens. Pears also were splendid, and these included dishes of Pitmaston Duchess, Princess, Doyenné

Boussoch and Marguerite Marillat. Such Plums as Coe's Golden Drop and the Wyedale were very fine.

A Silver-gilt Knightian Medal was awarded to Messrs. Seabrook and Sons, who included especially highly coloured fruits of Cox's Pomona, Cox's Orange Pippin, Worcester Pearmain, Warner's King and Rival Apples. Pears were very strong in this exhibit and of these Beurré Bachelier, Beurré Hardy, Pitmaston Duchess and Louise Bonne of Jersey were the best.

A Gold Medal was also awarded to the Barham Nursery Co. for a collection of wonderfully coloured Apples and Pears. Of the former Rival, Adams's Pearmain, Egremont Russet, Emperor Alexander, The Houblon, Ben's Red, Rougemont and Crimson Bramley were most brilliant, while golden colour was provided to Royal Jubilee, Golden Spire, Grenadier, Byford Wonder, Castle Major and Rev. W. Wilks.

Messrs. S. Spooner and Sons set up many excellent baskets of Apples and Pears. Of the latter St. Luke's, Winter Windsor, Charles Ernest and Beurré Clairgeau were most shapely. The many Apples included James Grieve, King of the Pippins, Hollandbury and Baumann's Red Reinette.

Mr. H. Close also brought a most creditable collection in which we noted Duchess's Favourite, Blue Pearmain, Mère de Ménage, Cox's Pomona, of the Apples, Pitmaston Duchess Pears and Orpington Prolific Gage as being of great merit.

Open to Market Growers Only.

The Market Growers' Class of 20 baskets (cooking and dessert) Apples made an excellent one. A Silver-gilt Hogg Memorial Medal was awarded to the Swanley Horticultural College for a magnificent collection set up in a most attractive style. Such dessert varieties as Worcester Pearmain, Cox's Orange Pippin and Duchess's Favourite were models of moderate size, high colour and perfect shape. Of the culinary varieties Peasgood's Nonsuch, Bismarck and Charles Ross took the eye, though the other sorts were equally valuable.

The display from the Guildford Fruit Farm, in white paper-covered tubs, was particularly clean and attractive in appearance and the fruit was of high quality. The outstanding varieties were James Grieve, Newton Wonder, Cox's Orange Pippin and Allington Pippin, and they well deserved the Silver-gilt Knightian Medal which was awarded.

Mr. E. Hills, Rhydd Nursery, Hanley Castle, Worcester, also received a Silver-gilt Medal for a splendid collection. Very high colour characterised Rhydd Castle Seedling, Emperor Alexander, Worcester Pearmain and Cox's Orange Pippin.

District County Classes.

For this section of the show counties were grouped and for each group two prizes were offered for six dishes of Apples and two for six dishes of Pears. On the whole the competition was good, and in some instances the fruits were of splendid size and finish.

In the Kent classes first prize for Apples was won by Rev. J. R. Leigh (gr. Mr. G. Johnson), The Vicarage, Yalding, with grand examples of Lord Derby, Bramley's Seedling, Newton Wonder, Peasgood's Nonsuch, Ribston Pippin and Cox's Orange Pippin; J. H. Loudon (gr. Mr. J. Bond), Olantigh, Wye, second.

In the Pear class the Rev. H. A. Bull (gr. Mr. F. A. King), Wellington House, Westgate-on-Sea, was first prize winner with Doyenné Boussoch, Pitmaston Duchess, Beurré d'Amanlis, Doyenné du Comice, Beurré Hardy and Louise Bonne of Jersey; J. H. Loudon, Esq., second.

In the classes open to growers in Surrey, Sussex and Hants, W. H. Nockolds, Esq. (gr. Mr. J. W. Herbert), led for Pears, followed by R. Ramsden, Esq., Chiddingfold. In Apples the Hon. Mrs. Greville (gr. Mr. H. Prince), Polesden Lacy, Dorking, led with a superb set of Rev. W. Wilks, Bramley's Seedling, Blenheim Pippin, Gascoyne's Scarlet, Chas. Ross and Cox's Orange Pippin; C. H. Coombe, Esq., 2nd. The competition in the latter class was very keen.

The next division was for growers in Wiltshire, Dorset, Somerset, Devon and Cornwall, and here premier place for Apples was obtained by Lt.-Col. St. Maur with grand dishes of Gascoyne's Scarlet, Peasgood's Nonsuch, Warner's King, Emperor Alexander, Ribston Pippin and Cox's Orange Pippin; J. Copp, Esq., Ferndale, Teignmouth, 2nd. In the Pear class Major F. J. B. Wingfield Digby was an easy 1st with weighty fruits of Beurré Baltet Pére, Chas. Ernest, and Doyenné du Comice.

In the class open to growers in Gloucestershire, Oxfordshire, Bucks, Berkshire, Hertfordshire and Middlesex, Sir E. Pearson (gr. Mr. W. Stephenson) led for Pears, and showed splendid dishes of Pitmaston Duchess, Durondeau and Emile d'Heyst; V. C. Vickers, Esq. (gr. Mr. W. Watkins), Newell's Park, Royston. 2nd. For Apples the same exhibitors occupied similar positions, each showing well, and the former staging fine specimens of Mère de Ménage.

Essex, Suffolk, Norfolk, Cambridge, Hants and Rutlandshire were grouped together, and in this group class Major Berners (gr. Mr. W. Messenger), Ipswich, led for Pears, with a wonderfully fine set of Pitmaston Duchess, Beurré Baltet Pére, Chas. Ernest, Roosevelt, Marie Benoist and Doyenné du Comice. The same exhibitor was 1st prize winner for Apples, with Rival, Cox's Orange Pippin, Lord Derby, Lane's Prince Albert, Peasgood's Nonsuch and Warner's King; Sir M. Turner (gr. Mr. A. J. Barrett), Bedfords, Havering, 2nd.

F. Bibby, Esq. (gr. Mr. J. Taylor), Hardwick Grange, Shrewsbury, led for Pears in the class open to growers in Lincoln, Northampton, Warwickshire, Leicester, Nottingham, Derby, Staffordshire, Shropshire and Cheshire. Chas. Ernest, Marguerite Marillat, Durondeau and Pitmaston Duchess were grandly staged. There was no other entry. F. Bibby, Esq., also led for Apples, and was closely followed by N. Firth, Esq. (gr. Mr. R. Thatcher), Carlton Park, Market Harborough.

Growers in Worcestershire, Herefordshire, Monmouth and Wales did not compete in large numbers. Mr. Thos. Jones, Ruabon, led for Pears, and staged Louise Bonne of Jersey and Chas. Ernest in fine condition; H. Davieson Evans, Esq., Highmead, Llanybyther, 2nd. For Apples the Earl of Coventry, Croome Court (gr. Mr. W. H. Wilson), Severn Stoke, Worcester, was 1st prize winner and Mr. T. Jones 2nd. The former staged a grand dish of Mère de Ménage.

There were but three entries in the class for growers in the six northern counties and the Isle of Man. Two of these came from W. Orr, Esq., Woodwell House, Silverdale, via Carnforth, who gained 1st prizes for both Pears and Apples. In the latter class Mère de Ménage, Warner's King and Chas. Ross were well shown. Mr. J. Cocker, Chesters, Hamshaugh, 2nd for Apples.

Scottish growers were represented only by Capt. C. L. Gordon (gr. Mr. Jas. Duff), Threame House, Castle Douglas, who showed King of the Pippins, The Queen, and Cox's Pomona Apples excellently well. Pears were not shown in this group class.

Irish growers were represented by C. B. Broad, Esq., Aghern, Conna, Co. Cork, whose dishes of Chas. Ross, Rev. W. Wilks and Lord Stradbroke Apples were very fine, and obtained 1st prize.

Collections of Hardy Fruits.

In the Amateur Class for a collection of hardy fruits, in a space of 12 feet by 3 feet, C. A. Cain, Esq., The Node, Welwyn (gr. Mr. T. Pateman), who had a very representative group of excellent fruit, won the first prize. Besides Apples and Pears of wonderful colour and perfect form, there were Late White Transparent Gages, Lady Palmerston Peaches, Coe's Golden Drop Plums, Damsons, White and Red Currants of equally high standard. 2nd, Mr. A. Staward, Panshanger Gardens, Hertfordshire, in whose collection Gascoyne's Scarlet Apple, Marquis of Devonshire Peach, Hailsham Berry and Panshanger Late Red Currants were splendid.

W. Darby, Esq., Knebworth, won 1st prize in this class for a dozen dishes of Apples, including four dessert varieties. The set was remarkably clear and of good colour; Rev. W. Wilks, Peasgood's Nonsuch, Bismarck and Newton Wonder were finely represented. G. Miller, Esq., 2nd.

C. Cain, Esq., led for six dishes of culinary Apples with wonderfully large, bright examples of Peasgood's Nonsuch, Rev. W. Wilks, Warner's King, Emperor Alexander, The Queen, and Lane's Prince Albert. Major Hennesey (gr. Mr. J. Hygate). Tylney Hall, Hook, Hants, 2nd.

For six dishes of dessert Apples, Major Hennesey led the way with Blenheim Orange, St. Edmund's Pippin, Ribston Pippin, Mabbott's Pearmain, King of Tompkin's County, and Cox's Orange Pippin. C. A. Cain, Esq., 2nd.

C. Cain, Esq., staged a superb set of eighteen dishes of Pears, and was an easy 1st prize winner with an extraordinarily fine lot of fruits, among which Chas. Ernest, Pitmaston Duchess, St. Luke, Doyenné du Comice, Conference, Durondeau and Doyenné Boussoch were outstanding; Dr. Thos. Jackson, of Thornton Heath, 2nd. For nine dishes of Pears G. Miller, Esq., won first prize with a very clean lot, in which Pitmaston Duchess and Marguerite Marillat were grandly shown.

Major Berners showed the best three dishes of Plums, his varieties being Coe's Violet, President and Coe's Golden Drop, all grand specimens: C. R. Coombe, Esq., 2nd. V. C. Vickers, Esq., led for three dishes of Damsons or Bullaces with White Bullace, Shropshire Damson and Merryweather Damson. Cherries and Figs were not shown, but there was one dish of Raspberries, November Abundance, from Major J. A. Berners, to which a 1st prize was awarded.

Affiliated Societies.

A Cup was offered in competition by societies affiliated to the R.H.S. The only society to exhibit in this class was the Knebworth and District (hon. sec. Mr. E. H. Sands), and a worthy collection was awarded the cup. Of the excellent Apples Rival and Charles Ross were especially prominent, while Conference and Durondeau were perhaps the very best of the Pears.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (chairman), H. S. Rivers, O. Thomas, G. F. Tinley, A. McKellar, W. Crump, T. Coomber, James Udale, P. C. M. Veitch, W. Bates, A. W. Metcalfe, Ed. Harris, H. Markham, W. Pope, F. Jordan, A. Bullock, J. G. Weston, F. Perkins, J. Harrison, W. H. Divers, G. Reynolds, J. C. Allgrove, H. Hooper, G. Kelf, Ed. Beckett and W. Wilks.

Numerous seedling Apples were submitted for Awards, but only one was considered worthy. Several of the seedlings were shown without names, which is contrary to the regulations for fruits submitted for awards, and were passed over. Messrs. R. H. Bath, Ltd, showed a late Prune Plum named Dewson's Marvellous. The fruits are oval, about 1 inch long, and a dull purple when ripe. The flavour is somewhat poor but the tree is a most prolific cropper and the fruits, being so very late, realise high prices. It would probably prove a profitable market Plum. Three varieties of Apples were submitted for the award of the Bunyard Cup and the variety Queen Mary, which received an Award of Merit, was selected as the best. Mr. P. Veitch showed fruits of Castanea crenata—a Japanese species. He stated that the tree produces edible nuts at a very early age, those shown having been gathered from a tree 15 years old, during which time it had grown 15 feet high.

Award of Merit.

Apple Queen Mary.—This new variety is similar in shape to Worcester Pearmain. The skin is deeply flushed on a rich yellow ground. The flesh is yellow, of excellent flavour and aromatic. The stalk is half an inch long, set in a shallow basin. The eye is small. It is a dessert Apple of high merit. Shown by Mr. E. J. Parsons, Worcester.

Groups.

C. A. Cain, Esq., The Node, Welwyn (gr. Mr. T. Pateman) was awarded a Gold Medal for a non-competitive exhibit of fruits including Apples, Pears and Grapes. The hardy fruits were of the highest merit and some of the best in the hall.

Messrs. J. Cheal and Sons, Crawley, filled a long stretch of tabling with a non-competitive exhibit of the high-class Apples and Pears that are associated with Crawley. High colour was

present on very many varieties and of these Crawley Beauty was particularly noticeable (Silver-gilt Knightian Medal).

In an annex Messrs. H. Lane and Sons set up an admirable collection illustrating the best varieties of Apples and Pears. The former were characterised by perfect form and high colour, and the dessert sorts were of that good medium size that is valued for the table. Pears were also of first-rate quality (Silver Knightian Medal).

Floral Committee.

Present—Messrs. H. B. May (in the chair), S. Morris, John Green, G. Reuthe, J. F. McLeod, J. W. Moorman, John Heal, J. W. Blakey, Arthur Turner, H. J. Jones, E. F. Hazelton, Chas. E. Pearson, J. T. Bennett Poë, George Paul, Andrew Ireland, E. A. Bowles, W. J. Bean, H. R. Darlington, W. G. Baker, H. Cowley, C. R. Fielder, R. C. Notcutt, J. W. Barr, and E. H. Jenkins.

The Committee met on this occasion only for the purpose of considering novelties, and made the following awards :—

First-Class Certificate.

Pyracantha Rogersiana forma flava.—A beautiful and practically evergreen shrub raised at Wisley. It is free branching and particularly graceful, and at this season of the year the long semi-drooping branches are crowded with small bright yellow fruits. Altogether a fine acquisition. Shown from the R.H.S. Gardens at Wisley.

Award of Merit.

Nerine Bowdenii alba.—An elegant variety with pure white narrow-petalled flowers. It is less attractive than N. Bowdenii pallida, shown at the same time, as the latter has large broad petalled flowers. Shown by Messrs. R. Veitch and Son.

Nerine Exonia.—A hybrid obtained by crossing N. Bowdenii and N. Fothergillii. The flowers are of large size and good form, and the segments broad. The colour is a pleasing shade of bright carmine pink. Shown by Messrs. R. Veitch and Son.

Chrysanthemum Viscount Chinda.—A very showy, large-flowered loosely incurving Japanese variety of rich golden yellow colouring. It is broad-petalled and promises to become a popular exhibition variety. It is named after His Excellency the Japanese Ambassador. Shown by Messrs. Wells and Co.

Aster Rose Queen.—A free-flowering, late Michaelmas Daisy, with large semi-double flowers of a bright rose colour. In form the flowers are rather loose and irregular, as shown, but the colour is very good and distinct. Shown by Messrs. Bakers, Wolverhampton.

Pyrus transitoria var. toringoides.—A showy, small-fruited Pyrus. The fruits, about half an inch in diameter, are borne in clusters of from three to five. The colour is cream, flushed with soft red, and with a few tiny dark dots. Shown by Miss Willmott, Warley.

Berberis orthobotrys.—This is an elegant and effective shrub that bears a profusion of elongated-oval fruits, which are a rich crimson-red colour. Among the many new Barberries that have appeared in recent years this appears likely to take a prominent position. Shown by the Hon. Vicary Gibbs (gr. Mr. E. Beckett).

Mr. W. Wells, Junr., Merstham, showed his fine new Michaelmas Daisy named Brightest and Best; it is semi-double and bears its bright purplish-rose flowers in great profusion on erect branches. The variety received an Award of Merit in 1918.

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. secretary), Arthur Dye, W. Bolton, Gurney Wilson, R. G. Thwaites, Pantia Ralli, J. Charlesworth, A. McBean, W. J. Kaye, S. W. Flory, J. Cypher, H. G. Alexander, J. E. Shill, J. Wilson Potter and R. A. Rolfe.

Awards.

First-class Certificate.

Brasso-Laelio-Cattleya Joiceyi (B.-L.-C. Cooksonii × L.-C. Thyone), from J. J. Joicey, Esq., The Hill, Witley, Surrey (gr. Mr. J. Mackay). A satisfactory result of careful hybridisation, the specific ancestry including Cattleya Dowiana aurea three times, Brassovola Digbyana once, Laelia cinnabarina and L. xanthina. In the form of the flower C. Dowiana takes the lead, but the presence of that noted yellow colour "fixer," L. xanthina, happily influences the purity of the buttercup-yellow of the very broad sepals and petals. The lip, also, is golden yellow with bright cherry-red tinge and veining on the front lobe of the lip.

Awards of Merit.

Cattleya Thora var. elegans (Mrs. Pitt × Empress Frederick), from Messrs. Charlesworth and Co., Haywards Heath. A finely-formed, rosy-mauve flower with bright yellow disc to the lip.

Cattleya Bellona albens (Dowiana × Maggie Raphael alba), from Messrs. J. and A. McBean, Cooksbridge. A large flower of perfect form, broad in all its parts, bright rosy-mauve in colour, with deep, purplish-crimson front to the lip.

Other Exhibits.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), showed Cattleya Eleanore var. Lady Mayoress (Hardyana alba × Warscewiczii Fr. M. Beyrodt). A noble flower, with pure white sepals and petals and Tyrian-purple lip with gold disc; and Laelio-Cattleya Lady Moore (L.-C. Epicasta Gatton Park variety × C. labiata Glasnevin variety), a charming flower with rosy-mauve sepals and petals and ruby-crimson lip. This first flower gave great promise. It is named after the wife of Sir Fred. W. Moore, the popular director of the Botanic Gardens, Glasnevin, Dublin, who gave the pollen of the Glasnevin C. labiata for use in crossing.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent the all-yellow Odontoglossum grande Pitt's variety.

J. Ansaldo, Esq., Rosebank, Mumbles, showed Cattleya Aeneas Rosebank, Sophro-Laelio-Cattleya Hanningtonii, and Brasso-Laelio-Cattleya Callisto (B.-L. Digbyana purpurata × L.-C. callistoglossa).

Col. Stephenson R. Clarke, C.B., Borde Hill, Cuckfield, Sussex (gr. Mr. Gillett), showed Cattleya Dame Alice Godman, a seedling of C. Bowringiana, with pretty flowers of the colour of Vanda coerulea, but no sign of any other influence than C. Bowringiana coerulea.

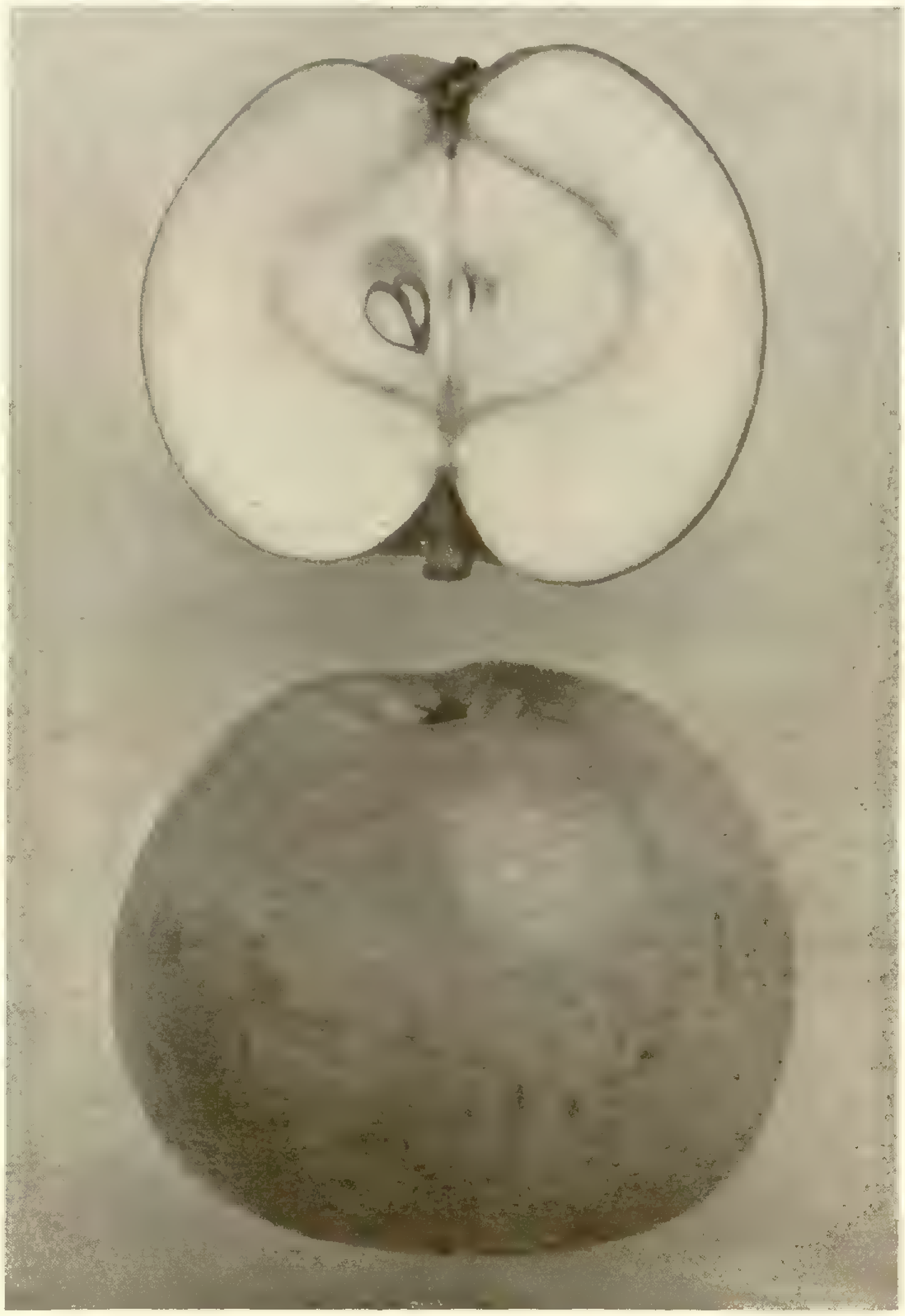

Fig. 99.—New dessert apple Lord Beattie.
(See page 215.)

SOCIETIES.

NATIONAL CHRYSANTHEMUM.

October 20.—The Floral Committee met at Essex Hall in the afternoon and there was a capital attendance. Four novelties were brought up, and the following varieties gained recognition :—

First-Class Certificate.

Majestic.—A full-sized exhibition Japanese variety of loosely incurving form. It has very broad petals that make up a wide, deep and solid bloom. The colour is golden amber and the classification is II., 2, a. Shown by Mr. Norman Davis.

Commendation.

Golden Goacher.—A showy and useful sport from Bronze Goacher, and exactly like the members of the Goacher family in all but colour.

The latter is golden bronze and the classification is II., 1, b. Shown by Mr. A. S. DUNTON.

The Executive Committee met at 6 p.m. and the business of arranging for the forthcoming show was speedily disposed of. The chief interest of the proceedings centred in a discussion upon raising Early-flowering Chrysanthemums, opened by Mr. A. W. Thorpe, of Lichfield. The way to breed for colour and breeding to obtain a pure stock were points on which opinions were expressed by several members, and on the question of whether a well-grown or a semi-starved plant proved the most desirable seed parent the members divided into two groups, with the majority in favour of the latter.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

The monthly meeting of this Society was held in the R.H.S. Hall, Vincent Square, on the 13th inst., Mr. C. H. Curtis presiding. Seven new members were elected. One member who had reached the age of seventy years withdrew the sum of £56 7s. 3d. from his deposit, leaving £10 to his credit. One member was also assisted from the Distress Fund. The death certificate of one deceased member was received and the sum of £20 10s. 11d. was passed for payment to his nominee. The sick pay for the month on the ordinary side amounted to £60 11s. 8d., State section to £30 7s. 4d., and maternity claims to 30s.

Obituary.

G. H. Thompson.—The death occurred on October 10th of Mr. George H. Thompson, of Grove House, Birmingham, horticulturist. Born at Tamworth, he commenced his professional career at the early age of 12, being then employed at Allum Nurseries, Tamworth. He took very great interest in the cultivation of Orchids and Mushrooms. He had for many years rendered valuable assistance to the local Gardeners' Mutual Improvement Association. During the war he was a prominent member of the local War Agricultural Committee, being Chairman of the Seeds, Tools and Implements Sub-Committee, the Prize Sub-Committee, and the Ground Sub-Committee. At the funeral, which took place on the 14th., inst., a large number of horticulturists were present.

CROPS AND STOCK ON THE HOME FARM.

ESTATE MANAGEMENT: WOODS.

MUCH timber has been felled in this country during the last four years, and the question arises, will land owners plant as extensively again on the same sites for future use?

On estates where Oak, Ash, Elm, Beech, Sycamore, Larch, Spruce, Chestnut, and various Pines such as Douglas Fir flourish, these should be planted. The Ash is at the present time the scarcest of all kinds of British timber, as there are few sites on which it flourishes naturally. Beech planted thickly is one of the most rapid-growing of trees. Larch will give a quicker financial return in the shortest space of time where the conditions are suitable, as this tree may be used for many purposes at an early age.

Those who plant Ash trees thinly in ornamental plantations and expect them to grow into timber by pruning off the side branches, and also those who look upon hedgerow trees as perfect timber specimens, will have a rude awakening when they try to sell such trees to the timber merchant. Knots are not wanted in timber, and only by planting trees reasonably closely together, thus forming a canopy overhead as time goes on, can the trees be "drawn up" quickly and knotless. Not far from where I write are specimens of this method of planting under Crown management. In one batch, the former planting was, and is, Scot's Fir; between the lines of these other rows of Silver Fir have been planted. Chestnut and Beech were added, thus making, as it were, blocks of various serviceable trees, which in the future will be a valuable object lesson in planting.

During the past forty years I have planted 500,000 trees of various Firs and Larch at Swanmore, with a view of an early return. The result has been most varied, some of the trees being a great success and others complete failures. Our land is 400 feet above sea level; the estate hilly, and the soil variable. Some of our fields have a stiff, clay subsoil within 1 foot of the surface; in other parts of the same field chalk occurs near the surface None of the land can be termed wet, yet, owing to the adhesive character of the soil, some parts are slow to dry on the surface. The soil contains large numbers of flints, which act as natural drainage, so much so that drains put in 3 to 4 feet deep forty years ago have never had water through them. A prominent writer on trees some few years ago said the Douglas Fir was the best of all trees to plant in a chalk soil. I had long before proved that trees of this Fir will not live in such soil, much less flourish. Certain trees, more recently planted in ornamental clumps, grew rapidly at first owing to the good soil, but when the roots grew down into inferior soil the trees showed loss of colour, quickly followed by dead branches and a stunted leader.

Where the soil is suitable—sand, light loam over a gravel subsoil—this Fir is a success and will probably grow faster than any other tree.

Larch is not a suitable tree in stiff soil over a stubborn subsoil. The trees, owing to stagnant water about their roots, are apt to be affected by canker, which utterly ruins them for timber. I have no doubt canker in Larch, which shows itself in fourteen to fifteen years, is due to bad drainage. I have proved this by deep trenching for planting ornamental clumps of these trees, as not a single sign of canker was visible after forty years' growth.

The tree I recommend for growing anywhere successfully and becoming useful in the shortest space of time is the Corsican Pine. Specimens planted here in 1880 are now 50 feet high, with butts varying from 9 inches to 15 inches in diameter. Such trees are distinctly useful in providing boards and rafters for inside work, such as the building of sheds or the making of boxes. This wood is not suitable for outside use, the same as Larch for example, as it is too soft.

I regard the Austrian Pine as a poor timber tree; its growth is slow, and each tree has a "kink" near the base which spoils that portion for timber.

Spruce Fir should be planted much more freely than it is. I planted blocks of this Fir 4 feet apart 35 years ago, and the trees are now 50 feet high, perfectly straight, giving timber most valuable for producing boards, and especially ladder sides.

Thirty years ago I planted here in stiff soil 2,000 Thuja Lobbii 6 feet, with a Larch between. The latter have long since been cut out The Thuja outgrew the Larch and are now 40 feet high, with clean, straight trunks, 1 foot or so in diameter. Whether they will be of any value as timber trees under eighty years' growth I cannot say—I doubt it. The wood is too soft.

The point in all timber plantations is to admit air by the careful removal of dead branches. All extraneous growth, such as brambles and bushes, should be cut away, giving the trees all the air possible. Leaders should be restricted to one. A distance of 4 feet apart is ample to plant Larch, Spuce, Scots, Austrian, and Corsican Pines. *E. Molyneux.*

Exhibition of the National Potato Society of Great Britain and Ireland.—This Society, of which Mr. John W. Dennis, M.P., is President, and Mr. William Morter, Organising Secretary and Treasurer, will hold an exhibition in conjunction with the Birmingham Chrysanthemum Society, in the Bingley Hall, Birmingham, on November 12th to 15th. The Organising Secretary, whose address is Council House, Birmingham, informs us that entries close on November 1st, and he would be obliged if all applications for schedules, space for non-competitive exhibits and advertisements in the catalogue are sent him as soon as possible.

ANSWERS TO CORRESPONDENTS.

NAMES OF FRUITS: *E. H. W.* 2, Ecklinville; 7 and 8, Cox's Orange Pippin; 12, King of the Pippins; 13, not recognised; 14, French Crab; 20, Blenheim Pippin.—*W. A. E.* Apple Emperor Alexander; small Pear, not in character; coloured Pear, Louise Bonne of Jersey.—*C. C. C.* 1, Pitmaston Duchess; 2, not recognised; 3, Worcester Pearmain; 4, probably Cellini; 5, Ribston Pippin; 6, John Downie Crab.—*P. W. S.* Pear Marie Louise; Apple Cox's Orange Pippin.—*E. S.* 1, American Mother; 2, King Harry; 3, not recognised.—*G. B.* 1, seedling Blenheim Pippin; 2, Emperor Alexander; 3, Bergamotte d'Esperen. 4, Pitmaston Duchess—*J. E. L.* Conference.—*C. S. C.* Chelmsford Wonder.—*C. D.* John Downie Crab

NAMES OF PLANTS: *W. F. D.* 1, Crataegus Pyracantha Lalandei; 2, C. coccinea; 3, Euonymus europaeus; 4, Symphoricarpus racemosus.—*C. C. C.* 1, Buddleia variabilis; 2, Polygonum baldschuanicum; 3, Prunus Pissardii; 4, send when in flower; 5, Kerria japonica flore plena.—*E. S.* 1, Funkia grandiflora; 2, Helianthus decapetalus multiflorus; 3, Helenium autumnale; 4, Escallonia macrantha.

SMALL HOLDINGS: *T. J.* The area of land required to enable one man to obtain a living by working himself depends entirely upon the capacity of the man, his age and the amount of work he could perform in a day, in addition to his technical skill and knowledge of the crops. About two acres would be enough for any man to cultivate, even with the assistance of a strong cob for ploughing, etc. If fruits, flowers and vegetables were grown for market the man by himself would have to work very hard, and even then he would require assistance in preparing his goods for market, especially if he has large crops. If flowers and vegetables are grown on a larger area than fruit, the work would be still harder as the ground must be constantly cleared and cropped, and this involves a large amount of time and labour. If you plough the land (assuming it to be of a loamy nature) to a depth of at least eight inches, that will be sufficient to begin with. No opportunity, however, should be neglected for cultivating at least twice as deep to secure finer and cleaner crops. The amount of capital necessary to commence such a small holding would depend upon whether you bought the land or rented it. If you could purchase outright freehold land of a good loamy nature for about £40 or £50 per acre it would be a good investment; but you must consider the costs of fencing, house, etc., in addition. For a man with only a small capital, and say between 40 and 50 years of age, it would be much safer to rent the land; and a market garden that has been established for 15 or 20 years would be better than starting from the beginning. In the case of a young man, say between 25 and 30, buying the land outright would perhaps be better if he could afford enough capital to support himself for at least twelve months after purchase. As there seems to be small possibility of prices going down very much for the next few years, now is a suitable time to make a beginning. It is true that some fruit (*e.g.*, Apples) has reached almost pre-war prices this year, but on the whole the average has been good, and is likely to hold for some few years hence. You must, of course, take into account local conditions and traditions, and endeavour to take full advantage of them.

Communications Received.—R. C. W.—J. E. P.—E. K.—E. M. G.—H. H. R.—L. Bros.—E. M. B.—F. W.—A. G.—E. C. S. (thanks for donation to R. G. O. F box)—G. A. B.—S. G.—A. D. C.—J. C. W.—D. J. D.—T. J.—E A. H.—C. K. Glarus.—A. T. B.—J. D. H.—F. J.—J. C. T.—W. E.—W. J. P.—K. C. H.—G. C.—R. D.—H. B.—G. C. W.—A. E.—R. W.—T. T.—J. H. J.—W. W.—J. W.—F. W. M.—E. C.—D. W.—H. G.—J. B. S.—A. J. R.—H. C.—H. T.—W. J. M.—A. B. C.—J. A.—F. B.—C. F. W.—M. K.—T. L.—R. B.—H. F. M.—"Schopwich."—J. E.—J. T.—B. F.—F. S. B.—W. J. A. S.—J. C.—W. R.—V. G.

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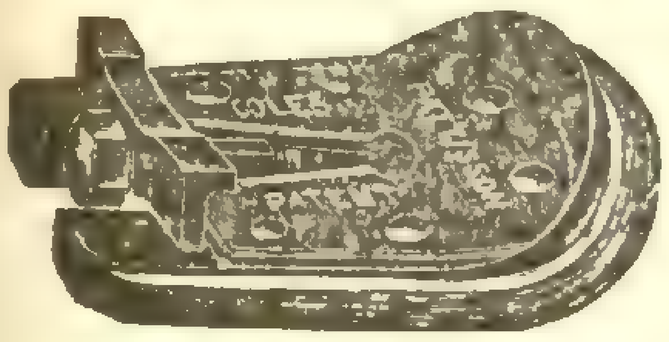

Fig. 1.

Fig. 2, A Quality.

Fig. 2, A or B Quality.

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MARKETS.

COVENT GARDEN, October 22.

Plants in Pots, &c. : Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.) 60's	15 0–18 0
Asparagus plumosus	12 0–15 0	72's	8 0– 9 0
—Sprengeri ..	12 0–18 0	Erica nivalis— 48's	24 0–42 0
Aspidistra green	48 0–72 0	60's	18 0–21 0
Cacti per tray 12's, 15's ..	5 0– 6 0	72's	10 0–15 0
Chrysanthemums 48's per doz. ..	18 0–24 0	Marguerites white	18 0–24 0
Erica gracilis— 48's per doz. ..	16 0–30 0	Palms Kentia ..	24 0–36 0
		—— 60's	15 0–18 0
		— Cocos	24 0–36 0

Ferns and Palms : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis. in variety. 48's	12 0–18 0
— elegans ..	15 0–18 0	— 32's	24 0–36 0
Asplenium 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ..	5 0– 6 0
— nidus 48's ..	12 0–15 0	— small 60's ..	4 0– 4–6
Cyrtomium 48's	10 0–15 0	— 72's per tray of 15's	3 6– 4 0

REMARKS.—Cyclamens and Solanums are the newest subjects offered in this department. Some good Marguerites in 48 sized pots are still obtainable; also some fine white Hydrangeas, Erica gracilis, and E. nivalis in various sizes which are selling freely. There are a few Chrysanthemums in pots.

Cut Flowers, &c. : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Bouvardia white ..	18 0–24 0	Cattleya Harrisoniae per doz. blooms.	12 0–15 0
Carnations per doz. blooms. best American var.	5 0– 7 0	Pelargonium, double scarlet, per doz. bun. ..	8 0–10 0
Chrysanthemums—		— white, per doz. bunches ..	6 0– 9 0
— White, per doz. blooms ..	5 0–10 0	Physalis, per doz. bunches ..	12 0–18 0
— Yellow „ ..	4 0–10 0	Richardia (Arums). per doz. blms.	18 0–24 0
Pink „ ..	6 0–12 0	Roses per dozen blooms—	
— Bronze „ ..	6 0– 8 0	— Frau Karl Druschki	2 0– 3 0
— White per doz. bun.	18 0–36 0	— Liberty ..	3 0– 8 0
— Coloured „	18 0–30 0	— Melody ..	3 0– 8 0
Gardenias, per box special ..	12 0–	— Mme. Abel Chatenay ..	3 0– 6 0
ordinary ..	5 0– 6 0	— Ophelia ..	4 0– 8 0
Heather, white — —per doz. bn.	10 0–12 0	— Richmond. var.	3 0– 4 0
Lapagerias, perdoz. blooms ..	4 6– 5 0	— Sunburst ..	4 0– 8 0
Lilium longiflorum, per bunch ..	21 0–22 0	— White Crawford	3 0– 5 0
Lilium speciosum album per buch	4 0– 5 0	Stephanotis 72 pips	6 0– 7 0
— rubrum per bun	3 6– 4 0	Stock Dbl. White	8 0–12 0
Michaelmas Daisies in variety ..	6 0–12 0	Violets Single large per doz. bun.	8 0–12 0
Orchids per doz. : — Cattleyas ..	24 0–30 0	— Ordinary ..	2 6– 3 6

REMARKS.—The severe night frosts during the past week have had serious effects on all supplies, and prices rose considerably during last week. Chrysanthemums of all grades were a very short supply. Carnations advanced from 4s. to 8s. per doz. blooms, and some sorts sold freely at 9s. per doz. All choice flowers are very scarce Lily-of-the-Valley was unobtainable during the past week, and there were very small consignments of Lapagerias, Gardenias, and Stephanotis. Richardias (Arums), Lilium longiflorum, L. lancifolium, L. l. album and L. l. rubrum are all dearer owing to limited supplies. White Azalea is now being offered in small quantities. Cypripediums are the most plentiful of Orchids on sale. Cattleyas and Odontoglossums are very scarce. All foliage appears sufficient for the demand; higher prices are being asked for Aldiantum (Maidenhair) Fern and Asparagus plumosus.

Vegetables : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans French, per lb.	2 0– 2 6	Mushrooms, per lb.	4 0– 5 0
Beets, per bag ..	10 0–11 0	Onions, per cwt.	9 0–10 0
Belgium Chicory, per lb. ..	0 6– 0 7	Parsnips, per bag	10 0–11 0
Cabbage, per doz.	3 0– 4 0	Parsley, per doz. bunches ..	3 0– 4 0
Garlic, per lb. ..	1 0– 1 4	Potatos, per cwt.	11 0–12 0
Carrots, per bag	9 0–10 0	Radishes, per doz. bunches ..	1 6– 2 0
Cauliflower, per doz.	6 0–12 0	Spring Onions, per doz. bunches ..	5 0– 7 0
Celery, per fan, (12 heads) ..	4 0– 5 0	Sprouts, per bag 28 lb.	16 0–
Cucumbers, perflat	24 0–26 0	Tomatos, English, per doz. lbs. ..	6 0–10 0
Herbs, per doz. bun.	4 0– 6 0	—French	4 0– 4 6
Mint, per doz bun.	9 0–12 0	—Outdoor Jersey	4 0– 6 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Turnips, per bag	10 0–11 0
		Watercress, per doz	0 9– —

Fruit : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)	5 0– 6 0	Bananas, singles	25 0–35 0
—Worcester Pearmain per ½bus	5 0– 6 0	Grapes Alicante	0 8–0 10
—King of the Pippins per ½ bus.	5 0– 7 0	—Gros Colmar ..	0 10– 1 3
—Cox's Orange Pippin per ½bus.	10 0–12 0	—Almeria per barrel	30 0–45 0
—Warner's King, per bus. ..	4 0– 7 0	—Cannon Hall ..	3 0– 8 0
—Lane's Prince Albert, per bus.	6 0– 8 0	—Muscat, per lb.	2 0– 5 0
—Bramley's Seedling per bus. ..	7 0– 8 0	—Special per lb.	6 0– 8 0
—Blenhein Pippin per bus. ..	... 0	Nuts—Brazils(new) per cwt.	125 0–130 0
—Nova Scotian— Blenheim Pippin Nos. 1 and 2 ..	45 0–48 0	Cob Nuts, per lb.	1 3– 1 4
—King of the Pippins per barrel ..	48 0– 50 0	Walnuts, English	0 6– 0 8
—Ribston Pippin	45 0–48 0	Plums (English) per ½ bus. ..	
Aubergines, pr.doz	2 0– 3 0	—Prunes ..	14 0–16 0
		Pears, English per ½ bus.	
		—Doyenne du Comice	10 0–15 0
		—Louise Bonne of Jersey ..	10 0–11 0
		Pineapples each ..	2 0– 6 0

REMARKS.—Business has continued fairly steady in most departments throughout the week. Orchard fruits show considerable increase in quantities, and prices have a tendency to fall. Some extra special fruits of Cox's Orange Pippins are now available, although, owing to fixed prices, there is little variation in the value realised by these fine specimens and ordinary samples. Nova Scotia Apples (Ribston Pippin, Blenheim Pippin, and King of the Pippins) are arriving in excellent condition and meeting a good demand. Dutch Grapes are arriving in large quantities, and the abundant supplies are having an adverse effect on the price of English Grapes. Green vegetables remain in short supply, and prices are ruling fairly high. Potatos are plentiful, and their prices are slightly in excess of those last week.

GARDENING APPOINTMENTS.

Mr. F. T. Street, for the past four years with His Majesty's Forces, and previously Gardener to G. OAKLEY, Esq., Lawrence End, Luton, as Gardener to Her Grace the Duchess of WELLINGTON, Ewhurst Park, Basingstoke, Hampshire.

Mr. W. Coe, recently Gardener to Mrs. BAILIE, Caldecott House, Abingdon, Berkshire, as Gardener to E. H. PACKE, Esq., Prestwold Hall, Loughborough. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. F. W. Miles, for the past 18 months Horticultural Superintendent of Y.M.C.A. Training Centres for Discharged Soldiers, and previously for 4½ years Gardener at Ware Park, Ware, Hertfordshire, as Staff Instructor in Horticulture and Botany to the Hertfordshire County Council. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. A. Thomas, as Gardener to DONALD MACLEOD, Esq., at Greenfield Hall, Laleham, Staines, previously Gardener to T. W. SIMPSON, Esq., at the same place.

CATALOGUES RECEIVED.

E. P. DIXON & SONS, LTD., Burton Constable and Hull—Nursery Stock.

CLIBRANS, Altrincham—Ornamental Trees, Shrubs, and Climbers; Herbaceous and Alpine Plants.

W. H. SMITH & SON, Burnside Nurseries, Westburn Road, Aberdeen.—Forest Trees, Shrubs, Fruit Trees, Roses, and other nursery stock.

FOREIGN.

MON. L. FERARD, 20-22, Rue de la Pépinière, Paris.—Bulbs, Plants, Fruits.

WATERERS' FAN TRAINED PEACHES AND NECTARINES.

Large Stocks of magnificent **Trees** in sizes ranging from **9** to **20** shoots, for immediate bearing, in the leading prolific sorts.

Prospective Planters are invited to inspect our stocks at **Twyford Nurseries** (on the London-Bath Road), where purchases can be decided on viewing the actual trees.

OUR FRUIT TREES are UNSURPASSED in vigour, hardiness and productiveness.

JOHN WATERER, SONS & CRISP LIMITED, TWYFORD, BERKS.

W. WELLS, Junr.,
Hardy Plant Nursery,
MERSTHAM, SURREY.

Asters or Michaelmas Daisies.

ANTWERP, beautiful rose pink single flowers, good habit, producing long sprays, which make it one of the best varieties for cutting, 3½ ft., 5/-

BRIGHEST & BEST, A.M., R.H.S., the flowers of this Michaelmas Daisy are of a deep purple rose, are very bright and distinct for a variety of the Novi-Belgi section. The flowers are very freely produced in pyramidal panicles, most crowded near the top of the plant. They are semi-double, it is really a marked advance in this big group, 4ft., 2/6.

BRUSSELS, pale lavender enormous single flowers, loosely arranged on graceful sprays, good habit, vigorous constitution, 4ft., 3/6.

KING OF THE BELGIANS, A.M., R.H.S., lavender blue, semi-double flowers, larger than Climax, this is the largest Michaelmas Daisy, 5ft., 2/6.

MONS, A.M., R.H.S., bright deep rose, large single flowers, good habit, most useful for cutting, 3 to 4 ft., 3/6.

NAMUR, soft pink, pretty single flowers, good habit, forms neat bushes the same as St. Egwin, 2½ to 3ft., 3/-.

ROBINSON, V.C., A.M., R.H.S, bluish mauve flowers, the best double up-to-date, long sprays, making it useful for cutting, good habit, 3½ to 4ft., 5/-.

WELLS' WHITE (new), undoubtedly the best white Aster yet raised, flowers being pure white, perfectly round and flat; they do not go pink with age, as is the fault with many of the white varieties. Mid-Sept., 5ft., 2/6.

AMELLUS, Beauty f Ronsdorf, distinct novelty, with large flowers, 2½ inch, of a beautiful lilac-pink colour, 1½ ft., 1/-.

AMELLUS, "King George," A.M., R.H.S., the largest and best of this section, bearing large trusses of bluish-violet flowers: each flower is 3in. in diameter, the florets are one-eighth of an inch wide, and the disc bright golden yellow, 3 -.

Catalogues free on application.

CRETS
The Pots that Drain
PETER BAILEY & SONS, Ltd., Heaton Mersey Pottery, Nr. Manchester.

De JAGER'S BULBS
For Planting in Beds, Borders, etc.

HYACINTHS.
3/6 per doz.; **25/-** per 100.
EARLY TULIPS.
2/- per doz.; **12/6** per 100.
GRACEFUL DARWIN TULIPS.
2/ per doz; **13/0** per 1'0.
DAFFODILS.
2/6 per doz.; **14/-** per 100.
CROCUS.
1 6 per doz.; **5/-** per 100.
ENGLISH IRIS.
1/6 per doz.; **6/-** per 100.

Our Assortments include only valuable varieties. We guarantee satisfaction. All orders are sent carriage paid to any address in the U.K.

P. DE JAGER, & Sons, Bulb Growers, Heiloo, near Haarlem (Holland).

Order to-day to Mr. de Jager, Box 10, 41, Wellington Street, London, W.C.2

SANKEY'S FAMOUS GARDEN POTS
The BEST and Cheapest.
SPECIAL POTS of all descriptions. Bulb Bowls and Fern Pans from 3d. each.
RICHARD SANKEY & SON, LTD.
Bulwell Potteries, NOTTINGHAM.

SITUATIONS VACANT.

*Twenty words (or three lines including headline) **3s.**, and **6d.** for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office, **6d.***

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them **copies** *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal Authorities and returned to the Sender.

PRIVATE.

COLONEL KETTLEWELL received so many replies to his recent advertisement for a Single-handed Gardener that he regrets he cannot acknowledge them individually. His situation is now filled.

THE SECRETARY of "The Industrial Settlements Incorporated" desires to thank all applicants for vacant situations, which are now filled.

GARDENER for Dunrobin Castle.—Situation now filled.

TO HEAD GARDENERS.

UNIVERSITY COLLEGE, READING.

THE Council are about to appoint a LECTURER and PRACTICAL INSTRUCTOR in HORTICULTURE.

First-class Gardening experience essential. Stipend £500 and a house.

For further particulars apply to the Registrar.

FRANCIS H. WRIGHT.
Registrar.

UNIVERSITY OF LEEDS.

DEPARTMENT OF AGRICULTURE.

APPLICANTS are invited for the position of additional INSTRUCTOR IN HORTICULTURE; salary £230 per annum; applicants must possess sound horticultural training.—Further particulars may be obtained from the SECRETARY, the University, Leeds, who will receive applications for appointment up to November 13th, 1919.

UNIVERSITY COLLEGE OF WALES.
ABERYSTWYTH.

INSTRUCTOR IN HORTICULTURE FOR THE COUNTY OF MONTGOMERY.

APPLICATIONS are invited for the post of INSTRUCTOR in Horticulture; salary £300 per annum, together with travelling expenses; proficiency in Bee-keeping or Poultry Management, and a knowledge of Welsh, will be regarded as additional qualifications.

Applications, together with recent testimonials, must reach the Registrar not later than November 15, 1919.

Further particulars may be obtained from the undersigned:—

J. H. DAVIES,
Registrar.

WANTED, Gardener-Instructor for some 30 boys, at orphanage near Reading, from Christmas next; excellent cottage; wages commencing 40s., with vegetables and certain extras.—POWELL, Eastfield, Caversham, Reading.

WANTED, HEAD WORKING GARDENER (three kept); Glass, Fruit, Flowers, Vegetables, Pleasure Grounds and cows. State age, experience, wages, with copies of testimonials; good house provided. —SEABROOK, The Elms, Grays, Essex.

WANTED, good all-round SINGLE-HANDED GARDENER with help; two Vineries. MRS. SEVERNE, The Lodge, Thenford, Banbury.

WANTED, experienced GARDENER (SINGLE-handed; help given; married; small country house.—CONRAD GURTEEN, Haverhill

GARDENER wanted in Institution, able to teach and to maintain a good supply of vegetables. Abstainer.—Apply, stating age and experience, SUPERINTENDENT, Turners Court, nr. Wallingford, Berks.

WANTED, for British Columbia, nr. Victoria, Vancouver, a good WORKING GARDENER, well up in Flowers, especially Rock Plants and Landscape work. Applicants should apply in writing in the first instance to the MANAGING DIRECTOR, C.G.A., Letchworth.

SECOND GARDENER required, married; wage 32s., with modern cottage, coal and light. Apply, Mr. MAKEHAM, Head Gardener, Old Star House, Dunton Green, Kent.

WANTED immediately, SECOND of five, Inside and Out, must have good experience in Plants and Fruit; single; 41s. per week; duty 3s.; bothy later.—COOKE, Llwynderw, Blackpill, Swansea.

WANTED, SECOND GARDENER, principally Kitchen Garden; married man about 30; 33/6 per week and house.—Apply, GARDENER, Letcombe Manor, Wantage.

SECOND GARDENER out of four; must be experienced in Lawns and Pleasure Gardens; age between 30 and 45; wages 35 - with cottage and garden; Ascot district.—Apply by letter only, stating age, experience, with copies of testimonials, to A. F. T., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

WANTED immediately, FOREMAN (Inside), experienced Grapes, Peaches, etc.; also KITCHEN GARDENER required. State wages (no bothy); single preferred. — Apply, WARREN, The Grange Gardens, Sutton Courtenay, near Abingdon, Berks.

WANTED, experienced practical MAN (single) as Pleasure Ground FOREMAN; rooms, etc., provided.—State wages required and full particulars to HEAD GARDENER, Froxfield Gardens, Woburn, Beds.

WANTED, JOURNEYMAN for Plant Houses; age about 28. Also JOURNEYMAN for Pleasure Grounds and Herbaceous Borders, etc.; wages 33s. and bothy; duty paid.—Apply, WM. TURNHAM, Greenlands, Henley-on-Thames.

WANTED, JOURNEYMAN, 21 or 22, Inside and Out, chiefly Inside; 30s. per week, bothy and attendance; duty every third week; 1 o'clock Sat.—Apply, with references, to H. PICKSTOCK, The Gardens, Maer Hall, Newcastle, Staffs.

WANTED, JOURNEYMAN for Pleasure Grounds, to take duty; must be thoroughly recommended; good wages to a suitable man.—Apply to HEAD GARDENER, Nostell Priory, Wakefield.

WANTED, JOURNEYMAN (Inside). First and Second, for Fruit and Plant Houses; wages 35s. and 34s. per week, with bothy and attendance; 7s. extra for duty. — State age and experience, with copies of testimonials, to J. COUTTS, Fairlawne Gardens, Tonbridge, Kent.

WANTED, a Young Man as IMPROVER in a large establishment; age 16 to 17; must be well recommended by a Head Gardener.—F. CAPP, Nostell Priory, Wakefield.

WANTED, two IMPROVERS for Kitchen Garden and Grounds; comfortable bothy; good wages; duty paid; two with musical instruments or abilities preferred.—Apply, J. A., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, a highly-experienced MAN for Kitchen Garden, and a YOUTH of 16 to help in same. — Reply, stating wages and particulars, with bothy, etc., to HEAD GARDENER, Bookham Grove, Bookham, Surrey.

WANTED AT ONCE, strong, active MAN for Kitchen Garden; also one for Lawn and Pleasure Grounds; both able to take duty; wages 32/-, bothy, etc.—Apply, stating age and experience, to G. F. HALLETT, Netherby Gardens, Carlisle.

WANTED, YOUNG MAN with some experience for Kitchen Garden and Pleasure Grounds; willing to take Sunday duty; wages 30s. per week, bothy, etc.; 3 in bothy; 1 o'clock Sat.—F. BRINICOMBE, Cross Oak Gardens, Berkhamsted.

WANTED, capable MAN (single) for Pleasure Grounds and Kitchen Garden, when required; must be energetic and a good worker.—Reply by letter, stating full particulars and wages expected, to C. HART, Tolmers Park Gardens, Newgate Street, Herts.

WANTED, strong, active MAN (single) for Kitchen Garden and general Outside work; wages 30s., bothy, etc.; hours 7 to 5, 1 o'clock Saturdays; fortnight holiday yearly.—GARDENER, Smedmore, Corfe Castle, Dorset.

WANTED, SINGLE MAN, age 24 to 30 years; must be fairly well-up in his work, both Inside and Out; good reference.—Apply, B. GODFREY, The Gardens, Woodstock Park, Sittingbourne, Kent.

WANTED, a MAN chiefly for Pleasure Grounds, Herbaceous Borders, and to assist in other departments; state experience, and wages expected; copies of refs.; house provided if married.—T. W. BRISCOE, The Gardens, Castleford, Chepstow

HANDY MAN wants job on estate or otherwise, used to Building Trade, and to fill up time in Garden; country preferred.—J. E., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

EXPERIENCED LADY GARDENER, under Head for heated Greenhouses; Grapes, Ferns, etc., and assist outside.—Knowledge of Poultry preferred; live in.—Write full particulars, Brondesbury House, Willesden Lane, N.W.6.

TRADE.

WORKING MANAGER, well up in Roses and Fruit Tree propagation; entire charge in North Essex; splendid opportunities for advancement. Write, stating salary, age, experience, references, and if married.—W. A., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, LANDSCAPE GARDENER; good budder and grafter; excellent 6 roomed house available shortly.—RAMSBOTHAM & CO., Bletchley Junction.

WANTED, a MAN to take charge of Forest and Fruit Tree, etc., Nursery; must be well up in Budding and Grafting.—Apply, with testimonials and salary asked for, to MANAGER, Lissadell, Sligo.

WANTED, an up-to-date GROWER of Tomatos, Chrysanthemums, Bedding Plants and Bulbs. —State age, experience, wages, if married, number of family, NURTON, Eastbrook Nurseries, Dinas Powis, nr. Cardiff.

NURSERY FOREMAN. — Wanted, NURSERY FOREMAN, principally Forest, Fruit and Ornamental Trees; should have good experience and used to directing labour; excellent accommodation for married man.—Apply, with full particulars, age, married or single, with copies of testimonials and salary, to WM. POWER & CO., Nurserymen, Waterford.

WANTED, WORKING NURSERY FOREMAN for a retail Nursery. One with a good knowledge of Chrysanthemums, Dahlias, Violas and general Nursery Stock, and experienced in management; good house available.—Write, stating age, salary, experience, etc., to CARTER, PAGE & CO., 53, London Wall, London, E.C.2.

WANTED, WORKING FOREMAN for small wholesale Nursery, Bedding Plants, etc. must be reliable and trustworthy; wages £3 10s.; permanency.—FURNESS BROS., F.R.H.S., Nurseries, off Exbury Road, Catford Hill, S.E.6.

WANTED immediately smart, up-to-date, pushing MAN to take sole charge of Garden, Seed, Bulb, and Sundry Departments; knowledge of Farm Seeds and Nursery Work preferred; owing to housing difficulties, preference given to single man; highest references essential.—Apply, stating age, references, and salary required, to L. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, for Scotch nursery, energetic and capable YOUNG MAN; experienced under Glass; principally Bedding plants, Tomatos, Chrysanthemums and Forcing Bulbs.—Apply, with testimonials, stating age and wages expected, to Scotch, Box 11, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, smart, industrious Young Man as SHOPMAN, where brisk counter trade is done; must be well up in the Seed Trade; knowledge of Nursery stock an advantage.—Apply, stating age, wages required, and experience, JAMES WRIGHT & SONS, Nurserymen and Seed Merchants, Leicester.

WANTED, Young Man ASSISTANT PROPAGATOR for general hardy Nursery, Chrysanthemums, bedding, and the usual stuff for shop sale.—State age, experience, and wages with bothy and vegetables, E. P. DIXON & SONS, LTD., Burton Constable, Hull.

COUNTER HAND wanted for Garden Seed Department; must have had previous experience. —Apply by letter, stating age and full particulars, to WEBB & SONS (Stourbridge), Ltd., Wordsley, Stourbridge.

SEED TRADE.—Wanted, JUNIOR ASSISTANT accustomed to brisk counter trade and general orders.—Apply, stating salary, age and experience, to O. W., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

WANTED.—A progressive firm of Horticulturists require the services of a well-educated man, primarily as a CATALOGUE COMPILER; must have up-to-date knowledge of Horticultural Trade and horticultural methods, and be keenly interested in Hardy Trees, Shrubs, and Plants.—Apply, with particulars as to age, experience and salary expected to A.B.C., Box 20, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, YOUNG MAN used to Floral Decorating for Theatre and Hotel work; fill in time under Glass. — BROOKE, BRAY & SONS, Sheffield.

WANTED, Young Man KNIFESMAN, used to Budding, Grafting, Pruning, and to take charge of the packing shed during the lifting season; every encouragement given to an energetic young man. —State age, experience, and wages with bothy and vegetables, E. P. DIXON & SONS, LTD., Burton Constable, Hull.

FLORIST wanted in Manchester; must be good Designer and first-class Saleswoman, capable of taking charge; good salary and prospects to enterprising lady.—Apply, with full particulars, L. D., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, FLORIST, male or female, quick and original with designs. Also general Outside NURSERY HAND.—Apply in each case to J. SLATER, Nurseryman, Skipton.

WANTED, YOUNG LADY with knowledge of the Nursery trade for a city shop; one used to quick counter trade.—Apply, stating wages, etc., to JOHN WATERER, SONS, & CRISP, LTD., The Nurseries, Twyford, Berks.

WANTED, FEMALE ACCOUNTANT for large Nursery Office, must be thoroughly conversant with all branches of commercial bookkeeping, card index systems used. Apply, stating experience, references and salary required, to—JOHN WATERER, SONS, & CRISP, LTD., The Nurseries, Twyford, Berks.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from Gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

PARK FOREMAN, WORKING MANAGER or HORTICULTURAL INSTRUCTOR, ex-service man, seeks re-engagement as any of above; life experience in large establishments, private and commercial; was also Sergeant-instructor in Horticulture and Beekeeping under Army education scheme; good testimonials; single; age 32; just demobilised.—THOMAS, Waungran, Lampeter, Cardiganshire.

MR. BRADSHAW, Head Gardener to the Marquis of Downshire, Hillsboro' Castle, co. Down, highly recommends his General Foreman, A. WADHAM, as HEAD GARDENER in well-kept establishment; life experienced in all branches gained in good establishment; excellent references; age 33; married when suited; demobilised.

GARDENER (HEAD).—Major H. E. Wilbraham, J.P., can with confidence highly recommend GARDENER, who is thoroughly experienced in the management of a large establishment; life experience in all branches, including Estate work; good manager; age 30; married when suited; excellent references; demobilised.—Full particulars to J. THOMPSON, Delamere House Gardens, Northwich, Cheshire.

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER to Lady or Gentleman requiring services of competent Man, age 34; married (2 children); demobilised.—W. ELKINS, 12, Brocas Street, Eton, Bucks.

MR. YOUNG, Agent to Lord Kensington D.S.O., highly recommends his General Foreman as HEAD GARDENER to any lady or gentleman requiring a good man; life experience in all branches; age 29; married when suited.—E. RAYNER, The Gardens, St. Bride's, Little Haven, S.O., South Wales.

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER; thorough experienced man in all branches; management of men, land and stock; 22 years Head.—ROBERT HALE, Bushey House, Bushey, Herts.

MR. T. BURN, Cuerdon Hall, Bamber Bridge, Preston, wishes to highly recommend his late General Foreman, now discharged from H.M. Forces, as HEAD GARDENER to any lady or gentleman in want of a thorough, reliable, and competent man in all branches; capable of taking charge of large establishment; age 34; married; no family.—Particulars, J. T. TILDESLEY, Church Eaton, near Stafford.

T. McKENNA, Esq., 24, Bryanston Square, W., will be pleased to thoroughly recommend F. BOVINGTON as HEAD GARDENER; age 35; married; life experience in all branches.—BOVINGTON, Cowarth Road, Sunningdale.

MRS. TRUMAN highly recommends R. WHEARE, for 3 years' her HEAD GARDENER; life experience in production of high-class Fruit, Flowers, and Vegetables, with general upkeep; disengaged through estate being given up while on Military Service; age 34; married (one child).—WHEARE, Ileden Cottages, Bonchurch, Isle of Wight.

J. M. NAYLOR, Esq., Leighton Hall, Welshpool, wishes to highly recommend F. H. SALTER as GARDENER (HEAD); life experience in all branches; expert cultivator, good organiser; age 31; married (one child); demobilised.—Apply above, or 55, Albert Road, Wellingboro'.

CAN highly recommend GEO. SHAMBROOK as HEAD of two or good SINGLE-HANDED; married (no family); cottage essential; age 33; disengaged when suited; South preferred. State wages.—F. W. SMITH, Oatlands Avenue, Weybridge.

GARDENER (HEAD or good SINGLE-HANDED) seeks situation; hard working; married (1 child); age 33; life experience Inside and Out; Salads.—Apply, GARDENER, 45, Park Lane, West Grinstead.

GARDENER (HEAD of five or more); life experience in all branches; excellent references from present and previous employers; abstainer; married; age 47; 2 children (14 and 12).—A. LANGFORD, The Gardens, Thamesfield, Henley-on-Thames.

GARDENER (HEAD) where two or three are kept; life experience in all branches; excellent reference; married (no family); age 30.—WEBB, 107, Hylton Cottages, Merstham, Surrey.

GARDENER (HEAD of several).—Advertiser with life experience, all branches, in first-class establishments, would like to meet with Lady or Gentleman who requires keen, energetic, and skilful cultivator; excellent references for abilities and integrity, from Eastnor, Harewood, Nonsuch, and Bracken Hill, Bristol; married; age 31.—BOOTH, Bracken Hill, Leigh Woods, Bristol

GARDENER (HEAD), manage estate if required; life experience in all branches gained in large establishments; age 34; demobilised; excellent references.—GARDENER, 2, Gladstone Road, Buckhurst Hill, Essex.

GARDENER (HEAD or SINGLE) seeks situation; first-class references as Foreman; age 29; married when suited.—J. LAWSON, No. 3, Scotts Hills, Purewell, Christchurch, Hants.

GARDENER (HEAD); where several are kept; life experience in all branches, Inside and Out; highly recommended; discharged soldier; married (2 children).—DAY, Gardener's Cottage, Wolverton, Beckington, Bath.

GARDENER (HEAD) life experience in leading Gardens Inside and Out, laying out and improving; also land and stock; highest references for character and ability; age 55.—K., 16, Jubilee Place, Salt Hill, Slough.

GARDENER (HEAD); life experience in large establishments, private and commercial; experience with stock and electric light; good testimonials; married; age 44.—JONES, Glenleith, Bushey Heath, Herts.

GARDENER (HEAD) seeks engagement; thorough, practical, all-round experience, including Orchids, gained on good establishments; married (no family); highest references.—F. PERKINS, 101, Flax Road, Leicester.

GARDENER seeks situation, SINGLE-HANDED or HEAD in Kitchen Garden; demobilised; 12 years' experience; good references; married (one child); disengaged.—JOSEPH HAYTREE, North Lodge, Stockingford, Nuneaton, Warwickshire.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good reference; married; just demobilised; age 32.—W. H. WEBBER, Sunnyside, Headley, Newbury, Berks.

GARDENER seeks situation (demobilised) as HEAD or good SINGLE-HANDED; experienced in all branches; age 29; married (one child); good references.—S. PERRIN, 42, Sunnyside, Hitchin, Herts.

GARDENER (HEAD or good SINGLE-HANDED; life experience in all branches; good reference; married (two children); just demobilised; age 35.—E. MARLING, Clifton, nr. Biggleswade, Beds.

HEAD WORKING GARDENER (five or more); life thorough practical knowledge all branches, Inside and Outside; skilled cultivator of Fruits and Plants under Glass, Vegetables and Salads, Hardy Fruits, Rose, Rock and Flower Gardens; alterations, etc.; highly recommended; age 46; married; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

W. A. MOUNT, Esq., M.P., highly recommends his late Foreman as HEAD WORKING GARDENER; life experience; age 51; just demobilised; married (no family).—A. GLIDDON, Poltimore Park, nr. Exeter.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, Inside and Outside; marketing produce; abstainer; age 46.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

HEAD WORKING GARDENER.—Sir Arthur Pinero recommends capable man as above; 6½ years' excellent reference; life experience all branches; married (two children).—Apply, STEVENS, Stillands, Chiddingfold, Surrey.

GENTLEMAN highly recommends HEAD WORKING GARDENER; 10½ years' excellent character; reliable, trustworthy; left through death of employer.—W. KENT, New Cottages, Bookham, Surrey.

GENTLEMAN wishes to recommend late HEAD WORKING GARDENER; life experience; age 36; married (2 children); good references; just demobilised.—Apply, MARTIN, 7, Meadow Road, Southborough, Kent.

MRS. STANLEY ARNOLD can thoroughly recommend F. CLARK as GARDENER (HEAD-WORKING); life experience Inside and Out; excellent references; married.—CLARK, Barton House, Moreton-in-Marsh.

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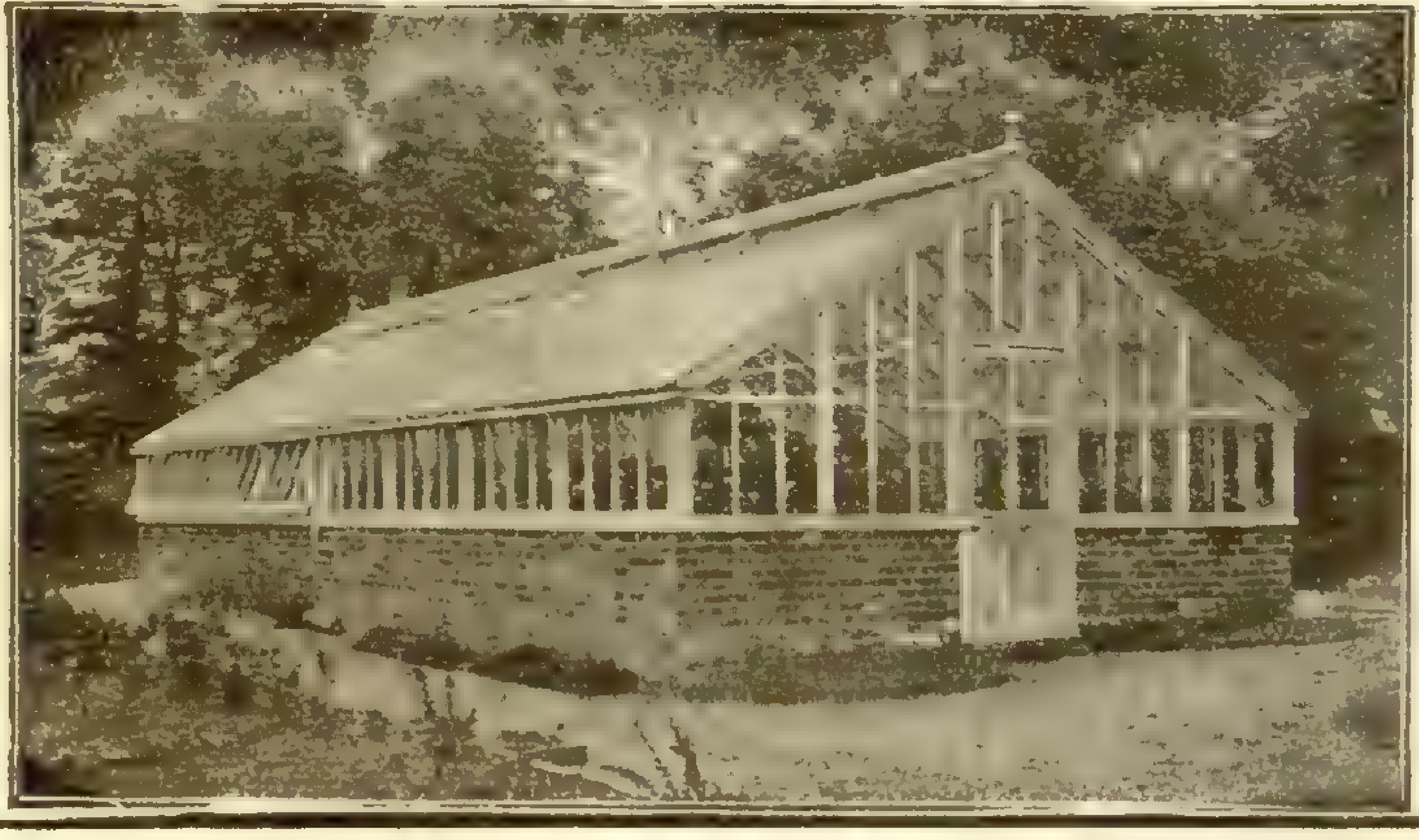

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£100 FOR POTATOS!—Raisers of Potatos from Ryder's Hybridised Potato Seeds are reminded of the Exhibition at St. Albans on November 5th. Twelve tubers only to be sent in. Every grower should enter in the national interest. If form of entry is mislaid, another will be sent on application to RYDER & SON, Ltd., Seed Specialists, Holywell Hill, St. Albans.

N.B.—Don't decide not to enter because your potatos look just ordinary, or because they are not large. There may be highly desirable characteristics which only expert judges can detect, and mere size is not of first importance.

WEBBS' FLOWERING BULBS.
The pick of the best Bulb Farms of Britain, France and Holland.

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Price List of Vegetable Seeds for season 1920 now ready. Post free to Secretaries of Allotment Societies.

WEBB & SONS, LTD.,
The King's Seedsmen, Stourbridge.

VEGETABLE SEEDS are our great speciality.
Selected stocks are available to the Trade.
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Seed Growers, Leicester.

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EVERY MONDAY AND FRIDAY.

Hyacinths, early and late Tulips, Narcissus and Daffodils, Freesias, Snowdrops, Spanish Iris, Scillas, Crocus, &c.

In convenient lots for private buyers.

MESSRS. PROTHEROE & MORRIS conduct sales as above at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., at one o'clock each day. Catalogues on application. Commissions executed.

SUNNINGDALE NURSERIES (LATE NOBLES) WINDLESHAM, SURREY.

MESSRS. PROTHEROE & MORRIS beg to announce that the Sale of Rhododendrons, Hardy Heaths, etc. (postponed from October 7th and 8th) will take place on

MONDAY and TUESDAY, NOVEMBER 3rd and 4th, AT 12.30 O'CLOCK.

Auction and Estate Offices:
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WEDNESDAY NEXT.

Many thousands of Hyacinths, Tulips, Narcissus and Polyanthus Narcissus, Snowdrops, Crocus, Scillas, etc., specially lotted for the Trade; also

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A consignment of BAY TREES, ASPIDISTRAS, AZALEA INDICA, IN HAMPERS.

Rhododendrons, Azalea Mollis, and other plants from Belgium.

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ON WEDNESDAY NEXT, AT 12 O'CLOCK.

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THE "LEYSWOOD" COLLECTION OF ORCHIDS.

MESSRS. PROTHEROE & MORRIS have received instructions to dispose of the entire Collection of Orchids formed by the late J. W. TEMPLE, Esq. The Sale will be held upon the premises,

"LEYSWOOD," GROOMBRIDGE.

On TUESDAY & WEDNESDAY, NOVEMBER 11 & 12, 1919.

The whole Collection is in a fine, healthy condition, and includes a number of rare species now seldom met with, as well as large quantities of well-grown Cattleya and Odontoglossum species particularly suitable for production of the finest cut flowers.

Catalogues of the Auctioneers—
67 & 68, Cheapside, London, E.C.2.

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Nineteenth Annual Sale of well-grown Nursery Stock, by order of Mr. J. B. BRYANT, who requires the land for replanting.

MESSRS. PROTHEROE & MORRIS will sell by Auction at

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On WEDNESDAY, NOVEMBER 5th, at 11 O'CLOCK, 2,000 Border Shrubs in great variety, 2,000 Golden Privet, Hollies, Yews, Rhododendrons, 1,000 Berberis, Aucubas, Cupressus, specimen Shrubs, climbing and dwarf Roses, 1,000 flowering and deciduous, 1,000 standard Ornamental Trees, 2,000 Fruit Trees and Bushes, and other stock.

On view. Catalogues had on the premises, at Mr. Bryant's Home Nursery (opposite Station), and of the Auctioneers, 67 and 68, Cheapside, E.C.2.

THE "OAKWOOD" COLLECTION OF ORCHIDS.

MESSRS. PROTHEROE & MORRIS have received instructions from Mrs. NORMAN COOKSON to dispose of this well-known collection, which will be sold by Auction at their

Central Auction Rooms, 67 & 68, Cheapside, London, E.C.2.

On THURSDAY, NOVEMBER 6th, 1919, at 1 O'CLOCK.

The Collection contains about 1,500 selected plants, about 1,300 of which are Odontoglossums, including such celebrated varieties as O. crispum Pittianum, O. c. Leonard Perfect, O. c. Fearnley Sander, O. c. Theodore Pauwels, O. c. Cooksonianum, O. c. Luciani, O. c. Orvieto, O. c. Mrs. Peeters, O. c. Angela, etc., etc. There are also about 200 choice Cypripediums, also Phaius, Calanthes, Angulosa and Cattleyas.

Catalogues of the Auctioneers—
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Sale of well-grown Nursery Stock, comprising quantities of Ornamental Trees and Shrubs, Golden and Green Privet, Yews, Aucubas, Box Cupressus, Pampas Grass, Herbaceous Plants, Currants and Raspberries, Hollies, Spruce, Firs, Climbing Roses, &c.

MESSRS PROTHEROE & MORRIS will sell the above by Auction at

THE NURSERIES,
RICHMOND ROAD, TWICKENHAM
(St. Margaret's Station), on

WEDNESDAY, NOVEMBER 12th, AT 1 O'CLOCK, by order of Mr. H. E. FORDHAM.

On view. Catalogues on the premises and of the Auctioneers, 67 and 68, Cheapside, E.C.2.

HOREHAM ROAD, SUSSEX.

One and a-half miles from Waldron and Horeham Road Station, L.B. & S.C.R. Clearance Sale.

FOURTEEN GREENHOUSES,

total length 1,800 feet, containing 32,000 feet of glass and woodwork (glass 16 × 18), 4,800 feet of 4-inch piping, nearly new, 4-h.p. Ingeco oil engine, Aermotor Windmill, the erections of

STABLE PACKING AND CART SHEDS,

Boilers, Brickwork, 225 casts of Flower Pots, Bamboo Canes, Carts, 8 tons Peat Moss Manure, small stack of Hay, etc.

MESSRS PROTHEROE & MORRIS will sell the above by Auction on the premises, the

RIVERSDALE NURSERY,
HOREHAM ROAD, SUSSEX,

on TUESDAY, NOVEMBER 11th, AT 12.30 O'CLOCK.

May be viewed. Catalogues had on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.2.

BUSINESSES FOR SALE.

PROTHEROE & MORRIS, HORTICULTURAL MARKET GARDEN AND ESTATE AUCTIONEERS AND VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

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BUSINESS WANTED.

AUBREY & CO., Nurserymen's Agents, 28, Watling Street, London, E.C.4, require several small concerns.—Write, call, or 'phone City 1097.

PROPERTY TO LET.

A PRIVATE KITCHEN GARDEN and Orchard of about 1½ acres to be let, for growing Fruit and Vegetables for sale; 20 miles from London; near two country towns; 1½ miles from station.—RICKS, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

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EXHIBITION.

BRIGHTON, HOVE & SUSSEX Horticultural and Food Production Society.—Grand Exhibition of Vegetables, Flowers, and Fruit. Note ALTERATION OF PLACE AND DATE: At the spacious Drill Hall, Church Street, Brighton, November 5th and 6th, 1919. £100 in PRIZES! Special Non-Competitive Exhibits. A. J. Gaston, F.R.H.S., Secretary, 104, Hollingbury Park Avenue, Brighton.

NOTICE.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

APPROVED SECTION 229.

AMENDMENT TO THE NATIONAL HEALTH INSURANCE ACT, 1918.

ALL PERSONS whose salary does not exceed £250 per year must now be insured. This Society, which has paid out over £2,750 in Sickness and Maternity benefits, and has invested Funds of over £4,000, is open to all Gardeners, Seedsmen and Nursery Workers.—Forms of application may be had from A. C. HILL (Secretary), 35, Alexandra Road, West Kensington, W.14.

PLANTS, &c., FOR SALE.

WALLFLOWERS, The Vulcan and Golden Monarch, large and bushy, ready for bedding out, 5s. 100, 23s. 500, £2 1,000; Golden Monarch, smaller size, 2s. 100, 8s. 6d. 500, 15s. 1,000. Myosotis Royal Blue, splendid strain, transplanted, 6s. 100, 27s. 500, £2 10s. 1,000, carriage paid.—P. AQUATIAS, The Nurseries, Timperley, Ches.

FERNS! FERNS!! — Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

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BULBS for Greenhouse and Garden planting. Reliable quality. Reasonable prices. Tulips 9s. Crocus, Snowdrops, English Iris, Alliums, etc., 3s. 6d. Lily Valley, 10s. 6d. 100. Catalogue Free.—ELLISON'S, West Bromwich. Established 1890.

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CINERARIA PLANTS ready for potting on; all colours; Sutton's Seeds; Grandiflora, Stellata, Intermediate, 2s. 6d. doz.—MRS. PAULET, Lydford-on-Fosse, Somerset.

DAFFODIL SEEDLINGS to offer as dug from the original beds at 50s. per 1,000. F. O. R., Sligo; bags free; cash with order.—MANAGER, Lissadell, Sligo.

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WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free.—SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

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THE

Gardeners' Chronicle

No. 1714.—SATURDAY, NOVEMBER 1, 1919.

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.*

No. 9.—JUNE ON THE HEIGHTS.

As May goes on, Lilium Wallichianum goes out, or retreats to higher levels, the valley-hedgerows become burdened with cascades of a rampageous white wild Rose, which scents the whole air far and wide, and may be Rosa Brunonis, and there is also a little Mulberry tree or shrub that yields an abundance of delicious fruit that ought to be very acceptable at home if as freely produced. But by the time mid-June is in it is necessary once more to visit Hpimaw Pass. Indeed, one ought never to let more than a fortnight elapse between visits for fear of missing some treasure. Our last visit had given us two new Rhododendrons and a gracious Enkianthus with bells of bronzy red. Of the Rhododendrons, one is a small tree smothered in ponticum-coloured flowers, and abounds also on Sabiya-Kaw. So does the second also, but my first glimpse was of a solitary specimen, far down below Hpimaw Pass, that flared out of the distance in a solid mass of cherry-pink that caused me, remembering the tale of R. orbiculare, to take infinite trouble in securing specimens. Nor do I regret it. The colour, indeed, does not answer my expectations, being of a rather chalky tone when seen close at hand, but the plant is a very handsome, large-flowered, ample-trussed, small tree of brilliant effect, and has the further interest of belonging to the group in which pedicels and leaf-stalks alike are all bearded with long glandular sticky bristles.†

Both these are bygones on Hpimaw Pass by mid-June, and so is the very handsome tree with heads of creamy white and long narrow foliage that seems on the reverse as if it were lacquered with silver over copper.‡ But Rhododendron, even in the middle zone of the forest, has not yet exhausted its efforts. The upper woodland has now erupted into a glory, with heavy masses of a lilac-flowered Azaleoid tree, very much recalling its ponticum-coloured predecessor, but more regular in the tiered array of leaf and flower, and brightly glaucous on the reverse of the pine-scented young foliage. But a very different story is told by another species, which I cannot help feeling sure is R. agapetum* This "came upon me like a flash of fire, and almost froze the marrow in my bones." I was expecting no new Rhododendron at the moment, when suddenly the dark woodland, at some 8,500 feet, assaulted my eyes with large heads of blazing light scarlet-crimson, such as I have never yet beheld in Rhododendron, perfectly clean and pure, but without the almost heavy bloodiness of some of the red arboreums and barbatums—a colour so lucent and intense that for two or three minutes after looking away from the flower one's sight is numbed and sees everything greenish and dull. R. agapetum is a small, loose tree, with dark handsome foliage; its flowers have every possible merit except scent, and by their date of appearance ought to have the highest value for English gardens, even as the plant's distribution and habits promise perfect security. In a wild state it does not grow nor flower with the fragrant white, but if such an association could be brought off at home, what a glorious sight it would be!

The riches of the Pass are now beginning to unfold, and where a month before there was nothing but empty deadness, with no promise of life, there is now a waving jungle of greenery, conspicuous among which is the superb foliage of Rodgersia sambucifolia, dominated by its solid tiered pyramids of blossom, that at their worst are of greenish pink, and at their best of a refulgent raspberry-ice rose. A tall blue Anchusa is also beginning to unfold, and a particularly graceful Thalictrum of medium size, with particularly large round flowers of pearly white. The rosy "Streptopus" of Sabiya-Kaw is also here, or something very like it, but this time solider and less fairylike, growing stolidly on the woodland banks, and with flowers of a heavier pink. Of Corydalis there are already two: the higher alpine of which has stout spikes of yellow above very beautiful silvery foliage; while the lower, a very tall, lax, frail grower, in jungles of aspiring stems, coils over in long dropping flights of golden sparks. A new Viburnum promises well, whilst a tree-Hydrangea and Rosa sericea is in fine bloom, and the bushes and trees are all coiled about with the white crosses of Clematis montana that is so often deluding one into taking it from afar for a startling new Rhododendron; while, up above, another white Clematis is unfolding its stiffly acuminate segments, and among the scrub of the Pass itself there is a dwarf Berberis of a foot in height, with savage horns, a bluish reverse to the leaves, and pale yellow rose-scented flowers like tiny roses. And the gullies from the crest even yield a Rhododendron (see Fig. 100), of a new colour, for this (as so far seen) is a small and rather sickly bush, with hanging trumpets of a most curious and interesting apricot-flame-colour, tinged with bronze and crimson. The leaf appears pale and smooth, though, on the reverse; which seems to differentiate it from the group of R. floccigerum and R. euchroum, to which I should otherwise have thought it belonged.*

But the glory of these days I have kept to the last. For now, and shortly, is the heyday of Nomocharis pardanthina (see Fig. 102). And the first sight of Nomocharis pardanthina happy and at home marks as much of an epoch in the gardener's life as does that of Primula spectabilis, Daphne petraea, Meconopsis quintuplinervia or Gentiana Farreri. I give fair warning to all whom it may concern that, while I may be merciful in my quantities of seed where duller things are concerned, I hope to gather whole bucketsful of the Nomocharis. It could not be humanly possible for anyone to have too much of this incomparable plant, and all those who already possess it are hereby urged to cherish it as the apple of their garden's eye. How shall I describe it, for the benefit of those who have only seen its lovely flowers drooping lonely in a pot at a show? It is most like some hybrid of a minor Lily with Odontoglossum Rossii, combining the perverse and sinister spottings of the one with the frank and graceful loveliness of the other, alike in proud, meek port and delicacy of shell-pink colouring. And when you see it on the open high Alpine grass-slopes of Hpimaw Pass nodding down at you with myriads of wide-open, dark-eyed faces, in every shade of pale rose

FIG. 100.—RHODODENDRON SP. FARRER'S NO. 1,024.

* The previous articles by Mr. Farrer were published in our issues for June 21, June 28, July 12, August 9, August 23, September 6, September 27, and October 18.
† Rhodo. sp. F. 887.
‡ Rhodo. sp. F. 872.

* Rhodo. sp. R. agapetum, F. 1,022 (R. argyrophyllum?).

* R. sp. F. 1,024.
† F. 1,031.

and every degree of freckling, there is nothing very much left for you to look at on Hpimaw Pass. All over the open slopes it incredibly abounds among the grass, and even descends into light cane-brakes and little dells on the fringes of the wood, seeding with such profusion and growing with such hearty goodwill that though for some four thousand years (or thereabouts) the Chinese have sedulously devoured its bulbs like Onions, and so continue to devour them, you could never believe the smallest difference had been made to the unbroken profusion of its drifted masses. Such is Nomocharis pardanthina at home, and such, no doubt, are the other recorded Nomocharis. For all of them I forecast a happy future on well-drained grassy banks in English gardens or wild gardens; but I find it very hard to believe that any one of them will surpass N. pardanthina, the longest known and widest spread of all. Scent is the only charm it lacks, but has all others so abundantly that this one lack is never noticed. *Reginald Farrer.*

HYBRIDS FROM BLENHEIM.

Mr. J. T. Barker, Orchid grower to the Duke of Marlborough, Blenheim Palace, Woodstock, sends a grand flower of a showy new hybrid named Laelio-Cattleya Cornelius, raised at Blenheim by crossing L.-C. Purple Emperor (C. Warscewiczii × L.-C. callistoglossa) and L.-C. St. Gothard (C. Hardyana × L.-C. Gottoiana). The flower, which is eight inches across, shows the influence of L.-C. Purple Emperor more than the other parent. Its sepals and petals are silver-white, delicately tinged with rose, and the intensely dark lip mulberry-red, the disc being sulphur-yellow and the narrow margin light rose.

Mr. Barker also sends flowers of other hybrids previously recorded as Blenheim varieties, the showiest of which are: Cattleya Veiris (Venus × Iris), a fine bronzy-gold flower, with ruby-crimson lip, having gold lines in the centre; Brasso-Cattleya Maronaris, of fine form, rose coloured with rosy-crimson lip and having distinct golden yellow blotches in the middle; Cattleya triumphans (Dowiana × Rex), sulphur-yellow, with rosy-mauve lip almost covered with bright yellow lines; and Brasso-Laelio-Cattleya Rumania, with a white lip veined with light mauve.

FIG. 101.—BRASSO-LAELIO-CATTLEYA JOICEYI.

ORCHID NOTES AND GLEANINGS.

BRASSO-LAELIO-CATTLEYA JOICEYI.

THIS handsome hybrid, for which J. J. Joicey, Esq., The Hill, Witley, Surrey (gr. Mr. J. Mackay), obtained the First-class Certificate of the Royal Horticultural Society, on October 21, and of which an illustration showing the flower, reduced one-third, is given in Fig. 101, is a distinct advance towards the hybridist's ideal, both in colour and form. It was obtained by crossing Brasso-Laelio-Cattleya Cooksonii (B.-L. Mrs. Gratrix × C. Dowiana), and Laelio-Cattleya Thyone (C. Dowiana × L.-C. Ophir). In its ancestry it may be noted that in the firm substance and good shape of the lip the Brassavola Digbyana in B.-L. Mrs. Gratrix plays an important part, and the L. xanthina and C. Dowiana in L.-C. Ophir develop the clear, dark canary or buttercup yellow of the sepals and petals, and basal portion of the lip, the front of which is tinged and veined with cherry-red. The latter colour appears more decided on the flower than is shown in the illustration, as the lighter shades were not caught by the camera.

ODONTONIA FARNESIANA.

FROM their Bruges establishment, now reported to be in working order again, Messrs. Sanders send a spray of this elegant hybrid between Odontoglossum Edwardii and Miltonia Warscewiczii, which they showed, with the first flowers, at the Royal Horticultural Society's meeting of August 26th, 1913. It was raised at Bruges, and has now developed into a graceful hybrid of intensely dark colour, the much-branched spike sent bearing over 100 fragrant flowers. The sepals, petals and broadly triangular lip are dark maroon with a ruby-red shade, the only other colour being the small, fleshy yellow crest of the lip, and the light violet tint of the upper side of the column. It is a worthy addition to the useful decorative class of dark-coloured O. Edwardii crosses, which retain their flowers perfect for a long time at a period when flowers are most needed for indoor decoration and florists' work generally.

TREES AND SHRUBS.

LIGUSTRUM NITIDUM.

I WAS interested in the note on page 142 concerning Ligustrum sinense and other fine, flowering Privets. I have long been aware that the Chinese Privet was a fine, flowering shrub or small tree, judging it by the quantity of flowers it produced, and the leafy and twiggy, more or less drooping branches. I have also noted L. lucidum in bloom, but never so finely as I saw it a few weeks ago at Snodland, Kent. The chalky valley of the River Medway seems highly favourable to various evergreen shrubs and trees. On each side of a gateway in the principal street was a tree of L. nitidum, measuring about 15 ft. high and as much through. *J. F.*

STRANVAESIA UNDULATA.

I READ with interest your note on Pyrus Sargentii, of which we have seven or eight plants here. Pretty as this is in spring, we have never considered it a really first-class subject in autumn, because its fruits so quickly becomes dull and soft, and shrivel early. Another weak point in Pyrus Sargentii is the extremely early date at which it drops its leaves. There are now (October 13) few leaves on our bushes. Is it, I wonder, known generally that while the leaves on the old wood of the plant—on the flowering and berry-bearing wood—are lanceolate and simple, those on the season's prolongation of the same twig (*i.e.*, on the young shoot) are palmately lobed? But this is by the way. I really venture to write because I am anxious to ask those of your readers who grow Stranvaesia undulata their experience of its berries. Some of those who read this may recall a tub-specimen which Messrs. J. Veitch and Sons used to send to shows. This plant has been in the garden here for some years and has thriven well. Measured to-day it is 8ft. 5in. high and 8ft. through. The tendency of another plant of the same species (kindly given me a few years ago by Mr. Elwes) is to throw out horizontal and rather pendulous branches, but the plant in question throws up tall, vigorous, upright branches. All the leaves on the old wood are now claret-colour, those on the new wood green. In early summer it is most beautiful, because then it has, scattered all through it, scarlet-crimson leaves, and these, with a low sun behind them, show like little Chinese lanterns. I always notice that this bush (it stands in the open lawn) arrests the attention of visitors; nor do I wonder at this. I know no other hardy shrub, excepting, perhaps, the huge thorns and blood-red stems of young shoots of Rosa sericea (spinosa?), which the sun shows off with quite the same transparent effect. But while each year the old wood of this bush is a mass of flower, the plant fruits very shyly. Each matured berry is of a beautiful pinkey-red, but the majority drop off to such an extent when green that one cannot now find two berries together, and I should doubt if there are twenty berries on the whole bush. Is this the habit of the shrub, or are we only unfortunate?

If the wet holds off this promises to be the most wonderful year for autumn colouring since 1912. The hanging woods here already have brilliant patches, and in the garden it is the same. *Aubyn Trevor-Battye, Ashford Chace, Petersfield.*

PYRUS TRANSITORIA VAR. TORINGOIDES

THIS is a new Chinese Crab of considerable beauty in foliage, flower and fruit. It was introduced by Mr. E. H. Wilson, who collected seeds during one of his earlier journeys on behalf of Messrs. J. Veitch and Sons. The seed number is 1,730 w.v. As the name Toringoides suggests, the plant belongs to the section of Crabs distinguished by comparatively small fruits, marked at the apex by the scar of the fallen calyx, which includes P. Toringo, P. Sargentii and P. Zumi. The globose fruits are about half an inch in diameter, with a stalk up to one inch long, creamy yellow, flushed on the sunny side with rich red. The tree is free in growth, probably as large as P. Malus. A distinct feature of the tree is the deeply lobed leaves.

SPRING FLOWERING BULBS.

Now that we are returning to more normal conditions, garden lovers are looking forward to a period of reconstruction in the garden. In many instances beds and borders devoted to food production during the last few years have carried their last crop of vegetables. The first question that arises is how can these areas most quickly be restored to at least some measure of their former floral beauty, for next spring. It will not be an easy matter to restore them as the usual stocks of spring bedding plants, such as Arabis and Aubrietias have been lost, and so far there has been no time to work up fresh stocks, so spring flowering bulbs seem to offer the readiest means of making a display in the flower garden and pleasure grounds next spring.

Fortunately there seems to be a good supply of the necessary bulbs, and, as the times go, at not unreasonable prices, as regards subjects required in quantity. It is fortunately, too, that in most cases the varieties of Narcissus and Tulip best suited for bedding, are those most reasonable in price.

Where the planting of bulbs has not yet taken place no time should be lost in preparing the beds or borders, for although planting can be done successfully throughout November, the latter part of October and early November is much to be preferred. Where beds have been grassed down for some years, or new ones are being made, a moderate dressing of well-rotted stable manure, or leaf soil should be dug in, taking care to bury the manure sufficiently deep, so that it will not interfere with planting operations: beds that have been cropped with vegetables should not require any manure but will probably benefit from a light dressing of lime forked lightly under the surface. Having prepared the positions the material and the best way to use it must be considered. Hyacinths and Narcissus were formerly very largely used for spring bedding in the flower garden, but for some years past both have been losing favour for this purpose, the former because they are over stiff and formal in habit, and must be staked, the latter from no lack of gracefulness but from the fact that they were more and more used in a natural way, *i.e.*, planted in the open grassy glades and spaces in the less dressed portions of the pleasure ground, as well as in thin woodlands and grass orchards. In the flower garden these bulbous plants were superseded largely by early May-flowering and Darwin Tulips, on account of their elegant and graceful appearance, no less than for their great range of colour and extended flowering period. It became a common practice to plant beds with both early and late flowering varieties, thus obtaining a display over a long period.

Hyacinths like light, warm, sandy soils, with plenty of well decayed cow manure for their roots to enter. If the soil is naturally cold and heavy drainage must be provided and sand and other gritty material added to keep the texture porous. The bulbs should be planted about four inches deep and six inches apart; if planted wider apart and some suitable carpeting plant is used the spikes do not look so stiff and formal. Old Hyacinth bulbs should not be thrown away. If kept and planted in grassy places where the turf is not too dense, they will flower for several succeeding years.

A few standard varieties in their respective colours are:—Gigantea, Moreno and Norma, rose and pink; Garibaldi, Gen. Pelissier and Rio des Belges, scarlet and red; Baroness van Tuyll, Mons. Van der Hoop and La Grandesse, white; Grande Blanche and Grandeur à Morveille, rosy white; Czar Peter, La Peyrouse and Regulus, light and porcelain blue; Baron van Tuyll and Grand-Maître, blue; King of the Blues, dark blue; Lord Balfour, dark violet; and City of Haarlem and Yellow Hammer, sulphur and bright yellow.

Narcissi, for reasons already mentioned, should, if possible, be left out of formal bedding schemes. There are also other reasons, and the chief is no doubt the fact that they resent being lifted and kept out of the ground for several months every year. Narcissi always succeed best when left undisturbed for at least three years and therefore they should be put into beds with other subjects where they can be left undisturbed. There are many herbaceous plants suitable for association with them and they may be planted in beds of herbaceous Paeonies, where they flower when the bright red stems of the Paeonies form a fine colour contrast. Such beds may also be planted with Gladioli or Galtonia candicans, thus giving a third display of flowers late in the season.

Narcissi may also be planted with Pinks and Carnations, their yellow flowers associating with the glaucous foliage of the latter. They may also be planted with Sedum spectabile or in beds of Aster Amellus; in short, they may be planted with most herbaceous plants, as well as in beds of thinly growing shrubs.

For general effect and planting in quantity the following are still among the best varieties:—Emperor, Golden Spur and Henry Irving, yellow trumpets; Madame de Graaff is still the best white trumpet, and the dwarf W. P. Milner is very excellent in grass. Among the bicolors there are Empress, Horsfieldi, Madame Plemp and Victoria; while in the incomparabilis section Sir Watkin, Frank Miles, Cynosure, Queen Bess and Beauty are excellent. Homespun and Lady M. Boscawen are newer varieties but worth making a start with, as also is Will Scarlett, but the red cupped forms must have partial shade or they burn in the sun. In the Barrii section Barrii conspicuus, Albatross, Flora Wilson and Seagull are all good, while in the Leedsii group Katherine Spurrel, Mrs. Langtry, Duchess of Westminster and Minnie Hume are capital sorts.

Tulips provide the best means of making a display of flowering bulbs in our flower beds during the coming spring. Starting with the early varieties a large range of colours is afforded from white, rose and pink, yellow and orange to red and crimson, while their period of flowering is so varied that the later ones join up with the May Flowering, Cottage and Darwin Tulips.

FIG. 102.—NOMOCHARIS PARDANTHINA,
Photographed by Mr. Farrer in its native habitat. (See p. 221.)

Tulip bulbs should be planted four inches deep, and the early sorts from four to six inches apart, while the taller Cottage and Darwin varieties may be planted from six to eight inches apart. Montrésor, Yellow Prince, Ophir d'Or and Chrysolora are all good yellow sorts; Artus, Cramoise Brilliant, Vermilion Brilliant and Waterloo are scarlet and crimson; La Reine and Cottage Maid, white and rose; Rose Gris-de-lin, rosy red; Thomas Moore and Prince of Austria, orange; Duchess of Parma, brown-red, bordered yellow; Couleur Cardinal, one of the latest and most beautiful of early Tulips, is crimson, heavily shaded with plum colour; Van der Neer, a fine purple variety, while three

of the best whites are White Beauty, White Hawk and White Swan, which has elegant egg-shaped blooms and is the last of the earlies to flower, linking up without a break the May flowering varieties. There is a good variety of early flowering double Tulips suitable for bedding purposes, but they are not so graceful as the singles. A few of the best are Murillo, rose and white; Tournesol, scarlet and yellow; Schoonoord, white; Vuurbaak, scarlet; Leonardo da Vinci, brown-red, with yellow edge; and Couronne d'Or, yellow, shaded orange.

The Darwin Tulips, which have been so popular in recent years, provide a wealth of variety and a great range of colours to choose from. As they grow tall, it is an advantage if they can be given a sheltered position; while Violas, Arabis and other dwarf carpeting subjects all help the general effect. The following are among the most useful and effective varieties for general purposes:—Clara Butt, rosy salmon; Erguste, dark heliotrope; Rev. Ewbank, heliotrope and lilac; Wm. Copeland, delicate lavender; Wm. Pitt, glowing crimson; Pride of Haarlem, cerise-scarlet; Harry Veitch, maroon; Baronne de la Tonnaye, rose; Europe, salmon scarlet; Fra Angelico, black; Zulu, violet black; Madame Krelage, soft rosy pink; Farncombe Sanders, dazzling crimson; Sophrosyne, soft rose, shaded lilac; Suzon, rosy pink; King Harold, maroon scarlet; and La Candeur, shaded lilac, passing to white. The great need in this class is a really good white.

The Cottage Tulips supply a few colours not well represented among the Darwins, especially some good yellows, such as Bouton d'Or, Ellen Willmott, Inglescombe Yellow and Parisian Yellow. Other good sorts are Caledonia, orange scarlet; Inglescombe Pink; Inglescombe Scarlet; Picotee, white with rose tips; The Fawn, soft dove colour; Macropsila, scarlet with black and yellow base; and La Rève, salmon with lilac shading.

Rembrandt Tulips are unique for large single beds or borders, as they are very quaint with their great variety of striped and flamed flowers. The markings include a great range of bright colours—yellow excluded—generally on white or softly shaded grounds.

While all the foregoing Tulips are adapted for large, broad schemes in the flower garden proper, there remains a variety of smaller bulbs or tubers available for special places in the garden. The Crocus family, for example, will provide for colour schemes in small, formal sets of beds, while the varieties may also be used to carpet shrubbery beds, taking care to plant them deeply, as they gradually rise towards the surface. They are also very effective planted in lawns under large specimen trees, where they grow happily for many years provided mice and pheasants do not destroy the corms. Anemones of the coronaria type, both single and double, are fine for warm sheltered borders, and in the reserve garden are useful for giving a supply of cut flowers: what is known as St. Brigid Anemones are very good for this purpose. They may be planted from September until early in the New Year; in fact, they may be planted in early spring for summer flowering. Anemone fulgens, of which there are several varieties, is also very useful, while the blue Anemone apennina should be planted by the thousand in open shrubberies. Scilla bifolia and Scilla sibirica, also Chionodoxa Luciliae and Chionodoxa sardensis should also be freely planted in shrubbery beds as well as in beds of strong-growing Roses. The different Muscari, or Grape Hyacinths, are useful for the same purpose.

The Spanish and English Irises must not be overlooked, as they are so beautiful and useful for supplying cut blooms. In this connection the Persian and Turban Ranunculi must not be forgotten, nor the French Ranunculi which are stronger growing than the others; they may be planted now in warm positions, or planting may be deferred until spring.

Other small subjects especially suitable as carpeting subjects are Brodiaea uniflora, Eranthis hyemalis, Ornithogalum umbellatum, and O. nutans, and, of course, Snowdrops.

But enough has been said to indicate quite a variety of bulbous plants, more or less readily obtained, with which a start may be made to replenish our gardens. *J. C.*

JACOBINIAS FOR WINTER FLOWERING.

WHERE a display of flowers has to be maintained at all seasons many members of the order Acanthaceae are especially valuable from the fact that they bloom during the late autumn and winter. Among the most useful are the Jacobinias, at least those that are now included in that genus, for most of them used to be known by other names, and in many gardens old names are still retained.

Jacobinia chrysostephana was introduced from Mexico in 1870 as Cyrtanthera chrysostephana. For a few years it was generally grown, but after a time it almost dropped out of cultivation. Then it was cultivated by Messrs. Jas. Veitch and Sons, who showed it in fine condition at some of the winter meetings of the Royal Horticultural Society. This created a demand for the plant, which, being comparatively easy of cultivation, was soon extensively grown. It is a half-shrubby subject, with upright stems clothed with ovate acuminate leaves, the principal veins, underneath, being marked with red. The flowers, which are of a curved, tubular shape, are disposed in a crown-like terminal corymb. Their colour is bright orange yellow, which is very effective during the half light of a dull winter's day.

J. coccinea used to be known as Justicia coccinea. It is a native of Brazil, from whence it was introduced as long ago as 1770. It is an upright growing plant, and the flowers which are borne in dense terminal spikes are bright scarlet in colour. It is a good companion to the preceding, and, like it, is most effective when struck from cuttings of good strong shoots in early spring and grown in a warm house with exposure to sun and air at the end of the summer and in early autumn. To flower them well in winter these two species require a temperature of 55° to 60°. In a young state the plants may be once stopped.

J. ghiesbreghtiana, under the name of Sericographis ghiesbreghtiana, has long been a favourite winter-blooming plant. The ovate-lanceolate leaves are of a deep green tint, and the tubular, bright scarlet flowers are borne in loose terminal panicles. As with the two previously mentioned species, sunshine and air towards the end of the summer are very essential to the free production of blossoms.

J. magnifica is of upright growth, with large terminal imbricated spikes of flowers. These have the upper lip erect and entire, while the lower one is three lobed. In colour the blossoms are usually of a rosy red colour. There are three distinct varieties, namely, carnea, pink; pohliana, crimson; and velutina, pink, with downy leaves. Exception may perhaps be taken to classing this with the winter flowering Jacobinias as it blooms at other periods, more often in summer and autumn than in the depth of winter.

J. Mohintli, a Mexican species, is somewhat like J. ghiesbreghtiana, and requires similar treatment. The tubular flowers are bright orange colour. It has also been included in the genus Sericographis.

J. pauciflora, an old favourite in gardens, has been long grown under the name of Libonia floribunda, and that name is still in very general use. This species, which is a native of Brazil, has small, neat leaves and tubular flowers, scarlet, tipped with yellow. One drawback to this Justicia is that the leaves, especially if exposed to cold draughts, are apt to turn yellow, so that a good deal of the beauty of even a well-flowered specimen is lost. This can to a great extent by obviated by occasionally watering the plants with a mixture of liquid manure and soot water, quite clear and not too strong.

J. penrhosiensis is a hybrid between J. ghiesbreghtiana and J. pauciflora, and more nearly resembles the last-named parent. The flowers, however, are of a brighter crimson, and the leaves larger and more acute. It was raised over 40 years ago and for a long time was exceedingly popular.

There are other species of Jacobinia, notably J. aurea, J. Lindenii, J. sericea, and J. suberecta; but the best for general decorative purposes are those mentioned above. *W. T.*

The Week's Work.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Planting Trees and Shrubs.—Many useful flowering trees and shrubs may be planted at this season. In planting standard or half-standard trees, whether grown for the beauty of their flowers or foliage, let the heads have ample space to develop into evenly-balanced specimens. The ground intended for the reception of the trees should be thoroughly prepared. Efficient drainage should receive first consideration, and the soil should be specially prepared to suit the different kinds of plants. The following list includes some of the most useful flowering trees and shrubs for gardens: Pyrus floribunda, P. f. purpurea, P. sanguinea, Prunus persica in variety, Cherries, Lilacs, Magnolia Soulangeana and M. alba superba, Spiraeas of sorts, Forsythias, Hydrangea paniculata, Philadelphus grandiflora, Tree Paeonies and Berberis in variety.

Shrubs.—Where it is intended to remove choice shrubs to more suitable situations, the present is a good time to undertake the work. See that the roots are thoroughly soaked with water some time previous to lifting them, as the ground is exceptionally dry. Have everything in readiness, in order that the transplanting may be done quickly. As soon as the shrubs have been replanted, water the roots freely and apply a mulch of suitable materials. Support the plants, if needed, to strong stakes, to prevent them swaying with the wind, as this would cause damage to the fine roots. Most pleasure grounds and shrubberies, no matter how well planned and originally planted, require attention after a few years. If neglected, trees and shrubs get into a very crowded state, necessitating lifting and removing, also thinning and pruning.

Spring Bedding.—The weather has been exceptionally favourable for work out of doors, and in most gardens spring bedding has been completed. If, however, the work is still to be done, it should be completed at the earliest opportunity, in order that the plants may become established before very cold weather sets in. Plant somewhat thickly, and more especially Daisies, Primroses, Aubrietias and other dwarf-growing subjects, so that they will cover the soil as much as possible.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Vanda Watsonii.—This charming and rare species is in flower. Excepting that the flowers are pure white, the habit of the plant and the blooms are similar to Vanda coerulea, and both species should receive similar treatment at all seasons.

Maxillaria picta.—This quaint old species is not large enough to find much favour nowadays, but it is, nevertheless, a free blooming and effective little Orchid. It is easily grown and thrives well in a cool, intermediate house, with a fair amount of atmospheric and root moisture all the year round. It is best grown in pots in ordinary Osmunda-fibre mixture, which should be pressed firmly about the roots. The flowers, produced on single-flowered scapes from the base of the pseudo-bulbs, are now developing.

Coelogyne cristata.—Plants of Coelogyne cristata and its varieties are completing their season's growth and the plentiful supply of water hitherto afforded the plants should be reduced in amount. All growers are not successful in retaining the pseudo-bulbs of this Orchid in a plump condition from autumn until the spring. The chief reason of failure is, doubtless, attempting to keep the plants in an almost root-dry condition, which invariably ends in shrivel-

ling. It must, however, be remembered that it wintered in a cool house, much root moisture would soon work mischief. The best and safest temperature in order to allow of giving the requisite moisture to preserve the pseudo-bulbs in a plump, healthy condition is about 55° at night. The plants should be well exposed to the light at all times, and any which were remade up this year should not be allowed to flower, as it usually takes two seasons to re-establish such plants and fit them for flowering.

Coelogyne ocellata.—This pretty and elegant little member of the genus flowers in winter. It is one of the easiest of Orchids to cultivate and may be grown year after year without decreasing in size or vitality. Plants that are fairly well established never fail to bloom. The rooting material should not be allowed to get dry until after the flowering season, when less moisture should be given, but the amount should be sufficient to prevent the roots from being dry for any considerable time. The plant should be grown in a cool intermediate temperature.

Promenaea.—Promenaea citrina is a trim and singularly pretty little Orchid, and the oldest and best known species of the genus. This little family of small-growing plants should be grown in shallow pans suspended near the roof-glass in the cool intermediate house. The thin texture of the leaves indicates the necessity for careful shading in bright weather. Promenaeas thrive in a compost of Osmunda fibre and Sphagnum-moss, over good drainage. The plants flower with great regularity provided a sufficiently vigorous growth is made. During winter the rooting materials should be kept moderately moist.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Early Pot Vines.—Those who rely on pot vines for the earliest supply of ripe Grapes should repot or top-dress the plants according as they need, as it will be necessary to start forcing them shortly. The compost should be of the best quality, but not necessarily rich in animal or chemical manures. Stimulants may be afforded at a later stage in the form of liquid manure and rich top-dressings. If mealy-bug, scale insects or other pests are present on the vines, thoroughly wash the canes with paraffin emulsion, and, if necessary, the plants may be cleansed again when they are placed in the forcing pits. Pot vines may be grown in slight bottom heat at the early stage of forcing, and this is most beneficial. Commence forcing gently in order that the buds may break evenly and strongly. Pot vines will need but very little pruning, and shortening of the canes is much better done earlier, when the vines are placed in the open. It is often necessary to bend extra strong rods to cause the lower buds to break evenly.

The Early Vinery.—The early vinery is generally utilised for storing pot plants until it is necessary to make preparations for starting the vines. If it be possible to commence the work at the present time so much the better, as it will be necessary, if ripe Grapes are required by April next, to start the vines towards the end of November. If the vines have not yet been pruned, shorten the laterals to two or three buds. If the basal buds appear of doubtful strength, retain three; if plump, two will be sufficient. In the former case, should the basal bud break satisfactorily and develop a bunch, the other shoots may be rubbed off. When shortening the leading growth of young rods it is a good plan to leave an extra bud for this reason. The terminal bud usually starts into growth much sooner than the lower ones, and will, if allowed to take the lead, cause the lower buds to break weakly and irregularly. If an extra terminal bud is allowed to grow to a length of two or three inches, and then rubbed off, it gives a slight check to the sap and causes the lower buds to break more evenly. The loose bark should be removed, but the wholesale removal of this bark is not advisable although it is necessary in the case of Vines infested with mealy bug or scale insects. Before proceeding with this work, spread cloths or mats on the floor of the vinery to catch the bark and insects, these being removed and burnt. The roof, stages, water-pipes and walls should be thoroughly cleansed with hot soap suds, and the vines dressed with a suitable mixture. Finally, the borders should receive attention. An inch or two of the surface soil should be removed, substituting turfy loam freely mixed with old plaster or mortar rubble and wood ash. If the border requires enriching, artificial manure may be added to the material used for top-dressing. Admit air freely up to the time of closing the house. If the border is outside the vinery, material for a hotbed should be prepared and placed thereon when the vines are started.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Broccoli.—In exposed gardens, and especially in the colder parts of the country, winter and spring varieties of Broccoli should be "tipped" to the north. This is a simple operation; with a spade open a trench on the north side of the row, then, with the spade thrust to its full depth on the south side, lever the plant so that the head falls comfortably on the slanting ground facing north. Tread the roots firmly and place the soil from the next trench on to the exposed stems of those of the first trench. This method will ward off frosts, keeping the stems safe to withstand the varied influences of wet and frost, both of which are detrimental to the stems of this vegetable when the plants are left in their natural upright position.

Asparagus.—The foliage of Asparagus is fully ripe and the stems should be cut clean out to the ground level with a sharp knife. Shoots bearing berries should be carefully removed, otherwise the bed will be full of seedlings the following year and, where good plants already exist, these are not required. Burn the whole of the tops, remove all weeds, then lightly fork the surface to allow the air to enter freely. In a week's time lightly top-dress the bed with horse manure in the case of heavy land, using cow and pig manure for lighter soils.

Leeks.—Plants comprising the main batch of Leeks in trenches need their final earthing. Choose a fine day for the work and have the soil used for earthing in a fine, dry, crumbling condition. Fine soil for the purpose may be obtained by digging and breaking the ground finely in the morning of a fine, drying day, and placing it in position the afternoon of the same day. Fine soil is warm, lies compact, and throws off heavy rains. When earthing the stems is completed place a layer of short straw one inch in depth around the plants to prevent the soil from being washed by heavy rains into their crowns.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Planting Fruit Trees.—All kinds of fruit trees should now be planted, and to carry out this work properly, it should be borne in mind that the chief aid to fruit production is surface root action. The trees, therefore, should not be planted too deeply, for roots that grow far below the surface do not obtain food suitable for fruit production, but such as makes gross wood and leaf growth. The soil is still warm and trees planted now will be well established next spring and make early growth next season. In planting Apples and Pears a circular hole should be made, larger than the spread of the roots and about 2 ft. deep. If the ground is of a heavy nature a layer of broken bricks or lime rubble should be spread in the bottom of the hole, but this is not necessary for gravelly or sandy land. Soil of a poor nature should be enriched with chopped turf, wood ash, bones, and lime rubble. These materials should not be put more than one foot below the surface, for if they were placed deeper the roots would grow down in search of them. The best results are obtained from trees planted on the surface and mounded up with soil. Where slates or stone flags are procurable, it is a good plan to place one under the centre of each tree, as this turns the roots outwards and, when root pruning is necessary it enables the work to be done without disturbing the centres of the trees. All bruised and broken roots should be cut smooth and roots that have a tendency to grow downwards severed. The roots should be laid out flat and care taken that the ends do not turn either upwards or downwards. Fine soil should be carefully worked among the roots which should not be bunched together. A slight shaking of the tree will help to settle the soil but it should not be jerked violently upwards and downwards.

Staking Newly Planted Trees.—After trees are planted, secure them to stakes until they become established again. Planting should never be done when the soil is wet and sticky; it is better to wait until the soil works freely. If the soil is dry, the trees should be watered after planting and the roots mulched with strawy litter, as this is better than rotten manure, which should never be placed near newly cut roots. If the trees are at all inclined to flag, they should be syringed with water once or twice daily. Long, gross growths should be shortened at the time of planting, as this relieves the trees of a certain amount of strain by winds.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Chrysanthemums.—Bush plants that have been grown outdoors, either in pots or planted out in borders, should all be under cover ere this. Afford them cool conditions, with plenty of air in favourable weather. Planted-out specimens, lifted carefully, may be placed in a pit or low-roofed house in a border previously devoted to Tomatos, or on the surface of a vine or Peach border, covering the roots with spent Mushroom bed manure or other short manure. Plants that are expanding their flowers should receive plenty of water, but not liquid manure; later varieties, only in bud, may be fed regularly with this stimulant. When the Chrysanthemums are in full flower, keep the atmosphere cool and dry to prolong the flowering period. Use sulphur to prevent mildew, and fumigate to destroy green fly.

Nerines.—As these pass out of flower they must not be allowed to become very dry at the roots; place the plants on a shelf in a house with some warmth, and supply liquid manure to the roots.

Tree Carnations.—Give the plants sufficient space in a light, well-ventilated house having a temperature not colder than 50°. In fine weather admit air freely, but during foggy weather the ventilators should be kept closed. Attend to the staking and tying of the flower-spikes. Well-established plants that are flowering freely may be fed by occasionally sprinkling some concentrated plant fertiliser on the surface of the soil. Fumigate the house occasionally to keep down insect pests.

Coleus thyrsoideus.—This is an effective winter-flowering plant, and may now be grown in the conservatory or other house having an intermediate temperature. Give the roots occasional supplies of liquid manure.

Dielytra spectabilis.—Plants lifted from the ground, potted and placed in ashes as bulbs are treated, should be removed from the plunge bed when growth has commenced and placed on a shelf in a cool greenhouse. A little later place them in a house having an intermediate temperature to develop the best colour of the flowers, and prolong the period of blooming. Dielytras will be found most useful for the decoration of the greenhouse or conservatory in winter.

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AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 46.0.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Oct. 29, 10 a.m.: Bar. 29.6; temp., 43°. Weather—Raining.

The Protection of Raisers of New Plants.

Horticulturists who, in the pursuit of their industry engage in the production of new varieties of plants, deserve well of the whole community. They must perforce count on many failures and disappointments, and if one per cent. of their productions proves successful, they may reckon themselves fortunate. No one will gainsay the importance of the work which they undertake, for to it we must look for much of the improvement of the plants we cultivate, increased yields from the crops of the market garden and orchard, greater variety, wider seasonal range, more perfect beauty in the ornamental plants of our garden. Nor are these all the benefits which the plant breeder may bestow upon us. By the employment of his art he has a means of circumventing many of the most serious diseases which take hold of our crops, and in the combating of which growers are put to large expense. By raising a new race, which is both resistant to a given disease and possessed of the excellence of other varieties whose only fault is that they are susceptible to that disease, the producer of novelties may save that loss and that expense. If the plant breeder could give us a race of Plums resistant to Silver Leaf as he has already given us races of Potatos immune to Wart Disease; if he were able to give us races of Roses, and late Peas, and Gooseberries which refuse to become mildewed; Currants which the Big Bud Mite attacks in vain, and which refuse to revert, he would by common consent be hailed as a public benefactor. Yet, as things stand at present, he might, having done all these things, derive insufficient material gain therefrom to disqualify him for an old age pension to support his declining years. It is therefore natural that those who are engaged in producing new races should claim some measure of protection which should enable them to reap the financial reward of their labour.

But when we attempt to formulate schemes whereby the interests of the producer of new varieties may be safeguarded without detriment to those of cultivators generally, we are confronted with grave, and it would almost seem, insuperable difficulties. These difficulties arise from several causes. In the first place plant novelties are of very different kinds; they range from mere sports which, as in the case of Chrysanthemums, may crop up again and again in different places, to the results of careful cross-fertilisation or the production of hybrids. Fortuitous novelties would, of course, have to be left outside any scheme, for they are the joint work of growers of an earlier generation, of Nature, as well as of the actual "raiser." Similarly, in the case of many flowering plants raised from seed, the original stock of the novelty often turns out to be by no means true. From seed of it a person other than the originator "selects" an "improved strain" which may be superior in many respects to the original variety. In such cases—and they are not few—who is the "only begetter" of the new variety? Clearly the honour should be divided between the producer and the selector, and to vest exclusive possession in the former would be against the interest of horticultural progress. A yet more serious difficulty is presented by reason of the fact that before a novelty can be proved to be generally valuable, it must in many cases be grown generally, and tested for a period of years. A new Apple is brought out and receives a high award, "but many are called, and few are chosen," and of the new Apples which receive, and rightly receive, a high award, few ultimately survive the test applied by general cultivation. At what stage is protection to be given? Could it be given on presumption of permanent merit, or must it be delayed for the long period of years until it has proved itself? If the latter, the raiser might be in receipt of the old age pension long before the tangible proof of his success was forthcoming; if the former, who would be prepared to do the testing, which could but result in having to pay the raiser for assisting him in proving the merit of the new variety?

So far as we know, two different suggestions have been put forward as to the method whereby the raiser's interest might be safeguarded. One is by the application of the patent laws to plant novelties. Any person who thought that he had produced a good thing would be able to apply to a properly constituted tribunal for a certificate of novelty, and that certificate would be honoured by the patent office, and a patent issued. The holder could then make his own terms for the exploitation of his novelty. Although this procedure might satisfy the raiser of certain kinds of plants and prevent a rival who bought a bloom of a novelty for a few pence from striking cuttings therefrom, working up a stock, and thereby gaining without expense the benefit of the raiser's enterprise, yet we feel sure that this procedure would create more difficulties than it would solve. It would certainly tend to prevent the free exchange of horticultural commodities, and it would impose a burden on the tribunal which issued the certificate of novelty such as few experienced horticulturists would be willing to undertake. To extend the proposal to all categories of cultivated plants would mean the setting up of a regular parliament of experts, whose time would be taken up in investigating claims which might involve prolonged research. For example, it may happen that for one reason or another an old variety suddenly turns up under a new name, and the variety is not recognised with certainty by the present generation of experts, or a new variety may present such general similarity to existing kinds as to fail—although it may possess some pre-eminently valuable feature—to secure a certificate. Indeed, the more the proposal is considered, the more difficult it would seem to extend the idea of a patent to a living plant and its issue.

The other alternative is to introduce a system of registration giving a vested interest in a name applied to a new variety. The objection to this procedure is of a more general kind. First, as we have indicated already, before a variety is of financial value, it must be proved to possess certain qualities, and it must become acceptable to the general public of horticulturists. It can only become acceptable if the general public have the chance of testing it, and we doubt whether they would be willing to co-operate with the raiser in proving the quality of his new production if they had ultimately to pay a royalty for growing it.

Looked at from the standpoint of any one class of plants, a solution of the difficulty is not so difficult, but when regard is paid to the great range of horticultural subjects, some propagated by seed and some by vegetative means, some maturing quickly and some requiring one or two generations before they can prove their worth, the problem is seen to be a most baffling one. Every fair-minded person believes that the men who make our fields more fertile, our gardens more beautiful, and our growers more prosperous deserve the fullest consideration, yet in spite of the adage "Where there's a will there's a way," we for our part cannot yet see clearly a way to mete out the measure of justice due to them without at the same time hampering the industry and pursuit of horticulture.

Gold Medal for Market Apples.—Lt. Col. H. Lumley-Webb, Tunstall House, Sittingbourne, was awarded the Royal Horticultural Society's Gold Medal at Westminster on the occasion of the Great Fruit Show, for 20 baskets of Apples. The exhibit, a splendid one, was placed first in the Market Growers' Class, and reflected the greatest possible credit upon Mr. J. Holloway, who manages Lt.-Col. Lumley-Webb's fruit plantations.

Precocious Rhododendrons.—We learn from Messrs. Pennick and Co. that Rhododendron Russellii and R. album are flowering abundantly in entirely difficult positions and aspects in their nursery at Delgany, near Dublin. The Rhododendrons do not usually flower until from January to March so they have anticipated their usual flowering season by two or three months. The production of a few flowers in late autumn is of fairly common occurence, especially when a dry summer is followed by a mild and moist autumn, but the complete and abundant flowering of the plants as in the cases here recorded is a very unusual occurence. Have other readers had similar experiences?

Conveyance of Seed for Autumn Sowing.—The Ministry of Transport has caused instructions to be issued to all railway companies that for the period of one month seeds forwarded by railway companies for autumn sowing must be given preferential treatment and that for the purposes of priority the traffic shall be dealt with as perishable goods under the ordinary freight conditions.

Pollination as a Chemical Stimulus.—Experiments * carried out in Japan on Cymbidium virens show that as the result of pollination the period during which the flower of this Orchid remains fresh is lengthened, and also that after pollination the "stigma" closes, the gynostemium swells, and the ovary also swells and

* "The Influence of Pollination, etc., on the Floral Organs and the Flowering Period," by Morita Koichi. *Bot. Mag.*, Japan, xxxii., 375, March, 1919.

lengthens. That some of these consequences of pollination are due to chemical action is shown by the fact that if the pollen is killed by boiling water or chloroform, and then placed in the stigma, the latter closes and the gynostemium swells. Dead pollen, on the other hand, does not influence the flowering period. Extracts obtained by soaking pollen in hot water cause a closing of the stigma, but have no effect on the gynostemium. The closing of the stigma does not appear to be due to mechanical stimulus, for in this respect this species differs from other species of Orchid which have been investigated, in that mechanical stimulation, by fine sand grains, etc., produces no effect. Pollen from other species of Orchids suffices to cause closing of the stigma, whereas that from other families produces no result. There is some evidence that the chemical substances which bring about these results are sugars and fatty acids, but so far the evidence is not conclusive.

Sale of the Rosefield Odontoglossums.—Mr. de Barri Crawshay has added one more of the old well-known collections to those that have passed away under the hammer of Mr. Harold A. Morris, the sale taking place at Rosefield, Sevenoaks, on October 21, 22 and 23, after having been postponed, owing to the railway strike, from October 7, 8 and 9. The collection was almost solely of Odontoglossums and Odontiodas. The remarkable feature of the collection was the large number of Odontoglossum triumphans Lionel Crawshay, there being 19 lots of this plant alone. Only one plant had ever been previously disposed of, to the late Sir H. J. Schröder, Bart. Mr. Crawshay has raised numerous hybrids from this plant and O. crispum Raymond Crawshay, of which there were also many plants, the finest being O. harvengtense Rosefield var. O. crispum Queen of the Earth was another prominent plant, the whole stock except two plants being included in 10 lots. O. crispum Imperator figured in 15 lots. A prominent part was taken by "White Pacho" crispums, there being about 100 plants of these, embracing such well-known forms as Mrs. de B. Crawshay, Seraphim, Cherubim, Venus, Nixia, White Empress, Louise and Memoria Lionel Crawshay, the last two never having been exhibited, but of the finest character. The large number of O. harvengtense found a ready sale. Many plants of O. rosefieldiense, O. Lambeauianum and a very fine strain of O. crispum Harryanum soon changed owners. The condition of the plants was obviously much above what might have been expected, as during the war Orchid cultivation has been conducted under very opposing forces in all directions. The sale was held on the first day and the company was entertained daily by Mr. Crawshay at lunch in a marquee, the sale taking place in the greenhouse on the second and third days. Mr. Crawshay photographed his guests after lunch. Owing to the fuel outlook and other disturbing circumstances inseparable from the present time, prices did not rule high, as may be seen from the appended list:—O. triumphans Lionel Crawshay, 8 guineas; O. rosefieldiense Memoria Lionel Crawshay, 5 guineas; O. crispum Memoria Lionel Crawshay, 10 guineas; O. Queen Alexandra Memoria Lionel Crawshay, 11 guineas; O. eximium Memoria Lionel Crawshay, 6½ guineas; O. harvengtense Rosefield var., 17 guineas; O. harvengtense Crawshayanum, 11 guineas; O. Lambeauianum Crawshayanum, 21 guineas; O. Lawrenceanum Cobbianum, 10 guineas; O. crispum Seraphim, 8½ guineas; O. crispum Queen of the Earth, 10 guineas; O. crispum Venus, 3 guineas; O. Victory, 4 guineas; O. Mirabeau, 6 guineas; O. Vulcan Theodora, 18 guineas; O. illustre Europe, 32 guineas. The price of the fine Pacho crispums ruled low indeed compared to pre-war values. It seems that Orchids are the one exception to have fallen in value, which is in one sense regrettable, though from a cosmopolitan view to be welcomed, as it may create a more general love of these beautiful plants.

Analysis of Fertilizers.—From the report of the Midland Agricultural and Dairy College on the composition of feeding stuffs and fertilizers compiled by Mr. H. C. Cranfield we learn that of 10 samples of soot received by the analyst during the past five years no fewer than five were adulterated with flue dust. The result of the adulteration is indicated by the analysis, for whereas genuine samples contain from 4.2—6.3 % of nitrogen the adulterated samples, which may be recognised by their black instead of brown soot colour and by their rough texture, contained only from 0.49—1.78 %.

Two New Fruits.—Those who had the opportunity of tasting Apple Queen Mary at the Fruit Show held in the Royal Horticultural Hall, on October 21, considered its flavour to be first class. Moreover, the members of the Fruit and Vegetable Committee selected Queen Mary (see Fig. 104), as the best seedling Apple submitted to them, consequently it has only to maintain its good qualities and have the present high opinion confirmed in 1920, to win the Bunyard Silver Cup. The parents of this new Apple are James Grieve and Wm. Crump. The flavour is distinctly suggestive of Cox's Orange Pippin and the shape indicates the influence of Worcester Pearmain—both parents of Wm. Crump. The yellow skin, streaked and shaded with crimson-scarlet, and the rounded outline show the influence of James Grieve. Queen Mary combines good quality with handsome appearance, and, as we understand from Mr. W. Crump, the variety grows and crops well, it should become popular alike for cultivation in private gardens and for supplying the markets. Mr. E. J. Parsons, who exhibited the variety, is to be congratulated upon having such a highly meritorious Apple to distribute. Mr. J. J. Kettle, of Violet fame, exhibited at the same meeting a new Raspberry named Lloyd George (see Fig. 103), and it attracted a great deal of attention. Fruiting growths were exhibited in sufficiently large numbers to indicate the highly productive character of the variety, while punnets filled with large ripe fruits gave evidence of the value of this variety as a late dessert fruit. The colour is deep raspberry-red and the flavour is excellent. Given a good autumn, a large plantation of this free-cropping Raspberry should pay very handsomely.

FIG. 103.—RASPBERRY LLOYD GEORGE.

The Resting Stage of Roots.—It is an interesting question* whether roots pass naturally and automatically into a resting phase, as do the stems of plants, in autumn, or whether, if the conditions are favourable, they continue to grow. The author seeks an answer to this question by subjecting branches of plants of kinds which readily form adventitious roots, such as Philadelphus coronarius, Viburnum Opulus, Salix, and Populus, to various conditions known to overcome the lethargy of plants in their resting stage—for example, the "warm bath," also tobacco smoke or smoke produced by burning paper. With respect to the first of these agents for stimulating resting plants to renew their growth, the effect of immersing the stems of plants in tepid water (about 85° F.) has often been described. In the case of

* See Abstract in *Internat. Review of the Science and Practice of Agric.*, ix., No. 1918, of paper by H. Molisch, published in Sitzungsberichte d. K. Akad. d. Wiss: Wien cxxvi, 1. 1917.

root formation the treatment was less efficacious. Branches of the plants mentioned above exposed for 12 hours to warm water or to tobacco or paper smoke for 24 hours, and placed for one or two hours in the open air before being brought into a greenhouse with a temperature of from 53°-68° F., behaved markedly different from similar branches brought into the greenhouse without having undergone previous treatment. In the case of the treated branches the leaves fell more quickly than did those of the untreated branches, and numerous adventitious roots were produced in the former, whereas in the latter either few or no adventitious roots were produced. It would certainly be worth while ascertaining whether similar treatment would hasten the development of roots in the case of hard-wooded and other plants, the cuttings or leaves of which produce roots slowly and with difficulty. From the results of his experiments the author concludes that roots, like the stems of plants, have a natural resting period, and that this phase may be overcome by suitable treatment.

The Elimination of the Prussic Acid in Burmah Beans.—Certain varieties of Burmah Bean (Phaseolus lunatus) contain in their seeds sufficient prussic acid to make the use of the seeds dangerous for food purposes. Experiments made at Pusa* demonstrate, however, that it is possible by selecting seeds with low prussic acid content to produce varieties in which that characteristic is perpetuated.

* *Agric. Research Instit., Pusa, Bull.* 79, by F. J. Warth and Ko Ko Gyi.

FRUIT REGISTER.

PEAR WINTER PEACH.

Among a batch of seedling Pears of unknown parentage obtained from abroad several have developed into very meritorious varieties that might usefully supplement the choice in British catalogues. There is one variety among them especially, a trial sample of which was judged by a well-known expert and considerably eulogised, and coupled with the advice to bestow the name of Winter Peach upon the variety. Another expert wrote to say he found that the quality was superb, not only quite equal, but superior to Doyenné du Comice. The illustration of the parent tree in its teens, reproduced in Fig. 105, shows promise of fertility when grown in good light soil. In this northern district the tree had to accommodate itself to a soil of unpromising sea sand fathoms deep, which forms the staple for garden purposes in this fashionable resort, and into which the roots of the parent tree must have well spread out in spite of liberal pockets of loam provided for each of several hundred trained fruit trees planted originally about ten years ago. I know of no Pear so keenly favoured by wasps, and although placed between other equally large bush trees of Marie Louise and Doyenné du Comice, wasps will have none of these if they can get to the superior Winter Peach with its rich aroma. The fruits ripen in December so that it is a desirable successor to the two other sorts named, and the season extends into January. A very satisfactory crop has been produced this season. In size the fruit is rather smaller than that of Doyenné du Comice, but is larger than Winter Nelis as grown here on a south wall.

To another variety among the seedling batch I have given the name of October Triumph, as it is superior to Louise Bonne of Jersey, but bergamot shaped; yet other sorts are under observation with very good promises so far. Were the Winter Peach stimulated in a way approaching that adopted by our champion fruit grower, Mr. Woodward, years ago, concerning Passe Crassane Pear, the Winter Peach might rise to leadership, for here no stimulants whatever are used, only water, and plenty of it in our readily parched soil.

Although the drought has also had distressing results here, this summer the fruits of Winter Peach are normal in size, as are also those of Doyenné du Comice, Marie Louise, Emile d'Heyst, Beurré Hardy and Le Lectier, while Louise Bonne of Jersey is a failure. Among Apples, our old favourite Ribston Pippin is of most excellent colour and size, while Cox's Orange Pippin is small. Benoni, too little known, although so pretty and of excellent flavour in September and of great fertility, is a worthy successor to Irish Peach with Gravenstein that has cropped this year better than ever before, to lead up to the predominant season of the Cox's Orange Pippin. *H. H. Raschen, Birkdale, Southport, Lancs.*

FIG. 104.—APPLE QUEEN MARY.
(See page 227.)

NOTES FROM IRELAND.

Dahlias in gardens in and around Dublin are still delightfully fair and fresh, some of the Cactus varieties even surpassing their first full flush of beauty. A few miles inland the plants were destroyed by frost on the last Sunday in September. Hard frost occurred at Curragh Grange gardens, nestling on the north side of that great, wide, wild sweep of the Curragh away in quiet Kildare. Even nearer, but in the lower level of the Liffey at Leixlip, where Mr. Bedford's pretty bungalow is perched on the bank above, a nipping night culminated in nine degrees of frost. Here, on the seaboard of Dublin, Dahlias unlifted survive year in and year out, that is the protected tubers, which too often form dense growth at the expense of flowers. Under this treatment, or, rather, neglect, the old Glare of the Garden seems supremely happy. In various gardens this variety commenced blooming in June, and continues in flower.

Never have I seen finer fruits of both Worcester Pearmain and Cox's Orange Pippin Apples than in a little town garden in the very heart of Dublin. The Apple crop generally is a good one. The Potato crop is, in many cases, a light one, but the quality is good. I have not met with a single case of blight over a goodly area of allotments around Dublin. My gardening friend from the Curragh informs me that in several acres he only found three diseased tubers. However, higher and drier Dublin rarely suffers from blight to any serious extent.

At a Potato competition recently held under the auspices, and confined to members, of the Irish Gardeners' Association, of 18 single dishes of a round variety in competition, 13 dishes consisted of Arran Chief, whilst of 20 dishes in the class for other than round, 10 were British Queen, and cleaner, better or more evenly-shaped tubers would be difficult to find. Of Arran Chief, it was predicted but three short years ago that it had not come to stay. The popularity of British Queen on this side is, perhaps, even more remarkable, and the finest samples now coming to our markets are almost limited to this variety. Celery, as generally seen both on plots and in private gardens, is, owing to the ravages of the Celery fly, the most afflicted vegetable we have to deal with; half the crop seems ruined. Dublin has been, and is still, well supplied with locally-grown Tomatos retailed at prices ranging around 1s. 4d. per lb., almost the minimum price of the season, and about double Covent Garden quotations. Mushrooms, owing to rain following heat and drought, have been very plentiful, but they have been ticketed by retailers at 1s. 6d. per lb. *K., Dublin.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Gardeners' Wages.—The suggestion of *An Employer* on p. 194 that the time has come for an association of garden owners to be formed meets with the whole-hearted approval of my association. Many existing misunderstandings would be swept away and fresh ones prevented if it were possible for representatives of the two bodies to meet occasionally. May I express the hope that *An Employer* will go a step further and endeavour to make such an association an accomplished fact? *Cyril Harding, General Secretary, British Gardeners' Association.*

——In reply to your correspondents, *An Employer* (page 194) and *A Nurseryman* (page 216), I would point out that they both appear to miss the point—*i.e.*, the necessity for a gardener to live decently as regards food, clothing and other things. Gardeners are demanding higher wages to enable them to be able to meet the existing very high cost of all the necessaries of life. Gardeners are among the most loyal, conscientious and intelligent workers of the world, and both the gardeners and the gardens of England are considered to be the best in the world; that being so, I would ask why the workers in such an important industry (they produce the first essential to life—food) should be expected to work for considerably less than a labourer receives in all other trades? *A Nurseryman* appears to think that because a man works on the land he should receive less than all other workers. Why? I submit that the land worker—in view of his great importance in the order of things—should be paid, not less than other workers, but more. The wages *An Employer* writes of as being the wages given to head gardeners would be worth, in pre-war days, about £1 to £1 5s. per week at a liberal estimate, and that does not speak too highly of his conception of a gardener's value. *A Gardener.*

——I have followed with interest the discussion on gardeners' wages, and, in common with most gardeners, consider it time that the status, both socially and financially, of gardeners should be recognised. In the industrial centres of the United Kingdom gardeners are laughed at and looked upon with derision. Why? The answer is to be found week after week in "Situations Vacant," in our horticultural journals. Is this because gardeners are less skilled than scavengers, farm labourers and labourers in every trade of the country who are better paid by far than most head gardeners? Decidedly not, for gardeners (I say gardeners, not outcasts from other trades and professions) are as skilled, and have to exercise more patience and intelligence than members of most other professions and they certainly have more to contend with. I wonder if *Employer* has tackled the problem of living on £2 per week or less, the miserable pittance offered for skilled men as gardeners. No employer can plead ignorance as to the cost of living, which of course includes all the necessary commodities of a household. One of your correspondents argues that if wages went up employers would cut down their establishments. Hundreds of gardeners have already given a silent retort to this threat by leaving gardening and taking up more remunerative employment and they will be followed by a great many more if present wages and conditions are not improved. This is to be regretted, for good gardeners are scarce and they are a national asset. *S. G.*

——I see in the *Times* a letter from the secretary of the British Gardeners' Association, which is likely to do much harm in lessening country labour if employers take any notice of it. My neighbours do not take any notice of it, nor do I. In that letter there is not a word to show that gardeners' houses are built for them, that these houses have to be paid for and kept in repair, and are subject to taxation, nor that gardeners have a certain amount of garden food. This association states that young gardeners at an age when they generally begin as journeymen, should be paid a wage which cannot be paid by employers. Many people who employ single-handed gardeners (who, by the way, are seldom trained gardeners) cannot afford to pay this extravagant wage. The increased cost of living it is right to take into account, but to upset the whole of the conditions that have hithero prevailed in the payment of young gardeners is folly. A writer in the *Times* recently stated: "I have seen with regret in other of Mr. Cyril Harding's manifestos the loose and embittering assertion, unbacked by proof, of his last paragraph. For some 40 years it has been my good fortune to have personal acquaintance and even friendship with gardeners all over the kingdom, and in public capacities to know much of their affairs. And I can say fearlessly that there is no general truth whatever in the statement that 'no worker is more liable to petty victimisation than is the gardener, especially in country districts.'" *An Employer.*

No American Blight (see page 185). — Has *Market Grower* taken any particular notice of our little friend the ladybird? I think he will

FIG. 105 PEAR WINTER PEACH; A DESSERT VARIETY, IN SEASON DECEMBER-JANUARY.

find that he has to thank the ladybird for the disappearance of the American Blight, or at least I find this to be so in my case. Owing to shortage of labour in these gardens we have not been able to do the usual winter spraying, and young cordon trees of Cox's Orange Pippin Apple planted on a south wall were infested with this pest. Greatly to my surprise, one day I found the trees were covered with hundreds of ladybirds, and they are now as clear of Woolly Aphis as if they had been washed. *Geo. C. Wareham, Holmbury Gardens, nr. Dorking.*

New Dwellings and Gardens.—With such a vast amount of capital to be invested in national building schemes and the endless consideration given to the latter there are yet a few, perhaps, less familiar points of view to be noted if the immense opportunity is to be fully exploited and the majority to be pleased with the result. My views are not so much concerned with the houses themselves and their accommodation as with the site of each dwelling in relation to the garden, an essential element as the garden city problem predominates more and more among the amenities of life. When the deep interest taken, especially since the war, in the home production of vegetables and fruit is duly weighed, my suggestion as to the garden becomes paramount. When Mr. Ebenezer Howard published in 1898 his first volume, *To-morrow*, which was the origin of the entire Garden City movement, I had an interview with him, when I advised that not more than eight separate dwellings should be erected to the acre. He was impressed with my reasons, and gladly availed himself of the limit for his purpose. We are now reminded in the numerous articles on the housing question that the Ministry of Health has proposed to place twelve houses to the acre, which, of course, greatly limits the expanse of the garden area for its strictly utilitarian object of food production. It is here where I make free to offer the suggestion that one-half, or at least one-third, of all houses should have the advantage of a larger garden through the limitation to eight houses to the acre, leaving the remainder of less extent to those preferring a lesser task in the cultivation. Indeed I go still further, and while, perhaps, thinking preferentially of detached houses I should gladly admit pairs of semi-detached houses, which economises surface, and thus adds to the available portion. Even three dwellings might be joined together, the central one having no garden proper, but only a yard or little more, thus enabling a further enlargement to be accomplished for each of the two adjoining houses. The houses should be placed a little back from the footway by means of a small front garden, to infringe the least possible on the back garden. Another element of importance for garden purposes would be the aspect of the back garden site to the sun. Gardens should not be made too long and narrow, but rather broad and short. This method wastes less surface, and enables a more systematic choice of crops to be planted. A final word needs saying in regard to fences that divide the gardens. There should be no hedges, however much superior to look at in the beginning than bare wooden palings, which are infinitely more useful. The root systems of hedges in a few years' time would monopolise all fertility of the borders around the garden and sadly limit, if not ruin, expectations of crops, whereas espalier or cordon fruit trees of endless variety would furnish solid contributions from a really choice situation. Even Tomatos would do remarkably well in south or west aspects. The northern aspect of the paling could be advantageously applied to espalier Gooseberry trees, Currants, Loganberries and the parsley-leaved Blackberries. Of fruit trees the form of standard should be wholly avoided, and only bush form, to grow no higher than ten feet, or cordons be admitted. Of cordons with a single stem many might be usefully planted in pairs for arches across footpaths, a system of exquisite economy in avoidance of shade being thrown on adjacent vegetation so often sadly marring results where standards are allowed to encroach. Continuous admirable results of this system have been attained under my personal observation for many years and never repented of. The arches might be placed six feet apart. A couple of stakes should assist in the formation, and the largest size of children's hoops be used for the arch. In the flowering season this embellishment is very striking, and superior fruit is produced. This system cannot be surpassed for small gardens. *H. H. Raschen, Birkdale, Southport.*

Scarcity of Desirable October Dessert Apples (see pp. 206, 216).—Mr. Molyneux writes very interestingly on this subject. As he states, Apples vary considerably so far as their time of ripening is concerned, on varying soils. This is, of course, true, nevertheless I can hardly understand why Mr. Molyneux should fail to mention Rival as an October dessert Apple, because, in the North, East, and West of England, I have known it to be in first-class condition during that month. I have a considerable liking for this particular Apple, and consider that it should be more widely grown, especially by the many ex-service men settling on small-holdings. Rival is so remarkably attractive in appearance that it is always a good "seller," and, in my experience,

the tree crops fairly well and grows vigorously. Another Apple which might have been mentioned is Kerry Pippin. True, the fruits of this variety are on the small side, but surely the description "little and good" could be applied to Kerry Pippin so far as flavour is concerned. In Cheshire and Suffolk I have known this dessert Apple to be at its very best in October. With Mr. Molyneux's appreciation of Benoni, I am in complete agreement, and at Ware Park, I found it during a period of five years to be my most dependable cropper on espaliers. Benoni certainly well deserves a much wider circle of patrons. *F. W. Miles, Horticultural Instructor, Herts County Council.*

October Dessert Apples.—In reply to Mr. Molyneux's complaint (see p. 206), respecting good October Apples, I would advise him to try some or all of the following varieties for use in October. Some years ago, I had the same difficulty and planted some of these varieties each year until I had them all, and now I have no difficulty whatever in keeping up a supply of first-class dessert Apples. Aromatic Russet is a medium round Apple, light russet in colour with red streaks, it is highly aromatic, is very hardy and an abundant bearer, and is of first rate quality in October. Beauty of Kent is a handsome Apple and the smaller or medium fruits may be used in October; although the variety keeps well into February I take for use the highly-coloured fruits from the tips of the branches and these are fit for use weeks before the rest of the fruit; this also applies to Ribston Pippin. Beauty of Kent is a green, yellow streaked Apple, highly coloured, scarlet when fully exposed to the sun; it is crisp, tender and juicy, and an abundant bearer. Blenheim Pippin can also be used in the same manner, and is sweet and juicy and a first rate variety. Cellini is another, the flavour is brisk, with high aroma, and it is a very free bearer; only the medium fruit and the earliest should be used in October. Cornish Aromatic is medium sized, streaked with russet and highly coloured, of superb flavour and a first-class Apple for October. Devonshire Quarrenden is also good with me for October, and needs no praise as its qualities are well known. Emperor Alexander can also be used if medium fruits are picked out; in colour it is yellow and streaked red, rich, juicy, very aromatic and a handsome Apple. Golden Reinette is a medium sized round Apple, orange with red streaks, it is sugary and of fine flavour, good for October. Gravenstein is another good variety for dessert, in October it is pale yellow in colour and crisp, aromatic and vinous. Yellow Ingestrie is medium sized, golden-yellow, with a brisk vinous flavour, and is first rate in October. Kerry Pippin is another well-known variety and of good quality and a first rate bearer. King of the Pippins, is also good for October, if the earliest fruits are selected. Pine Apple Russet is a medium sized russet, crisp, juicy, with a rich aromatic perfume. Rival is above medium size, but is highly coloured and of excellent flavour and is a good October Apple. Rose of Sharon (Syn Sack and Sugar), is an excellent October Apple of good colour and flavour, and highly perfumed. Scarlet Pearmain is also good. Washington is a first-class Apple for warm soils, the flavour is all that can be desired and it is very aromatic, in the colder climates it should be grown on a south wall. *V. F. Gregson, Penrose Park, Helston, Cornwall.*

Potato Majestic (See page 193).—We procured 14 lbs. of seed of Potato Majestic last spring for trial, and practically every tuber had to be divided, some into as many as three or even four pieces. The crop has just been lifted, and the yield is just a little over 2 cwts., which works out at about sixteen times the weight of seed planted. The trial drill has had absolutely no special treatment. and has been grown alongside other varieties in the open field, yet the tubers are almost without exception of enormous size, only about four or five pounds being below normal seed grade. I shall certainly grow a much larger quantity of Majestic next season, and shall not hesitate to cut the seed, which will be necessary in practically every case. *J. E. Palmer, Tilstone Lodge Gardens, Tarporley.*

SOCIETIES.

NATIONAL SWEET PEA.

OCTOBER 21.—There was an unusually good attendance of members at the annual general meeting of this society at the offices of the British Florists' Federation, 35, Wellington Street, London, under the chairmanship of Mr. J. S. Brunton. A sincere vote of condolence was passed to Mr. E. W. King, the retiring President, on the loss he has sustained in the death of his sister.

The committee's report for the past year, which was unanimously adopted, records good work done under generally adverse circumstances. The sale of flowers at Chelsea, in aid of the R.H.S. War Horticultural Relief Fund, realised nearly £45, and this was in spite of the unfortunate fact that a large consignment from the President was held up on the railway. The membership shows an increase of 118, including 9 vice-presidents and 16 affiliated societies. In the words of the report, it has been "a fortunate year for the Society" from a financial point of view. With the end of the war there was no further use for the ambulance car, which was purchased by funds raised at the Trafalgar Square Floral Fête, and subsequently used on the Western battle front. The car has been returned to the society and sold for £234. Of this sum £200 has been invested in War Bonds. There are now liquid assets amounting to £216 7s. 10d.

Mr. B. Peyman was elected President for the ensuing year. The Society's publications were discussed, and Sweet Pea Hawlmark Pink was selected by the Floral Committee as the best novelty of the year, and a coloured illustration is to be included in the next "Sweet Pea Annual."

Mr. J. M. Bridgford was unanimously elected Chairman of the committee. Mr. Edward Sherwood (the Hon. Treasurer) and Mr. H. D. Tigwell (the Secretary) were re-elected. The usual changes in the General Committee were made, the new members being Messrs. E. W. King, J. S. Brunton, J. Stevenson, W. J. Unwin, J. Stark, and A. Dawkins.

After discussion it was decided, provided satisfactory arrangements can be made, to hold next year's show in the provinces, if possible at Manchester.

ROYAL SCOTTISH ARBORICULTURAL.

(Aberdeen Branch.)

OCTOBER 25.—The annual meeting of this Society was held at Aberdeen University. Mr. Irvine of Drum, the president, occupied the chair, and in opening the proceedings referred to the great loss the branch had sustained in the death of Professor Trail, and moved that an expression of appreciation of the Professor's services be entered in the minutes and an excerpt sent to Mrs. Trail and family. Mr. C. S. France, F.B.S., seconded, and the motion was unanimously agreed to.—A letter was read from Mr. R. Galloway, S.S.C., Edinburgh, secretary of the Royal Scottish Arboricultural Society, stating that it was proposed to have a forestry exhibition on the occasion of the Highland Society's show at Aberdeen next year, and to revive the competitions for estate nurseries and estate plantations. The Aberdeen branch was asked to co-operate, and forward suggestions in connection with the schedules, the competitions to take place within the show district. The Council desired to resume those forestry branches of activity.

The Chairman thought they should reply that they were willing to do everything in their power to make the Highland exhibition of next year a success. This was agreed to.

Mr. H. J. Stewart, secretary of the recently-formed Aberdeen University Forestry Society, wrote suggesting that two representatives from the Aberdeen branch of the Royal Scottish Arboricultural Society be appointed as hon. vice-presidents of the University Society. This was adopted, and Mr. Irvine of Drum and Mr. John Michie, M.V.O., were nominated. Five new members were admitted to the branch, including Mr. J. F. Annand, Divisional Forestry Adviser of the Interim Forestry Authority, who was present.

PRACTICAL FORESTRY.

The principal business was then entered upon, when Mr. John Michie, M.V.O., Kincairn, near Aberdeen, for many years head forester to the King at Balmoral, and afterwards factor on the royal estates, from which he retired recently, opened a discussion on "Practical Forestry." Mr. Michie strongly advocated an early commencement with actual, judicious planting over as large and suitable areas as possible. While extending a most cordial welcome to the new Forestry Authority as the body responsible for the future advancement and management of sylviculture over the British Isles, let existing foresters in various districts, with local practical knowledge, be appointed as quickly as might be, and by their advice, responsibility and management, let a start be made with planting appropriate trees on any suitable land that could be obtained. the five most suitable species of Coniferous trees recommended by the Forestry Sub-Committee of the Reconstruction Committee being Douglas Fir, Larch, Sitka Spruce, Common Spruce and Scots Pine. Many millions of these were available for planting, thanks to the foresight and energy of the nurserymen of this country, and Aberdeen in particular. Large quantities of seedlings, as well as lined-out plants of the desired varieties, were ready and they did not forget the efforts of the North of Scotland College of Agriculture Forestry Department.

It had been advocated, first, to replant the woodland areas cut over during the war, then extend to plantations new. Personally he did not consider that course necessary or even desirable. It would be much better economy to plant new ground to begin with, whether this were undertaken by the private owner of the land or by the State. If they had really fresh ground, there would be no set-back from attacks of either the pine weevil or the pine beetle. Of course, in either case there was always the menace of rabbits—regarding the destruction of which a sufficiently strong edict should go forth—and in some places black game, capercailzie, and even voles.

At this stage of his remarks, Mr. Michie showed a fine stuffed specimen of the pine marten—largest of the weasel family, and measuring about a couple of feet—trapped about 35 years ago in the Ballochbuie Forest, Balmoral, by a woodman, who had, unfortunately, killed it. At that time there were several martens left in the Ballochbuie Forest, when not a squirrel could be seen. The pine marten, he feared, was now almost, if not entirely, extinct in Scotland. It disappeared from the Ballochbuie more than twenty years ago, and now the squirrel was rampant, free to prosecute his usual peeling damage to the younger portions of the forest, except when a gamekeeper, when so disposed, bagged the squirrel's tail for sixpence. Mr. Michie thought it would be a good thing, if possible, to re-introduce the pine marten as the best means of keeping down squirrels, the two being natural enemies. Mr. Michie then gave practical advice in the planting of various trees, fencing, thinning, under-planting and other matters concerning up-to-date forestry.

Mr. Sydney Gammell, of Countesswells House, strongly advocated the duty, by legislation if necessary, of getting rid of the squirrel and rabbit pests if we were to have satisfactory forestry. Mr. Gammell gave practical proofs of the squirrel's migrations, and of the great increase of the grey squirrel in England.

The Chairman thought it would be easier to exterminate the rabbit than the squirrel, but another pest had recently been coming to his woods—namely, roedeer from the forests of Hill o' Fare, where a good deal of timber had recently been felled. If the roedeer increased, as they threatened to do at present, they would prove as great a pest to forestry as rabbits and squirrels.

Mr. Wyllie, of Ballogie, strongly advocated speedy replanting of the ground from which timber had been cut, and said he had never any difficulty in getting people to come and take away the hag-wood for burning, and thus clearing the ground.

Mr. Michie said he knew of cases where there was great difficulty in getting the old wood cleared away.

Mr. Peter Leslie, lecturer in forestry at Aberdeen University, gave some interesting and practical advice, and, after some further discussion, Mr. Michie was heartily thanked for the able manner in which he had introduced the subject.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.

October 25.—The annual meeting of this society was held in the Music Hall Buildings, Aberdeen. Mr. J. M. Simpson, in the absence of Colonel W. S. Gill, C.B., Chairman of Directors, presided. Mr. J. B. Rennett, advocate, Aberdeen, the secretary, submitted the annual report which showed that from a horticultural point of view, the exhibition in August fell short of its immediate predecessors in the number and quality of the exhibits, with the exception of the classes for Sweet Peas, which had never been shown better than at this year's exhibition, when the Scottish Challenge Cup of the National Sweet Pea Society was offered in competition. Although the expenses had been of necessity high, the financial position of the Society had not suffered by the resumption of operations. The income for the year amounted to £484 17s. 0d., and the expenses to £484 12s. 6d. The amount at credit to be carried forward was £130 19s. 5½d., in addition to the reserve of £60, which was accumulated in the few years before the war. During the war, as was to be expected, the society had suffered a considerable diminution in the number of its members. The report was unanimously adopted. All the office-bearers were re-elected *en bloc*, and Lord Provost Sir James Taggart and Mr. A. E. Benzie, Morkeu, Cults, were added to the list of hon. vice-presidents. Eighteen of the retiring directors were re-elected, and Mr. W. Henderson, gardener, Morkeu, and Mr. Joseph Duncan, College Bounds, were elected to fill two vacancies. It was resolved that the complimentary tickets for admission to the annual show hitherto issued to members be discontinued.

SCOTTISH HORTICULTURAL.

Potato Exhibition.

October 22 and 23.—The above exhibition, which was held in the Waverley Market, Edinburgh, on these dates, and took the place of the Chrysanthemum Exhibition which the Association held annually in pre-war days, was a very fine one, but, unfortunately, owing to a poor attendance, it was not a success financially. There were over 600 competitors, and the entries in the various classes totalled over 2,500.

Open Classes.

For 24 dishes of Potatos in 24 distinct varieties, representing early, mid-season and late kinds, 5 tubers of each, for which five prizes amounting to £30 were offered by Mr Robert Fife, the President of the Association, the first prize of £10 was awarded to Mr. J. M. Stewart, Mollance, Castle Douglas, Mr. R. Staward, Panshanger, Hertford, being placed second.

For 18 dishes in 18 varieties, representing early, mid-season and late kinds, 5 tubers of each, for which five prizes amounting to £15 were offered by the Corporation of Edinburgh, Mr. Stewart also carried off the first prize of £5, and he was also successful in winning the first prize of £4 in the following class for 12 dishes in 12 varieties, for which the prizes were also offered by the Corporation.

In another class for 12 dishes in 12 distinct varieties immune to wart disease, for which five prizes amounting to £20 were also offered by the President, Mr. D. Logan, Coldstream, was placed first. For 6 dishes of white Potatos, in 6 varieties, and also for six dishes of coloured Potatos in 6 varieties, Mr. D. McPherson, Thornton, Fife, carried off first honours.

In the single dish classes, Mr. A. Hogarth, Kelso, was first for early whites, late whites and kidney-shaped whites. Mr. C. Brown, Meigle, Perthshire, was first for early coloured: Mr. G. Wood, Barns, Peebles, for mid-season whites, and round or oval coloured; Mr. W. Goldstraw, Chapel-on-Leader, Earlston, for mid-season coloured; Mr. J. A. Sword, Inveralmond, Cramond, for late coloured and also for "British Queens"; Mr. P. Kerr, Preston Tower, Chathill, Northumberland, for round or oval whites; Mr. D. McPherson, Thornton, Fife, for round or oval whites immune to wart disease, kidney-shaped coloured and "Great Scot"; Mr. R. Howie for round or oval coloured immune to wart disease; Mr. R. Lawson, Colinton, Midlothian, for kidney-shaped whites immune to wart disease; Mr. J. S. Adams, Brechin, for kidney-shaped coloured immune to wart disease; Mr. W. Fernie, Cupar, Fife, for "Sharpe's Express"; Mr. J. Girvan, Currie, Midlothian, for "Duke of York"; Mr. J. Cochran, Galashiels, for "King Edward"; and Mr. J. Mitchell, Broomhall, Fife, for "The Ally." Mr. J. H. Gilmour, Goulhurst, Kent, carried off the prize for the best dish of any kidney-shaped variety with "Majestic," and Mr. D. McPherson was successful for the best dish of any round variety with "Arran Comrade."

Farmers and Market Growers.

In the classes open only to farmers and market growers, Mr. D. McPherson was first for 6 dishes in 6 varieties (12 tubers), 2 dishes in 3 varieties immune to wart disease, and one dish in one variety, thus carrying off first honours in all these classes.

Open Only to Gardeners and Amateurs.

Mr. J. M. Stewart, Mollance, was placed first for 18 dishes in 18 varieties; Mr. R. A. Gregor, Dumfries, for 12 dishes in 12 varieties; Mr. S. Scobie, Dailly, Ayrshire, for 6 dishes in 6 varieties immune to wart disease; and Mr. J. H. Gilmour, Goudhurst, Kent, for one dish in one variety.

Amateurs' Classes.

Mr. J. Derog was first for 3 dishes in 3 varieties; Mr. T. Noon, Jnr., for one dish in one variety; and Mr. R. Howie for one dish in one variety immune to wart disease.

Allotment Holders' Classes.

Mr. J. Price, Barrhead, was first for 3 dishes in 3 varieties, and also for one dish in one variety immune to wart disease; and Mr. T. Noon, Jnr., Stockton, near Rugby, was first for one dish in one variety not immune to wart disease. Mr. Price was also successful in winning the special prize for the best dish in the allotment holders' classes with "Arran Comrade."

Special Prizes.

The most sensational among the special prizes were those offered for a dish of "Kerr's Pink," "The Duchess" and "Tinwald Perfection." for each of which Messrs. Dobbie and Co. offered a first prize of £10, with nine others, and for the best tuber of "Kerr's Pink" in the exhibition, for which the raiser, Mr Kerr, of Banff, offered a prize of £5. There were over 450 entries for the best dish of Kerr's Pink, and the winner of the first prize was Mr. A. Basile, Weybridge; but the prize for the best tuber of this variety in the exhibition fell to Mr. J. M. Stewart, Mollance, in whose lot of 24 dishes it was found. Of "The Duchess" and "Tinwald Perfection" there were very large entries. For the former Mr. A. Paton, Alexandria, Dumbarton, carried off the first prize of £10, and Mr. M. Sproat was placed first for "Tinwald Perfection." Mr. R. Lawson, Colinton, was first for a dish of "Bishop"; Mr. J. Dalrymple, Cupar, for a dish of "Guthrie's 75's"; Mr. D. McPherson for a dish of "Rector"; Mr. H. Bone, Alexandria, for a dish of "White City"; Mr. A. Drummond, Crieff, for a dish of "Edzell Blue"; and Messrs. Nicholson, Dumfries, for a dish of "The Lochar." Mr. M. Hood, Willesborough, Kent, was first for 3 dishes of Potatos, including one or both of "Mein's English Beauty" and "Mein's Early Round," for which the prizes were offered by Messrs. Laing and Mather.

Fruit and Vegetables.

There was a small section for fruit and vegetables, for which a number of special prizes were offered. Mr. J. M. Stewart was the first prize winner in the class for 6 dishes of culinary Apples, 3 dishes of dessert Apples, and 3 dishes of dessert Pears, and also for one dish of dessert Pears; Mr. Geo. Anderson, Whittingehame, East Lothian, was first for one dish of Apple "James Grieve"; Mr. W. Goodall, Errol, for 2 dishes of culinary and one dish of dessert Apples (confined to Scotland); and Mrs. J. Stafford, Earlston, for one dish of culinary Apples.

Mr. J. A. Murie, Edinburgh, carried off first honours for market Leeks; Mr. I. W. Scarlett was first for four kinds of vegetables as grown for market; and Mr. T. J. Gray, Edinburgh, won the prize for a collection of vegetables from a single allotment in Edinburgh or Leith.

Non-Competitive Exhibits.

Gold Medals were awarded to The City of Edinburgh Public Parks Department for 334 dishes of vegetables; Messrs. Dobbie and Co., Edinburgh, for Potatos. Silver-Gilt Medals to Messrs. Dickson and Co., Edinburgh, for Potatos; Messrs. Tillie, Whyte and Co., Ltd., Edinburgh, for Potatos and vegetables; Messrs. Alexander and Brown, Perth, for Potatos; Messrs. Jas. Fairley and Co., Cairneyhill, Fife, for Potatos; Messrs. Dickson and Robinson, Manchester, for Onions. Silver Medals to Messrs. Thyne and Son, Dundee, for Potatos; Messrs. R. and S. Paton, Ltd., Edinburgh, for Potatos; Messrs. Kent and Brydon, Darlington, for Potatos.

The Board of Agriculture for Scotland showed American varieties of Potatos; the Edinburgh and East of Scotland College of Agriculture preserved fruits, Potato products, insect pests, etc.; Dr. John H. Wilson, Agricultural Department, University of St. Andrews, staged 60 new varieties of Potato, including a number of crosses with wild species.

In the afternoon and evening of Wednesday the 22nd a conference on "The Potato" was held within the Waverley Market House. In the afternoon the speakers were Dr. John H. Wilson, Agricultural Department, University of St. Andrews, whose subject was the raising of new varieties, and Mr. Geo. M. Taylor, Edinburgh, who discussed the question of bud variation in Potatos. In the evening Mr. J. Snell, Board of Agriculture and Fisheries, and Dr. W. G. Smith, Edinburgh and East of Scotland College of Agriculture, discoursed on wart disease and "other diseases" of the Potato respectively. There were good discussions.

KENT COMMERCIAL FRUIT.

October 28, 29 and 30.—During the period of the war the Committee of the Kent Commercial Fruit Show suspended operations, but as soon as peace was in sight preparations were made for holding an exhibition of Kent-grown fruit, properly packed and graded. In 1914 the outbreak of war compelled the Committee to abandon the show, for which arrangements were already far advanced, and in 1918 fruits were scarce and the armistice came at far too late a date in the year to allow time for making a fresh start. Certain growers and others considered 1919 was too soon for holding a show, but Prof. Dunstan, the chairman, and Mr. Miskin, the secretary, thought otherwise, and they had the support of the Committee. The exhibition resulting from the efforts made was held in the spacious Agricultural Hall, at Maidstone, on the dates given above, and although it was not quite so extensive as the one held in 1913, it was equal in quality to any show previously held. In 1911 there were 210 exhibits, 350 in 1912, 420 in 1913, and 236 this year.

The Committee and growers are to be congratulated upon a splendid exhibition of finely-grown fruit, mainly of fine colour and packed in boxes

and barrels, instead of being displayed in sieves, halves and bushel baskets. The aim of the Committee has always been the encouragement of skilful packing and thorough grading, and it has accomplished much. In regard to packing, however, while the fruits were packed for the most part in very regular fashion, and well graded, we have one complaint to make, and it is that in a very large number of instances the fruits in the top layer were, in part, above the level of the sides of the box, and the pressure that would have been necessary to permit of the nailing down of the lid would have bruised many specimens, and surely this is not correct packing.

The schedule of the classes is an excellent production, and in every class the name, address and number of the exhibitor are printed, and, when the schedule does not require a special variety of Apple or Pear, the name of the variety shown is added to the competitor's name. The schedule is really a schedule and catalogue combined and well worth the shilling charged.

Open Classes.

The premier award for the best six boxes of Bramley's Seedling fell to Mr. W. W. Berry, Faversham, who had splendidly developed specimens packed in 2 by 2 style. The Exors. of the late Mr. S. Shelton, West Farleigh, 2nd, with grand fruits packed on their sides, 16 in a layer; Mr. W. L. Hubble, Hernhill, Faversham, 2nd, for brilliantly coloured fruits, 20 in a layer. There were nineteen entries. For six boxes of Red Bramley's Seedling, 1st prize was won by Mr. H. G. Kleinwort, Boughton Monchelsea, Maidstone, with large, handsomely coloured examples, 16 in a layer, packed on their sides; Mr. F. S. Neame, Macnade, Faversham, 2nd, with smaller but very even and bright fruits, 20 in a layer; Mr. G. E. Champion, Linton, 3rd.

Newton Wonder Apples were finely shown, and there were nineteen entries. Mr. W. W. Berry was winner of 1st prize with six boxes of the most vividly coloured specimens, 20 in a layer. Mr. W. L. Hubble was a close 2nd with 23 fruits in a layer; Messrs. Hogben and Co., Northwood, Ramsgate, 3rd, with 20 in a layer. In the class for six boxes of Lane's Prince Albert there were eleven competitors, and 1st prize was taken by Mr. Selby Smith, Barming, for large, lightly coloured fruits, 20 in a layer and very firmly packed. Mr. W. L. Hubble 2nd, and Mr. E. R. Bligh, Robertsbridge, 3rd.

In the Blenheim Pippin class there were eight entrants, and Lt.-Col. A. C. Borton, Yalding, was awarded 1st prize for six boxes of large fruits packed 23 in a layer; Mr. A. W. Hubble 2nd, and Exors. of the late Mr. S. Shelton 3rd. Eight sets of six boxes of Lord Derby were staged, and 1st prize fell to Mr. C. S. Smith, Boughton Monchelsea, for magnificent fruits packed end to end in three rows, making 15 fruits to each layer. Mr. F. M. Crossley, Harrietsham, 2nd; and Mr. W. L. Hubble 3rd.

Allington Pippin was represented by fourteen sets of three boxes. Mr. E. R. Bligh won 1st prize with good-sized, perfectly-coloured samples without blemish, 23 in a row; Mr. W. L. Hubble 2nd, with smaller specimens, 35 in a layer; Mr. C. S. Smith 3rd. One exhibitor showed enormous fruits of this variety, 18 in a layer, finely coloured but many of them showing small blemishes; we have never seen larger specimens. Of Cox's Orange Pippin there were twelve sets of three boxes, and 1st prize was won by the Exors. of the late Mr. W. Vinson, Barming, whose even high-coloured samples were closely packed 36 in a layer; Messrs. Smith Bros., Barming, 2nd, with larger fruits, 27 in a layer, of fine quality; Mr. W. L. Hubble 3rd.

For a dessert Apple other than a Cox's Orange Pippin, Allington Pippin or Blenheim Pippin, Mr. F. M. Crossley won 1st prize with Worcester Pearmain in fine condition, 36 in a layer; Mr. W. L. Hubble 2nd, with King of the Pippins, 35 in a layer; Lt.-Col. A. C. Borton 3rd, with large King of the Pippins; seventeen entries. For three boxes of a cooking Apple other than the four varieties previously specified, Mr. W. W. Berry was placed 1st for three boxes of King Edward VII. Mr. Selby-Smith, Barming, 2nd with Bismarck; Lt.-Col. Borton 3rd with grand examples of Peasgood's Nonsuch.

Mr. Selby Smith won the Silver Trophy for the best three boxes of packed fruits, with lids on. Mr. W. L. Hubble 2nd, and Mr. F. J. Neame 3rd. Some of the specimens in this class were badly bruised, the boxes being too full; others were packed loosely.

An interesting class was the one for four three-bushel barrels of culinary Apples, either Bramley's Seedling, Newton Wonder or Lane's Prince Albert. Mr. H. G. Kleinwort won 1st prize with wonderfully coloured fruits closely and evenly packed. Messrs. Smith Bros. 2nd; Mr. G. C. Champion 3rd; twelve competitors. For four half, or Grape, barrels of any one dessert Apple, No. 1 grade, the awards were made in order of mention to Mr. L. Green, Sutton Valence; Lt.-Col. Borton, and Mr. H. G. Kleinwort, the varieties shown being Charles Ross, King of the Pippins and Cox's Orange Pippin respectively.

A very fine class was the one for a dozen boxes of any one variety of dessert or cooking Apple, No. 1 Grade. The competition was keen, and the 1st prize, a Silver Cup presented by the President, G. Foster Clark, Esq., was won by Mr. J. T. Finnis, Marden, with a fine lot of King of the Pippins; the Challenge Bowl presented by Messrs. J. Gilroy and Sons, Covent Garden, was also awarded to this exhibitor. The Silver Medal offered as 2nd prize was won by Mr. Selby Smith, with Blenheim Pippin.

The Silver Cup for a box of a new dessert Apple was awarded to Mr. J. Duncannon, Leeds, Maidstone, for Rival, finely coloured; reserve, Mr. T. Skinner, with the same variety, but much larger fruits. Christmas Pearmain and an ugly Apple named Baron Wolseley, were also shown in this class.

Kent Growers' Classes.

Messrs. Hogben and Co. won 1st prize for a box of Bramley's Seedling; Messrs. Tate Bros., Hartley Green, 2nd; and Mr. J. Weeks, Egerton, 3rd. Mr. P. P. Scott, Messrs. W. A. Gibbons and Son, and Mr. C. C. Addy, Igtham, won prizes in the order of mention for one box of Lane's Prince Albert. For a box of any other Apple than the two above named, Mr. P. P. Scott, Messrs. Tate Bros., and Messrs. Hogben and Co., secured the awards as named, the two first showing Newton Wonder, and the last Annie Elizabeth.

In a class for one box of any dessert Apple Mr. G. Hilder, Rolvenden, was 1st with Cox's Orange Pippin; Mr. A. Elgar, Ash, Canterbury, 2nd, with the same variety; and Messrs. Hogben and Co. 3rd, with Allington Pippin. Lt.-Col. Borton was 1st for three half-boxes of Pears, showing Doyenne du Comice, finely coloured, 20 in a layer; Mr. F. Neame 2nd, with the same variety; and Mr. W. L. Hubble 3rd, with Beurré Clairgeau.

Non-Competitive Exhibits.

Messrs. G. Bunyard and Co., Maidstone, displayed a fine lot of brilliantly coloured Apples and some excellent specimens of Pears, including the variety Roosevelt. Messrs. W. Seabrook and Sons, Chelmsford, contributed a fine exhibit of Apples, the specimens being of large size and good colour. Exhibitors of insecticides, fungicides, spraying fluids and powders, manures, spraying machines of many sizes, tractors and fruit baskets made a goodly show, their stands being placed around the competitive exhibits.

Obituary.

M. de la Rocheterie.—Among the losses by death which are recorded in the Journal of the French Society of Chrysanthemum growers is that of the venerable president of the Society, M. de la Rocheterie, who was for 60 years associated with the Secretaryship, and for 40 years held the position of president. One of the most gifted of Frenchmen—historian and archaeologist, as well as an accomplished horticulturist—M de la Rocheterie maintained worthily the high reputation of his country, and his death is mourned by all who knew him and his work.

ANSWERS TO CORRESPONDENTS.

Celery Unhealthy: *E. M. G.* The plants are attacked by the Celery leaf-miner. If you examine the leaves carefully you will find the light-green coloured grubs under the skin. Spraying is of no avail when the eggs have been deposited in the tissue of the leaf. You should have sprayed the plants at an early stage with some distasteful specific, such as quassia extract or paraffin in water, to deter the mother insect from depositing her eggs.

Correction: Cattleya Dinah.—In the report of the proceedings of the Royal Horticultural Society's Orchid Committee report, October 25, p. 219, Messrs. McBean's Award of Merit should have been for Cattleya Dinah (Elvina × Dupreana) not for C. Bellona albens. The description given is of C. Dinah.

Croton Leaves Diseased: *C. E. D.* The leaves are suffering from an attack of a leaf-spot disease caused by a species of Gloeosporium. The affected leaves should be collected and burnt.

Examination in Horticulture: *B. W.* Full particulars of examinations in horticulture may be obtained on application to the Secretary, Royal Horticultural Society, Vincent Square, Westminster. A stamped addressed envelope should be enclosed for reply.

Failure with Tomatos and Figs: *R. R. G.* In neither case was any fungus or insect pest found on the specimens, therefore we can only surmise that some cultural error (possibly lack of lime in the soil) is responsible for the failure.

Green Blotches on Tomato Fruits: *C. A. S.* The green blotches on the fruits are not the result of a fungus or insect attack, but are due to physiological disorder caused by some cultural error, probably in the regulation of moisture and temperature.

Names of Fruits: *I. K. B.* 1, Lemon Pippin; 2, Lane's Prince Albert; 3, Cox's Orange Pippin; 4, Stirling Castle; 5, Scarlet Golden Pippin; 6, Cox's Orange Pippin.—*W. D. and S.* Mank's Codlin.—*L. P.* Sturmer Pippin.—*G. T. W.* Pears; 1, Beurré Capiaumont; 2, Beurré Diel; 3, Marie Louise; 4, Vineuse; 5, Louise Bonne of Jersey; Apples: 1, Wealthy; 2, Fearn's Pippin; 3, King of the Pippins; 4, Fearn's Pippin; 5, Blenheim Pippin; 6, Mank's Codlin; 7, King of the Pippins; 8, Tower of Glammis; 10, Blenheim Pippin.—*H. M. L. B.* 1 and 5, Beurré Capiaumont; 2, decayed; 3, Beurré Sterckmans; 4, Brockworth Park; 6, decayed.—*H., Montrose.* W.1, Minchull Crab; W.4, Chelmsford Wonder; W.8, Cox's Pomona; B.1, not recognised; B.2, White Westling; S.1, Irish Peach.—*H. S.* 1, Red Winter Hawthornden; 2, Domino; 3, Rosemary Russet; 4, Old Nonpareil; 5, Sturmer Pippin.—*A. T. H.* 1, Whorle Pippin; 2, Orange Goff; 3, Lady Henniker; 4, Duchess of Oldenburgh; 5, New Hawthornden; 6, Pott's Seedling; 7, Gooseberry Apple; 8, Radford Beauty.—*A. D.* Newton Wonder; 2, Small's Admirable.—*J. C.* 1, White Nonpareil; 2 and 3, Blenheim Pippin; 4, Cellini; 5, Sandringham; 6, Cox's Pomona.—*A. S.* Easter Beurré.—*A. J. D.* 1, Peasgood's Nonsuch; 2, Baldwin; 3, local variety; 4, Lane's Prince Albert; 5, out of character; 6, Stirling Castle.—*J. W. M.* 1, Shepherd's Newington; 2, Mabbot's Pearmain.—*W. D. and Sons.* 1, Cullen; 2, Calville St. Sauvier.—*H. T.* Ecklinville Seedling. [Owing to great pressure upon our space we are unavoidably compelled to hold over many Names of Fruits until our next issue.—Eds.]

Rose Leaves Diseased: *M. M. S.* The leaves are affected with Black Spot disease. See reply to *T. McC.*, p. 184.

Communications Received.—C. H. S.—E. F. T.—M. B.—J. H. O.—W. W.—D. T. and Sons—A. A. W.—J. P. C.—C. H. R.—H. E. G.—A. E. S.—J. D. C.—K. C. H.—J. S.—J. W. H.—E. W. R.—H. W. W.—M. H.—C. L.—H. S.—J. W. R.—A. D.

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MARKETS.

COVENT GARDEN, October 29.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c. : Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.) 60's ..	9 0–12 0
Asparagus plumosus	12 0–15 0	72's	7 0– 9 0
—Sprengeri ..	12 0–18 0	Erica nivalis— 48's	24 0–42 0
Aspidistra green	48 0–72 0	60's	15 0–18 0
Cacti per tray 12's, 15's ..	5 0– 6 0	72's	5 0–10 0
		Marguerites white	18 0–24 0
		Palms Kentia ..	24 0–36 0
Chrysanthemums 48's per doz. ..	18 0–24 0	—— 60's	15 0–18 0
		— Cocos	24 0–36 0
Erica gracilis— 48's per doz. ..	15 0–30 0	Solanums, 48's per doz.	15 0–18 0

Ferns and Palms : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis, in variety, 48's	12 0–18 0
		— 32's	24 0–36 0
— elegans ..	15 0–18 0	Pteris, in variety 48's	12 0–21 0
Asplenium 48's per doz.	12 0–18 0	— large 60's ..	5 0– 6 0
— 32's	24 0–30 0	— small 60's ..	4 0– 4–6
— nidus 48's ..	12 0–15 0		
Cyrtomium 48's	10 0–15 0	— 72's per tray of 15's	3 6– 4 0

REMARKS.—Solanums are now being offered in larger quantities. White Marguerites are of good quality, also a few pots of Cyclamens, which are the newest subject offered in pots.

Cut Flowers, &c. : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea White, per doz. bun. ...	15 0–18 0	Cattleya Harrisoniae per doz. blooms.	12 0–15 0
Carnations per doz. blooms, best American var.	4 0– 6 0	Pelargonium, double scarlet, per doz. bun. ..	8 0–10 0
Chrysanthemums—		— white, per doz. bunches ..	6 0– 9 0
— White, per doz. blooms ..	4 0–10 0	Physalis, per doz.	
— Yellow ,, ..	4 0–10 0	bunches ..	12 0–18 0
Pink ,, ..	4 0–12 0	Richardia (Arums).	
— White per doz.		per doz. blms.	18 0–24 0
bun.	18 0–30 0	Roses per dozen	
— Coloured ,,	18 0–24 0	blooms—	
Gardenias, per box		— Frau Karl	
special ..	12 0–	Druschki	2 0– 3 0
ordinary ..	5 0– 6 0	— Liberty ..	3 0– 8 0
Heather, white		— Melody ..	3 0– 8 0
— —per doz. bn.	10 0–12 0	— Mme. Abel	
Lapagerias, per doz.		Chatenay ..	3 0– 8 0
blooms ..	5 0–6 0	— Ophelia ..	4 0– 9 0
Lilium longiflorum,		— Richmond ..	4 0– 6 0
per bunch ..	15 0–18 0	— Sunburst ..	5 0– 8 0
Lilium speciosum		— White Crawford	4 0– 6 0
album per bunch	5 0–	Stephanotis 72 pips	6 0– 7 0
— rubrum per bun	6 0– 7 0	Stock Dbl. White	
Michaelmas Daisies		Violets Single	
in variety ..	6 0–12 0	large per doz.	
Orchids per doz. :		bun.	8 0–12 0
— Cattleyas ..	24 0–30 0	— Ordinary ..	3 0– 5 0

REMARKS.—Chrysanthemums remain the chief attraction and are more numerous than last week. Some good white blooms are offered, the best sorts being Money Maker, Mrs. Roots and C. Ward. There is also a good supply of yellow blooms, but best quality pink flowers are a very limited supply. Bronze coloured blooms are very scarce. Of those sold in bunches, white varieties were the most plentiful on Saturday last, and most coloured sorts showed a little increase in quantity, and prices were considerably easier. Princess of Wales Violets are arriving in excellent condition. Yesterday morning (Tuesday) the conditions were better and supplies larger. A similar condition applied to Carnations, which have sold at reduced prices since the beginning of last week. All Roses have been much scarcer, doubtless owing to the colder weather, and large quantities of the finest blooms being sent to the Paris market. Lilium longiflorum is again more plentiful this morning and prices are on the down grade, but all forms of L. lancifolium are very scarce. Richardias Arums are becoming more plentiful, but good prices are maintained for best spathes. A few bunches of Lily-of-the-Valley have been offered for sale during the past week, also Stephanotis. A few bunches of Roman Hyacinths were offered this morning, being the first consignment of the season. With the exception of Cypripediums, all Orchids are a very short supply.

Vegetables : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans Guernsey,		Mushrooms, per lb.	4 0– 5 0
per lb.	1 3– 2 0	Onions, per cwt.	9 0–10 0
Beets, per bag ..	10 0–11 0	Parsnips, per bag	10 0–11 0
Belgium Chicory, per lb. ..	0 5– 0 6	Parsley, per doz. bunches ..	3 0– 4 0
Cabbage, per doz.	3 0– 4 0	Potatos, per cwt.	10 0–12 0
Garlic, per lb. ..	1 3– 1 4	Radishes, per doz.	
Carrots, per bag	9 0–10 0	bunches ..	1 6– 2 0
Cauliflower, per doz.	4 0– 6 0	Spring Onions, per doz. bunches ..	5 0– 7 0
Celery, per fan, (12 heads) ..	4 0– 4 6	Sprouts, per bag 28 lb.	8 0–10 0
Cucumbers, per flat	27 0–30 0	Tomatos, English, per doz. lbs. ..	6 0–10 0
Herbs, per doz. bun.	4 0– 6 0	—French.. ..	4 0– 4 6
Mint, per doz. bun.	9 0–12 0	—Outdoor Jersey	4 0– 6 0
Mustard and Cress,		Turnips, per bag	10 0–11 0
per doz. punnets	1 3– 1 6	Watercress, per doz	0 9– —

Fruit : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)	5 0– 6 0	Bananas, singles	25 0–35 0
—Worcester Pearmain per ½ bus	5 0– 7 0	Grapes Alicante	1 0– 2 0
		—Gros Colmar ..	2 3– 2 6
—King of the Pippins per ½ bus.	5 0– 7 0	—Almeria per barrel	30 0–45 0
—Cox's Orange Pippin per ½ bus.	10 0–12 0	—Cannon Hall ..	3 0– 6 0
		—Muscat, per lb.	2 0– 5 0
—Warner's King, per bus. ..	6 0– 7 0	—Special per lb.	6 0– 8 0
—Lane's Prince Albert, per bus.	7 0– 8 0	Nuts—Brazils (new) per cwt.	125 0–130 0
		Cob Nuts, per lb.	1 3– 1 4
—Bramley's Seedling per bus. ..	7 0– 8 0	Walnuts, English	0 6– 0 8
		Plums (English) per ½ bus. ..	
—Blenheim Pippin per bus. ..	10 0–12 0	—Prunes ..	14 0–16 0
—Nova Scotian—Blenheim Pippin Nos. 1 and 2 ..	35 0–40 0	Pears, English per ½ bus.	
		—Doyenne du Comice	12 0–16 0
—Kings per barrel	50 0–	—Calebasse ..	11 0–12 0
—Ribston Pippin	38 0–42 6	—Conference ..	11 0–12 0
Aubergines, pr. doz	2 0– 3 0	Pineapples each ..	2 0– 6 0

REMARKS.—Business has been satisfactory in volume throughout the week, most produce being in firm demand. English cooking Apples remain in firm supply, although dessert varieties are not over plentiful. Plums are pratically over, but a few Prunes in excellent condition are available. Hot-house Grapes are a better trade and have hardened in price. Almeria Grapes are now on offer in fine condition. Shipments of Pines are expected during the week-end. Guernsey Beans are cheaper, as are most green, out-door vegetables. Potatos are plentiful and their prices remain steady.

GARDENING APPOINTMENTS.

Mr. G. D. Askew, as Gardener to C. S. HUNTING, Esq., Slaley Hall, Riding Mill-on-Tyne.

Mr. D. Barden, formerly Gardener at Studton Hall, has taken up his duties as Gardener to LADY ADA WILMOT, Yewden Manor, Henley-on-Thames.

Mr. Chas. Green, as gardener to Dr. JERVOIS AARONS, North Hall, Haywards Heath, Sussex.

Mr. F. J. Wren as gardener to Hon. Mrs. A. LYTTLETON, Withersham House, Withersham, Kent.

Mr. W. R. Hall, for 2 years and 9 months with His Majesty's Forces in France, and previously gardener to Lt.-Col. LESLIE WILSON, D.S.O., M.P., as gardener to Lt.-Col. E. J. HARRISON, Denna Hall, Burton Point, Chester, Cheshire.

CATALOGUES RECEIVED.

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PERRY'S HARDY PLANT FARM, Enfield, Middlesex—Irises, Bulbs, Alpines, and Perennials.

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WANTED for Gentleman's Estate in France, two thoroughly experienced English Gardeners (Head and First Under), one of whom must have knowledge of French language.—Write full particulars to "H.," c.o. "C.G.A.," Publishing Dept., 33, Henrietta Street, London, W.C.2.

WANTED, trustworthy, capable SINGLE-HANDED GARDENER, age about 50, married (no children); comfortable cottage, 3 rooms and small kitchen.—Write FRONTENAC, Donnington Road, Harlesden, N.W.10.

WANTED, experienced GARDENER with thorough knowledge of glass; one with son as Under Gardener preferred.—Apply, stating wages required, MAJOR TURTON, Hildale Hall, Grosmont R.S.O., Yorks.

GARDENER wanted for a House near Cookham; wife to take charge of the house; assistance given in the garden; cottage, coals, and vegetables; good references essential.—Reply with full particulars of qualifications and experience, stating wages required, to Box 1806, c.o. Messrs. R. F. WHITE & SON, General Advertising Agents, 33, Fleet Street, E.C.4.

MARRIED COUPLE to live in; wife good Cook, man experienced GARDENER; thorough knowledge of Greenhouse and Vine; must be well up in his work and be energetic.—J. P., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, good all-round GARDENER, Head of two; some produce marketed; wages 35s. and cottage.—CAPT. WORTHINGTON, Fresden, Highworth, Wilts.

UNDER GARDENER wanted, principally Outside; age 20 to 22; bothy; good references. State wages and all particulars to Box 381, G.P.O., Manchester.

WANTED, young man as UNDER GARDENER; single, 25-28; well up in Outside work, Herbaceous, Rock, Pleasure Grounds; wages 45s. if suitable.—HEAD GARDENER, The Marfords, Bromborough, Cheshire.

WANTED at once, FOREMAN (Inside); must be experienced in Grapes, Peaches, Melons, good Plantsman; wages 40s. and bothy; 1 o'clock on Saturdays.—Apply, C. DORMON, "Holmwood," Shiplake, Oxon.

WANTED, experienced practical MAN (single) as Pleasure Ground FOREMAN; rooms, etc., provided.—State wages required and full particulars to HEAD GARDENER, Froxfield Gardens, Woburn, Beds.

WANTED, a thoroughly experienced MARKET GARDENER, with highest references.—Apply to Market Garden, Highcliffe, Hants.

WANTED, MAN to take lead in Pleasure Grounds; experienced in Herbaceous Borders, Lawns, and choice Shrubs.—State age, wages expected with bothy, W. GRAYSMARK, Bury Hill Gardens, Dorking.

WANTED, FIRST JOURNEYMAN for Inside; some experience of decorating; wages 35s. per week, bothy, milk, and vegetables; 7s. 6d. for duty; hours 7 a.m. till 5 p.m., and 5.30 p.m. in summer.—Apply, with particulars, to H. PRINCE, The Gardens, Polesden Lacey, Dorking.

WANTED, a JOURNEYMAN for the Houses; wages to commence, 33s. per week, bothy and vegetables; Sunday duty paid; 1 o'clock Saturdays. — State age and experience to W. L. BASTON, Buscot Gardens, Faringdon, Berks.

WANTED, JOURNEYMAN (Inside and Out); state wages with bothy, etc.; duty paid.—Apply, R. HOOPER, The Gardens, Dunsmore, Rugby.

WANTED, JOURNEYMAN, chiefly for Outside; wages 33s. per week, bothy, etc.—Apply, T. CRADDUCK, Middleton Park, Bicester, Oxon.

WANTED, OUTSIDE JOURNEYMAN for Pleasure Grounds and Fruit; take turn with duty; bothy and vegetables.—State wages and particulars, G. E. CLARKE, Chiddingstone Castle Gardens, Edenbridge, Kent.

WANTED, ex-service SINGLE MAN, for Inside and Out; wages 55s. 6d. and bothy; duty extra.—References and experience to HEAD GARDENER, Ratton Gardens, Willingdon, nr. Eastbourne.

WANTED, experienced MAN to work Inside and Out, four kept; wages 45s. per week; one o'clock Saturdays.—Apply, W. R. COWLEY, The Gardens, Blythe House, Blythe Bridge, Stoke on Trent.

WANTED, a good, active MAN for Kitchen Garden and General Outside work; able to take duty; good wages with bothy, etc.—Apply, with particulars, HEAD GARDENER, Revesby Abbey, Boston, Lincs.

SINGLE MAN about 20 for Pleasure Grounds and Kitchen Garden; able to take duty; 1 o'clock Saturdays.—Particulars, wages, without bothy, to WM. RANSOM, Trueloves Gardens, Ingatestone, Essex.

WANTED, SINGLE MAN for General Work on Fruit Farm and Market Garden; good berth to man not afraid of work; abstainer preferred.—Please state age, experience, and wages required, G. T. WOODS & SONS, Fruit Growers, Bilton, Rugby.

WANTED, YOUNG MAN for Outside work, Herbaceous Borders, etc.; bothy, vegetables, and attendance.—Apply, stating experience and wages required, A. GIBLETT, Hall Barn Gardens, Beaconsfield, Bucks.

WANTED, SINGLE YOUNG MAN with some experience for Pleasure Ground and Kitchen Garden; must be energetic, and a good worker, willing to take Sunday duty; wages 36s. per week, no bothy.—Apply to G. MILEHAM, Emlyn House Gardens, Leatherhead, Surrey.

YOUNG MAN wanted for South Croydon (five kept); preference given demobilised man, about 21 years age, with slight pre-war experience, who is willing and hard worker. No bothy.—Write, stating age, experience, wages required, with copies only of testimonials and Army discharge, to M. W., 285, c/o Deacon's, Leadenhall Street, E.C.

WANTED, a Young Man as IMPROVER in a large establishment; age 16 to 17; must be well recommended by a Head Gardener.—F. CAPP, Nostell Priory, Wakefield.

WANTED, smart LAD, 18 to 20, to help with pedigree Jersey herd.—Apply, with particulars (bothy, milk and vegetables found), A. TOWN, Kingston Gardens, Abingdon.

HANDY MAN wants job on estate or otherwise, used to Building Trade, and to fill up time in Garden; country preferred.—J. E., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

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WORKING MANAGER, well up in Roses and Fruit Tree propagation; entire charge in North Essex; splendid opportunities for advancement. Write, stating salary, age, experience, references, and if married.—W. A., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

NURSERY FOREMAN. — Wanted, NURSERY FOREMAN, principally Forest, Fruit and Ornamental Trees; should have good experience and used to directing labour; excellent accommodation for married man.—Apply, with full particulars, age, married or single, with copies of testimonials and salary, to Wm. POWER & CO., Nurserymen, Waterford.

LANDSCAPE FOREMAN wanted to undertake laying out of Gardens, etc., under supervision; single man preferred.—State experience, salary required, to S. & K., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, Outdoor Working Nursery FOREMAN; used to general stock.—State age, wages, and experience, W. TROUGHTON, Nurseryman, Preston.

WANTED for Market Garden, MAN to take charge Peach and Cherry Walls, Hardy Flowers, outdoor Tomatos.—Write, stating experience, wages required, NOY, Clay Pond Lane, Brentford, Middlesex.

WANTED, UNDER FRUIT FOREMAN, must have experience.—Apply, stating wages, etc., to JOHN WATERER, SONS, & CRISP, LTD., Twyford, Berks.

GARDENERS wanted.—Apply, G. POCOCK & SON, Golders Green.

LANDSCAPE GARDENERS wanted for South of France.—Apply, Messrs. JAMES CARTER & CO., Houston Road, Forest Hill.

WANTED, first-class Carnation GROWER and PROPAGATOR, to take charge of Carnation branch of large Nursery.—Apply, with references, ROBT. PAGE, Oak Avenue, Hampton.

WANTED, good GROWER, Ferns, Carnations, Tomatos, Cues., Grapes, etc.; single; to settle down if suited: north of Yorkshire.—T. F., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, good ROSE GRAFTERS; good wages paid for constant work.—STEVENS, Goffs Oak, Cheshunt.

WANTED immediately smart, up-to-date, pushing MAN to take sole charge of Garden, Seed, Bulb, and Sundry Departments; knowledge of Farm Seeds and Nursery Work preferred; owing to housing difficulties, preference given to single man; highest references essential.—Apply, stating age, references, and salary required, to L. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

WANTED for Scotland, Retail Seed Trade HEAD SHOPMAN; energetic; good experience.—Address, with references, stating age and wages expected, No. 169, KEITH & CO., Advertising Agents, Edinburgh.

SEED TRADE.—Wanted, JUNIOR ASSISTANT accustomed to brisk counter trade and general orders.—Apply, stating salary, age and experience, to C. W., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, SMART ASSISTANT for retail counter; must be smart and used to a very brisk counter trade.—State age, experience, with copies of references, to CLIBRANS, Manchester.

COUNTER HAND with some experience of Seed trade; young man preferred; every opportunity given to man anxious to learn; state wages, full particulars of experience, and when at liberty.—BAKERS, Codsall, Wolverhampton.

SEED TRADE.—Samuel Finney & Co., Ltd., Newcastle-on-Tyne, require smart INVOICE CLERK; preference given to man with knowledge of Farm and Garden Seeds.—Write, stating experience, age and salary required to above.

WANTED, YOUNG MAN used to Floral Decorating for Theatre and Hotel work; fill in time under Glass. — BROOKE, BRAY & SONS, Sheffield.

WANTED, FLORIST, male or female, quick and original with designs. Also general Outside NURSERY HAND.—Apply in each case to J. SLATER, Nurseryman, Skipton.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof.* (**Advertisements** *at this special rate are only accepted direct from Gardeners and nursery employees.*) **Fee** *for having replies addressed to this office,* **6d.**

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ESTATE SUPERVISOR seeks position of trust; Garden, Farm, Woods, and all duties connected with the management of a large estate; excellent references.—W. M., c.o. W. J. King, Esq., 26, Castons Road, Basingstoke.

MR. BRADSHAW, Head Gardener to the Marquis of Downshire, Hillsboro' Castle, Co. Down, highly recommends his General Foreman, A. WADHAM, as HEAD GARDENER in well-kept establishment; life experience in all branches, gained in good establishments; excellent references; age 33; married when suited; demobilised.

LADY WOODALL can with confidence highly recommend F. TOMS, her HEAD GARDENER, for 9 years', to any Lady or Gentleman requiring the services of a good man; life experience in all branches; leaving through estate having been sold; married; age 48.—F. TOMS, Walden, Chislehurst.

J. M. NAYLOR, Esq., Leighton Hall, Welshpool, wishes to highly recommend F. H. SALTER as HEAD GARDENER; life experience in all branches; expert cultivator, good organiser; age 31; married (one child). Apply above, or 55, Albert Road, Wellingborough.

GARDENER (Head).—T. R. Bolitho, Esq., will recommend his SECOND GARDENER, J. PENGELLY, as above; age 32; single; demobilised.—Trengwainton Gardens, Heamoor, Cornwall.

MR. YOUNG, Agent to Lord Kensington D.S.O., highly recommends his General Foreman as HEAD GARDENER to any lady or gentleman requiring a good man; life experience in all branches; age 29; married when suited.—E. RAYNER, The Gardens, St. Bride's, Little Haven, S.O., South Wales.

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER; thorough experienced man in all branches; management of men, land and stock; 22 years Head.—ROBERT HALE, Bushey House, Bushey, Herts.

LADY giving up estate wishes to thoroughly recommend her HEAD GARDENER to Lady or Gentleman requiring services of competent man; age 34; married (two children); demobilised. W. ELKINS, 12, Brocas Street, Eton, Bucks.

HEAD GARDENER, recommended by Col. YOUNGER, Braboeuf Manor, Guildford; acting since April, 1919, for Head Gardener, away on active service, and recently returned; eminently reliable, capable, and intelligent; has thorough knowledge of gardening in all branches, including glass; excellent references; over 30 years' experience on largest estates. Apply, COL. YOUNGER, Braboeuf Manor, Guildford.

GARDENER seeks situation (demobilised) as HEAD or good Single-Handed; experienced in all branches; age 29; married, one child; good references. —S. PERRIN, 42, Sunnyside, Hitchin, Herts.

CAN highly recommend GEO. SHAMBROOK as HEAD of two or good SINGLE-HANDED; married (no family); cottage essential; age 33; disengaged when suited; South preferred. State wages.—F. W. SMITH, Oatlands Avenue, Weybridge.

GARDENER (HEAD); life experience in large establishments, private and commercial; experience with stock and electric light; good testimonials; married; age 44.—JONES, Glenleith, Bushey Heath, Herts.

GARDENER (HEAD) seeks re-engagement; all-round experience; where 2 or 3 are kept; excellent references; married (no family); age 34.—BRIGHT, 8, Cape Road, High Cross, Tottenham, N.17.

GARDENER (HEAD of three or four); late N.C.O. Instructor Army Agricultural Schools, France, seeks situation; 15 years' practical experience all branches; good references; age 31.—FISHER, Thirlestane, Althorpe Road, St. Albans, Herts.

HEAD GARDENER (Hard Working) requires situation where others are kept; life experience in all branches; could manage estate; married (one child); age 33; can be well recommended; disengaged. K. TAYLOR, Grange Cottage, East Grinstead, Sussex.

GARDENER (HEAD or good SINGLE-HANDED) seeks situation; life experience Inside and Out; is finding it very difficult to get a situation on having a family; would take Second or any work on gentleman's estate, or nursery; married; age 39; good character; abstainer.—W. CHARLTON, Hennerton Gardens, Henley-on-Thames.

GARDENER (HEAD of five or more); life experience in all branches; excellent references from present and previous employers; abstainer; married (two children, 14 and 12); age 47. A. LANGFORD, The Gardens, Thamesfield, Henley-on-Thames.

GARDENER (HEAD); where several are kept; life experiences in all branches, Inside and Out; highly recommended; discharged soldier; married (two children).—DAY, Gardener's Cottage, Wolverton, Beckington, Bath.

GARDENER (HEAD); manage estate if required; life experience in all branches gained in large establishments; age 54; demobilised; excellent references.—GARDENER, 2, Gladstone Road, Buckhurst Hill, Essex.

GARDENER (HEAD) seeks re-engagement; 20 years' highest experience gained in good establishments, including Orchids; keen, energetic; married (no family); excellent references over 2½ years' service. —F. PERKINS, 101, Flax Road, Leicester.

HEAD GARDENER seeks re-engagement; life experience in large establishments; reliable and competent man in all branches, Inside and Out; private and commercial, references qualifying same; age 40; married; life abstainer; good organising abilities and Trade experience; disengaged.—STEDMAN, Dwygyfylchi, Penmaenmawr, N. Wales.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good reference; married (2 children); demobilised; age 35.—E. MARDLING, Clifton, nr. Biggleswade, Beds.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good reference; married; just demobilised; age 32.—W. H. WEBBER, Sunnyside, Headley, Newbury, Berks.

HEAD or HEAD WORKING GARDENER, where several kept; practical life experience; skilful cultivator; 6 years' Head well-known families; demobilised; married; excellent personal references character and abilities.—H. SMALL, Upper Hartwell, Aylesbury.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, Inside and Outside; marketing produce; abstainer; age 46.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

F. R. PELLY, Esq., thoroughly recommends HEAD GARDENER (WORKING); Scotch; thoroughly experienced in all branches, Inside and Out; excellent references; married. — ROBERT MURRAY, Hockwold, Brandon, Norfolk.

MRS. STANLEY ARNOLD can thoroughly recommend F. CLARK as GARDENER (HEAD-WORKING); life experience Inside and Out; excellent references; married.—CLARK, Barton House, Moreton-in-Marsh.

WORKING HEAD GARDENER seeks situation; life experience in all branches; age 48; married (family out); highly recommended.—W. PRIOR, Brentor, Tavistock, Devon.

HEAD WORKING GARDENER; 14 years' practical experience gained in good establishments in all branches; good references; just demobilised; married.—W. E. FRIEND, 37, Mount Pleasant Road, Higham Hill, Walthamstow, E.17.

GARDENER (HEAD WORKING), smart young man, experienced in all branches, desires situation; married (no children); age 29.—SOLLEY, "St. Clare," Four Marks, nr. Alton, Hants.

GARDENER (HEAD WORKING) seeks situation where three or four are kept; recently demobilised; good all-round experience; excellent references.—SMART, 20, St. Michael's Park, Cotham, Bristol.

GARDENER (HEAD WORKING), thorough practical knowledge all branches; highest references; age 30; married.—DAY, Queen Anne's Gardens, Caversham, Reading.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; thorough practical life experience all branches; several years Head in good families; thoroughly reliable and highly recommended; married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING). — J. F. Symons-Jeune, Esq., highly recommends late HEAD GARDENER, Alfred Eyre; good knowledge of all kinds of Plants and Fruit gained in first-class establishments; just demobilised; married; age 35. Address, EYRE, Runnymede House Gardens, Old Windsor.

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HEAD WORKING GARDENER.—Lady Markham has much pleasure in recommending F. BENNETT, as above, to any lady or gentleman requiring a thoroughly competent and trustworthy man; practical life experience gained in good establishments; 20 years Head; leaving through estate given up; married (no family).—F. BENNETT, Beachborough Park, Shorncliffe, Kent.

GARDENER (HEAD WORKING) requires situation where two or more are kept; experienced Inside and Out; age 33; good references; married when suited.—LAZENBY, 10, North Street, Doncaster.

GARDENER (HEAD WORKING), aged 33, demobilised, seeks situation where several are kept; life experience Inside and Out; good references; married.—H. WALLIS, Heybridge, Essex.

GARDENER (HEAD WORKING); life experience; good references; age 38; married (no family); disengaged.—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

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GARDENER (HEAD WORKING) where several are kept; just demobbed; previously 4 years as Head; good practical experience; age 35; married.—C. HARBERT, 115, Gladstone Road, Wimbledon.

GARDENER demobilised; life experience, age 36; married (with one child, age 13); seeks situation as HEAD WORKING, where two or more kept; excellent references; wife excellent Laundress; Worcestershire preferred.—POULTNEY, Upper Arley, near Bewdley, Worcestershire.

GARDENER (HEAD WORKING), six or more kept; life experience Fruit, Flowers, Vegetables, Orchids, Carnations, early and late forcing; age 40; no family; just demobilised.—Full particulars, wages, VOLLER, c.o. Wright, Little Parndon, Burnt Mill, Essex.

GARDENER (HEAD WORKING of two or three); just demobilised; seeks re-engagement; experienced in all branches; excellent references; highly recommended; married.—STEDMAN, Clay Clene Farm, Edenbridge, Kent.

GARDENER (HEAD WORKING); experienced in all branches; five years as Head; excellent references; aged 34; married; recently demobilised.—A. JENNER, 14, Albany Road, Chislehurst, Kent.

GARDENER (HEAD WORKING), age 46, married (two children); experienced all branches, Inside and Out; 16 years' Head in good establishments. —KING, Crab Tree Cottage, nr. Warminster, Wilts.

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GARDENER (HEAD WORKING); life thorough practical knowledge all branches, Inside and Outside; skilled cultivator of Fruits and Plants under glass, Carnations, etc., Vegetables, Salads, Hardy Fruit, Rose, Rock and Flower Gardens; alterations, etc.; highest references; age 46; married; disengaged.—BURFOOT, 28, King's Road, Ditton Hill, Surrey.

GARDENER (HEAD WORKING) or good single-handed; thorough practical experience in all branches; married (no family); age 31; excellent references from present and previous employers. Please state wages.—W. OSBORNE, Beenham, near Reading.

GARDENER (HEAD WORKING or SINGLE-HANDED with help); life experience, Inside and Out; five years' reference; seven previous; married; age 43; cottage required.—KIY, 56, Southwood Lane, Highgate, N.6.

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GARDENER (HEAD WORKING) where two or three are kept; life experience, Inside and Out; age 44; excellent references; Home Counties preferred. —T. BRADLEY, Eastwood, East Harptree, Bristol.

GARDENER seeks situation (SINGLE-HANDED preferred); good outside Fruit and Vegetable grower; married; age 44; excellent reference; near London preferred.—W. PARKER, 63, Hurley Road, Kennington, S.E.

GARDENER (SINGLE-HANDED) or SECOND of three; age 33; married (one child).—Apply, J. HODGES, The Firs, Newick Green, Sussex.

GARDENER requires single-handed place; age 38; married (one child); well recommended.—G. OSBORNE, Downe, Orpington, Kent.

GARDENER (SINGLE-HANDED or where help given); life experience Inside and Out; excellent references; demobilised Navy; age 28; married (no family); Wife help in house if required.—LACEY, 537c, Tillington Road, Petworth, Sussex.

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MR. CONWAY thoroughly recommends his late GARDENER, W. HOWARTH; life experience in all branches; previously 11½ years Head at Selsdon Park, Croydon; disengaged through estate being sold.—W. HOWARTH, The Gardens, High Beech, Hollington, Sussex.

GARDENER, age 36, seeks situation in Kitchen Garden where cottage is found; married (two in family).—J. DUTTON, The Ferns, Christian Malford, Chippenham, Wilts.

GARDENER (WORKING) seeks situation; married (no family); age 29; trustworthy; good references.—DINNAGE, 20, Blakesley Avenue, Ealing, W.5.

GARDENER seeks situation Leading Hand Kitchen Garden, Pleasure Grounds; 12 years' good experience; good refs.; age 30; single; Southern counties preferred.—RIDDETT, The Gardens, Frensham Hill, Farnham, Surrey.

GARDENER, age 36, seeks situation; 16 years' experience, Inside and Out; good references; single; demobilised.—E. SLOSS, 4, Foots Cottages, The Hyde, London, N.W.

GARDENER with life experience in all branches; good character, active, requires situation in Fruit and Vegetable Garden, or Pleasure Grounds, or good Single-Handed, etc.; age 39; married; disengaged.—ROWE, 1, Milford Mill Road, Salisbury.

GARDENER (OUTSIDE) seeks situation, Kitchen Garden and Pleasure Grounds; good Spade and Scythe Hand; good references; age 38; married (no family); 11 years last situation.—H. T., Box 24, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, situation as Kitchen Gardener; married (one child); good references; just demobilised, N.C.O.—HARDY, Bachelors House, Greys Court, Henley on-Thames.

GARDENER seeks situation as KITCHEN GARDENER; 17 years' experience, also 2½ years Single-handed Gardener; served 3 years in Army; aged 42; married.—Apply, H. VALENTINE, Willow Terrace, Ronde, Northants.

KITCHEN GARDEN MAN requires situation in a good Garden; can be well recommended; married (no children).—Apply, A. A., Box 19, 41, Wellington Street, Covent Garden, W.C.2.

MR. A. CREEK, Trengwainton Gardens, can recommend T. PERRY as SECOND or UNDER; experienced Inside and Out; age 25; cottage preferred.—Heamoor, Cornwall.

GARDENER (SECOND), Inside and Out, or SINGLE-HANDED; experienced; excellent references; aged 29 years; married; Kent man.—PAGE, 58, Teviot Street, Poplar, London, E.

GARDENER (SECOND) seeks situation; married (no family); age 26; over 10 years' experience Inside and Out; good references; discharged from Army.—CYRIL DUNNELL, Honingham, nr. Norwich.

MR. BOSVILE wishes to recommend for UNDER GARDENER'S place, Inside and Out, Edward Crossley, who has been in his service nearly three years.—Apply, EDWARD CROSSLEY, c/o T. B. Bosvile, Esq., Leyburn Hall, Leyburn, Yorkshire.

DISCHARGED SOLDIER seeks situation, UNDER-GARDENER or Single-handed; used to motors; good references; single; abstainer.—GREY, 17, Paragon Street, Worthing, Sussex.

UNDER-GARDENER seeks situation with cottage for mother and two children; experience Inside and Out; good references; age 20; can also run Electric Plant.—B. R., Box 12, 41, Wellington Street, Covent Garden, W.C.2.

UNDER-GARDENER desires good situation at large gentleman's establishment in northern counties preferred; 3½ years' varied experience in all branches; age 17½; good refs.; bothy preferred; strong and willing. State particulars of wages, etc.—LEWIS, 28, Dumber Lane, Ashton-on-Mersey, Cheshire.

EX-N.C.O. seeks situation as Under-Gardener, Inside and Out; bothy preferred; good references; experience 4½ years; age 22.—E. J. WOODS, 9, Waterloo Villas, Harefield, Middlesex.

MR. D. S. MELVILLE, Poltalloch, Kilmartin, Argyll, highly recommends his late FOREMAN to any Gardener requiring a competent and energetic man as Inside or General Foreman; age 29; single.—Apply, F. DENNISON, Institute House, Escrick, York.

FOREMAN (INSIDE OR GENERAL), in good place; 17 years' experience in all branches gained in good establishments; excellent references from three previous engagements as foreman; demobilised N.C.O.; age 35; married.—BROOKER, Willington Lodge, Maidstone.

FOREMAN (INSIDE); life experience in Grapes, Peaches, Nectarines, Melons, etc., flowers and plants for decorative purposes, house and table decoration; age 32; excellent references from previous employers.—R. POOLE, 32, Catherine Street, Reading.

GARDENER (FOREMAN). — Demobilised soldier; married (one child); life experience; Inside and Out; age 30; Home Counties preferred.—W. ELLIOTT, Springfield Cottage, Wonersh, near Guildford, Surrey.

YOUNG MAN seeks situation in Garden, Pleasure Ground, Kitchen Garden; previous experience and references; well recommended.—Address, H., Box 20, 41, Wellington Street, Covent Garden, W.C.2.

YOUNG MAN (20) seeks situation in small Kitchen or Market Garden; used to Poultry; good refs; south preferred.—C. F., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

CHAUFFEUR-GARDENER seeks situation; demobilised N.C.O.; age 27; running repairs; B.S.M. certificate.—L. H. C., 36, Garfield Road, Chingford, Essex.

GARDENER (LADY) desires re-engagement as HEAD or SINGLE-HANDED; full College training, six years' subsequent experience with entire responsibility; R.H.S. cert.; excellent references; residential post preferred.—Apply, N. B., 18, Upper Grove, South Norwood, S.E.25.

TWO LADY GARDENERS want post together, under good Head; young and strong; 2½ years' training; Swanley diploma; 18 months additional experience; Outdoor and Indoor; Fruit and Vegetables; Home Counties preferred.—W., 7, Belvedere Drive, Wimbledon.

GARDENER (Lady), two years' experience, wishes to help on Small-holding, or in Garden, in exchange board-residence.—S. M., Box 23, 41, Wellington Street, Covent Garden, W.C.2.

MR. HY. CHURCH, Raveningham Hall, Norwich, will be pleased to recommend W. WARD, as good Garden Labourer; excellent spade and sythe hand; been in the gardens here over 18 years'; married (one child).

HANDY MAN wants job on estate or otherwise; used to Building Trade, and to fill up time in Garden; country preferred.—J. E., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

TRADE.

NURSERY MANAGER or FOREMAN (WORKING) requires situation; great interest in work; age 34; experienced Toms., Bedding, Mums, Cut Flowers, etc.; retail or market; South preferred.—W. T., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER (WORKING); Nursery, Seed and Florist business, requires situation; life experience in all branches; speciality Carnations under Glass; age 44; married (one child, age 8); disengaged any time.—A. S., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

WORKING MANAGER or FOREMAN requires Situation in Market Nursery; 15 years' experience in Tomatos, Grapes, Peaches, Ferns, Chrysanthemums, Bulbs, etc.; age 35; single; first-class references. Please state wages.—WILSON, 29, St. Kilda's Road, Stoke Newington, N.16.

MARKET and NURSERY GARDENER requires situation; 12 years' experience Tomatoes, Cucumbers, Grapes, Chrys., etc.; excellent references; age 33; single.—BLUNDEN, Lake Cottage, Wharf Road, Frimley, Surrey.

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WORKIING FOREMAN, 28 years' experience; well up in Alpines, Herbaceous Plants, Florist Flowers, Bulbs, Shrubs, Climbers, Bog and Aquatics, Forcing and Bedding stuff; age 43; married. —J. FRY, High Town, Woolston, Southampton.

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STRONG, energetic YOUNG MAN, age 27, single, seeks situation Inside or Out; expert training in Tomatos, Chrysanthemums, Mushrooms, all kinds of Flowers; willing to work under foreman; any part of England; good references.—P. F., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED by Young Man (19), situation in Nursery; 3 years' experience; tall, educated, and most anxious to improve; wages not so much an object.—Address, R. LETTS, Semer Lodge, Ipswich.

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WOMAN GARDENER desires post, Trade or private; used to Inside work, also Out; four years' good experience.—RUSE, Radwinter Hill, Saffron Walden, Essex.

ARTILLERY OFFICER (farmer's son), being demobilised, nearly 5 years in Army, 3 abroad, desires post with good firm as Traveller, etc.; any line, Seed or Horticultural trade; 8 years' experience good Seed firms before war; young, energetic, tactful, and very keen salesman; excellent references, military and civil.—W. G., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—HEAD SHOPMAN desires responsible position; sound practical knowledge; life experience.—SCOT, c.o. Hurst and Son, 152, Houndsditch, E.1.

SEED AND BULB TRADE.—HEAD SHOPMAN requires situation; also good knowledge of Nursery and Florist's business; single; life experience.—G. F. EVANS, Inellan, Craven Arms, Shropshire.

SEED TRADE (Wholesale or Retail, also Sundries); shopman, counter, or departmental; requires situation; age 34; South preferred.—T. W., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—ASSISTANT, ag e19, desires situation; four years' experience; excellent references.—J. SAUNDERS, 23, Lightburn Road, Ulverston.

FLORIST MANAGERESS desires engagement; long experience in good class trade, also Seeds, etc.—PINUS, Box 22, 41, Wellington Street, Covent Garden, W.C.2.

The Gardeners' Chronicle.

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Advertisements intended for insertion in the next issue MUST reach THE PUBLISHER not later than

TUESDAY, 5 P.M.

		£	s.	d.
Ordinary Positions	per page	10	10	0
Facing matter and Back Page ...	" "	12	12	0
Half and quarter pages, column and half column spaces, pro rata.				

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4 line space not exceeding 20 words	0	3	0
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Per inch, across 3 columns	1	1	0

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SITUATIONS WANTED.

26 words 1s. 6d., and 6d. for every additional 8 words or fewer.

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ABROAD ... ... 22/- " "

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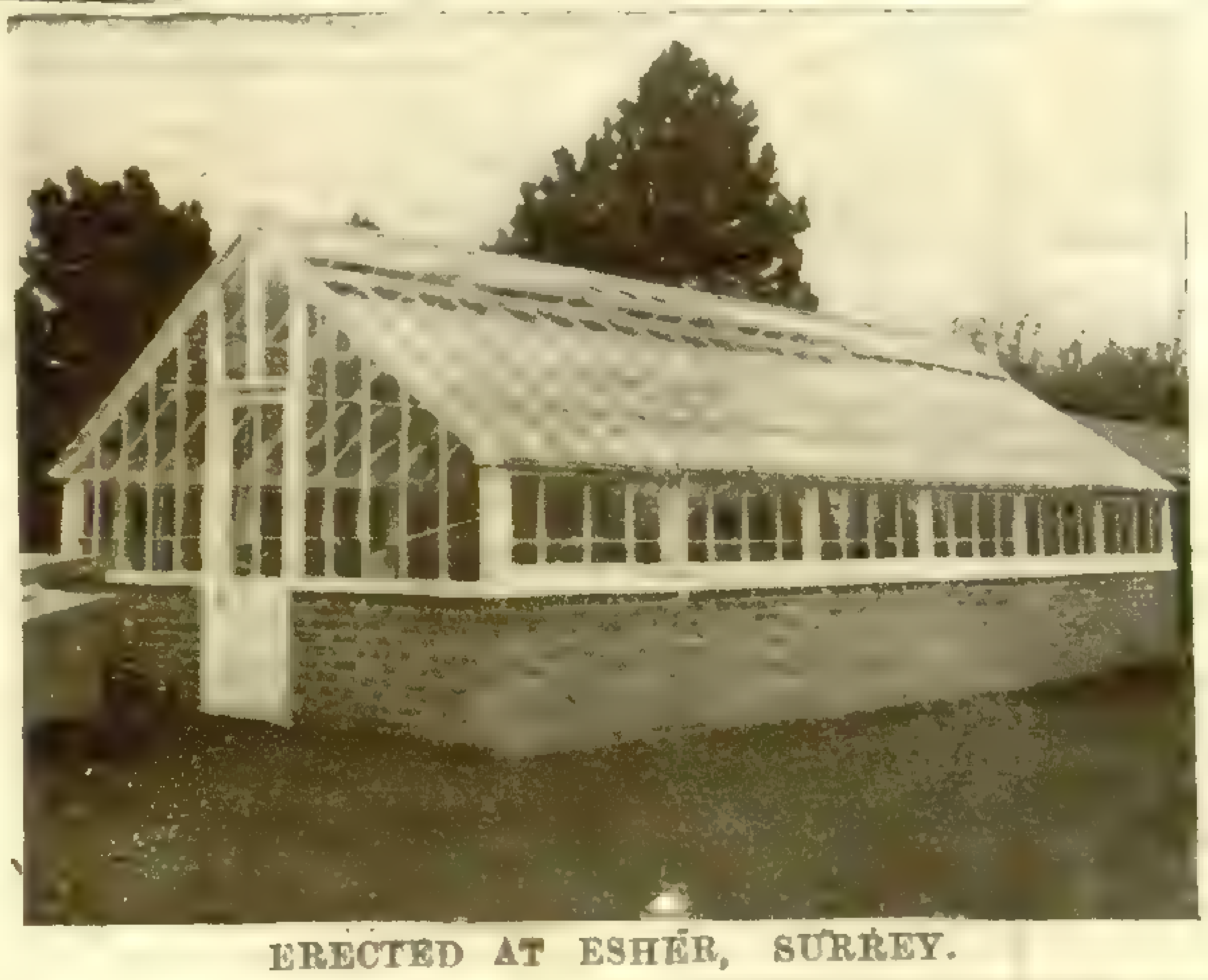

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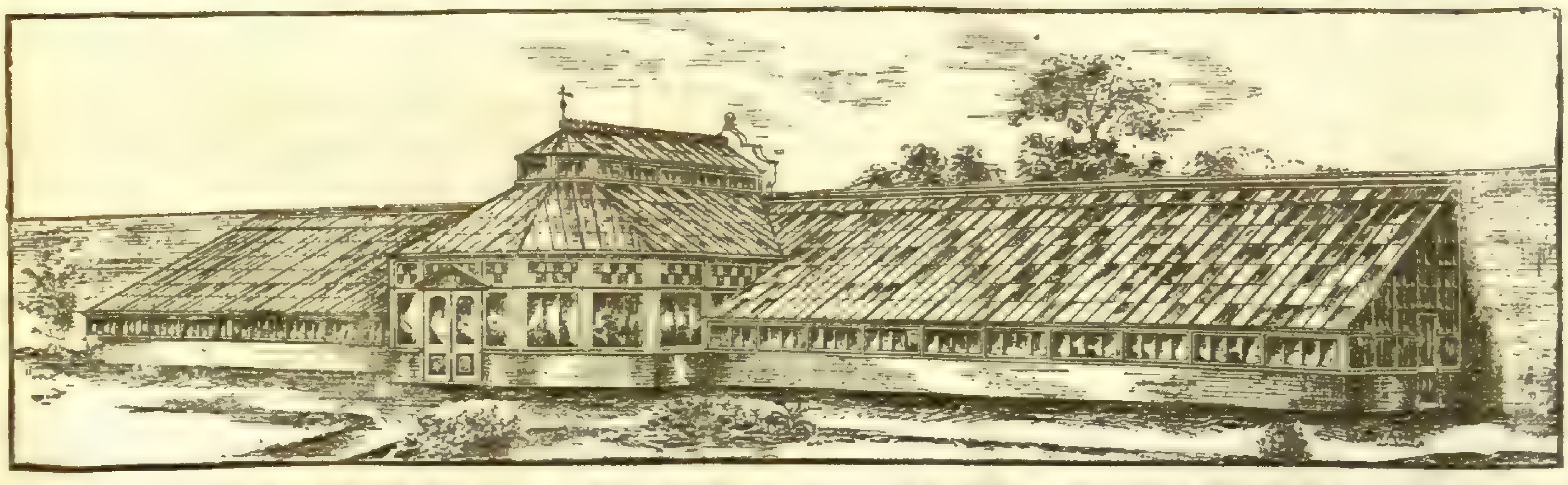

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On TUESDAY & WEDNESDAY, NOVEMBER 11 & 12, 1919.

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English and Dutch Bulbs in variety. Herbaceous Plants.

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The Gardeners' Chronicle.

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Gardeners' Chronicle

No. 1715.—*SATURDAY, NOVEMBER* 8, 1919.

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AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 43.7°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, Nov. 5, 10 a.m.: Bar. 29.6; temp. 45. Weather—Dull.

Potato Spraying Trial. The report for 1918 of the Agricultural and Horticultural Research Station, Long Ashton, contains valuable observations on the results of spraying Potatos with Bordeaux mixture and other fungicides containing copper sulphate. A first spraying was given on June 21st and 22nd, and a second on July 17th before any late blight was recognisable on the Potatos. The first sign of disease was seen on August 3rd, when it was noted on one plant of Up to Date and on one or two plants of King Edward. By August 16th the disease had spread widely, and after that date it became yet more general. It is interesting to observe that—as might be expected from the long interval between the spraying and the outbreak, and the considerable development of young foliage during that interval—the plots which had been sprayed were as badly affected as those which had been left unsprayed. That the explanation just given is correct, is confirmed by the fact that plots sprayed later, on July 31st, were recognisable for several weeks as resisting the disease, and stood out as green patches among others which had not been sprayed late and were so badly attacked as to be black and leafless. It cannot be too often insisted upon that the mode of action of Bordeaux and similar mixtures is to form a protective covering over the surface of the haulm and thus to destroy the germinating spores which would otherwise enter and infect the plant. Unless, therefore, the spray material is still adhering to the leaf surface when the attack occurs, no protection can be expected.

Another interesting observation which we hope will be checked by similar observations made in 1919, is that the amount of disease among the tubers varied very considerably, according to the variety. Thus, although the haulms of King Edward and Up to Date were equally affected, the tubers of the former when lifted showed only 1½ per cent. recognisably blighted; whereas of Up to Date 7½ per cent. of the tubers from seed of Scotch origin and 10 per cent. of the tubers from seed of local origin were attacked. Needless to say, not all tubers which are blighted can be recognised as diseased at lifting time, and in the report it is mentioned that about two-thirds of the tubers ultimately manifested disease. Included in the trial were certain varieties which resisted late blight to a remarkable degree, showing only occasional spots when Up to Date grown on neighbouring plots was black with blight. When lifted, only one-third per cent. of the tubers of Scottish Chief were found to be diseased. Provost also showed disease resistance, but not so markedly as Scottish Chief. Arran Chief was less susceptible to late blight than King Edward, King Edward less than Up to Date, and the most susceptible variety was May Queen.

"Reversion" in Black Currants. The malady or malformation in Black Currants known as Reversion appears to be becoming more general, and growers in Norfolk and elsewhere are seriously concerned to discover some means of preventing it. At present, however, the malady has baffled investigators and the cause of Reversion is still to seek. Mr. A. H. Lees, who has devoted himself to a study of Reversion,* is inclined to believe that this malady is to be ascribed to an arrest of growth of the terminal bud, which arrest may in some cases be due to attack by the Big Bud Mite. The symptoms by which Reversion may be recognised are: (1) An extensive growth of the lateral branches which makes the bush a crowded instead of an open one; (2) the internodes are long and thin; and (3) sharp-pointed leaves, abnormally narrow, with edges more than usually serrated. On bushes suffering from the malady the fruit "runs off," so that at picking time either no, or very few, berries are to be found. Owing to the habit of growth of the Black Currant, to the distribution of wood and flower buds, and to the habit of the latter, which are mixed buds to form both flowers and short spur growths, the number of long lateral shoots found in normal plants each year is few. The formation of much lateral growth in Reverted bushes Mr. Lees attributes to a check to the terminal bud, and he points out that in many cases examined in which Reversion has occurred in any one year Big Bud is to be found among them soon afterwards. But which way to read the facts is not yet clear. Are Reverted bushes more prone to attack of Big Bud, or do bushes attacked by Big Bud "revert" as a consequence of the attack? The behaviour of the variety Seabrook's Black would seem at first sight to show that Reversion may occur without a preceding attack by Big Bud, for this variety, though resistant to Big Bud in the east of England, nevertheless reverts. But examples of Reverted shoots of Seabrook's Black sent by Mr. Seabrook to Long Ashton showed a curious state of affairs. On the Reverted shoots five kinds of buds were found—(1) normal; (2) Big Buds containing mites—these buds were very uncommon and always low down on the shoot; (3) round, swollen buds like small Big Buds but containing no mites; (4) dead buds one-third the normal size; (5) blank buds, *i.e.*, the bud which should have appeared in the leaf axil was missing.

Mr. Lees concludes from further examination that not only the Big Buds but also the dead buds are due to attack by the mite, that the missing buds are in all probability to be attributed to the same cause and possibly also the round, swollen buds.

When the mites attack a weak bud in summer they kill the growing fruit and are starved in consequence. Since other buds remain, the bud attacked sacrifices itself like Samson in the Temple of Gaza, and by its destruction the bush lives and in this way is resistant.

If the mite attacks a more vigorous bud it fails to kill the growing point, and the bud lives and becomes big. In the drier climate of East Anglia the buds are apt to be smaller than in the moister western climate of Long Ashton; hence in East Anglia attack by the mite is not successful enough to destroy the fruitfulness of the bush, whereas at Long Ashton the attack is more serious.

Mr. Lees points out that although the mite rarely produces Big Bud in Seabrook's Black, yet, as just indicated, the mite does attack this variety, and hence the hypothesis that terminal Big Bud is the condition for reversion is not disproved by the behaviour of this variety.

Mr. Lees, however, has observed cases in which reversion occurs, although no attack by mites has taken place. In such cases he finds that the terminal bud instead of being, as is the case in normal bushes, a wood bud is a flower bud. Since a flower bud is only of limited growth, the abnormal development of laterals which characterises Reversion might happen in correlation of growth. Removal of the terminal does not, however, cause reversion. This is not to our mind a disproof of Mr. Lee's suggestion; for the terminal bud of a plant must in some way control the behaviour of laterals, and the mere removal of the terminal need by no means produce the same result in laterals as the persistence of a terminal flower bud. We think that Mr. Lees should follow this clue yet further.

*"Reversion and Resistance to 'Big Bud' in Black Currants." Ann. Report, Agric. and Hortic. Research Station, Long Ashton, Bristol, 1918.

The attention of our readers is directed to the transposition of the editorial, or centre, leader and the first leader. In this and in subsequent issues the "editorial" will be found on the front page and will be immediately followed by the items of general news.

The Destruction of Rats.—The Rats and Mice (Destruction) Bill presented by the Board of Agriculture was read a second time in the House of Commons on 27th ult., and submitted to a Committee of the whole House. It passed through Committee the next day. Lord Aberconway who had presented a Bill to the House of Lords withdrew his measure in favour of the rather stronger one submitted by the Board.

Industrial Research.—We learn that a British Association of Research for the Cocoa, Chocolate, Sugar, Confectionery, and Jam Trades has been formed in accordance with the Government scheme for the encouragement of industrial research. The secretary is Mr. R. M. Leonard, 9, Queen Street Place, E.C.

The Potato and Onion Crops in Holland.—The Board of Agriculture and Fisheries has received information from His Majesty's Consul General at Rotterdam, to the effect that the Potato yield in Holland is expected to be fairly good or good and the quality good or very good. This description applies to Limburg, Guelderland and Utrecht, to Orenthe, Overyssel and South Holland, Zeeland and North Brabant. Reports from Groningen, Friesland and North Holland are fairly satisfactory, but on the sandy

soils of South Groningen, the crop has suffered from diseases, while in several districts the tubers are small. The crop of Onions is expected to be "from moderate to fairly good."

Clematis Davidiana. — Though the sub-shrubby Clematis Davidiana (see Fig. 106) was introduced by Abbé David from China over half a century ago, it is not met with frequently in gardens. The plant is suitable either for the hardy flower border or for association with groups of flowering shrubs, and is not particular as to soil, though it prefers a deeply-worked, heavy loam of a calcareous nature. The photograph from which the illustration was reproduced was recently taken at Aldenham House gardens, where C. Davidiana grows happily in the heavy clay soil, and produces a wealth of its beautiful indigo-blue, tube-shaped flowers which are reminiscent of Hyacinth bells, and quite as sweetly scented. It is not a tall growing species, as it only reaches a height of about 4 feet. At one time C. Davidiana, which is a member of the C. tubulosa section, was considered to be only a variety of C tubulosa, but it has since been raised to specific rank as being distinct from the type of the group. It is deciduous and dioecious, with leaves formed of three leaflets, and the flowers are borne in close-growing clusters

FIG. 106.—CLEMATIS DAVIDIANA: FLOWERS BLUE.

Potatos Immune to Wart Disease.—The Board of Agriculture and Fisheries has issued an Order modifying the regulations with regard to the sale of those varieties of seed Potatos which are immune to Wart disease. No licence from the Board is now required for the sale of any Potatos, except as regards Potatos sent into Wart disease infected areas. Potatos which have been inspected and certified by either the Board of Agriculture and Fisheries, the Board of Agriculture for Scotland, or the Department of Agriculture and Technical Instruction for Ireland, may be sent freely into infected areas without licences. On the occasion of a sale of such Potatos for planting, the seller must furnish the buyer with a declaration, preferably in the invoice, correctly stating the serial number of the relative certificate. No other Potatos for planting may be introduced into an infected area, except under licence from the Board. The Board does not propose to grant licences for the introduction of non certified stocks of seed Potatos into infected areas until they are satisfied that the supply of certified stocks is exhausted. The new Order makes no change in the regulations respecting the planting of Potatos in Wart disease infected areas. Copies of the Order and full information on the subject may be obtained free and post free on application to the Board of Agriculture and Fisheries, 72, Victoria Street, London, S.W.1.

The Care of Bees.—In view of the unfortunate fact that some beekeepers do not pack their hives properly for winter and do not see that the stocks have ample stores, it is well to know that the problem of bad beekeeping is receiving the attention of the Board of Agriculture. The Horticultural Section is giving consideration to the question of asking for legislation to protect competent and careful apiarists from the man who neglects his stocks and leaves them to the mercy of Isle of Wight disease, moth, foul brood and other troubles that may affect not only his own hives but those of his neighbour.

Daily Rings of Growth.*—In the course of his researches into the Cotton plant in Egypt Dr. Balls discovered, some years ago, that under the conditions of intense insolation obtaining there the growth of the plant is suspended each day and resumed again at night. He therefore concluded that each Cotton hair should show as many rings of growth as there were days and nights during its growth. Recently he has been able to verify the accuracy of this conclusion by discovering a method whereby, invisible though they be under ordinary microscopic examination, the nightly rings may be made clearly visible. By this method Dr. Balls is able to show that the wall of the Cotton hair consists of 25 layers, each of which is the record of one night's work on the part of the plant.

Retirement of Mr. F. W. McDonald.—Mr. F. W. McDonald retired on October 31 from the service of Messrs. Sutton and Sons, Reading, after a period of fifty years with the firm. To mark the occasion, the nursery staff recently made presentations to Mr. and Mrs. McDonald at the trial grounds of Messrs. Sutton and Sons in the London Road, Reading. Mr. L. J. Bates, on behalf of the nursery staff, made the presentation of an umbrella, and spoke of the excellent terms with which all had worked under Mr. McDonald, and expressed the hope that he might be long spared to enjoy his retirement. Mr. Bates also associated Mrs. McDonald with the testimonial, and asked Mr. McDonald to kindly convey a souvenir of the occasion to her. In replying, Mr. McDonald expressed his sincere thanks to the staff for their kind thought and good wishes. He referred to the good feeling which had always existed between himself and the other employees at the nursery. One of their number had been with him the whole of the time, another 47 years, whilst a third had served for 44 years. No fewer than five others had 30 or more years to their credit.

Light and the Healing of Wounds.—The wounds caused by tapping Rubber trees are found to heal most quickly when covered with colourless glass.* Of coloured glass, blue is best though less good than colourless, and yellow is worst. Uncovered wounds heal more slowly than those covered with glass, whether colourless or coloured.

Clematis tangutica.—Judged by the brave show which Clematis tangutica with its yellow blossom contrasting with its grey beards of fruits is now making in the gardens at Wisley, this climber should become a universal favourite. It is said to be a good doer, to grow rapidly and vigorously, and certainly, if its usual habit is to blossom freely in October, it would be a welcome inmate in any garden.

The Use of Electricity in Agriculture.—Striking illustrations are given by Dr. Crowley of the utilisation of electricity in Germany.† Actuated by electricity, the double winder plough may plough so much as 23 acres in one day. A single winder plough outfit consisting of winding wagon, carrying the motor, etc., an anchorage wagon and a haulage cable, operated by four men, can plough 1¾ acres per hour. Beside ploughing, electricity is used for supplying power for chaff cutting, turnip cutting, oat crushing and milk separating. The belief of German agriculturists in electricity as motive power is demonstrated by the growth of rural co-operative societies for the purposes of obtaining electrical power. In 1901 there was 1 society, in 1909 82, in 1910 257 and in 1913 between 600 and 700. With these facts before them it should be possible for experts to say, when the electric power stations, now under consideration are established, whether electricity in the service of the farmer may not become a rival of, and superior to, petrol.

Publications Received. — ***University of London. Faculty of Science (Horticulture) Examination Papers.*** B.Sc. (Horticulture) Examination, October, 1918. Internal Students. London: The University of London Press Ltd., at St. Paul's House, Warwick Square, London, E.C.4. Price 1s. 1d. post free. ***Quarterly Journal of Forestry.*** October 1919. Avenue Press Ltd., Drury Lane, W.C. For Laughton & Company, Limited, 3, Wellington Street, Strand, W.C.2. Price 2s

* "Daily Growth Rings in the Cell Wall of Cotton Hairs," by W. Lawrence Balls, *Proc. Ry. Soc.*, B. 90, No. B. 634, July 1, 1919.

**India Rubber World*, LVII., 5, N.Y., Feb., 1918.

† "The Use of Electricity in Agriculture, with Special Reference to its Development in Germany," by J. F. Crowley, D.S.C. *Journal of Society of Arts*, No. 3490, lxvii., October 10, 1919.

NOTES ON RHODODENDRONS.

The great influx of Rhododendrons from China into Europe is an event of more than ordinary interest to gardeners. The genus has long held an important place among garden plants, and this importance is being steadily increased by the addition of large numbers of Chinese species, some of which are likely to find a permanent place among favourite garden shrubs. Even those species which show less promise themselves may prove of value as breeders. Generally speaking, Chinese Rhododendrons have their like among the Indian representatives of the genus, which were introduced into this country by Hooker more than half a century ago. Some of them might well be looked upon as geographical forms only, and this fact ought not to be overlooked by those botanists who classify and name them. For there is danger that more species will be created than need be. The genus presents extraordinary difficulties to the systematic botanist. Unlike those genera the species in which are very easily defined, Rhododendron is as difficult as Crataegus, Rosa, Salix and Rubus, which are made up of a multitude of variations, not easily separated from each other by definite characters. Darwin looked at species as only strongly marked and well defined varieties; and with regard to geographical forms, which do not differ from each other by strongly marked characters, he said: "There is no possible test but individual opinion to determine which of them should be considered as species and which as varieties."

It does not much matter to the gardener whether a plant is recognised as a species or as a variety of one. For his purposes he requires distinguishing names, the simpler the better, and shows his objection to double-barrelled names by declining to use them, as, for example, R. Maddenii var. calophyllum, he calls R. calophyllum simply; R. campanulatum var. Wallichii he shortens to R. Wallichii; and R. arboreum var. nilagiricum to R. nilagiricum. Nice botanical discrimination is irksome to him.

The tendency nowadays is to multiply species, and this shows itself in the naming of Rhododendrons, quite small differences being considered sufficient to justify specific rank. This is another source of worry to the gardener, who fails to see in such differences as the number of hairs or scales, or the size of the calyx, and similar minor characters on which some species of Rhododendron are based, any tangible reason for distinctive names.

Mr. J. Hutchinson, in a paper published in *Notes from the Royal Botanic Garden, Edinburgh,* Vol. XII., No. 56, deals with what he calls the Maddenii series of Rhododendrons, a group typified by R. Maddenii, R. Dalhousiae, and R. ciliicalyx. This group includes practically all the larger-leaved Indian Rhododendrons with lepidote leaves, and their Chinese relations, in all thirty-nine species. Twenty-six of these are Indian, the other thirteen Chinese. They have a wide area of distribution, from Sikkim in the west, through Bhutan, Siam, Burma, right across Yunnan to Mengtz in the extreme south-east of the province, and Kweichow. Several previously referred to R. ciliicalyx, represented in *Bot. Mag.*, tab. 7,782, have been raised to specific rank. R. formosum is also broken up, the true species being what is known in gardens as R. Gibsonii. R. calophyllum is given specific rank, and Mr. Hutchinson says that it is not known to be in cultivation, the plants in gardens under this name being R. Maddenii. What was previously described as R. Maddenii var. obtusifolium, is now renamed R. manipurense. Two Chinese species, R. excellens and R. liliiflorum, and R. megacalyx, a Burmese species, have all large, white, fragrant flowers, produced late in the year, and are said to be among the finest in the group. The differences as set forth by Mr. Hutchinson between R. Dalhousiae and R. Lindleyi, which in gardens often do duty for each other, are not likely to count with gardeners. The late Mr. J. H. Mangles had a fine plant of what he said was true R. Lindleyi, which appeared to be typical R. Dalhousiae. A yellow-flowered Yunnan species, named R. Valentineanum, similar in foliage and habit to R. ciliatum, is said to be likely to prove as valuable a garden plant as that well known Himalayan species, which is quite hardy in the warmer parts of this country. R. Scottianum, from Yunnan, is described as a shrub up to 12 feet high, with coriaceous leaves 4 inches by 1 inch, and large, widely funnel-shaped fragrant flowers, which are white, occasionally flushed with rose, with a yellow blotch inside, and as being likely to prove the gem of the R. ciliicalyx alliance. R. carneum, from Upper Burma, figured in *Bot. Mag.*, tab. 8,634, forms a handsome greenhouse shrub up to a yard high, with flesh-pink flowers; and R. pachypodum, from Yunnan, is very similar to it but has yellow flowers.

The habit of some of the species of this group in a wild state is epiphytic on old tree stumps, such being R. Nuttallii, R. Lindleyi and R. Veitchianum, whilst R. dendricola grows at the tops of trees 50 to 60 feet high. The majority, however, are terrestrial shrubs or small trees, ranging in height from 1½ foot to 20 feet. Under cultivation all Rhododendrons are found to be quite happy when treated as ground plants. Their occurrence as epiphytes may therefore be looked upon as more or less accidental. *W. W.*

Fig. 107.—Oenothera triloba.

OENOTHERA TRILOBA.

There are several members of the genus Oenothera which have little or no stem, but form tufts of leaves close to the ground amongst which the flowers are produced on long tubes. Perhaps the best known of these is the large, white-flowered O. caespitosa, or, as it is frequently known, O. marginata, among other names. Yellow-flowered members of this group include O. Nuttallii, from California, with Dandelion-like leaves, and O. ovata, with entire foliage, a beautiful plant also from the same country.

O. triloba, the species illustrated in Fig. 107, is a tufted perennial with pinnatified leaves six inches long. The large yellow flowers are produced well above the foliage and open in the evening or during dull weather, from June to August. In Nicholson's *Dictionary of Gardening*, this species is described as an annual, but Gray says that it is really a good perennial. The plant is illustrated in *Bot. Mag.* tab. 2,566, and described as an annual or biennial. According to the *Botanical Magazine* the species is a native of the arid and almost denudated prairies of the Red River, in North America, where it was discovered, in 1819, by Professor Nuttall, who sent seeds to Robert Barclay, Esq., of Bury Hill and from the plants raised at Bury Hill the illustration in *Bot. Mag.* was prepared. The plant flowers so freely, and large clusters of seed capsules are produced so closely to the ground, that the growth of the plant is stifled and it often becomes an annual. It is an excellent border or rock garden plant, preferring hard, stony soil where it reproduces itself freely. Oenothera triloba has been in cultivation for nearly a century, and is a native of the arid plains of Arkansas. *W. I.*

NEW OR NOTEWORTHY PLANTS.

GUNNERA CHILENSIS AND G. MANICATA.

In *The Gardeners' Chronicle* of October 25 (see page 210) Dr. O. Stapf wrote interestingly on these two species of Gunnera, pointing out that they are difficult to distinguish when in leaf only, but thoroughly distinct at the time of flowering.

As both species have been grown here for years, in thousands, raised from seeds as well as by division, I am in a position to confirm Dr. Stapf's notes on the subject and to add a few details not mentioned by him. I can quite agree with him on the difficulty of distinguishing G. manicata from G. chilensis (=scabra) by the leaf. This, however, holds good for young plants only. After a few years, when the leaves reach their full grown size, even a layman could tell G. manicata from G. chilensis. The chief difference is to be found in the leaves of G. manicata being flattish and unfolded, while those of G. chilensis are more curled, crumpled, and smaller. The whole plant bears the stamp of this apparently small distinction. Perhaps it may be expressed best by saying that G. chilensis is "rough" compared with the G. manicata. This "rough" character is due to the deep shadows caused by the curling of the leaves. G. manicata, on the contrary, with its large, outspread leaves, often over 6 feet in diameter, shows a more even surface. Dr. Stapf's statement about the differences shown by the inflorescences I can wholly confirm. His suggestion that the green fruits produced by the Kew specimen of G. manicata are not ripe is quite right. Here G. manicata ripens its fruits as well as G. chilensis. The ripe fruits of G. manicata are of a dark orange colour and the seeds germinate readily.

In size G. manicata is not in the least inferior to G. chilensis. A specimen twenty-two feet wide and about twelve feet high attracts the attention of everyone who visits the Royal Moerheim Nurseries. *F. L. Rutgers, Dedemsvaart, Holland.*

AUSTRALASIA.

ANTHURIUM PFITZERI.

In your issue of January 14, 1919, you describe and illustrate a specimen of Anthurium Pfitzeri (Fig. 147). A plant was raised by myself more than twenty years ago from the parentage mentioned in your article, and, so far as I can see, the two are identical. I sent a plant or plants to Messrs. Sander and Sons, St. Albans, who exhibited it at Ghent, I believe, under the name of Anthurium Sanderi. Are these two plants identical; and, if so, under what name should the hybrid be known? *T. Godwin, Crow's Nest House, North Sydney.*

FLORISTS' FLOWERS.

ROI DES BLANCS AND OTHER CHRYSANTHEMUMS.

The most useful of all Chrysanthemums is Roi des Blancs, and when well treated it produces the largest number of flowers and keeps up the supply for the longest period. The variety needs special treatment. Cuttings should be inserted as soon as suitable shoots are procurable after October and the young plants transferred to 5-inch pots in February and grown in a cool house or pit where they will receive abundance of light. They should be stopped twice, but, if early flowering is desired, not later than March. They will make good bushy plants before the time for transferring them to the open ground, which should not be too early, because the variety is rather tender.

It is advisable to allow the plants plenty of room; 18 inches apart in the rows is not too much space, and I prefer rows 3 feet apart, with Lettuces or some other crop which will mature quickly between them, or, rather, the Chrysanthemums are between the Lettuces, as the latter are planted first. Shallow trenches are made, and a good dressing of half-decayed dung, with wood ash and superphosphate, is mixed with the soil. After planting, the soil is never allowed to become dry, and as much as 1½ gallon of water is given to each plant at every watering when they have grown to a good size, and being poured into the trench, none of it is wasted. The abundance of water given, and the extremely floriferous character of the plants necessitates frequent feeding. The potash from the wood ash may last through the season, but the ammonia in the dung and the phosphates from the superphosphate will not. A second application of superphosphate is therefore given when flowering commences, and a light dressing of sulphate of ammonia is applied and lightly watered in once a fortnight so long as the hot weather lasts. It is not desirable to give a heavy watering immediately after this application. Small roots will soon appear on the surface under the shade of the leaves; these should be covered with more soil, and sometimes this process has to be repeated. If the weather is very hot and dry a light mulching at midsummer may be necessary.

A later batch may be raised, and in some seasons the plants will do very well, but the earlier ones, if properly managed, will last throughout the season. I commenced cutting on July 5, which was fully a month before this variety appeared in Covent Garden, and as the plants were lifted and placed indoors when the first frost appeared in September, they are still producing an abundance of pure white flowers, and promise to continue doing so for some time. The blooms showed a little tinge of pink when the nights set in cold, but very soon after housing there was no sign of colour.

The number of flowers sold from 70 plants, to October 22, was 1,596—133 dozen. The earliest had short stems, but were useful for wreaths; afterwards, with a little disbudding and some thinning of the branches, the stems were long enough for the flowers to be used in vases.

I now have Sanctity and Early Framfield White in flower, but these will bear no comparison with Roi des Blancs; indeed it has no rival among white flowers of any kind unless it be a good strain of Ostrich Plume Aster, which I have not seen, however, in perfection since pre-war days, and the Chrysanthemum can be had both earlier and later than that beautiful Aster.

With other decorative Chrysanthemums I have practised a plan this season which is new to me. Instead of putting the plants into their permanent summer quarters from the cutting boxes, they were planted 6 inches apart, and with the exception of the earliest flowering varieties remained so till after their final stopping early in July, when they were transplanted into ground which had already borne a crop of early vegetables. They have done remarkably well, with less trouble than usual from weeds, as the ground was dug late in the season while it was dry and remained loose, consequently water entered freely at all times. *Wm. Taylor.*

The Week's Work.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Pruning Fruit Trees.—The winter pruning of fruit trees of all kinds may now be commenced, with the exception of Figs and Peaches; these are better left until later. Where much pruning has to be done, the work should proceed whilst the weather is open. It is a good plan to commence with the standard and bush trees and follow with the espaliers and then the wall trees. Where summer pruning has been practised the winter pruning will not be a serious business.

Protecting Fig Trees.—Outdoor Fig trees should be covered with mats or other protecting material before severe frosts set in, for if they become frozen the ends of the shoots will die back. Bracken fern or Spruce branches make excellent covering material for Fig trees.

Removal of Inferior Fruit Trees.—In many gardens there are trees of inferior varieties of Apples and Pears; in some cases they are retained because they are good croppers, in others because they are seedlings raised by the owner or gardener, and therefore more value is attached to them than they merit. All trees of inferior varieties should be grubbed up to make room for good varieties of the class of Lane's Prince Albert and Bramley's Seedling, for cooking, and Cox's Orange Pippin, Ribston Pippin and Rival, for dessert. These are all fit for the best tables and command good prices on the market. There are numerous good varieties of Apples, but a study should be made of those which suit the district; some first rate Apples which do well in the south are useless in the north.

Raspberries.—Fallen leaves, old growths and suckers should be cleared from Raspberry plantations. After cleaning, the ground should be lightly dressed with wood ash or burnt refuse from the fire heap, bone meal and some lime. The surface should then be lightly forked over, care being taken not to dig deeply, or more harm than good will result. This work finished, a good dressing of well decayed farm yard manure should be placed 2 in. thick over the soil; failing this, apply a light dressing of 4 parts superphosphate and 3 parts kainit.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Retarded Plants.—All retarded plants required for Christmas and early winter flowering should be placed in a house or pit having an intermediate temperature. Afford a top-dressing of equal parts of loam and dried manure, and supply the roots of Azaleas and Lilies with liquid manure. Syringe the plants freely until the flowers begin to open, and support the Lilium growths with stakes.

Shrubs for Forcing.—Rhododendrons, Azaleas, Deutzias, Lilacs, Viburnums and other shrubs that have been grown out of doors for forcing, should be potted, and, for the present, be plunged outside, either in leave or ashes until required. Hardwooded plants in greenhouses, such as Indian Azaleas, Camellias and Rhododendrons, also intended for forcing, should receive abundance of fresh air in the daytime, a good syringing in the mornings and an occasional fumigation. Camellias, either planted out or in pots, should receive sufficient water at the roots to prevent bud dropping.

Cinerarias and Primulas.—The earliest batches are now coming into flower and are best placed near the glass in a house where artificial heat can be supplied as needed. Afford the plants all the air possible in favourable weather, and give the

roots frequent supplies of liquid manure. Fumigate occasionally to prevent attacks of aphis.

Cyclamen.—The earliest plants, now coming into flower, will benefit by a surface dressing of an approved fertiliser and frequent waterings with liquid manure. Cyclamens are best grown in a low-roofed glasshouse or pit, in a temperature not below 45° to 50°. Plants not in flower should be syringed occasionally, and being very subject to insect attacks, the house they are in should be lightly fumigated at brief intervals. Seedling Cyclamens from seed sown early in September, are now ready to be pricked out into pans or boxes of light soil. Place them near the glass in the same house or pit until the second leaf has formed, when they may be moved to cooler conditions.

Violets.—So long as the weather continues with little or no frost and not heavy rainfall, the plants placed in pits or frame should be kept fully exposed, night and day, without lights, until unfavourable weather commences. A lengthened exposure of the plants during the autumn and early winter is conducive to a better supply of flowers throughout the winter. Slight dustings of soot will prevent attacks of red spider.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Bedding Plants.—All kinds of bedding plants which need protection should now be housed safely from frosts. Tender plants in frames should be removed to a more suitable position where artificial heat can be afforded in very damp or severe weather. To keep the roots healthy, do not over water them at this season but give just enough water to keep the soil slightly moist. Remove all decayed foliage and afford plenty of air in favourable weather. Such tender subjects as Alternanthera, Iresine, and Coleus, will need warmer quarters than varieties of Pelargonium. A shelf near the roof-glass in a stove or warm pit will suit them.

Planting Roses.—Hasten the planting of Roses during favourable weather. The soil in beds previously prepared will have somewhat settled and the plants may be put in at once, spreading out the roots and covering them up carefully with good soil. If planted now, Roses will start into growth early next spring and do well.

Old Beds of Roses.—If the Roses in existing beds have become impoverished or the soil is in a sour state, lift the plants and lay them in elsewhere; then give the soil a thorough dressing of lime, adding decayed manure and fresh loam, and thoroughly trench the beds, breaking up the subsoil to a good depth to allow surplus water to pass away freely. Good drainage is essential for Roses. Having thoroughly prepared the beds, let the soil settle or, if light, trample it rather firmly, and then proceed to replant the Rose bushes, arranging them according to height and strength but first cutting away old growths and damaged roots. Do not plant the roots too deeply, but spread them out evenly and, after planting, mulch the soil with suitable manure. After treatment of this kind, beds of Roses will show a marvellous improvement the following season both in growth and blooms.

Rose Cuttings.—Many good Roses may be propagated by means of cuttings with a heel of old wood attached. Plant such cuttings firmly in a west border and good results should follow. The cuttings should be of well ripened growth and about 9 inches long; place the cuttings 6 inches apart in the rows and allow a distance of 12 inches from row to row.

Gladiolus.—If not already lifted, all kinds of Gladioli should be taken from the soil and laid out in a shed or greenhouse for a few weeks until the tops part freely from the corms, then place the latter in boxes and store them in a frost-proof shed. Gladioli planted amongst Phloxes propagated in autumn and put out in spring produce a very striking effect when the colours are suitably arranged.

Herbaceous Borders.—Where alterations and rearrangement of plants are necessary, the work, if not already done, should be carried out before cutting down the tops of the plants, in order that the latter may be arranged as to height and colour. Michaelmas Daisies in variety, and many other tall-growing subjects, should be divided and replanted before they become very large, as much finer and better flowers are produced on young plants. See that the stations are well prepared; employ plenty of decayed manure on hungry land, and fork manure about the roots of tall, strong-growing species. Having completed this work, clean over the borders, dress the soil liberally with well-decayed manure and fork it in, thus leaving the surface clean and tidy. Bulbs and other spring flowers, such as Wallflowers and Forget-Me-Nots, should be planted forthwith in time to become established before the advent of winter. When altering and rearranging flower borders, it is an advantage to have in reserve plenty of the best and most useful subjects for planting. A reserve garden should be devoted expressly to this purpose, and the plants will furnish large quantities of cut flowers in summer.

THE KITCHEN GARDEN.

By G ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Globe Artichokes.—To ensure a good crop of Globe Artichokes during 1920, offsets or suckers should be taken from the old stools and potted in 8-inch or 10-inch pots, in a rough compost of loam, decayed manure and grit. Place the potted offsets in a frame, or pit, where they will receive protection from rains and frosts, but otherwise grow them quite cool and as naturally as possible. All the flower stems should be cut from stools remaining in the open, as well as decayed leaves; slightly prick up the soil round the plants, and if the ground is heavy apply a good surface dressing of cinder ashes. When frosts occur, place long stable manure, or Bracken around the plants, but it should be removed during mild weather.

Potatos.—Where the early forcing of Potatos is contemplated, no time should be lost in boxing a number of sets, rose end upwards, of an early variety placing them in a light, moderately warm structure. Give occasional sprayings with clear water to encourage strong, healthy sprouts. Ten-inch pots are most serviceable for the earliest batch, as the plants may be transferred to the various structures according to the temperature. Place two or three tubers in each pot, leaving ample space for subsequent top-dressings. Ringleader, May Queen and Express are three varieties of fine quality, and very suitable for early forcing.

Cauliflowers.—Plants of the Autumn Giant group of Cauliflowers have produced better heads since the late September rains than previously. The succeeding heads should be protected by covering them with leaves from the cut plants. So soon as the heads are large enough, cut them with a good stem attached and place them in the store shed until required.

Lettuces.—As the young, autumn sown plants for spring use are rather small, it will be advisable to prick out a goodly number of the seedlings into frames, where they will remain safe till March.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Late Vineries.—The exceptionally fine weather experienced during October materially hastened the ripening of the Grapes of late-started vines, but if the ripening process is not complete afford a night temperature ranging from 55° to 60°, with a corresponding rise during the day to "finish" the berries, and at the same time properly mature the wood. White Grapes require full exposure to the light; therefore all sub-lateral growths should be removed. Ventilate freely whenever the weather is favourable. Do not allow the borders to become excessively dry; if water is necessary it should be applied during the morning of a fine day, the ventilators of the house being opened wide to dispel atmospheric moisture. Mulching material should be removed before watering, but afterwards some dry litter should be applied to check evaporation.

Ripe Grapes.—In vineries where there are ripe Grapes a steady temperature of 50° should be maintained. A damp atmosphere may cause the berries to crack and decay. Free ventilation should be afforded whenever the weather is favourable, but damp air should not be admitted. Ripe Muscats, if fully exposed to the light, are apt to become discoloured and shrivelled; a light shade may be necessary and is provided either by spreading half-inch netting on the roof, or fixing sheets of tissue paper above the bunches.

Late Melons.—The bright and sunny weather during October materially assisted the growth of Melon plants and the development of fruits. With the advent of shorter days and waning sun heat the atmospheric moisture in the house should be reduced to a minimum. The soil should be kept moderately dry, and if the fruits are colouring no more water will be required. Air may be admitted during the warmer part of the day, but the ventilators should be closed early in the afternoon. Where the bottom heat is under control afford a steady temperature of 80° until the fruits are all cut.

Cucumbers.—Plants raised in August should be cropping freely; reduce the fruits to moderate numbers to avoid exhaustion of the plants. A temperature at night of 65° and by day of 70° to 75° should be maintained, with a further rise of 10° when there is sunshine. If red spider and mildew are present, vaporise the house with sulphur by means of a Campbell Sulphur Vaporiser; failing this, smear the hot water pipes with flowers-of-sulphur. Apply light top dressings of turfy loam and leaf-mould or half-decayed horse-dung over the roots, but supply water to the roots with care.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Laelia anceps.—The hot dry summer has suited this useful winter flowering Orchid, and the plants now have their flower spikes well advanced, especially the coloured forms, which are always the first to expand their blooms. These open at a time when the plants have quite finished their growth and therefore the dry atmosphere necessary to preserve the flowers is not so injurious to the health of the plants as would be the case if growth continued during the flowering period. There is often a gummy exudation from the apex of the spike and this should be removed with a wet sponge, otherwise the upper bracts will stick to the flower-buds and prevent the blossoms from opening properly. The long spikes will make it necessary to place the specimens on the plant stage till the flowering season is past. They should be placed where they will receive all the light possible, and abundance of fresh air whenever outside conditions are suitable. The supply of water at the roots should be reduced, but the rooting material must be kept sufficiently moist to allow the proper development of the flowers.

Oncidium cheirophorum.—This desirable Orchid is the prettiest of all the small flowering and dwarf growing members in the genus Oncidium. It usually blooms during late autumn and early winter, and although the bright buttercup-yellow flowers are small, they are produced very freely upon arching racemes, and they have a delightful fragrance. The species is easily cultivated, thriving well in small pans suspended near the roof in a cool, intermediate house; it dislikes disturbance at the roots; therefore, when repotting it is necessary only the best of material should be used, over good drainage.

Masdevallia tovarensis.—Well flowered plants of this charming old Orchid are always delightful at this season. During the summer and early autumn, the plants can hardly be kept too cool, but now, for the proper development of the flowers, they should occupy a house where the night temperature ranges from 50° to 55°, and throughout the winter the temperature should never fall below 50°, because in a very cold house the leaves are apt to spot badly.

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Illustrations.—*The Editors will be glad to receive and to select photographs or drawings suitable for reproduction, of gardens, or of remarkable flowers, trees, etc., but they cannot be responsible for loss or injury.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

THE GENETICS OF CAMPANULA CARPATICA.*

SINCE the rediscovery and confirmation of the Mendelian principle in 1900, there has been much discussion and speculation as to the moment in the life history of plants or animals at which segregation takes place. The foundation of the Mendelian principle lies in the fact that there are pairs of alternative characters, or allelomorphs, related to each other in such a way that the reproductive cells bear one or other of these characters, but not both. When two reproductive cells are united in fertilisation and are carrying similar allelomorphs, a true breeding or homozygous individual is formed, but when the two reproductive cells that unite carry dissimilar allelomorphs, a hybrid or heterozygous individual is produced. The heterozygous individual develops from a single cell formed by the fusion of two dissimilar germ cells, and at a certain point in its life history these different constituents separate out, resulting in reproductive cells carrying one or other allelomorphs of the pair. The exact point in the development of plant or animal at which this segregation occurs is of enormous importance both from the theoretical and the practical point of view, and has been the object of much research.

Early in the history of Mendelism, the hypothesis was put forward that segregation takes place in the cell divisions by which the maturation of the reproduction cells is effected. The peculiar mechanism of these cell divisions is consistent with the hypothesis, as also is much of the evidence derived from breeding work. Such experiments as those of Mendel with round and wrinkled, or green and yellow Peas, in which each pod may contain both kinds of Pea, indicate that both members of the allelomorphic pair are still united in the cell or group of cells from which the pod is developed. If segregation takes place earlier in the development of the plant, either at the formation of the flowers, or even in the segmentation of the embryo, then the different kinds of Peas would come in large groups or as a coarse mosaic, instead of in the fine mosaic in which they are usually found. Further, there is experimental proof that in such a case the allelomorphic characters are borne in equal numbers both by the pollen and egg cells.

This is undoubtedly the more usual type of segregation among plants, but many cases have now been found in which the segregation follows a different plan. Apart from those examples in which it can be shown that a definite segregation occur in the somatic tissues of the plant (as in the many variegated plants and in the large class which are known as "chimaeras") a remarkable group of instances has been discovered in which the male and female sides of the same plant do not have similar characters allotted to them. The first and most famous illustration of this principle is that of the single Stocks which throw doubles, investigated by Miss Saunders, in which the pollen is all carrying the double-flower character, whereas the egg cells are mixed singles and doubles. I have encountered a somewhat similar case in C. carpatica, but in these plants the egg cells may be homogeneous though different from the pollen.

In the experiments here described the chief characters investigated were flower colour and certain abnormalities in the development of the anthers.

FIG. 108. CAMPANULA CARPATICA.
Small-flowered female form, with rudimentary anthers, and large-flowered hermaphrodite form, with fully-developed anthers.

In C. carpatica are found hermaphrodite plants, with male and female organs fully developed, and plants with anthers that fail to develop beyond a rudimentary stage. Intermediate forms with partially developed anthers also occur. The "female" plants, *i.e.*, those without pollen, have corollas much reduced in size compared with the hermaphrodite plants, although they are quite as vigorous and free flowering (see Fig. 108). Hermaphrodites with small flowers are rare.

A form that has given striking results is C. c. pelviformis. This plant was distributed by Messrs. Froebel, of Zurich, in 1879, as a variety of C. turbinata, a species now united to C. carpatica. No exact information as to its origin can be found, but it is not improbable that the original variety consisted of a single plant propagated vegetatively for commercial purposes. As self sterility is general in C. carpatica, seed from this variety could only be obtained by fertilisation from other forms of C. carpatica. This supposition is suggested by a note in *Gard. Chron.* 311, 1883, to the effect that seed from C. c. pelviformis does not breed true but gives C. carpatica. One strain of the variety used in these experiments was derived from a plant with the flat flowers, from which it is named (see Fig. 109). Another strain was sent from Kew as C. var. pelviformis, but has funnel-shaped flowers; nevertheless, in other respects it appears to be typical of the variety. The inheritance of flower shape has not been fully worked out, but the flat flower is known to be recessive to the campanulate and intermediate shapes (see Fig. 110).

The flower colours investigated are blue and white, the latter being a simple recessive to blue. There are many shades of blue, and in general the paler shades are recessive to the darker, but intermediate plants may throw slightly darker plants.

The inheritance of the sex abnormalities described is more complicated than that of colour. In certain strains crosses between hermaphrodites, or between females and hermaphrodites, have invariably given mixed families, consisting both of females and of hermaphrodites, often with a preponderance of females. In these strains of C. carpatica all the hermaphrodites tested appear to produce more gametes carrying the female character than gametes carrying the hermaphrodite character, and there is no consistent difference in this respect between the ovules and pollen of a single plant.

But in two hermaphrodite plants of the variety C. c. pelviformis, there is a striking difference between the characters borne by ovules and pollen. For the pollen of these plants used on females gives rise exclusively to females, whereas the ovules of the same plant fertilised by other hermaphrodites give rise exclusively to hermaphrodites. The type of segregation by which ovules and pollen are differentiated is also followed by the colour factor in one of these plants of C. c. pelviformis. This plant has blue flowers and is heterozygous for this factor. On the female side normal segregation occurs, equal numbers of ovules bearing blue or white allelomorphs. But a different type of segregation occurs on the male side, for 97 per cent. of the pollen grains carry the white allelomorph, and 3 per cent. only the blue allelomorph. As a result of this peculiar segregation these plants when propagated by seed breed true in regard to the correlated characters, namely, perfect anthers and large flowers. Yet, that they are in reality hybrids is evident from the results of their male fertilisations.

It remains to consider the transmission of this very peculiar mode of segregation from parent to offspring. A very high proportion of the hermaphrodite plants coming from the female side of C. c. pelviformis have a similar type of segregation. Both the sex factor and the colour factor are distributed to ovules and pollen respectively, much as in the pelviformis parent. But the power of transmitting these properties is apparently limited to the ovules, for no plant similar to C. c. pelviformis has been derived from its male side. By fertilising hermaphrodites of other strains of C. carpatica with pollen of C. c. pelviformis, hermaphrodites are made, but they do not inherit the special type of segregation characteristic of their fathers.

Both in the type of segregation by which ovules and pollen differ in regard to the factors they respectively carry, and in the transmission of this property by the ovules only, C. c. pelviformis may be compared with the double-throwing variety of Stock. *Caroline Pellew.*

* The experiments here described were carried out at the John Innes Horticultural Institution, and are fully recorded in "Types of Segregation," C. Pellew, *Journal of Genetics*, Vol. VI, No. 4, 1917.

RENOVATING FRUIT TREES.

AUTUMN is the best time in which to undertake the work of renovating fruit trees, and no doubt this season there will be many arrears to overtake. Old trees that fail to yield satisfactorily are useless, but very often sentiment forbids their removal and the only alternative is to endeavour to make them worthy of the space they occupy. This is not an enviable task, for it is beset with difficulties, and when completed the period of waiting for the reward is often a long one.

The importance of attending to fruit tree roots at the time leaves are falling, and while the soil still retains some of the warmth accumulated in summer, cannot well be over estimated, as it affords an immediate opportunity for new root action, the result being the least possible check.

Espalier-trained Pear trees on walls are the worst offenders, but they can be induced to yield to treatment in most cases with judicious pruning, and by improving the rooting medium so far as possible. A trench should be taken out some 8 or 9 feet from the stem, and all roots encountered severed in a slanting direction. Discretion must, however, be exercised with very old specimens, for fear of giving too great a check. But in average cases one may safely proceed at this distance to loosen the soil to within 3 feet of the stem, and as the roots are laid bare, cover them with damp mats, and tie them back out of the way. It will then be necessary to work under the soil to a point immediately under the stem for the purpose of severing downward-growing roots. To take the place of exhausted soil nothing is better than turfy loam roughly chopped, with a liberal addition of ash from the rubbish fire and a fair sprinkling of half-inch bones, together with some old mortar rubble. Should the loam be of poor quality, it may be advisable to add ordinary manure, but, unless decayed, this is best kept away from the roots. Before proceeding to put in the new soil the subsoil should be thoroughly broken up and the roots freed of dead and bruised ends before spreading them out evenly. Keep the roots a little above their level in order that after the soil has finally settled they will still rest in a horizontal position. Select some of the finest soil to place round them, and after all has been made firm the soil should stand a little higher than the general level. Should it be necessary, soak the soil with clear water, and apply a mulch of half-decayed manure.

The spurs of most old trees should receive attention a little later, as it is almost impossible to expect much from them in the state they generally are. Examination alone must determine the treatment, as some spurs towards the end of the branches and at the top of the tree may be in fair condition, but with the majority nothing less than shortening them well back or cutting them entirely out will suffice. In any case young wood is desired, and by either method it will be secured, and, with training, develop into spurs yielding fruit of a fair size. Too much of this pruning must not, however, be attempted in one season; it should be extended gradually over the whole of the tree, and may take four seasons to complete in the worst cases. The summer treatment of trees thus dealt with largely influences the results. Roots should be encouraged near the surface by mulching and feeding, together with liberal supplies of water in dry weather. It is advisable, however, not to apply the mulch too early in the year, but rather lightly fork in the winter one, and allow the soil to become well warmed by the sun, the end of May being early enough in most cases to apply the summer mulch. The above remarks apply also to trees growing in the open, with the exception that only half the roots should be treated in one season, and pruning chiefly carried out so as to admit light and air to the centre of the trees.

In the case of Peaches, Plums and Cherries that may not be in the best state of health, treatment of the roots on lines similar to the above method will often bring about a speedy change for the good, provided they are either suffering from exhaustion or making excessive growth at the expense of fruiting. In the first case, a new and substantial rooting medium is of primary importance, and where possible pruning should be directed to the removal of old wood that may be considered to be in excess. In the last-named fault it is advisable to seek the cause at the roots. At the same time make sure the drainage is in order and to check any tendency to downward rooting a slab of stone or slate should be laid at a convenient distance immediately under the stem of the tree. Lime being essential to stone fruit, care should be taken to add old mortar rubble freely, for without this it is seldom possible to obtain good results. *F. T.*

FIG. 109.—CAMPANULA CARPATICA.
Left: Flat flower of C. c. pelviformis. Right: Campanulate flower of C. carpatica. (See p. 238.)

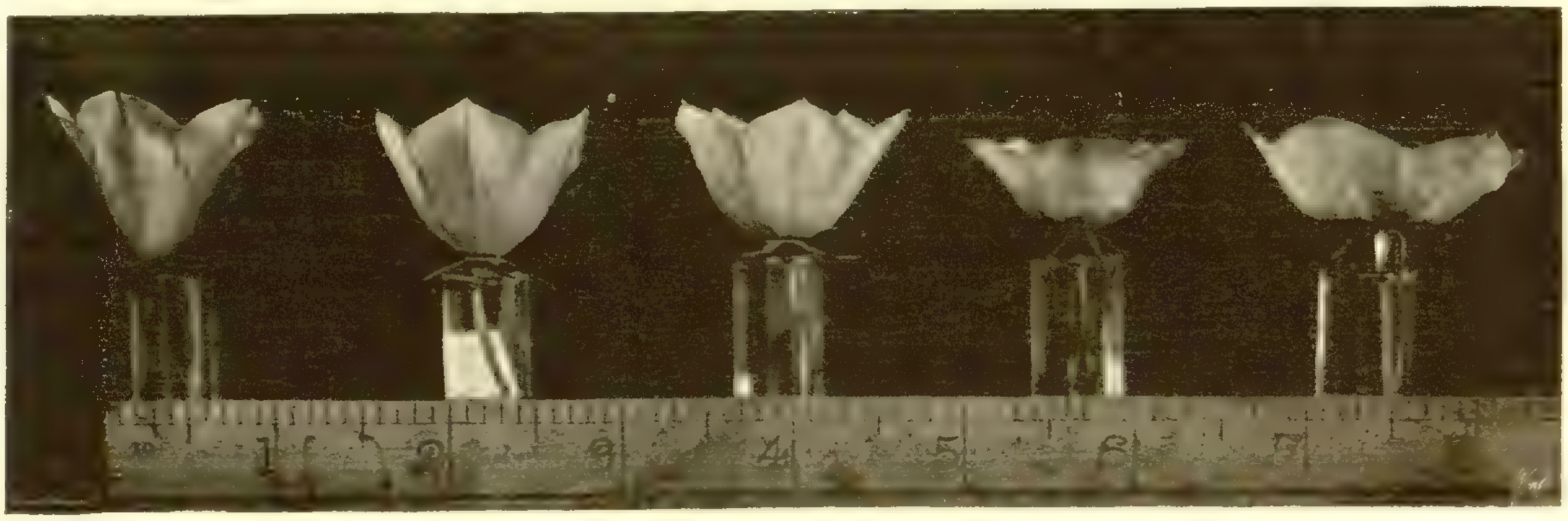

FIG. 110.—CAMPANULA CARPATICA.
Flower shapes in F_2 from the cross between campanulate and flat-flowered varieties. (See p. 238.)

PLANT NOTES.

RANDIA FITZALANII.

DURING September and the early part of October, many parts of the coast of North Queensland are decorated by Randia Fitzalanii, a plant of remarkable beauty and conspicuous by reason both of flowers and fruit. It is named after Isaac Rand, F.R.S., and "Fitzalanii" is in honour of E. Fitzalan, at one time a resident of Bowen and a keen and successful botanist. The plant belongs to the same family as the Gardenia, and, in common with several of its relatives, is endowed with strong and exceedingly acceptable perfume. F. M. Bailey describes eight species of Randia native to Queensland, five of which are confined to the tropical north, ranging from Cape Upstart to the Gulf of Carpentaria, three being specially heavily scented. Randia Fitzalanii seldom flourishes fully exposed to the sun. Its place is rather under the shade of taller and sturdier vegetation, and it finds ideal conditions alike at the mouths of shrub-obstructed creeks and among boulders overhung with trees and screening vines, where the struggle for existence always seems tense and unnecessary. Simple in form, the flowers are produced in loose, irregular groups and are proportionately thick and leathery, with less tendency than others of the family to become brown when fading. Posies of the white flowers appear scattered among the glossy leaves, looking like patches of enamel, precisely cut, and since there are few winds to disturb such sheltered, well-embowered scenes the effect is that of formality and primness contrasted with the unkempt, disorderly luxuriance of the jungle.

FRUIT REGISTER.

PEACH LADY PALMERSTON.

THOSE who contemplate planting Peach trees under glass this autumn should include a tree of this handsome variety. In a cool house it succeeds admirably, giving handsome fruits during the first week in October, at which time good Peaches are appreciated. In growth and cropping this variety is all that could be desired. The variety was raised by Mr. Rivers from Pineapple Nectarine. The skin is greenish yellow, marked with crimson. The flesh pale yellow, rich and melting. The flowers are small. *E. M.*

ORCHID NOTES AND GLEANINGS.

ORCHIDS FROM COOKSBRIDGE.

FLOWERS of some very handsome crosses are sent by Messrs. J. and A. McBean, and they are highly interesting as evidence of the fact that albinos of coloured species are tolerably constant in transmitting the albino character when used in hybridising.

CATTLEYA ANNETTE is a charming new cross between the very broad-petalled C. chocoensis alba McBean's var. and C. Warscewiczii Frau M. Beyrodt, the broad petals of the one parent, and the clear violet colour of the front lobe of the lip derived from the other, being good features. The flower is snow white, with a pale yellow disc and violet front to the lip.

CATTLEYA ABEKENIAE ALBENS, obtained by crossing C. Dowiana aurea with C. Lord Rothschild alba, is a new form of the hybrid registered previously, and which had colour in the sepals and petals. The present form is white with a sulphur yellow shade, the lip being bright yellow, changing to cream white in front, the margin being tinged with rose and the base having purplish, branched lines extending to the centre.

CATTLEYA AMABILIS ALBA, from C. labiata alba and C. Warscewiczii Frau M. Beyrodt, is a very finely-formed flower with pure white sepals and petals and dark violet-purple front to the lip.

CATTLEYA ELEANORE MCBEAN'S VARIETY, the result of a cross between C. Hardyana alba and C. Warscewiczii Frau M. Beyrodt, is an advance on C. Hardyana alba in size and breadth of petal, pure white with violet-purple front to the lip.

HYBRID ORCHIDS.

(*Continued from September 13, p. 138.*)

Name.	Parentage.	Exhibitor.
Brasso-Cattleya delicata	C. Gertrude × B.-C. Madme. Chas. Maron	J. Ansaldo, Esq.
Brasso-Cattleya Luegmann	C. Luegeae × B.-C. Mrs. J. Leemann	Charlesworth & Co.
Brasso-Laelio-Cattleya Callisto	B.-L. Digbyano-purpurata × L.-C. callistoglossa	J. Ansaldo, Esq.
Brasso-Laelio-Cattleya Elvira	B.-L. Digbyano-purpurata × L.-C. Dominiana	J. Ansaldo, Esq.
Brasso-Laelio-Cattleya Gabriele D'Annunzio	B.-L. Thwaitesii × C. Dowiana aurea	J. Ansaldo, Esq.
Brasso-Laelio-Cattleya Joiceyi	B.-L.-C. Cooksonii × L.-C. Thyone	J. J. Joicey, Esq.
Brasso-Laelio-Cattleya Lilian	C. Iris × B.-L.-C. Cooksonii	Charlesworth & Co
Brasso-Laelio-Cattleya Lady Diana	B.-L. Digbyano-purpurata × C. Dowiana aurea	Duke of Marlborough.
Cattleya Dinah	Elvina × Dupreana	J. & A. McBean.
Cattleya Evelyn Lister	Iris × Luddemanniana	Mansell & Hatcher.
Cattleya Lady Evelyn	Atalanta × Hardyana	Sir Jeremiah Colman.
Cattleya Mogul	Hardyana × Elvina	Stuart Low & Co.
Cattleya Princess Royal var. Eva	Fabia alba × Hardyana Countess of Derby	Charlesworth & Co.
Cypripedium St. Germaine	Lord Wolmer × Germaine Opoix	H. J. Bromilow, Esq.
Cypripedium Roth-Maud	Rothschildianum × Maudiae	Mrs. Bruce & Miss Wrigley.
Laelio-Cattleya Calypso	C. Mrs. Pitt × L.-C. St. Gothard	Charlesworth & Co.
Laelio-Cattleya Canary	L.-C. Thyone × C. Fabia alba	Pantia Ralli, Esq.
Laelio-Cattleya Cornelius	Purple Emperor × St. Gothard	Duke of Marlborough.
Laelio-Cattleya Gothlab	L.-C. St. Gothard × C. labiata	J. Ansaldo, Esq.
Laelio-Cattleya J. Ansaldo	Hildegard × Lustre	J. Ansaldo, Esq.
Laelio-Cattleya Lady Moore	L.-C. Epicasta Gatton Park var. × C. labiata glasnevin	Sir J. Colman.
Laelio-Cattleya Maudiae	C. Dowiana × L.-C. Neleus	Charlesworth & Co.
Odontioda Harlequin	Odm. The Premier × Oda. Cooksoniae	Pantia Ralli, Esq.
Odontoglossum Ducri	Duvivierianum × crispum	H. T. Pitt, Esq.
Odontoglossum Gattonthello	Maid of Gatton × eximium	Sir J. Colman.
Odontoglossum Suenacca	Black Prince × crispum	de B. Crawshay, Esq.
Odontoglossum Vulximium	Vulcan × eximium	de B. Crawshay, Esq.
Sophro-Cattleya Suzanne	S. grandiflora × C. Suzanne Hye de Crom	Sir Mervyn Buller.
Sophro-Cattleya Verdi	C. Adula × S.-C. Doris	J. Ansaldo, Esq.
Sophro-Laelio-Cattleya Adelina	C. Empress Frederick × S.-L.-C. Dorila	J. Ansaldo, Esq.
Sophro-Laelio-Cattleya Cleo	S.-L.-C. Iris × S. grandiflora	Charlesworth & Co.
Sophro-Laelio-Cattleya Edie Tack	S.-L.-C. Bletchleyflora × C. Leda	Stuart Low & Co.
Sophro-Laelio-Cattleya Orlando	S.-C. Thwaitesii × L.-C. bletchleyensis	J. Ansaldo, Esq.
Sophro-Laelio-Cattleya Pallas	S.-L. Psyche × L.-C. Rubens	J. Ansaldo, Esq.
Sophro-Laelio-Cattleya Rigoletto	S.-L.-C. Marathon × C. Trianae	J. Ansaldo, Esq.
Sophro-Laelio-Cattleya Vivid	S.-L. Psyche × C. Fabia	J. Ansaldo, Esq.

NOTICES OF BOOKS.

The Book of the School Garden*.

THE second edition of Mr. Lawrence's useful book on School Gardening has now appeared and may be commended to all teachers, even those who already have experience as school-garden instructors.

Mr. Lawrence favours the combination of the two systems—individual and common plots—each of which has its advocates. We think that Mr. Lawrence is right and that each school garden should provide both plots worked by the pupils, either singly or in pairs, and also a plot cultivated in common. The advantages of this system are that it allows of autumn and early spring preparation of the individual plots by affording space for the planting of winter greens on the common plot. It also allows of the growing of sundry crops—Celery and others—which could not economically be distributed over each individual plot.

Mr. Lawrence holds that 20 square poles is the minimum area required for a class of 14 pupils, but 30 square poles should be used if the land is available. He begins at the beginning by insisting on the use of the spade constituting the first lesson and gives a series of useful hints to novices in the practice of that essential but by no means simple act. He might have added to his useful advice that a beginner who watches attentively an old experienced spadesman will discover not only the efficiency but also the grace with which the operation should be done. Instruction in digging and trenching follows, and the advantages of full trenching are insisted on, though perhaps a warning might have been included as to the circumstances in which full-trenching is to be avoided. After the use of tools, manures are dealt with and the mode of making manurial tests described. Here also it would be worth while explaining the importance of making all tests in a large series of small plots, which allow of repetition, rather than in a small series of plots. Moreover, in speaking of natural manures (p. 30) reference might with advantage be made to the effects of dung on the physical condition of the soil.

Under Mr. Lawrence's skilled guidance, the pupil is taken through the routine of the garden, and he would be a dull person who did not in the course of the journey learn what he must do to become a skilled gardener. Practice only can make him become one.

* *The Book of the School Garden*, by C. F. Lawrence (p. 231). London, Evans Bros., Ltd. Price, 3s. 6d. net.

THE YELLOW UNDERWING MOTH.

TRIPHAENA PRONUBA.

THE moth illustrated in Fig. 111, commonly called the Yellow Underwing, or, to distinguish it from some closely allied forms, the Large Yellow Underwing, is extremely common. It is almost impossible to walk in any field where there is sufficient cover in June and July without disturbing it. When at rest its dull coloration, combined with markings which break up the surface, prevent it from being seen until disturbed, when the flash of yellow, revealed by the underwings, brings it into evidence, only to disappear once more when it settles. In general colour the forewings vary from purplish-brown to dark brown, but they sometimes have a reddish tint. The chief markings are a small black one nearly on the end of the costa, a well-defined reniform mark two-thirds of the way towards the apex, and on the basal side an orbicular mark usually paler than the ground colour. The basal line extends only about half-way across. Between it and the orbicular spot is another line going right across the wing. Two other pale lines are visible on the apical side of the reniform marking. The hind wing is bright yellow sharply bounded by a narrowish black border. The moth does not appear to be attracted by light, but it is one of the most assiduous feeders on "sugared" trees and is often a great nuisance to the collector on that account. The caterpillar feeds on any low-growing plant such as Dock and Dandelion, but it is especially fond of grass. It may be found any time from August to May and is unfortunately only too common in the garden, where it is an unmitigated nuisance. It feeds at night and so is apt to escape the attention of the gardener, but its work is only too evident in the shape of rotted and bitten-off plants. In colour it is usually a dingy purplish-brown, and thus difficult to see against ordinary soils, but the monotony is relieved by a pair of faintly yellowish lines, the dorsal and subdorsal. Even here, however, the caterpillar sticks to its policy of inconspicuousness, as they are by no means well defined. Although so common and destructive a pest there is no direct means of controlling it. Clean culture, so as to remove hiding-places, is of course important. Thorough tillage also is helpful as it disturbs the caterpillar. Probably the best way of making conditions unsuitable for it is to keep the soil firm with a loose dry mulch of soil on the top. The firmness prevents easy locomotion and the loose, dry and often hot soil at the top is a medium that very few soil insects can endure. *A. H. Lees.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Aristolochia elegans.—Although not by any means common in gardens, some of the Aristolochias are worthy of considerable attention, and more especially so the species under notice. Of moderate growth, it is well suited to the adornment of the roof rafters of a small stove, where more rampant climbers would darken the house to the disadvantage of other plants. It is both curious and beautiful, and easy to manage; the flowers are pleasing in form and prettily marked with deep purple blotches and lines upon a white ground, with a large, circular, purple blotch in the throat. Many Aristolochias have an objectionable odour, but A. elegans is odourless. It delights in a rich soil, composed of good loam, fibrous peat and some sharp sand, to which may be added a little half-rotten manure. Plenty of moisture when growing and abundance of light are essential. This plant is easily propagated from cuttings during the early summer. An ordinary stove temperature will meet its requirements. *Ralph E. Arnold, Cirencester Park.*

Grapes in Unheated Vineries.—The remarks that have appeared lately in the pages of *The Gardeners' Chronicle* supporting the practice

of Grape cultivation in vineries without the help of artificial heat scarcely needs any confirmation, but I should like again to record the most successful crops grown absolutely without any artificial heat at Gunnersbury Park Gardens, by Mr. Geo. Reynolds. I recently inspected two vineries there, one containing Madresfield Court, and the other Muscat of Alexandria vines. Better or heavier crops could not possibly be desired. In the former, both bunches and berries were fine and the finish and flavour were excellent. In the second vinery the bunches of Muscat of Alexandria were just putting on that finish so much desired by Muscat growers. All the good qualities of this variety were present, and with the recent sunny weather the bunches should be well matured by now. These vineries are of three-quarter span formation and the space above the trellis is more than usually allowed; the border is entirely inside. These points are all in favour of "cool" treatment. The success achieved has been most satisfactory and Mr. Reynolds is to be congratulated upon his admirable management. At the Knap Hill Nurseries, Woking, Mr. Anthony Waterer has an old vinery in which a large crop of somewhat small, but highly finished, bunches of Black Hamburgh Grape is produced annually. There is only one vine, and this is of considerable age. Mr. Waterer shows this vinery to his friends with considerable satisfaction. I recently had the opportunity of tasting some of the excellent Grapes grown therein *Jas. Hudson.*

October Dessert Apples.—Mr. Molyneux (see p. 206) is right when he states the choice of good dessert Apples for October is limited. The lack can be overcome somewhat by planting appreciated September varieties in cold parts of the garden. Additional October varieties are Ellison's Orange, and King Harry—an old Apple, small, flesh firm of a greenish-yellow tinge, very sweet and juicy. Wealthy would also give satisfaction to many tastes. An Apple I have often drawn attention to as an excellent eating variety is Potts's Seedling, and it is at its best in October. The flavour is delicious from mid-October until the end of the month. It is very juicy and tender, but being always listed as a cooker it has not gained popularity as a table Apple. Those who have not sampled Potts's Seedling as a dessert fruit should do so. At least three of the varieties mentioned by Mr. C. A. Jardine can scarcely be called October sorts, *viz.*, Calville Rouge Précoce, Calville Blanche and Golden Reinette. The two latter are certainly better from the middle of November onwards. By the way, the correct name of the Calville Rouge Précoce is, according to Mr. Bunyard, Reinette Rouge Etoilée. *C. Turner.*

——Mr. E. Molyneux's contributions to your journal are invariably interesting, but is he not mistaken in describing Miller's Seedling as "a comparatively new Apple?" (*Gard. Chron.* Oct. 18, 1919, p. 206). It has been known in Berkshire for at least twenty years. I can confirm Mr. Molyneux's opinion of its merits as a 12 year old pyramid in my garden bears prodigiously, but only every other year. This is the only fault I can find with it, and I should be glad to learn of a remedy. Thinning the fruit has, up to now, proved ineffective. *W. J. Taylor, Redcroft, Warwick Road, Reading.*

——Few will agree with Mr. Jardine that the Apples he names on p. 216 are desirable for dessert use during October. What is September Beauty? I cannot find any reference to it in any authoritative book. Fruits sent to me are identical with Miller's Seedling, which, I believe, was introduced in 1848. Surely Belle de Boskoop is not an October Apple; here it is not fit to use until February. Wealthy can hardly be classed as a dessert Apple. Margil is a very good Christmas Apple, and Calville Blanc is a January fruit requiring a wall on which to ripen its fruit in England. Ross Nonpariel is classed in Messrs Bunyard's list as useful from November to January. Bowhill Pippin, Endsleigh Beauty, and Warder's Golden Reinette I find no reference to in any publication. Perhaps Mr. Jardine will give references if the varieties are so desirable. Calville Rouge Précoce is described in *Hogg's Fruit Manual* in these terms:—"A very ornamental Apple, whose greatest recommendation is the brilliancy of its colour." Mr. Jardine observes that as there are three trees of each sort at Wisley, the bees make cross pollination certain. What is the advantage of cross pollination? In compiling my list of October dessert Apples I omitted Beauty of Hants, which is really a good October variety. I am not quite certain of the origin of this form of Blenheim Pippin, but think it was raised in a garden near Southampton. In appearance it is quite like Blenheim Pippin, but lacks the fine flavour of that variety. In spite of this, Beauty of Hants is worth growing, as it crops regularly as a rule. *E. Molyneux.*

Gardeners' Wages.—Most head gardeners will, I think, agree with *An Employer* and *A Nurseryman* that the scale of wages drawn up by the British Gardeners' Association is quite outside all reason. Its compilation shows a lack of sense of values, both from the living wage standpoint and from the view-point of practical experience. Young men of 21 years are scaled at £3 per week, while a fully experienced head gardener is kindly allotted an extra 12s. 6d. only, this little extra, I take it, being the amount generously allowed for a wife and, say, two or three children. The secretary and president of the British Gardeners' Association are known to be practical men, which makes it harder to understand their sanctioning such an absurd rate of pay for publication. Were they over-ruled or out-voted by a few extremists in Committee? In any case, such outrageous lack of fairness to head gardeners as cited above will do the Association no good, but more likely earn it their contempt. The engaging of all under-men is usually the business of the head man, and he would be a numskull were he to offer or even suggest such payment unless he himself is proportionately paid. If the experience and physical needs of a single man of 21 years are to be reckoned at £3 per week, surely in the name of fairness the more mature experience and needs of a head gardener—plus wife and family—should be rated more than 12s 6d. higher. I have real sympathy with the desire to raise the wages of every class of our profession, but not in so one-sided a manner as outlined by the present wage standard of the B.G.A. The Society will, I feel sure, be wise to withdraw the wage scale recently published and rearrange it on a more equitable basis. *C. T.*

FIG. 111.—THE YELLOW UNDERWING MOTH: TRIPHAENA PRONUBA.
(See p. 240.)

CROPS AND STOCK ON THE HOME FARM.

STORING MANGOLDS.

THE Mangold crop this year, in the south of England particularly, is a poor one owing to the excessive drought experienced during the months of May and June and the greater part of July. During the three months named less than 3 inches of rain was recorded. Last year Mangolds sold for as much as 50s. per ton, but what they will realise this autumn I know not, as cattle food such as Cabbage, Swedes, and Turnips is scarce, and with the high price of hay the outlook for the dairy farmer and sheep breeder is none too promising.

The shortage of the Mangold crop should, therefore, be an incentive to those who possess any to harvest the roots carefully and store them safely. Mangold roots are easy to pull, and the most expeditious method of lifting them is to seize the tops some 3 inches from the crown with the left hand, pull, and then with a large knife or a short hook, sever the leaves within an inch or so of the crown: with the same action throw the roots into heaps or in rows, dropping the leaves close by. A common plan is to build cone-shaped heaps of about three wheelbarrowfuls, and cover them with the leaves which are supposed to be sufficient to ward off several degrees of frost. Usually the heaps are allowed to remain a week to dry, and are then supposed to be in a better condition for storing than when put straight into a heap as pulled. How this can be an advantage I am at a loss to understand, because when the roots are closely covered up with the leaves they cannot dry properly. If they are carted away the same day into heaps or sheds, the labour in covering the heaps is saved and the risk of damage by frost is avoided. A frost-proof shed or barn affords an excellent site for storage; the labour of protecting the roots with straw and soil is saved and in such structures the roots keep admirably, even when the heaps are 10 feet deep. There seems no limit to the bulk which may be built up in a shed.

In the open field—or rick yard, which is at times selected, being handy for cartage or for straw and caving for covering the roots—the clamps may be 10 feet wide at the base according to quantity and space.

If the clamps are in the field select a site as near to the gate as possible and preferably on the side sheltered from north winds. Build the roots into a cone-shaped mound up to 6 feet high or more, using the larger roots for the outside. The most expeditious method is to tip the cart up in the middle of the heap and work from the centre of the heap, in two gangs, to the opposite ends. When the clamp is complete cover it with straw, or better still Barley or Oat caving which lies closer and wards off more frost than straw alone. A covering of straw will tend to keep the cavings dry, as when dry it is not so likely to be penetrated by frost as when wet.

A coating of soil 1 foot thick, dug from a trench around the clamps, should be put on three parts of the way up the clamp, leaving the apex open for at least a month to allow heat and moisture to escape. After that period the whole may be covered with straw and soil or a capping of thatch may be put on to ward off heavy rains. Ventilators should be arranged on the top of the ridge at every 8 feet; four-inch drain pipes answer the purpose well. Where an abundance of caving and straw is available thatching answers equally as well as the soil covering, and this method is perhaps a saving of time and labour and certainly keeps the roots dry.

When properly protected, Mangolds will keep sound until August. Do not attempt to stack, cart, or pull the roots when in a frozen condition, but leave them until a complete thaw has taken place. The bruising of the skin and flesh when in a frozen state causes injury to the roots. *E. Molyneux, Swanmore Farm.*

SOCIETIES.

ORMSKIRK POTATO SHOW AND CONFERENCE.

OCTOBER 29 AND 30.—The Potato Exhibition and Conference, held at Ormskirk on October 29 and 30, was the largest and finest of the series. It was opened by Sir Daniel Hall, of the Board of Agriculture, in the presence of a large and appreciative audience which taxed to its utmost limit the standing room in the Drill Hall. Sir Daniel was supported on the platform by Dr. Keeble, of the Horticultural Division of the Board, and Mr. A. Birch, and was introduced by Mr. R. D. Rothwell, vice-president of the Ormskirk Potato Society.

Sir Daniel Hall, in the course of his address, referred to the findings of Mr. Gough, obtained from various sources, which led to the discovery of the existence of immunity to Wart disease in certain varieties of Potatos grown in the district. To-day these facts have been definitely established in Resistant Snowdrop, Yellow Sharpe's Victor, Broad Ashleaf and others. The work carried out by Mr. Snell in connection with the testing for immunity at the Ormskirk Trial Station was warmly eulogised. In connection with the administration of the Wart Disease Order, supervised by Mr. Taylor, reference was made to the scheduling of the County and Sir Daniel Hall expressed the Board's sympathy with what some of the farmers considered a hardship, *viz.*, the prohibition of varieties, chiefly King Edward, within the scheduled area, while their neighbours immediately outside the area were enabled to compete with them at an enhanced price. It was explained that no Order can be framed which does not inflict some hardship and owing to the urgent necessity of dealing with the plague in such a way as to afford some security from infection, it was absolutely necessary that the sale of susceptible varieties grown on infected land should be prohibited.

EXHIBITS.

The exhibits included single dishes and collection of all the leading immune varieties as tested at Ormskirk, and the quality of the produce was admitted on all hands to be of a higher standard than had previously been staged at this important show. In the earlier exhibitions the exhibitors were for the most part new and the produce staged was coarse; but now all this has been changed and high class samples were staged. The competition in every class was keen, and in some cases cases exceptionally so.

The leading varieties immune to Wart disease staged in classes were, Majestic, Great Scot, Tinwald Perfection, Resistant Snowdrop, Edzell Blue, King George, The Ally, Arran Comrade, Lochar, Kerr's Pink, and The Bishop. Majestic, was specially well shown, and the prize dishes consisted of tubers in every respect ideal from an exhibitor's and consumer's point of view. The abnormally large tubers so frequently seen in this variety are disappearing and a better ware size is taking their place. As a matter of fact in the words of the raiser, Mr. Findlay, "The variety is toning down and will be a useful Potato in the future. Up-to-date was just the same in its childhood."

The competition in the Great Scot class was very keen, and magnificent samples were staged true to type and without speck or blemish despite the fact that the variety does not lend itself readily to exhibition use. Kerr's Pink is still very popular and despite its colour will certainly find a place on our markets in the coming years until Mr. Snell finds a perfect white substitute. The variation in shade of colour presented by this variety is remarkable and is apparently attributable to divergent climatic and soil conditions. The prize dishes were very handsome.

Edzell Blue is still good and although not so early as many of the susceptible varieties, its complete immunity guarantees it a place in collections. Resistant Snowdrop and Dargill Early come nearest to the desired ideal in an immune early kidney, but there is ample scope for additions in this section. Both varieties were well staged. The competition in the class for a collection of immune varieties, not fewer than 12 sorts, open to farmers in the British Isles, was keenly contested and notwithstanding the fact that the 1st prize exhibit was of outstanding excellence, the 2nd and 3rd prize sets were splendid.

TRADE EXHIBITS.

These consisted of collections of varieties immune to Wart disease as proved by the trials at Ormskirk, and confined to nurserymen, seedsmen and Potato raisers. A large number of these exhibits were staged and gold medals were awarded to Messrs. BIRCH, Sefton, Liverpool, and to Messrs. DICKINSONS, LTD., Ormskirk, for larger exhibits admirably staged at the ends and sides of the hall. Silver Medals were won by Messrs. SUMMER and SEIVESLEY, Ormskirk, and Mr. P. CATTERALL, Kirkham.

ORMSKIRK TRIALS.

One side of the hall was devoted to an exhibit from the trial grounds, by which Mr. Snell endeavoured to educate the public as well as the Potato grower, as to the true characters and types of the immune varieties and also the degree of susceptibility of non-immune varieties. This section of the show alone was of enormous value from an educational point of view, and judging from the way the show was patronised as compared to former years, there would appear to be a keen desire on the part of farmers, smallholders and cottagers, to become conversant with the work which is being carried on at Ormskirk.

Conference.

The Conference was held on the second day and was remarkably well attended. The proceedings consisted in the main of a discussion of the results obtained in this year's trials at Ormskirk. Those who have followed the work of the trials are aware that in the course of the tests made with the object of ascertaining whether the varieties sent in for trial are immune from or susceptible to Wart disease, many important and difficult questions of synonymity arise. Of varieties sent in for trial some are believed by the senders to be new, and it is essential to ascertain whether they are actually new, and, if so, whether they are sufficiently distinct from existing varieties to make it desirable for them to bear a distinctive name. All who are concerned with the cultivation of the Potato are, perforce, interested in this question of nomenclature and it is a source of satisfaction to them that advantage is taken of the trials at Ormskirk to resolve knotty points of nomenclature.

For this purpose an expert committee has been set up, and the members of this committee, in cooperation with Mr. John Snell, make a careful comparative examination of all the varieties grown in the trial and present a report thereon.

As a preliminary to the consideration of the actual results of the trial the conference discussed the question, raised at the instance of Mr. Chattenden, whether new varieties may or may not have multiple origins: that is, whether it is or is not a fact that one and the same variety may be produced independently by more than one raiser.

Theoretically there would seem no reason why two independent plant breeders making the same cross should not each pick out from the diversity of forms appearing in the first generation identical or approximately identical seedlings. Nor is it impossible that two seedlings derived from different crosses should be to all intents and purposes identical.

The opinion of those closely connected with the raising of new varieties appeared to be, however, that in actual practice varieties may be traced each to one single origin. Mr. Martin Sutton, for example, stated that in his experience he had met with no example of one and the same variety appearing a second time independently. Without, therefore, going so far as to pronounce finally on this subject, which is of very considerable practical importance, it would appear to be the general experience of raisers that varieties of Potatos, as distinguished from mere "sports," are of single and not of multiple origin.

Perhaps the most important announcement made at the conference was that concerning the immune variety which is beginning to be known as Dargill Early. It seems to be established now that this variety is not new, but is in point

of fact a variety which has been grown for some time in Lincolnshire under another name. This observation raises a pretty point of nomenclature. According to the rules of priority the earlier name should be adopted, and the question therefore arises whether the variety will in fact be known by the new or the old appellation.

Evidently there is much wanted an authoritative clearing house for Potato names, and it is to be hoped that such an institution may be established which will be representative of all the interests concerned.

Another point which arose during the discussion of the relative merits of similar varieties was that "stock" is no less important than variety. A grower who by mischance obtains an inferior stock of a given variety may not unnaturally condemn that variety ever afterwards, and yet it may be one of great merit.

Annual conferences, such as are held at Ormskirk, are bound to be productive of good. They not only stimulate raisers in their work, but also help to bring the various sections of the Potato industry into touch one with another, and thereby enable them to understand each other's point of view. As announced at the Conference, the immunity trials will be continued during the coming year, when they will be held on the new farm at Ormskirk purchased for the purpose by the National Institute of Agricultural Botany.

ROYAL HORTICULTURAL.

November 4.—The R.H.S. fortnightly meeting in the Vincent Square hall, on Tuesday last, was held in conjunction with the annual show of the National Chrysanthemum Society, and the building was filled with exhibits.

The Chrysanthemum show was not so large as in pre-war years, but the quality was of a high standard. A Gold Medal wsa awarded Lady Ann for splendid winter-flowering Begonias, and similar awards were made to Mr. J. A. Nix for fruit and to Messrs. Barr and Sons for vegetables. Carnations were numerous, and there was also an uncommonly good collection of Dracaenas. The Board of Agriculture staged a collection of Potatos of varieties immune to Wart disease from the Ormskirk trials (see p. 242), and also showed tubers of non-immune sorts affected with the disease. The Orchid Committee recommended four Awards of Merit to novelties.

The Floral Committee recommended one First-Class Certificate and 4 Awards of Merit to novelties and 9 medals to collections.

The Fruit and Vegetable Committee recommended an Award of Merit to the perpetual-fruiting Raspberry illustrated in Fig. 103 in the last issue.

At the 3 o'clock meeting of Fellows, Mr. John Snell, Board of Agriculture, lectured on the Board's Potato Trials at Ormskirk.

Floral Committee.

Present: Messrs. H. B. May (in the Chair), W. J. Bean, John Heal, C. R. Fielder, John Green, G. Reuthe, A. Ireland, A. Turner, George Paul, C. Dixon, John Dickson, J. T. Bennett-Poë, Chas. E. Pearson, W. P. Thomson, E. H. Jenkins, E. F. Hazelton, H. R. Darlington, Jas. Hudson and J. W. Moorman.

First-Class Certificate.

Nerine Mrs. H. J. Elwes.—This most charming variety, which received an Award of Merit last year, now gained the highest award. The spike is of medium size, and the flowers of perfect shape. The gracefully undulated perianth segments are of very attractive soft pink colour. Shown by Messrs. Barr and Sons.

Awards of Merit.

Nerine Miss Cecily Elwes.—A flower of very uncommon colouring, which may best be described as dull heliotrope brightened by a definite light crimson line along the middle of each segment. The spike is erect and compact. Shown by Messrs. Barr and Sons.

Chrysanthemum Miss Goodburn.—A single-flowered variety of the Mensa type of great beauty. The colour is deep velvety crimson, and the florets droop gracefully at the tips. Shown by the Misses Price and Fyfe.

C. Mrs. W. J. Godfrey.—A very large single variety of Molly Godfrey type and handsome appearance. The colour is described by the raiser as being Peach-pink, and this seems fairly descriptive, though, as seen in the Hall, there appeared to be a suggestion of rosy mauve. Shown by Mr. W. J. Godfrey.

C. Mrs. F. W. Ladds.—A large exhibition variety of the Mrs. Gilbert Drabble type, with broad, long florets of golden-yellow colour. Shown by Mr. F. Ladds.

Groups.

A splendid collection of the best winter-flowering Begonias, filling a whole length of tabling, was shown by Lady Ann, Westparkfields, Derby (gr. Mr. Shambrook). The many plants were all exceptionally well grown, and bore masses of brilliant flowers. Of the various sorts staged, Ideala, Early Clibran and Eclipse (deep crimsons), Exquisite (margined and flushed with pink) and Optima were perhaps the very best. (Gold Medal.)

Silver Flora Medals were awarded to Messrs. Allwood Bros. for beautiful cut Carnations, which included Jessie Allwood (a new yellow Perpetual Malmaison of great merit), Bishton Wonder (exceedingly fragrant, rosy-lilac) and Wivelsfield White; and to Mr. L. R. Russell for a magnificent collection of Stove Dracaenas. This unique exhibit included no fewer than 41 seedlings, mostly distinctly superior to older varieties.

Silver Banksian Medals were awarded to Messrs. Barr and Sons, for many Nerines of which Mrs. George Barr, May Queen and Felicity were especially good; to Messrs. W. Cutbush and Son and Messrs. Stuart, Low and Co. for Carnations; to Messrs. H. B. May and Sons for stove and greenhouse Ferns, Cyclamen, Bouvardia odorata; and to Mr. G. Reuthe for rare alpines and shrubs, including splendid sprays of Lapageria rosea and the uncommon purple pods of Decaisnea Fargesii.

Bronze Banksian Medals to Mr. J. J. Kettle for Violets, and to Mr. Keith Luxford for Carnations.

Miss H. M. Coley exhibited a number of paintings of succulent plants, executed most faithfully.

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Jas. O'Brien (Hon. Secretary), William Bolton, E. R. Ashton, W. J. Kaye, J. Charlesworth, A. McBean, Pantia Ralli, S. W. Flory, R. Brooman-White, C. J. Lucas, J. Wilson Potter, Arthur Dye, Frederick J. Hanbury, and R. A. Rolfe.

Awards of Merit.

Cattleya Enid alba var. Fairy Queen (*Mossiae Reineckiana × Warscewiczii Frau M. Beyrodt*) from J. J. Joicey, Esq., The Hill, Witley (gr. Mr. J. Mackay). The sepals and very broad petals are pure white. The lip also is white at the base, with gold lines, the well-rounded front lobe being tinged and veined with bright violet-purple.

Odontoglossum Crispum Joiceyi from J. J. Joicey, Esq. A magnificent form of the typical white Crispum, the broad, fringed petals being developed in a remarkable degree. The crest of the lip is yellow with short purple lines on each side, and a large chestnut-red blotch in the centre.

Laelio-Cattleya Honoria Orchidhurst variety (*C. Mantinii nobilior × L.-C. Geo. Woodhams A.M. var.*). One of the brightest of Messrs. Armstrong's many L.-C. Geo. Woodhams hybrids. The form of the flower partakes most of the Cattleya parent with its firm substance. The sepals and petals are bright mauve-purple; the lip ruby-red with gold disc and lines from the base. The column is ivory-white.

Cattleya Lady Leon (*Portia × Mrs. Pitt*) from Sir H. S. Leon, Bart., Bletchley Park, Bucks. (Orchid grower Mr. W. W. Field). The well-grown plant bore a four-flowered spike of deep magenta-rose flowers with chrome-yellow disc to the lip. A very attractive and useful hybrid.

Other Exhibits.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver-Gilt Flora Medal for an extensive and well arranged group in which their home-raised forms of Odontoglossum crispum, and the various xanthotes varieties, arranged with home-raised Cattleya Dowiana aurea were outstanding features.

Messrs. Stuart, Low and Co., Jarvisbrook, Sussex, were awarded a Silver Flora Medal for a good group of Cattleyas, Laelio-Cattleyas and Odontoglossums. New and rare hybrids noted were Laelio Cattleya Valda (L.-C. Black Prince × C. General Pau), a very fine rosy-lilac flower with purple-veined front to the lip; Cattleya Eira (Thurgoodiana × labiata), purplish-mauve with good lip of the C. labiata class.

Messrs. Flory and Black, Slough, gained a Silver Banksian Medal for a group in which were several finely blotched Odontoglossums; Cattleya Peter (Peetersii × labiata), a charming flower and a good advance of C. labiata; L.-C. Merlin (C. labiata × L.-C. Lucasima), a still better improvement in the same section; and Sophro-Cattleya Venus (S.C. Doris × C. Venus), with scarlet sepals and petal tinged with violet and claret red lip.

Messrs. C. F. Waters, Balcombe, Sussex, were awarded a Silver Banksian Medal for a group of hybrid Cattleyas, forms of C. Fabia being very good, and especially C. Fabia Waters' variety, a large and perfectly-formed, very dark-coloured variety of the C. Fabia Vigeriana class.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey, showed a stand of blue-tinted Gatton varieties of Cattleyas, set up with yellow Spathoglottis Fortunei.

Messrs. Hassall and Co., Southgate, showed the new Brasso Laelio-Cattleya Thyone (B.C. Mrs. J. Leemann × L.-C. Thyone), with clear yellow sepals and petals and slightly-fringed rose-purple lip. Also good S.C. Faboris and L.-C. Soulange.

T. D. Wren, Esq., The Poplars, Northampton (gr. Mr. Walker), showed two finely flowered plants of Cypripedium Ellerdale Wren's variety (Cingleyense × insigne Harefield Hall), a dark coloured hybrid of good form.

Fruit and Vegetable Committee.

Present: Messrs. E. A. Bunyard (in the Chair), G. F. Tinley, W. Bates, A. Bullock, W. H. Divers, H. Markham, Owen Thomas, G. Reynolds, A .R. Allan, F. Jordan and Geo. Kelf.

Award of Merit.

Raspberry Lloyd George.—This perpetual-fruiting Raspberry attracted considerable attention at the Fruit show when its free-fruiting habit and excellent flavour were favourably commented upon. It is illustrated and described on page 227 in the last issue. Shown by Mr. J. J. Kettle.

Other Exhibits.

One of the best collections of fruit that we have seen was exhibited by J. A. Nix, Esq., Tilgate, Crawley (gr. Mr. E. Neal). This filled a whole length of tabling immediately inside the hall. Along the back row were disposed many bunches of excellent Grapes of such varieties as Muscat of Alexandria, Lady Downes' Seedling, Appley Towers and Gros Maroc. Apples and Pears were also particularly good (Gold Medal).

Mr. Charles Turner showed a dish of Apple Arthur Turner, of most beautiful appearance; the crimson lake and golden colour is very fascinating. This variety has already received an Award of Merit. Capt. W. Rogers sent a collection of Apples.

Messrs. Barr and Sons contributed a magnificent collection of vegetables arranged in a most attractive manner. The various root vegetables, Parsnips and Carrots, for instance, were of perfect shape. Onions, in many varieties, were shapely, clear-skinned and as "hard as cannon-balls," showing that they would keep in condition for the maximum period. Cauliflower, which with many has been a disappointing crop, was represented by clean, pure-white heads of undoubted excellence. (Gold Medal.)

Partly to illustrate the afternoon lecture, the Board of Agriculture filled the end of the hall with a most valuable collection of Potatos, showing the best immune varieties and also the evil results of growing non-immune sorts in areas affected with or liable to the deadly Wart disease. These many tubers were from the Board's experimental grounds at Ormskirk. (Silver-Gilt Knightian Medal.)

Messrs. J. and W. BURCH arranged a collection of seed Potatos grown at Sefton. These were a trifle large, but of splendid shape, and included such sterling varieties as Arran Comrade, Tinwald Perfection, White City, Resistant Snowdrop and Majestic. (Silver-Gilt Banksian Medal.)

NATIONAL CHRYSANTHEMUM.

NOVEMBER 4.—Notwithstanding the cold and gloomy weather the exhibition of this society, held at the Royal Horticultural Hall, was a fine one and provided a feast of colour and floral form for the crowd of visitors. Chrysanthemum growers as a class have not yet fully recovered from the effects of the war, but the number of exhibits, and particularly the quality of the blooms were evidences that the art of cultivating flowers for exhibition purposes has not been lost. Sir Albert Rollit, President, opened the exhibition, in the unavoidable absence of His Excellency the Japanese Ambassador, and Viscountess Chinda. In some classes competition was poor, and in others it was exceptionally keen.

AWARDS.

FIRST-CLASS CERTIFICATES.

Leilah.—A neat and shapely American pompon variety of fair size; colour bright rose pink. Shown by Mr. J. W. HUSSEY, Exeter.

Mrs. W. J. Godfrey.—A large-flowered single variety of very decorative character and much substance; colour soft pink. Shown by Messrs. W. J. GODFREY AND SON.

Mrs. Edwards.—A new large-flowered single variety of very elegant form and charming bronzy-yellow colouring. Shown by Mr. PHILIP LADDS.

Madame Stuart.—A large and bold Japanese variety of refined exhibition form, with narrow flowers; colour, light yellow. Shown by Mr. A. SMITH, the Convent Gardens, Roehampton.

Dawn of Day.—This very beautiful, large and solid Japanese variety arrested attention by reason of its fine, bold form and golden-bronze or light chestnut colouring. Shown by Mr. SARGENT, Hay Green Gardens, Kingston.

COMMENDATION.

Miss Gertie Wood.—A somewhat small-flowered Japanese variety of decorative type. It is a coppery-bronze sport from Dorothy Ashley. Shown by Mr. P. LADDS.

Mavis.—An attractive chestnut-red single variety of fine form, its blooms carried on long stems. Shown by Messrs. PRICE AND FYFE.

COMPETITIVE CLASSES.

The Finchley Chrysanthemum Society added to its laurels by winning the Affiliated Societies' Shield for the sixth consecutive season, with a capital group of well grown flowers in a variety of types.

In the William Wells Memorial Class there were two competitors, each staging a dozen vases of Japanese blooms, three blooms in each. D. STONER CROWTHER, Esq. (gr. Mr. M. Sargent), Hay Green, Kingston, was first prize winner with grand specimens of Mrs. J. Gibson, H. C. Converse, Queen Mary, Rosamund, Princess Mary, Mrs. R. Luxford, Mrs. Algernon Davis, Mrs. G. Drabble, Masterpiece, Mrs. L. Pockett and Dawn of Day; Mdme. THUNDER (gr. Mr. A. Smith), The Convent, Roehampton, 2nd. For the Holmes Memorial Cup, offered for 36 Japanese blooms, distinct, there was only one exhibitor, E. G. MOCATTA, Esq. (gr. Mr. W. Holden), Woburn Place, Addlestone, who had an exhibit worthy of the award and showed General Allenby, Mrs. J. Gibson, Mrs. H. Tyler, and Mrs. R. C. Pulling in fine style.

From among five competitors, E. G. MOCATTA, Esq., won 1st prize for 24 Japanese blooms with superb flowers of Master James, Golden Champion, Mrs. H. Tysoe, Louisa Pockett, and others; D. STONER CROWTHER, Esq., 2nd; and Mrs. HAMILTON FELLOWES (gr. Mr. W. J. Smith), Tangley Park, Worplesdon, 3rd. There was an equally keen competition in the class for twelve Japanese blooms, for handsome prizes offered by Mr. H. J. Jones. Here E. MAINWARING, Esq. (gr. Mr. A. Winter), Elm Lodge, Dulwich, was chief prize winner with Golden Champion, Louisa Pockett, Queen Mary, Masterpiece, H. E. Converse, Mrs. J. Gibson, Lloyd George, Mrs. R. C. Pulling, Princess Mary, Mrs. G. Drabble, and Mrs. Algernon Davis; W. H. ALLEN, Esq. (gr. Mr. H. Blakeway), Bromley House, nr. Bedford, 2nd; and Capt. C. LIDDELL (gr. Mr. E. Jones), Shirenewton Hall, Chepstow, 3rd. W. H. ALLEN, Esq., was 1st for six Japanese blooms, followed by Mrs. HAMILTON FELLOWES and E. MAINWARING, Esq.

The vase classes are invariably attractive. For three blooms of a white Japanese variety, in a vase, D. S. CROWTHER, Esq., led with Mrs. G. Drabble; E. MAINWARING, Esq., 2nd, and Mrs. MCDOWELL NATHAN (gr. Mr. Newton), Little Heath Wood, Potter's Bar, 3rd, each with Queen Mary.

For three blooms of a yellow Japanese variety E. MAINWARING, Esq., was 1st, Mrs. MCDOWELL NATHAN 2nd, and D. S. CROWTHER, Esq., 3rd, each with W. Rigby. D. S. CROWTHER, Esq., won 1st prize for a crimson variety with Lloyd George.

Incurved varieties were scantily shown, and Mrs. CHALMERS (gr. Mr. A. B. Hudd), The Farrants, Bickley, was 1st for 12 and for six blooms, with very fair examples.

Mr. J. W. HUSSEY, Matford Lodge, Exeter, had the best pompom varieties disbudded, but Mr. A. PORTER, St. Albans, was placed 2nd for blooms not disbudded of these neat flowers. H.R.H. the Duchess of ALBANY (gr. Mr. J. Kelly), Claremont, Esher, was 1st for a display of single varieties with fine flowers of Mensa, Ceddic Mason, Glorious, and Mrs. Loo Thomson. For Anemone singles Mr. F. G. BEALING, Bassett, Southampton, was 1st prize winner. F. J. JARROW, Esq. (gr. Mr. A. Robertson), Abbey Road, St. John's Wood, led for six vases of large single varieties with grand flowers, while for six vases of ordinary singles Mr. LOO THOMSON had to be content with 2nd place.

In the decorative classes Mr. A. PORTER and Mr. F. G. BEALING were 1st and 2nd respectively for a dinner table arrangement. F. J. YARROW was 1st for a vase of singles and also for a vase of large exhibition blooms.

In the Amateurs' classes the leading prize winners were Mr. A. PORTER, Mr. LOO THOMSON, and Mr. J. W. HUSSEY.

NON-COMPETITIVE GROUPS.

Messrs. W. WELLS AND CO. (large Gold Medal) had a grand lot of flowers of Louisa Pockett, Emblème Poitevine, Viscount Chinda, W. Rigby and the smaller Bronze Uxbridge, beautifully arranged with other varieties. Mr. H. J. JONES (Gold Medal) put up a fine group, containing good flowers of W. Rigby, Brilliant, Mrs. C. H. Curtis, Golden Champion, and other choice sorts. Mr. KEITH LUXFORD'S group (large Gold Medal) was a great attraction, and included massive flowers of Mrs. G. Drabble, W. Rigby, General Petain and Uxbridge Pink, and the arrangement of these and other varieties was excellent. Mr. NORMAN DAVIS (Gold Medal) made a good show, and the centre of his group was composed of lovely flowers of Mrs. Algernon Davis. Mr. H. WOOLMAN (Silver-Gilt Medal); Misses PRICE AND FYFE (large Silver Medal); Messrs. J. W. COLE AND SON (Silver Medal); and Messrs. W. J. GODFREY AND SON (Silver Medal) all showed well.

ANSWERS TO CORRESPONDENTS.

ADDRESS: *T. H.* Messrs. Alex. Dickson and Sons, Hawlmark, Belfast.

LILAC AND PRIVET LEAVES UNHEALTHY: *C. B. S.* Both the plants are attacked by Gracillaria syringella, a small Tineid moth known as the Lilac leaf roller. Spray the bushes with an insecticide.

NAMES OF FRUITS: *H. W.* Apple Cellini; Pear, Louise Bonne of Jersey.—*R. D.* Boskoop; 2, Hollandbury; 3, James Grieve; 4, Winter Quarrenden; 5, Jolly Beggar. Pears. 1, Baronne de Mello; 2, Beurré Superfin; 3, Columbia; 4, Doyenné Boussoch.—*R. C. P.* Le Lectier.—*D. G. P.* 1, Lord Burghley; 2, Paradise Pippin; 3, Irish Peach.—*W. D. and Sons.* 1, Cellini; 2, Winter Strawberry.—*W. B.* 1, decayed; 2, Magnate; 3, Marèchal de la Cour; 4, Doyenné du Comice; 5, Beurré Diel; 6, Thompson's; 7, Hacon's Incomparable; 8, Madame Treyve, 9, Madame Eliza; 10, Fondante d'Automne; 11, Beurré Hardy; 12, decayed; 13, Monarch (Knight's); 14, Napoleon; 15, Doyenné Boussoch; 16, Marie Louise d'Uccle; 17, Josephine de Malines.—*W. G.* 1, Peasgood''s Nonesuch; 2, Gascoyne's Scarlet; 3, Fearn's Pippin; 4, Blenheim Pippin.—*A. I. H.* 1, Gansel's Bergamot; 2, Not recognised (shrivelled); 3, Beurré Clairgeau; 4, Pitmaston Duchess.—*R. S.* 1, Duchesse d'Angoulême; 2, Vicar of Winkfield; 3, Aston Town; 4, Maréchal de la Cour; 5, Emile d'Heyst; 6, Baronne de Mello; 7, Duchesse de Bordeaux; 8, Winter Orange; 9, Fondante de Cuerne; 10, Beurré Superfin; 11, Zéphirin Grégoire; 12, Whorle Pippin.—*W. P.* 1, decayed; 2, Blenheim Pippin; 3, Lemon Pippin; 4, Striped Beefing.—*H. E. D.* Apple, Tibbett's Pearmain; Pear, Easter Beurré.—*R. W. H.* Bess Pool.—*W. D. S., Ltd.* Decayed.—*D. H.* Small Apple, Kerry Pippin; large, Jolly Beggar.—*D. W.* Pears: Doyenné Boussoch; 2, Striped Williams's bon Chrêtien. Apples: 1, Red Bietigheimer; 2, Gascoyne's Scarlet; 3, Warner's King; 4, local variety; 5, Belle de Boskoop; 6, Warner's King.—*A. H.* 1, Dean's Codlin; 2, Potts's Seedling; 3, White Westling; 4, Dumelow's Seedling; 5, Alfriston.—*G. W.* 1, Domino; 2, Warner's King; 3, Hanwell Souring. Pears: Autumn Bergamot.—*W. D. and Sons.* 1, Northern Spy; 2 and 3, not recognised; 4, D'Arcy Spice; 5, Winter Hawthornden; 6, Api Gros; 7, Wyken Pippin; 8, Small's Admirable; 9, Pear decayed.—*G. T.* 1, Marie Louise; 2, Gansel-Seckle.—*G. F. B.* 1, Lord Suffield; 2, Lord Grosvenor; 3, Dutch Mignonne; 4, Wyken Pippin; 5, Warner's King; 6, Keswick Codlin; 7, Golden Noble; 8, Emperor Alexander; 9, decayed.—*A. T.* 1, Cellini; 2, Radford Beauty; 3, Small's Admirable; 4, Beauty of Kent; 5, Bismarck; 6, Marie Louise d'Uccle.—*E. J. D.* 1, White Nonpareil; 2, King of the Pippins; 3, Mother (American); 4 Mère de Ménage; 5, Dumelow's Seedling; 6, Baumann's Reinette; 7, King of the Pippins.

PEAR MARGUERITE MARRILLAT: *G. C.* The inferior quality of the fruits is not due to disease. It is purely the result of some physiological condition brought about by unsuitable conditions of growth, such as unfavourable soil, situation, shortage of some requisite plant food or drought.

RHODODENDRON SEMNUM: *E. H. W.* R. semnum has not yet been published. It is one of Forrest's recent numbers and belongs to the R. grande series, having very large leaves, almost as large in fact as R. sinogrande.

SOIL FOR FRUIT TREES: *F. R.* The sample received shows that the soil in which you propose to plant Fruit Trees is light and easily worked. The addition of partially decayed turf and the edgings of grass verges and lawns would improve matters, as also would decayed cow manure. For the Cherries, some lime or mortar rubbish should be added and worked in about the roots of the trees during the process of planting. Good crops of fruit should follow planting in such soil provided good surface cultivation and the careful use of fertilisers are practised.

Communications Received.—E. G. H.—E. H. M.—A. M.—W. B.—D. C.—J. H. N.—J. D.—T. D.—C. S.—J. W. R.—A. W.—E. W. R.—P. D. W.—H. S.—J. S.—C. L. C.—R. E.—P. N. and Co.—H. and Sons—H. R.—J. H.—H. B.—J. P.—F. S.—E. E. R.—W. T.—T. W. M.—W. Y.—A. W.—J. R.—R. L.—G. S. H.—E. S.—W. B.—J. M.—H. H.—W. A.—Miss M.—S. L.—E. S.—J. P. G.—T. G. B.—J. B.—E. F.—J. W.—J. H. J.—K. C. H.—H. M.—Mrs. B.—W. J. P.—W. G.—R. D.—F. T.—E. J.—R. W.—C. P.—A. E.—Mrs. G.—W. E. T.—E. B.—B. W.—A. B.—Mrs. M.—W. A. J.—X. J. P.—C. E.—A. B.—G. T.—G. J.—J. R.—J. O.

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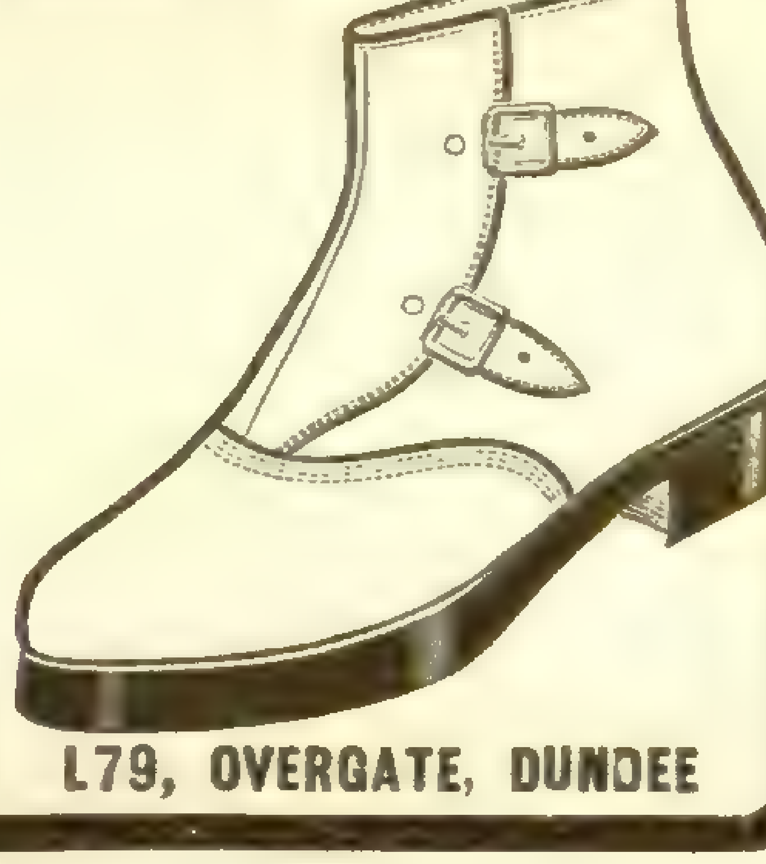

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MARKETS.

COVENT GARDEN, November 5.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Plants in Pots, &c. : Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.) 60's	9 0–12 0
Asparagus plumosus	12 0–15 0	72's	7 0– 9 0
—Sprengeri ..	12 0–18 0	Erica nivalis— 48's	24 0–42 0
Aspidistra green	48 0–72 0	60's	15 0–18 0
Cacti per tray 12's, 15's ..	5 0– 6 0	72's	5 0–10 0
		Marguerites white	18 0–24 0
Chrysanthemums 48's per doz. ..	18 0–24 0	Palms Kentia ..	24 0–36 0
		—— 60's	15 0–18 0
Cyclamen 48's p r doz.	24 0–30 0	— Cocos	24 0–36 0
Erica gracilis— 48's per doz. ..	15 0–30 0	Solanums, 48's per doz.	15 0–21 0

Ferns and Palms : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ..	15 0–18 0	— 32's	24 0–36 0
Asplenium 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ..	5 0– 6 0
— nidus 48's ..	12 0–15 0	— small 60's ..	4 0– 4–6
Cyrtomium 48's	10 0–15 0	— 72's per tray of 15's	3 6– 4 0

Cut Flowers, &c. : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea White, per doz. bun. ..	15 0–18 0	Orchids—Cypripediums per doz.	6 0– 8 0
Carnations per doz. blooms, best American var.	5 0– 8 0	Pelargonium, double scarlet, per doz. bun. ..	8 0–10 0
Chrysanthemums—		— white, per doz. bunches ..	6 0– 9 0
— White, per doz. blooms ..	4 0–10 0	Physalis, per doz. bunches ..	12 0–18 0
— Yellow ,, ..	4 0–10 0	Richardia (Arums), per doz. blms.	18 0–24 0
Pink ,, ..	4 0–12 0	Roses per dozen blooms—	
— White per doz. bun.	18 0–30 0	— Liberty ..	5 0– 8 0
— Coloured ,,	18 0–24 0	— Melody ..	4 0– 8 0
Gardenias, per box special ..	12 0–	— Mme. Abel Chatenay ..	5 0– 8 0
— ordinary ..	5 0– 6 0	— Ophelia ..	5 0–10 0
Heather, white — —per doz. bn.	10 0–12 0	— Richmond ..	4 0– 6 0
Lapagerias, per doz. blooms ..	5 0–6 0	— Sunburst ..	6 0– 8 0
Lilium longiflorum, per bunch ..	21 0–24 0	— White Crawford	4 0– 6 0
Lilium speciosum album per bunch	6 0– 8 0	—Roman Hycinth per doz. spikes	6 0–
— rubrum per bun	6 0– 8 0	Stephanotis 72 pips	6 0– 7 0
Michaelmas Daisies in variety ..	6 0–12 0	Stock Dbl. White	
Orchids per doz. :		Violets Single large per doz. bun.	8 0–12 0
— Cattleyas ..	24 0–30 0	— Ordinary ..	4 0– 6 0

REMARKS.—The supplies of Carnations and Roses have been considerably reduced during the past week, and this morning they were worth 6s.-7s. per dozen blooms. Roses of all grades are scarce, and prices are much higher for special quality blooms. Lilium are also getting dearer. All choice white flowers are exceptionally scarce A few bunches of Lily of the Valley arrive occasionally and are soon sold at high prices. A few bunches of Roman Hyacinths go out freely at 6s. per bunch of one dozen spikes. The quantities of Chrysanthemum appear sufficient for the demand, and prices show little alteration from those of last week. Good values are maintained for best white, pink and bronze coloured blooms. Violets are not so numerous as they have been, and those of best quality are soon cleared. A few sprays of French White Lilac were offered for sale last week, being the first consignment of the season. Paper White Narcissus is expected to arrive in a few days.

Vegetables : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans Guernsey, per lb.	1 3– 1 6	Mushrooms, per lb.	4 0– 5 0
Beets, per bag ..	10 0–11 0	Onions, per cwt.	9 0–10 0
Belgium Chicory, per lb. ..	0 5– 0 6	Parsnips, per bag	11 0–12 0
Cabbage, per doz.	3 0– 4 0	Parsley, per doz. bunches ..	3 0– 4 0
Garlic, per lb. ..	1 3– 1 4	Potatos, per cwt.	11 0–13 0
Carrots, per bag	9 0–10 0	Radishes, per doz. bunches ..	1 6–2 0
Cauliflower, per doz.	6 0– 8 0	Spring Onions, per doz. bunches ..	5 0– 7 0
Celery, per fan, (12 heads) ..	4 0– 4 6	Sprouts, per bag 28 lb.	8 0–10 0
Cucumbers, per flat	30 0–36 0	Tomatos, English, per doz. lbs. ..	6 0–10 0
Herbs, per doz. bun.	4 0– 6 0	—French	4 0– 4 6
Mint, per doz. bun.	9 0–12 0	—Outdoor Jersey	4 0– 5 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Turnips, per bag	8 0–10 0
		Watercress, per doz	0 9– —

Fruit : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)	5 0– 7 0	Aubergines, pr. doz	2 0– 3 0
—Worcester Pearmain per ½ bus	5 0– 7 0	Bananas, singles	30 0–45 0
—King of the Pippins per ½ bus.	5 0– 7 0	Grapes Alicante	1 0– 1 6
—Cox's Orange Pippin per ½ bus.	10 0–12 0	—Special per lb.	2 0– 3 0
—Warner's King, per bus. ..	6 0– 7 0	—Gros Colmar ..	1 6– 2 6
—Lane's Prince Albert, per bus.	6 0– 8 0	—Special ..	3 0– 4 0
—Bramley's Seedling per bus. ..	6 0– 8 0	—Almeria per barrel	30 0–45 0
—Blenheim Pippin per bus. ..	10 0–12 0	—Cannon Hall ..	2 6– 7 0
—Nova Scotian—Blenheim Pippin Nos. 1 and 2 ..	35 0–40 0	—Muscat, per lb.	2 6– 7 0
—Kings per barrel	50 0–	Nuts—Brazils (new) per cwt.	125 0–130 0
—Ribston Pippin	35 0–40 0	Cob Nuts, per lb.	1 3– 1 4
		Walnuts, English	0 6– 0 8
		Pears, English per ½ bus.	
		—Doyenne du Comice	12 0–20 0
		—Calebasse ..	11 0–12 0
		—Conference ..	11 0–12 0
		Pineapples each ..	2 0– 6 0

REMARKS.—The general tendency of business is fair. Supplies in all sections are more than adequate for the demand. English cooking Apples remain in fairly heavy supply, although good coloured dessert varieties are not over plentiful. Hothouse Grapes are harder in price. Almerias remain steady. Shipments of Pines are now due. A fairly large shipment of British Columbian Apples, Cox's, Jonathans, Grimes Golden, etc., is due to arrive next week, and it is anticipated that the fruits will realise full control prices. Guernsey produce is available in heavier quantities and Beans are rather cheaper. Most green, outdoor Vegetables are in short supply. Potatos are also shorter, and prices for Potatos are rather higher than those ruling last week.

GARDENING APPOINTMENTS.

Mr. W. Leith, as Gardener to T. SOPWITH, Esq., Horsley Towers, Leatherhead, Surrey.

Mr. J. M. Kidd, as Gardener to ARTHUR ROSE VINCENT, Esq., Muckross Abbey, Killarney. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. B. Mowl, for the past 5 months Inside Foreman at Spring Grove, Bewdley, as Gardener to J. B. DUMBELL, Esq., "The Lowlands," Tettenhall, Wolverhampton.

CATALOGUES RECEIVED.

BARR AND SONS, 11, 12, 13, King Street, Covent Garden, London.—Hardy Perennials, Alpines, and Aquatics.

GEORGE BUNYARD AND Co., Maidstone—Fruit Trees.

MAURICE PRICHARD, Christchurch, Hampshire—Herbaceous and Alpine Plants, Climbers, Ferns, etc.

FOREIGN.

A. SCHWARTZ, 230, Route de Vienne, Venissieux (Rhône), France—Rose Commandant L. Bartre.

MARIO SCALFATI, Nocera Inferiore, Salerno, Italy—Flowering Bulbs.

SPRUIJT AND Co., Utrecht, Holland—Vegetable Seeds.

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J. H. DAVIES, Registrar.

THE WONFORD HOUSE Mental Hospital, Exeter, requires a HEAD GARDENER (Working). About five Under Gardeners. Wages, £3 a week. No house or perquisities.—Applications to be sent before November 12 to G. W. JACKSON, 15a, Bedford Circus, Exeter, from whom further particulars can be obtained.

HEAD WORKING GARDENER required for Landscape work; thorough knowledge in hardy fruit and shrubs; no limit under glass; single, or wife with one child; wages £2; small Cottage; must be young and active.—Mrs. MacCOLL, Barrowby, Kirkby-Overblow, Harrogate.

WANTED for Gentleman's Estate in France, two thoroughly experienced English Gardeners (Head and First Under), one of whom must have knowledge of French language.—Write full particulars to "H.," c.o. "C.G.A.," Publishing Dept., 33, Henrietta Street, London, W.C.2.

WANTED, near Maidenhead, SINGLE-HANDED WORKING GARDENER, knowledge of raising early vegetables under glass and marketing; live in; state wages.—Reply Box D, c/o W. H. Smith & Son, Station Road, Twyford.

GARDENER wanted, middle-aged, thoroughly experienced; understands cattle; Single-Handed, extra help when required; good references indispensable; wages £2, with roomy cottage, vegetables, etc.; wife or daughter to assist in house; extra remuneration; no young family.—Apply by letter, H. GREEN, Warfield Dale, Warfield, near Bracknell, Berks.

WANTED, for South America, Fruit-Vegetable GARDENER, must be single and good character, wages £8 month, board and lodgings.—Apply by letter, J. H. and Co., 19, London Wall, London, E.C., giving references, etc.

WANTED, a thoroughly experienced MARKET GARDENER, with highest references.—Apply to Market Garden, Highcliffe, Hants.

WANTED, good all-round GARDENER, with taste for laying out Garden; only small amount of glass; must be strong and good worker; married (no family); age 35 to 50 preferred; wages 35s., house, coal and light.—GALLOWAY, Wreighburn, Rothbury, Northumberland.

WANTED, experienced GARDENER who understands laying down and repairing Lawns, the care of Fruit Trees and is able to grow Pot Plants (hot house) for all the year round supply to house and wards; hours, 47 per week.—Further particulars, apply, MUNICIPAL HOSPITAL, Willesden, N.W.10.

WANTED, in Cornwall (near Falmouth), Man and Wife as GARDENER and HANDYMAN, and Caretakers of furnished house; wife must be able to undertake occasional cooking and household duties; wages 35s and rooms, and extra when acting as caretakers; good references essential.—Apply by letter, to A. A., c.o. Turner and Son, 15, Victoria Grove, Kensington, W.8.

WANTED, good GENERAL FOREMAN for Inside and Out; experienced Fruit Grower.—Apply, stating wages required, with bothy, vegetables, and attendance, to A. WILLIAMS, The Gardens, Ashby Saint Ledgers, Rugby.

FOREMAN (INSIDE), experienced in Fruit and Plants, also FIRST JOURNEYMAN for Fruit; bothy.—Apply, C. KNOWLES, Bagshot Park, Bagshot, Surrey.

WANTED, two JOURNEYMEN for Herbaceous Borders, Water Garden, etc.; good bothy, vegetables, and attendance.—Write, stating wages, references., etc., to H. NAYLOR, Pleasaunce Gardens, Overstrand, Cromer.

WANTED, two JOURNEYMEN for Houses; please state age, experience, wages expected, with bothy, attendance, and usual allowances; duty extra; or can any Gardener recommend Son with Inside experience as Improver.—A. WHEELER, Apley Park Gardens, Bridgnorth.

WANTED, by the Duchess of Wellington, a JOURNEYMAN for Inside and Out; also a JOURNEYMAN for Pleasure Grounds and Herbaceous Borders, etc.; wages 30s. per week, with bothy, etc.; duty every third week; 1 o'clock Saturdays.—Apply to F. STREET, Ewhurst Park, Basingstoke.

WANTED, two JOURNEYMEN for Fruit and Plant Houses; also ONE for Pleasure Grounds and Kitchen Garden, 35s. per week with bothy and Vegetables; Sunday duty paid, 12 Saturdays.—MILLER, Dunham Massey Hall Gardens, Altrincham.

WANTED, experienced JOURNEYMAN (Inside). Good general knowledge Fruit and Plants. Able take charge, 38s.; bothy, etc.—Apply A. ELBOURN, Paddockhurst Gardens, Worth, Sussex.

WANTED, energetic MAN to take charge of Hardy Fruits; good experience in pruning and training necessary; also to assist under glass when required; good bothy, milk, vegetables, etc.—Please write full particulars and wages required, to A. R. SEARLE, Castle Ashby, Northampton.

WANTED, experienced, practical MAN, Kitchen garden chiefly, able to Scythe an advantage.—State wages, PLATT, Cottage, Fitzroy Park, Highgate, N.6.

WANTED, capable MAN (single) for Pleasure Ground, and to assist inside when required; state experience, wages required, etc.; rooms provided.—Apply to F. HEATH, The Lodge, Leydens House, Edenbridge, Kent.

WANTED, ex-service SINGLE MAN, with some experience, for Pleasure Ground and Kitchen Garden; 1 o'clock Saturdays; wages 36s. 6d. per week; no bothy.—Apply, F. MORLING, Springfield House Gardens, Knowle, near Birmingham.

WANTED, reliable SINGLE MAN, take charge Glass, with assistance; bothy, milk, vegetables, etc., provided, 4 in bothy.—State fully particulars of experience, wages expected, and when at liberty to G. BROWN, Brownsea Island Gardens, Poole, Dorset.

WANTED, ACTIVE MAN for Kitchen Garden and General Outside Work; single; no bothy; wages, £2 2s.—Apply, with references, to E. PAGE, Rowley Hall Gardens, Stafford.

WANTED, MARRIED COUPLE, to live in; Wife good plain cook; Man experienced, single-handed Gardener, generally useful and energetic.—Apply, stating wages, R. PARSONS, "Heronscourt," Heronsgate, Chorley Wood, Herts.

WANTED, YOUNG MAN for Fruit and Plant Houses; must have some experience; wages to start, 30s. per week, bothy, etc.; 1 o'clock Sat.—Apply, F. BRINICOMBE, The Gardens, Cross Oak, Berkhampsted.

WANTED, YOUNG MAN (second of five); experience necessary; no bothy, lodgings near; state wages, with copies of references.—HY. BAKER, The Gardens, Mount Ballan, Chepstow.

WANTED, YOUNG MAN with knowledge of Herbaceous Border work; wages 34s., with bothy, vegetables, and attendance; also one for Pleasure Ground work; wages 30s. per week, bothy, etc.—Apply, with copies of references, to W. CAMM, The Gardens, Cliveden, Taplow, Bucks.

WANTED, two good active MEN for Pleasure Grounds; one willing to learn Electric Light plant; wages 32s. 6d. weekly, with bothy, etc.—Apply, with reference, HEWITT, "Ashlands," Billesdon, Leicestershire.

WANTED, by Duchess of Wellington, a single MAN for Kitchen garden; also look after Poultry and Aviaries; wages 30s. per week; bothy, milk, etc.—Apply by letter to F. STREET, Ewhurst Park, Basingstoke, Hants.

COWMAN and wife required for Jersey Herd; must be First-rate Butter and Cheese Makers; cottage and garden near.—Apply, with full particulars and wages required, C. JONES, Digswell Estate Office, Welwyn, Herts.

TRADE.

WANTED, SPECIALIST to grow Bulbs for commercial purposes (HEAD or SINGLE-HANDED, with help); must have good references; state salary.—Reply to Dr. CHAS. E. SMITH, Bank of Hamilton Buildings, Saskatoon, Saskatchewan, Canada.

WANTED, first-class LANDSCAPE GARDENER.—ALLENS, Bowthorpe Road, Norwich.

WANTED, good ROSE GRAFTERS; good wages paid for constant work.—STEVENS, Goffs

WANTED, first-class PROPAGATOR and GROWER for our Glass Department, chiefly Softwooded Plants, Ferns, Bedding Plants, Tomatos, etc.—Apply, stating full particulars, age, experience, and wages required, JAMES WRIGHT and SONS, Nurserymen and Seed Merchants, Leicester.

NURSERY FOREMAN. — Wanted, a MANAGING FOREMAN; who must be practical, experienced, capable, and reliable; nurseries extend to 200 acres, and a fair amount of Glass.—Apply with references and requirments to, LITTLE and BALLANTYNE, The Nurseries, Carlisle.

WANTED, LANDSCAPE FOREMAN.—Apply, stating salary required, to JOHN WATERER, SONS, AND CRISP, LTD., Bagshot, Surrey.

WANTED, a MAN who thoroughly understands Pruning and can give his reasons for it; can also reshape bush trees when necessary.—Apply, APPLES, Box 2, 41, Wellington Street, Covent Garden, W.C.2

WANTED immediately, smart, up-to-date, pushing MAN to take sole charge of Garden, Seed, Bulb, and Sundry Departments; knowledge of Farm Seeds and Nursery Work preferred; owing to housing difficulties, preference given to single man; highest references essential.—Apply, stating age, references, and salary required, to L. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, SMART ASSISTANT for retail counter; must be smart and used to a very brisk counter trade.—State age, experience, with copies of references, to CLIBRANS, Manchester.

WANTED, by a leading firm in the North of England where a large counter and order trade is done, a thoroughly capable and energetic man as shopman, unexceptional references required. State age, experience, salary required, etc.—G. O., Box 4, 41, Wellington Street, Covent Garden, W.C.2.

COUNTER HAND with some experience of Seed trade; young man preferred; every opportunity given to man anxious to learn; state wages, full particulars of experience, and when at liberty.—BAKERS, Codsall, Wolverhampton.

SEED TRADE.—Samuel Finney & Co., Ltd., Newcastle-on-Tyne, require smart INVOICE CLERK; preference given to man with knowledge of Farm and Garden Seeds.—Write, stating experience, age and salary required to above.

WANTED, young IMPROVER in Florist's Shop; live in or out.—20, Church Road, Acton, W.3.

FLORISTS. — Young Lady wanted as IMPROVER, good Mounter and Saleswoman.—Apply, M. S., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from Gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

PRIVATE.

PARK FOREMAN, WORKING MANAGER, or HORTICULTURAL INSTRUCTOR, Ex-Service Man, seeks re-engagement as any of above; life experience in large establishments, private and commercial; was also Sergeant-Instructor in Horticulture and Bee-keeping under Army Education Scheme; good testimonials; single; age 32; just demobilised.—THOMAS WAUNGRON, Lampeter, Cardiganshire.

MRS. CHESTER MASTER, Knole Park, Almondsbury, highly recommends her HEAD GARDENER, J. Sibley, to any lady or gentleman requiring a thoroughly competent and trustworthy man, practical life experience in all branches; married (one child), age 34.—SIBLEY, Knole Park Gardens, Almondsbury. Demobilised.

MRS. McCALMONT, Bushey House, Bushey, Herts, wishes to highly recommend ROBERT HALE, her Head Gardener; thoroughly experienced in all branches of the profession, management of Men, Land and Stock; estate sold.

GENTLEMAN can recommend late HEAD GARDENER; life experience; married (two children; good references; age 36; recently demobilised.—Apply, MARTIN, 7, Meadow Road, Southborough, Kent.

SIR J. R. G. COTTERELL, Bart., wishes to highly recommend his late HEAD GARDENER as a first-class man in all branches, Inside and Out, and the general upkeep of a good establishment.—A. PARSONS, Byford, Hereford.

LADY, giving up estate, wishes to thoroughly recommend her HEAD GARDENER to Lady or Gentleman requiring services of competent man; age 34; married (two children); demobilised.—W. ELKINS, 12, Brocas Street, Eton, Bucks.

ESTATE SUPERVISOR seeks position of trust; Garden, Farm, Woods, and all duties connected with the management of a large estate; excellent references.—W. M., c.o. W. J. King, Esq., 26, Oastons Road, Basingstoke.

GARDENER (HEAD).—T. R. Bolitho, Esq., will recommend his SECOND GARDENER, J. PENGELLY, as above; age 32; single; demobilised.—Trengwainton Gardens, Heamoor, Cornwall.

HEAD GARDENER (married) seeks situation, life experience in production of high-class fruits, flowers, and vegetables with general upkeep; highest references.—C. J. DANN, Ham Farm, Lenham, Kent.

HEAD GARDENER; lifetime experience in good establishments (private, botanic, trade), all branches of horticulture, choice fruit, plants under glass, pleasure grounds, lawns, Roses, herbaceous, flowering plants, shrubs, rockery, water work, fruit, vegetable routine, etc. Testimonials to character and ability; age 34, married.—F. T., Box 3, 41 Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD or SECOND), age 36; 16 years' experience Inside and Out; good references; single; demobilised.—E. SLOSS, 4, Foot's Cottages, The Hyde, London, N.W.

GARDENER (HEAD); where several are kept; life experience in all branches, Inside and Out; highly recommended; discharged soldier; married (two children).—DAY, Gardener's Cottage, Wolverton, Beckington, Bath.

GARDENER (HEAD of five or more); life experience in all branches; excellent references present and previous employers; abstainer; age 47; married (two children, 14 and 12).—A. LANGFORD, The Gardens, Thamesfield, Henley-on-Thames.

GARDENER (HEAD), demobilised; life experience large establishments; well up all branches; good recommendations; married (no family); age 36.—WILSON, 47, Catherine Street, Westminster, S.W.1.

GARDENER (HEAD or good SECOND); life experience Inside and Out; excellent references; married; just demobilised.—Apply, F. G. ELLIS, 5, The Hatches, Frimley Green, Surrey.

GARDENER (HEAD of three or four); late N.C.O. Instructor Army Agricultural Schools, France, seeks situation; 15 years' practical experience all branches; good references; age 31.—FISHER, Thirlestane, Althorpe Road, St. Albans, Herts.

GARDENER - BAILIFF or HEAD GARDENER, willing to work estate on business lines, or would rent Garden if not required by owner; expert in all branches ;well recommended; aged 57; married (no family).—W. NASH, Runcton Holme, Downham Market, Norfolk.

GARDENER (HEAD); manage estate if required; life experience in all branches gained in large establishments; age 34; demobilised; excellent references.—GARDENER, 2, Gladstone Road, Buckhurst Hill, Essex.

GARDENER (HEAD), life experience in all branches, gained in the following establishments: Sandringham, Welbeck Abbey, Lambton Castle, and Shipley Hall; good references, six years as Foreman; demobilised, 3½ years' service; married.—F. CRISP, 53, West End Avenue, Bentley Road, Doncaster.

GARDENER (HEAD or good SINGLE-HANDED) seeks situation; recently demobilised; married; age 33; experienced both Inside and Out; well recommend.—G. ANDERSON, 4, Woodlands Road, Tonbridge, Kent.

GARDENER (HEAD or superior SINGLE-HANDED); Vines, Peaches, and Outside Fruit speciality; married (no small children); good references; now disengaged; house essential; understands Electric Light plant.—MANSBRIDGE, 196, Crawley Road, Horsham, Sussex.

GARDENER (HEAD, SINGLE-HANDED, or good KITCHEN GARDENER; life experience growing Fruit, Flowers and Vegetables; Inside and Out; Private and Trade; cows and poultry; good character; married (no family). Please state wages, with cottage.—S., 79, Durban Road, Beckenham, Kent.

GARDENER (HEAD or SINGLE-HANDED); life experience in all branches, Inside and Out; good references; married; age 35.—G. BOOKER, Perseverance Cottage, Hermitage, nr. Newbury, Berks.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good reference; married; just demobilised; age 32.—W. H. WEBBER, Sunnyside, Headley, Newbury, Berks.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, Inside and Outside; marketing produce; abstainer; age 46.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

F. R. PELLY, Esq., thoroughly recommends HEAD GARDENER (WORKING); Scotch; thoroughly experienced in all branches, Inside and Out; excellent references; married. — ROBERT MURRAY, Hockwold, Brandon, Norfolk.

WORKING HEAD GARDENER seeks situation; life experience in all branches; age 48; married (family out); highly recommended.—W. PRIOR, Brentor, Tavistock, Devon.

HEAD WORKING GARDENER; 14 years' practical experience gained in good establishments in all branches; good references; just demobilised; married.—W. E. FRIEND, 37, Mount Pleasant Road, Higham Hill, Walthamstow, E.17.

GARDENER (HEAD WORKING) where several are kept; just demobbed; previously 4 years as Head; good practical experience; age 35; married.—C. HARBERT, 115, Gladstone Road, Wimbledon.

GARDENER (HEAD WORKING) seeks re-engagement; practical life experience; 3 years Head last situation; previously 5 years as Foreman; excellent personal references; demobilised, age 31; married (no family).—T. REED, 14, Tudor Road, Reading.

GARDENER (HEAD WORKING); first-class experience in Fruit, Flowers and Vegetables; Inside and Out; Orchids and Carnations; 16 years Head; highly recommended; age 48; married; no family. HEATH, North Lodge, Mark Hall, Harlow, Essex.

GARDENER (HEAD WORKING or good SINGLE-HANDED); practical life experience in all branches; age 31; married (no family); excellent references from present and previous employers. Please state wages.—W. OSBORNE, Beenham, Reading.

GARDENER seeks re-engagement (HEAD WORKING preferred); practical life experience in private gardens); age 43; married; excellent references.—BARRETT, c/o Franklin, 9, Ashton Gardens, Puckeridge, Ware, Herts.

GARDENER (HEAD WORKING) where two or three are kept; Carnations and Fruit a speciality; age 49; married (no family); can be well recommended.—ELLIS, Warfield Dale, Warfield, near Bracknell, Berks.

GARDENER (HEAD WORKING); thorough knowledge all branches, Inside and Out; highest references; age 30; married.—DAY, Queen Anne's Gardens, Caversham, Reading.

GARDENER (HEAD WORKING); age 46; married (two children); life experience, 16 years as Head, 10½ as such with Lord Ampthill.—KING, Crabtree Cottage, near Warminster, Wilts.

GARDENER (HEAD WORKING); life experience, Inside and Out, Plants ,Fruits, Flowers, and Vegetables; six years Head before enlistment; age 34; married (two children); abstainer; good references; disengaged. Please sate wages.—BEAMES, The Knapp, Thornbury, Glos.

GARDENER (HEAD WORKING).—Smart young man, experienced in all branches, desires situation; married (no children); age 29.—SOLLEY, "St Clare," Four Marks, near Alton, Hants.

GARDENER (HEAD WORKING) seeks situation; life experience Inside and Out; demobilised; age 35; married (no family); Kent preferred; good references.—A. SPINNER, 1, Downs View, Sholden Bank, near Deal, Kent.

HEAD WORKING GARDENER where several are kept, or otherwise; 20 years' experience glass, fruit, vegetables, flowers, pleasure grounds; no objection to stock, or gas engine; age 36; married, three in family; 16½ years last situation.—E. A. SMITH, East Lodge, The Elms, Grays, Essex.

GARDENER (HEAD WORKING); life experience, all branches, Inside and Out; highly recommended by all previous employers; age 40; demobilised; no family.—VOLLER, c.o. Wright, Little Parndon, Burnt Mill, Essex.

GARDENER (HEAD WORKING), wishes to treat with Lady or Gentleman requiring fully competent man for production of choice produce, Inside and Out; well versed in the requirments of good establishments; 22 years Head; highest references; married; age 46.—E. B., Box 18, 41, Wellington Street, Covent Garden, W.C.2.

HEAD WORKING GARDENER. — Lady Markham has much pleasure in recommending F. BENNETT, as above, to any lady or gentleman requiring a thoroughly competent and trustworthy man; practical life experience gained in good establishments; 20 years' Head; leaving through estate given up; married (no family).—F. BENNETT, Beachborough Park, Shorncliffe, Kent.

GARDENER (HEAD WORKING); thorough practical experience with Vines, Peaches, Melons, early and late Forcing, Fruits, Flowers, Vegetables, Carnations, Violets, Chrysanthemums, Kitchen Gardens, and Pleasure Grounds; age 46; married (no family); please state wages.—JONES, c.o. A. Shaw, High Street, South Collingham, nr. Newark.

GARDENER (HEAD WORKING or SINGLE-HANDED with help); life experience, Inside and Out; five years' reference; seven previous; married; age 43; cottage required.—KIY, 56, Southwood Lane, Highgate, N 6.

GARDENER (HEAD WORKING) where two or three are kept; life experience in all branches; excellent references; married (no family); age 30.—WEBB, 107, Hylton Cottages, Merstham, Surrey.

GARDENER (HEAD WORKING) (demobilised), four or more kept; life experience in fruit, flowers, vegetables, Carnations, early and late forcing; age 35; married.—F. SLANEY, 1a, Merry Hill Mount, Bushey, Herts.

HEAD GARDENER (WORKING); life thorough practical experience all departments. Inside and Outside; skilful cultivator of choice Fruits and Plants (Carnations) under glass, Vegetables, Salads, Hardy Fruit Trees, Pleasure Grounds and Shrubs; alterations; 18 years' highest testimonial as Head; age 46.—BURFOOT, 28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD WORKING).—Mr. Turner, Hamble Cliff Gardens, Netley, Hants, will be pleased to highly recommend his Foreman, A. Goodchild, as above; life experience gained in good establishments; excellent references; married (no family); age 33.

GARDENER demobilised; life experience, age 36; married (with one child, age 13); seeks situation as HEAD WORKING, where two or more kept; excellent references; wife excellent Laundress; Worcestershire preferred.—POULTNEY, Upper Arley, near Bewdley, Worcestershire

GARDENER (HEAD WORKING), where one or two under kept; life experience; 4 years last situation; age 35; married.—G. ASHTON, 8, Burcot's Cottages, near Abingdon, Berks.

GARDENER (HEAD WORKING); married (two children); life experience; highest references; good cultivator of choice Fruit, Flowers and Vegetables. F. May, 27, North Road, Highgate, N.

GARDENER seeks situation (demobilised) as Head of one or two, or good SINGLE-HANDED; married (no family); cottage essential; age 30.—T. KING, Bencombe, Uley, Dursley, Glos.

GARDENER (SINGLE-HANDED) seeks situation as such; ten years' good experience of Inside and Outside; age 26; single; Sussex preferred. Please state wages.—R. BROWN, 151, Cottenham Terrace, Hornsey Rise, London, N.19.

GARDENER, SINGLE-HANDED or good SECOND; age 29; married (no children); life experience Inside and Out; disengaged; good references.—A. BISHOP, 4, Katherine Villas, Edenbridge, Kent.

GARDENER (good SINGLE-HANDED); practical life experience in all branches; married; good references.—J. WOOD, Cradhurst Lodge, Westcott, Dorking, Surrey.

AS SINGLE-HANDED; life experience in Fruit, Vegetable, and Rose Growing; some knowledge of Glass; demobilised, 2½ years abroad; age 37; married (little girl age 10).—CROPLEY, c/o H. Chapman, Esq., All Souls' College, Oxford.

GARDENER (SINGLE-HANDED or help given); life experience Inside and Out; excellent references; age 28; married (no family); demobilised, Navy; Wife help in house if required.—LACEY, 537B, Tellington Road, Petworth, Sussex.

GARDENER seeks situation (SINGLE-HANDED), Inside and Out, town or country; excellent references; married (one girl, 6 years); Poultry not objected to.—W. REID, 19, Sinclair House, Sandwich Street, W.C.1.

GARDENER (good SINGLE-HANDED); life experience in all branches; good reference; married (two children); demobilised; age 32.—F. JOHNSON, 2, Burton Street, Lowestoft.

GARDENER (seeks situation); SINGLE-HANDED or SECOND; experienced all branches; good references; age 34; married (one child); please state wages.—KILLICK, The Lodge, Cock Crow Hill, Surbiton, Surrey.

KITCHEN GARDEN GARDENER seeks situation or Single-handed or with help; age 40; married; no family; good references.—A. LANGLEY, 3, Camden Road, Carshalton, Surrey.

GARDENER seeks situation; married (no family); age 26; over ten years' experience, Inside and Out, with good references; discharged from Army.—CYRIL DUNNELL, Honingham, near Norwich.

GARDENER seeks situation; experienced Tomatos, Cucumbers; accept small wages where chance to improve, Private Service, Nursery, or Market Garden; has had Outside experience; good references. —D., 44, Trafalgar Road, Greenwich, S.E.

GARDENER, with over fourteen years' practical experience, desires situation; thoroughly understands Grapes, Peaches, Carnations, etc.; age 30; married.—G. DAWES, The Lodge, Well Green, near Lewes, Sussex.

MR. A. CREEK, Trengwainton Gardens, can recommend T. PERRY as SECOND or UNDER; ferred.—Heamoor, Cornwall.

GARDENER (SECOND), Inside or Inside and Out; age 26; experience gained in good establishments; good references ;single.—W. M., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER) (SECOND), Inside and Out, or Single-Handed; experienced; excellent references; age 29; married; Kent man.—PAGE, 58 Teviot Street, Poplar, London, E.14.

UNDER-GARDENER seeks situation (with cottage); one boy, age 12; good reference. Please state wages.—G. BAILEY, Cologne House, Forty Hill, Enfield.

DEMOBILISED SOLDIER seeks situation as UNDER GARDENER; good references; Kitchen Garden; for pref. near London.—S. BARTER, 35, Albany Road, West Ealing, Middlesex.

UNDER-GARDENER (20) desires employment about January 1; bothy; near London; previous experience In and Out; good references; please state terms.—A U., 22, Cranley Gardens, N.13.

MAKE YOUR GARDEN PAY.—Territorial (ranker) Officer, shortly to be demobilised, at present in charge of Classes of Soldiers in Market Gardening; 8 years' pre-war experience; 18 months lecturing and instructing soldiers; knowledge all Market Crops, Nursery, Fruit, Poultry; would run Gentleman's garden for profit; age 29; married.—A. C., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (INSIDE), or good SECOND; life experience in Fruit and Plants, House and Table Decorations; age 34; single.—W. BALDWIN, The Vale, Ashurstwood, East Grinstead, Sussex.

FOREMAN (INSIDE); life experience in Grapes, Peaches, Nectarines, etc.; Flowers and Plants for decorative purposes; age 32; house and table decoration; excellent references from previous employers. —R. POOLE, 32, Catherine Street, Reading.

JOURNEYMAN (INSIDE); age 22; five years experience Fruits and Plants in good establishments.—A. L. MARSHALL, Wilton Park Gardens, Salisbury, Wilts.

JOURNEYMAN seeks situation, Inside preferred; six years' previous experience; good references; knowledge of Grapes, Peaches, Melons, Stove and Greenhouse Plants; at liberty; age 24. Please state wages.—C. F., Box 9, 41 Wellington Street, Covent Garden. W.C.2.

JOURNEYMAN (private or market), age 19, 4½ years' experience, inside and out, inside preferred; excellent references.—Particulars, wages, etc., R. WIGGINS, 52, Upton Road, Newport, Mon.

YOUNG MAN requires situation as SECOND JOURNEYMAN (INSIDE); five years' experience; age 19.—R. HOWARD, Stover Gardens, Newton Abbot.

I CAN RECOMMEND industrious, willing Young Man, 18, as IMPROVER; 4 yeaso' experience, Inside and Out (Inside preferred); trained in duty; would like bothy. State wages.—For further particulars, HEAD GARDENER, Penlee, Penzance, Cornwall.

GARDENER (LADY) desires re-engagement as HEAD or SINGLE-HANDED; full College training, six years' subsequent experience with entire responsibility; R.H.S. cert.; excellent references; residential post preferred.—Apply, N. B., 18, Upper Grove, South Norwood, S.E.25.

LADY GARDENER, experienced in Fruit and Plant houses, desires post.—Miss STIGANT, Mill House, Mapledurham, Reading.

MR. HY. CHURCH, Raveningham Hall, Norwich, will be pleased to recommend W. WARD as good GARDEN LABOURER; excellent spade and sythe hand; been in the gardens here over 18 years; married (one child).

GARDEN LABOURER; used to cows, pigs, poultry and horses; knowledge electric light; good refs.; disengaged.—GRAVETT, Bull's Bushes, Oakley, Hants.

HANDY MAN; married (38); no children; garden work preferred; poultry, cows, if required.—State wages, PARRISH, 31, Hartland Road, Kilburn, N.W.6.

TRADE.

MARKET and NURSERY GARDENER requires situation; 12 years' experience Tomatos, Cucumbers, Grapes, Chrysanthemums, etc.; excellent references; age 33; single.—BLUNDEN, Lake Cottage, Wharf Road, Frimley, Surrey.

FOREMAN GROWER or MANAGER; life experience in growing all kinds of pot and cut Flowers, Toms. and Cucumbers for Market.—FOREMAN, 5, Dury Road, Hadley, Barnet.

FOREMAN, 29, single, wants situation, Kent, near London; experienced; best places; also controlling labour; Bedding-stuff, Tomatos, Cucumbers, Peaches, Muscats, especially Roses, forcing, etc; highly recommended.—W. H., Box 7, 41, Wellington Street, Covent Garden, W.C.2.

ADVERTISER (demobilised) requires situation as FOREMAN or GROWER; small nursery; twelve years' experience previous to war growing for retail shop trade; good references; age 31; married; cottage required; Midlands preferred.—Please state wages, etc., to H. DUNNING, Bradley Green, Feckenham, Redditch.

WANTED by Young Man (19), situation in Nursery; 3 years' experience; tall, educated, and most anxious to improve; wages not so much an object.—Address, R. LETTS, Semer Lodge, Ipswich.

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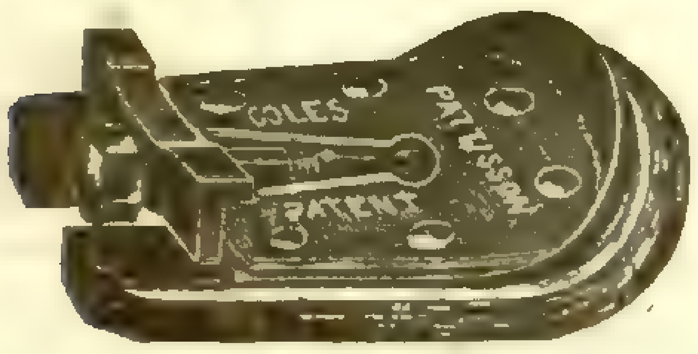

Fig. 1.

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Fig. 2. A Quality.

Fig. 2. A or B Quality.

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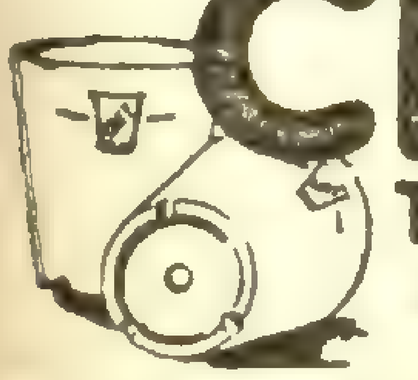

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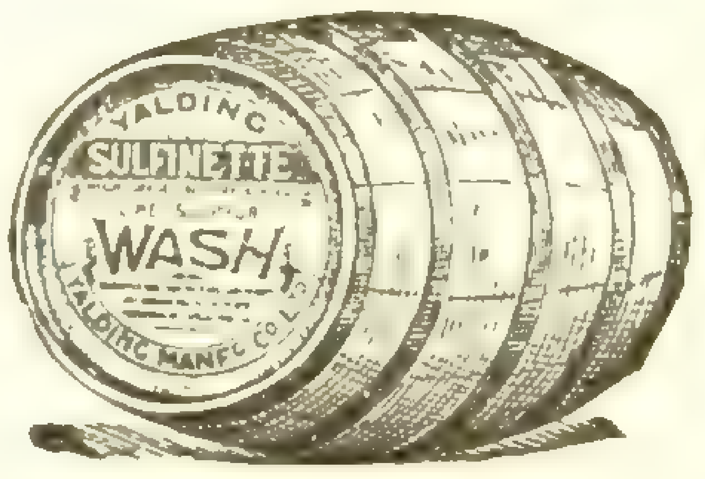

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THE

Gardeners' Chronicle

No. 1716.—*SATURDAY, NOV.* 15, 1919.

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Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 42.3°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, November 12, 10 a.m.: Bar. 29.8; temp. 39°. Weather—Sunny.

The Marketing of Apples. It is an interesting coincidence that the revival of the commercial fruit show at Maidstone, and the institution of a similar function for growers in East Anglia, should have occurred in a season remarkable for the production of a full Apple Crop. The holding of commercial fruit shows in the great centres of the Apple-growing industry is evidence of the increasing interest which is being taken in the proper marketing of our most important fruit, and of a desire to inform and educate the public—the ultimate purchasers—as well as salesmen and shopkeepers, and particularly those growers who, more or less satisfied with odd methods of cultivation and marketing, are unconsciously holding the brake against the wheel of progress. At exhibitions like those held in Kent and Cambridge, where large quantities of Apples are exhibited, packed in receptacles ready for market, many object lessons are provided for those who have the desire and art to learn. For instance, Apples were exhibited in baskets, boxes and barrels, and opportunities were afforded of comparing the merits of the different packages.

In the near future there will probably be a keen contest between non-returnable and returnable packages. At present the cost of wooden non-returnable boxes, each holding a bushel or a half-bushel of Apples, is an item of expenditure which cannot be wholly disregarded, even though shopkeepers may prefer such packages to the returnable Osier woven sieves and half-sieves, which are better known in certain districts as bushel and half-bushel baskets. It may happen that, in the event of cheaper wood becoming available, the non-returnable package will secure the verdict, because its use will mean the saving of much labour and do away with that congestion of traffic which returning empties so often cause. In the matter of cleanliness the cheap brand-new non-returnable box must inevitably triumph over the returnable baskets which, after much handling, and possible use for holding things other than fruit, may finally return to the farm or garden in a by no means scrupulously clean railway van. Growers who specialise in fruit cultivation and have built up a good reputation for growing and packing, take every care to ensure cleanliness, but even though they may use a sufficiency of clean, white, pink or blue paper for packing, and eschew old newspapers, placards and tainted hay or straw, they cannot possibly tell how often and by whom the baskets have been handled between despatch and return.

Grading for colour appears to be as desirable as the admirable grading in sizes seen at the commercial exhibitions. Other things being equal, the highly-coloured and more attractive fruits sell more readily than green ones of the same variety. Very much more important, however, is the marketing of varieties of Apples in due order. At Covent Garden, or any other large market, long-keeping apples, as Bramley's Seedling, Newton Wonder and Lane's Prince Albert, are frequently found in competition with comparatively early sorts. The lack of storage room at the farm or plantation compels the grower to market his fruits as soon as possible after the crops are harvested, irrespective of variety, with the result that there is a glut of mixed varieties which congests the market, lowers prices and shortens the period over which good home-grown Apples should be available to the public. The man who has a large acreage of Apple trees and adopts up-to-date methods of cultivation, regards the provision of a fruit-room for storage as a necessary part of the equipment, and he profits thereby. On the contrary, the cultivator of fewer acres does not build a fruit room. Co-operation whereby storage room could be provided to meet the needs of the smaller growers in given districts, with an agent to grade and market the stored late-keeping crops, would overcome many of the difficulties of transport which now arise in a good season, and at the same time remove the cause of complaints made by growers as to price, and by sellers and consumers as regards regularity and continuity of supply.

We are aware that the idea of co-operation among fruit growers is not new, as the more enlightened cultivators have combined for mutual protection, for the interchange of views regarding varieties, methods of cultivation, and the prevention and cure of disease and insect attacks, but so far as we are aware, comparatively little has been done in the direction of co-operative storing and marketing. We suggest this is a subject worthy of consideration at conferences held in conjunction with commercial fruit shows, because it affects the large as well as the small grower, inasmuch as the early and mid-season Apples, properly graded and marketed by the most skilled cultivators, come into competition with early, mid-season and late varieties put on the market by small growers during a relatively short period. One other matter we should like to see tested and discussed by commercial fruit growers is the difference, if any, between the keeping qualities of coloured and green fruits of the same variety of Apple. On certain soils some varieties colour beautifully, whereas on other soils they remain green. There is evidence that keeping quality does vary with soil.

Scottish Parish Flower Shows.—It is gratifying to observe that many of the Scottish parish flower shows, most of which were suspended during the war, are about to be revived. Meetings of their supporters are being held all over the country and considerable enthusiasm is being shown in many places. A goodly number of new members are being secured from among allotment holders, and their accession will prove a great source of strength.

Gift of a Public Park to Lochmaben.—Sir Robert W. Buchanan-Jardine, of Castlemilk, Dumfriesshire, has presented a field as a public park to the Royal Burgh of Lochmaben. The field is by the side of the Castle Loch and is admirably situated for the purpose of a park. It is the desire of Sir R. W. Buchanan-Jardine that it should be called the Victory Park.

Complementary Factors in Mange-tout Peas.—An investigation of the genetics of the characters which determine whether the pods of Peas are edible or not provides an interesting case* of complementary factors, that is of factors which simply are impotent to produce an effect, but which acting in co-operation can and do produce it. The author crossed two Peas of the Mange-tout type, one a Japanese variety, Siroendo, the other Vilmorin's Sans Parchemin trés Large Cosse, both of which have edible pods and lack the parchment lining common in Peas the pods of which are not edible. The result in F_1 was surprising. That generation consisted of Peas differing entirely from either parent, in that the pods had all a hard parchment-like lining and the pods themselves did not become soft when ripe. The explanation was provided by the F_2 generation raised from the F_1 plants. Of 622 F_2 plants 339 had hard pods and 283 soft pods. On the hypothesis of the two complementary factors the Mendelian expectation would be a ratio of 9 hard to 7 soft in F_2. That expectation is realised within the margin of probable error by the results obtained:—

For 622 plants a 9 : 7 ratio.
Expectation = 350 and 272.
Realisation = 339 : 283.

The interpretation was justified by the characters of F_3 plants. Some hard podded F_2 plants gave only hard podded plants in F_3. They were pure to both complementary characters; others give hard and soft in proportions according with expectations. Since the classic experiments of Bateson and Punnett proved the existence of complementary factors for colour in Sweet Peas, in the course of which two white Sweet Peas were shown to produce, when mated, coloured flowered offspring, not many examples of complementary factors have been observed; it is, therefore, all the more interesting to record the discovery in a plant of the same family although of different genus.

Exhibition of Seed Potatos at St. Albans.—A Potato exhibition is no novelty, but a show of seedling Potatos is a new departure, and Messrs. Ryder are to be congratulated on the success of their exhibition on the 6th inst, which was justified by the quantity of seedlings entered. For nineteen prizes of the aggregate value of £100 there were about 2,500 exhibits, each exhibit consisting of twelve tubers raised from Messrs. Ryder's Potato seeds, which were distributed last spring in packets containing about 100 seeds. The twelve tubers could be from one root or more; some of the exhibits consisted of twelve distinct Potatos. As might be expected, there was a remarkable diversity of size, shape, and colour in the exhibits, many of which, however, looked distinctly promising. The first prie was awarded to Mr. E. Collins, Learpool Farm, Welland, Malvern; the second to Mr. M. Hoad, 86, Hythe Road, Willesborough, Kent; and the third to Miss E. Bolas, Mount Stewart Gardens, Newtownards, co. Down, Ireland. The first prize exhibit consisted of round, russet-skinned tubers of good quality from two or three roots; the second was probably from one root only, or at most from two roots, and bore a strong re-

* "Behaviour of the Hybrids of the Two Varieties of Peas 'Siroendo' and 'Sans Parchemin très large Cosse.'" by N. Sigeroku. *Bot. Mag.*, Tokio, xxxii, 377, May, 1918.

semblance to Midlothian Early, though more kidney-shaped: and the third consisted of a dozen mixed tubers in which the Arran Chief strain was evident. There were about twenty other collections nearly as good as the first three, so that the task of the judges was no light one, as there were many different points to be considered in making the awards. The tubers comprising the bulk of the remainder of the exhibits were also of good quality generally, and on the whole the Potatos were of a fair size. Messrs. Ryder also displayed a large number of boxes of tubers, each box containing the produce of a single root grown from seed this year. Many of the roots yielded from 6 lbs. to 10 lbs. weight of Potatos of various sizes, and though few were very large, yet the proportion of medium-sized tubers was higher than might have been expected. The value of an exhibition of this sort, however, lies not so much in the immediate results obtained as in the possibilities of the future. Altogether, at a moderate computation, the produce of over 20,000 seedlings was represented in the show, out of which number there must be some which have a future before them. Messrs. Ryder's object is to produce Potatos that can be raised annually from seed, true to name and immune from disease. There is, however, much to be done before this can come to pass, as varieties that bear seed freely must be raised, and then be properly fixed so that the resulting crop will be a certainty.

Irish College of Gardening for Women.—A new horticultural college for women has been established at Cypress Grove, Templeogue, Co. Dublin. The institution was formally opened by Mr. T. P. Gill, Secretary to the Department of Agriculture and Technical Instruction for Ireland, on the 18th ult. After the remarks of the Chairman, Sir Frederick Moore congratulated the committee on the acquisition of such a suitable site, and emphasised the importance of practical work in connection with class room instruction. Cypress Grove is a fine old estate of some forty acres on the outskirts of the city, and the residence commands a grand panoramic view of the Dublin Mountain range. During the latter half of the eighteenth century it was occupied by the Dowager Countess Clanbrassil, and subsequently by her grandson, the second Earl of Roden. During the latter half of the last century the then owner, Mr. Charles Strong King, was a keen enthusiast in gardening. The amenities of the picturesque grounds include a fine old walled-in kitchen garden. The college is under the management of a committee, of which the Hon. Ethel McNaghten is Hon. Secretary.

A New Nephrolepis.—The American horticultural papers chronicle another new Nephrolepis, which is regarded as superior to N. Scottii, from which it is a sport that originated with Mr. Duncan Macaw. It is named N. Macawii and is arousing great interest among the American florists.

Planting Railway Banks with Apple Trees.—In a written Parliamentary reply to a question by Colonel Yate, Sir Arthur Griffith Boscawen, Secretary to the Board of Agriculture, stated that he proposes circularising the railway companies on the question of planting unused land along the railways with Apple trees. Sir Arthur pointed out that it would be impossible to undertake the work at present owing to the shortage of fruit trees. Large numbers of fruit tree stocks are to be raised at Wye College and Long Ashton Experimental Station for distribution amongst nurserymen, and it is hoped that within a few years there will be large supplies of home-raised stocks available for growers in this country.

FIG. 112.—APPLES PACKED IN SIEVES FOR MARKET: THE WISBECH SOCIETY'S EXHIBIT WHICH WON THE SILVER CHALLENGE TROPHY AT CAMBRIDGE.
(See p. 255.)

The Potato Crop.—The monthly agricultural report of the Board of Agriculture states that the bulk of the Potato crop has been lifted; the tubers are generally small, so that the crop is light, but they are sound, and unusually free from disease, except in the south-west, where a certain amount of late blight is reported.

Official Guide at Kew.—In *Gard. Chron.*, May 10th, 1919, it was stated that Lord Ernle, President of the Board of Agriculture, "was strongly of opinion that an Official Guide ought to form part of the regular establishment at Kew Gardens." A guide was subsequently appointed, but the response by the public has been so poor that the scheme has been abandoned, and the experiment will not be resumed until such times as the finances of the country warrant a further endeavour to make this educational aspect of the gardens a success.

Agricultural Outlook.—Very good progress has been made with autumn cultivation, the weather throughout the month having been most favourable, although, particularly in the south-eastern half of the country, the ground has in some few places been too dry to work or drill. On the whole, however, the work is well forward for the time of year, and a large proportion of the winter corn has been sown, the seed going into a good seed-bed. In some instances, in the south, the young plants are showing above ground, and look well. Seeds are very variable, even in the same neighbourhood, but they are not satisfactory as a whole, being often only a thin plant. A considerable amount of ploughing up and patching has been necessary. Some improvement may, however, be noted during the month in many areas.

Fruit Crop in the United States.—The estimated yield this year of Apples, Pears and Peaches in the United States is satisfactory, as is shown by the following returns:—Apples, 23 million barrels, as compared with 27½ million barrels last year, and 30½ million boxes, as compared with 21¼ million boxes last year. Pears are estimated at 8½ million bushels, as compared with 7½ million bushels last year. Peaches are better still, the estimated yield this year being 29½ million bushels, that of last year being 20½ million bushels. The best yields of Peaches are those of Californian, Washington, and Idaho.

Fruit Conference at Leicester.—The Education Committee of the Leicestershire County Council propose establishing half a dozen experimental fruit plots in the county, but before doing so adopted the wise course of holding a conference of growers in the county on October 29th for the purpose of obtaining information as to suitable varieties, soils, etc., for each district. Most of the growers present were of the opinion that far too many varieties are grown, and that some sort of standardisation of good, well-tried sorts should be adopted for the guidance of future planting. The question of pollination was also discussed, and it was suggested that varieties which were "free" setting should be interspersed with other varieties which are "shy" in bearing to ensure fertilisation of the blossom of the latter.

Home Grown Food.—Speaking at the exhibition of the Gloucestershire Root, Fruit and Grain Society, at Gloucester, on the 10th inst., Lord Lee, President of the Board of Agriculture, stated that it was essential to reduce the dependence of this country on supplies of foodstuffs from oversea. He stated that farmers might help by showing a little more sympathy for the small holder and allotment holder. The Government, he stated, was determined in the nation's interest not merely to maintain but to extend the area of arable land and would stop at nothing which would assist this. It was also important that grass-lands should be improved. If food production were going to be increased, the first essential was to secure farmers against a recurrence of the slump in prices of the 'eighties and 'nineties. He did not say the farmer should have a guarantee of a large profit, but he should have a guarantee against disastrous losses. Therefore the system of guaranteed minimum prices for Wheat and Oats must continue on a scale which took into consideration the great increase in the cost of production since the Corn Production Act was passed. His own order was that the guarantee should be permanent. Farmers should be given at least four years' notice before the system of guarantees was brought to an end. The Government policy was fixed, and failing a report from the Royal Commission now sitting, the Government would act on its own responsibility. The second security the farmer needed was against capricious eviction or unreasonable disturbance. That must be brought about by the amendment of the existing law.

Floral Tributes to Fallen Heroes.—The Cenotaph in Whitehall at present rises out of a wealth of floral tributes which are piled around its base. These floral tributes were contributed by His Majesty the King, Mr. Lloyd George, by numbers of ordinary people, and by very many children. Chrysanthemums in all colours, white Lilies, Roses and Carnations were the principal flowers placed about the Cenotaph just before and immediately after the Great Silence on November 11th.

NEW OR NOTEWORTHY PLANTS.

KNIPHOFIA SNOWDENII.

THE plant here illustrated (Fig 113) is a new species from Mt. Elgon in Uganda. There it was first found by Mr. Snowden, after whom it is named, growing in short grass and small bush at an elevation of from 8,000 ft. to 10,000 ft. Seeds were received at Kew in June, 1918, from Mr. Dummer, who collected them in the same region. These germinated well and plants commenced to flower at the beginning of September of this year. The slightly glaucous leaves, about 3 ft. long, are produced in tufts, from which spring the stout stems, each from 3 ft. to 6 ft. high. In colour, the curved, pubescent flowers, $1\frac{1}{4}$ in. long, vary from yellow to red, some spikes being all yellow while others have all red flowers. The flower spikes are lax when compared with many other species, but the flowers are produced over a long period and eventually the spike reaches a length of between two and three feet at the end of October. As it has not been tried out of doors during the winter nothing is known of its hardiness, but it should be as hardy as most of the other kinds from Abyssinia and South Africa. The plants here shown in flower were kept during last winter in a cold frame and planted out in early spring. *W. I.*

ORCHID NOTES AND GLEANINGS.

BLUE ORCHIDS.

IN the *Gard. Chron.*, January 4, 1919, p. 1, Sir Jeremiah Colman, Bart, Chairman of the Orchid Committee of the Royal Horticultural Society, gave some very interesting notes on Blue Orchids with special reference to the fine collection of blue-tinted Cattleyas and other kinds which he had accumulated during many years at his gardens at Gatton Park, Surrey, in the care of his gardener, Mr. J. Collier. We are informed that Sir Jeremiah Colman intends to exhibit a large selection of the Gatton Blue Orchids at the meeting of the Royal Horticultural Society on November 18 at Vincent Square, Westminster. The subjects will be arranged so as to demonstrate their unique beauty and also their decorative effect. Those interested will be glad of the opportunity of inspecting a collection of these comparatively rare and beautiful Orchids.

SOPHRO-LAELIO-CATTLEYA RAINBOW.

PANTIA RALLI, Esq., Ashtead Park, Surrey (Orchid grower, Mr. Farnes), sends a beautiful flower of this most successful cross between Cattleya Dowiana and S.-L.-C. de Vere Beauclerk (L.-C. bletchleyensis × S.-L. heatonensis), which is a decided advance in its section in every respect. The flower approaches an ordinary C. Dowiana in size, but is of much firmer texture, and more openly expanded. The sepals and petals are bright chrome-yellow with a slight purplish tint on the backs of the sepals. The lip also follows C. Dowiana, but is rather smaller and more compact; its colour is bright rosy mauve with thin gold lines on the lower half and dark claret, branched lines extending from the centre to the front.

LAELIO-CATTLEYA PERICLES.

FREDERICK J. HANBURY, Esq., Brockhurst, East Grinstead, sends a showy hybrid between Cattleya Empress Frederick and Laelio-Cattleya G. G. Whitelegge (C. Hardyana × L.-C. callistoglossa). The sepals and petals are white tinged with lilac, the lip bright Tyrian-purple, with yellow disc and lines from the base.

LAELIO-CATTLEYA NEBULA.

MR. HANBURY also sends flower of a cross between L.-C. Pallas and C. Percivaliana, of good size and very firm substance, the sepals and petals being cream-white, clouded with rose-pink. The lip is entirely bright purple with very slight yellow lines beneath the pure white column.

SOPHRO-CATTLEYA ROMEO.

J. ANSALDO, Esq., Rosebank, Mumbles, sends this cross between C. Queen of Sheba (Hardyana × Schilleriana) and S.-C. Thwaitesii (C. Mendelii × S. grandiflora) with intensely bright rose-purple sepals and petals, and neatly-formed deep crimson lip with the usual yellow lines on a reddish base. This is a good hybrid.

BRASSO-CATTLEYA JULIET.

THIS hybrid, raised between C. chocoensis alba and B.-C. Mrs. J. Leemann, is also sent by Mr. ANSALDO. The flower, which is of good shape, is white, the broad-fringed lip having a small purple base and clear yellow centre.

FIG. 113.—KNIPHOFIA SNOWDENII: A NEW SPECIES FROM MT. ELGON.

PLANT NOTES.

DICHORISANDRA THYRSIFLORA.

THE Dichorisandras form a small genus of warm greenhouse plants, belonging to the order Commelinaceae. Most of them are remarkable for their prettily marked leaves, but in D. thyrsiflora the flowers form the chief attraction. The blooms are of a rich indigo-blue colour, and are borne during the late autumn and early winter.

This species of Dichorisandra forms a mass of thick, fleshy roots, from whence arise stout stems of a somewhat succulent nature that reach a height of about three feet. The broad, fleshy leaves are of an uniform green tint. Each stem is terminated by a densely flowered thyrse, from which a succession of showy blossoms is developed for some considerable time. The anthers are bright yellow and stand out markedly from the rich blue background of the floral segments. Dichorisandra thyrsiflora is a native of Brazil, and was introduced to this country so long ago as 1822, but it never became such a general favourite as its merits deserve. At the present time it is less frequently met with than formerly, and, except in botanic gardens, is very rarely seen. The cultivation of this Dichorisandra is not at all difficult as it will thrive in a mixture of loam and leaf-mould lightened with a little sand. Effective drainage is very necessary as the roots need ample supplies of water during the growing season, with an occasional stimulant when the pots are well furnished with roots. Propagation may be carried out by means of cuttings formed of the weaker shoots and inserted during the spring. They should be put in a close propagating case until rooted. The plant may also be increased by division at that season. D. procera is a name under which D. thyrsiflora was known on the Continent.

Dichorisandra pubescens var. taeniensis, with blue and white flowers, and rich green leaves striped with silver, was a prominent new plant at the Ghent Show in 1888 (see *Gard. Chron.* Fig. 75, May 5, 1888), at a time when fine-foliage plants were far more popular than at present. *W. T.*

DAFFODILS IN GRASS-LAND.

NOWHERE do Daffodils appear so natural as in grass-land. When flowering in formal beds, planted in serried ranks, they are very effective, and in the wide and long plantations of a bulb-growing nursery their blooms present a very imposing appearance, but in either case there is a stiffness about the display which is entirely absent when those spring flowers rise above the grass in an old orchard, adorn the verdant slopes of some spreading pleasure grounds, or deck the green sides of a wide and shallow ditch. There must, however, be proper planting to begin with, for, alas! it is just possible to plant Daffodils in grass land in a formal fashion, with a result that is incongruous in the extreme. And yet the writer has seen Daffodils planted in grass land in regular lines and blocks of a variety!

Bulbs may be planted through or under the grass, and either way is effective. In the first method a plug of turf is cut out, the soil loosened, the bulb planted, and the grass returned and made firm. Or an iron-shod dibber is used to make a hole through the sod, the bulb is placed therein and covered with soil; the turf quickly closes up and covers any evidence of planting. The other method is to remove an area of grass with a turfing iron, fork up the soil, plant the bulbs and return the turf and make it firm. By this method an opportunity is afforded for improving the soil, if it is poor, by the addition of leaf-mould, old manure, and charred garden refuse.

Whichever method of planting is followed, the arrangement of the bulbs is far more important. Any hint of formality would spoil the subsequent effect. If a double handful of bulbs is held at arm's length, waist high, and the hands are parted suddenly so as to let the contents all fall at once, and the bulbs are planted just where they fall, there will be no suggestion of formality when the flowers appear.

Empress and Emperor, Sir Watkin, Cynosure, Barrii Conspicuus, Nelsonii, Wm. Goldring, all Poeticus varieties, and practically all save the purely exhibition varieties of the Leedsii group flourish in grass-land, and when these or other varieties are seen in natural drifts, as at Kew, at Gravetye, at Warley Place, and in other gardens where natural rather than formal beauty is the aim, very lovely floral pictures are provided with each recurring spring. *C.*

HYBRIDS BETWEEN BEGONIA SOCOTRANA AND TUBEROUS-ROOTED VARIETIES.

WITH the advent of Begonia John Heal, which resulted from the crossing of B. socotrana with the pollen of the summer-flowering Viscountess Doneraile, the foundation was laid for a charming race of autumn and winter flowering Begonias. After this achievement new varieties succeeded each other in rapid succession. Many of the earlier sorts bore flowers of a rose or carmine tint, but after a while a much wider range of colour was obtained, as well as an increased size of blossoms. Messrs. J. Veitch and Sons' success in the raising of new varieties led to Messrs. Clibran, of Altrincham, taking up the culture of these Begonias, with the result that there is now a long list of varieties with single, semi-double and double flowers.

Of the single varieties, Exquisite, salmon-pink with lighter centre; Fascination, orange-salmon; and Optima, a charming salmon shade, are particularly desirable. Of the three I should give the first place to Optima, as apart from the delightful colour of its blossoms the constitution and habit of the plant are remarkably good. Of the semi-doubles the rosy-carmine coloured variety Elatior is a general favourite. Somewhat in the same style of colour is the single flowered Mrs. Heal. The rosy-coloured variety Ensign, with semi double blossoms, has much to commend it, while among real doubles there are Clibran's Pink, Scarlet Beauty and the rosy-crimson Sunrise. These Begonias are not grown so much as they might be, one reason I think being that they are often looked upon as cool greenhouse plants, whereas they require somewhat more heat when growing. After flowering they should be kept drier at the roots, but must not be dried off as the tuberous varieties are.

In country districts where better conditions of light and air obtain than in the vicinity of towns, these hybrid Begonias are especially valuable for house and conservatory decoration, as the flowers are bright and last a long time in good condition, and the plants possess a very pleasing habit of growth. Moreover, well-grown plants continue to bloom over a long period at a season when flowers are none too plentiful. *W. T.*

FIG. 114.—DAFFODILS NATURALISED IN GRASS LAND.

The Week's Work.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Pentstemon and Calceolaria. — Well-rooted plants in cold frames should be afforded plenty of air on all favourable occasions to promote sturdy growth. In mild weather remove the lights entirely for a few hours daily. Stir the soil amongst the plants with a pointed stick at short intervals to keep it sweet, and remove weeds. Close the frames at night and, if frost threatens, give extra protection.

Carnation.—Carnations raised from layers and placed in pots for wintering under glass need plenty of fresh air. Water the roots sparingly for some time, supplying only sufficient moisture to keep the growth healthy and strong. Dust about the plants freely with soot if slugs are troublesome. Plants that were set in the open in deeply-dug ground, have made strong, robust growth which is necessary for the production of large flowers. These plants should be kept clean and free from weeds. Lightly stir the soil amongst the plants with the hoe, and protect them against injury by sparrows. A few strands of dark cotton placed amongst and over the plants at different heights will act as a deterrent to these destructive birds.

Verbena venosa.—This desirable plant should be taken up, the roots planted in boxes and housed safe from frost. These old plants will furnish an abundance of shoots for cuttings early next spring. Young plants raised from cuttings, in a little warmth, and subsequently potted will be useful for bedding, and may be employed for several other purposes with good effect.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Digging amongst Fruit Trees.—Where vegetables are grown between young fruit trees, in orchards, the ground should be dug as soon as the vegetable crops are cleared to allow the winter weather to mellow the soil. It is not advisable to dig nearer than 4 ft. from the trunk of the tree, and within the 4 ft. radius the soil should be lightly pricked over with a fork and cleared of weeds. In orchards where small bushes are planted between the rows of Apple trees, the soil should be lightly turned over with a fork after it has had a dressing of bonemeal. Care must be taken not to dig too deeply, or more harm than good will be done; moreover, it is of the utmost importance to encourage the roots to come to the surface.

Quinces.—The Quince is a useful fruit for preserves or flavouring, but in the north it needs a very sheltered and warm situation. It does best as a half-standard, and will do well in any good soil. Trees should be planted 14 ft. apart.

Planting Plum and Damson Trees.—All Plum and Damson trees should be planted this month, if possible, and lime rubble should be added to the soil placed about their roots. Plums thrive well on most soils, provided they are well drained, but most varieties like lime or chalk soil best. The trees should be planted so as to allow for the settling of the soil; many trees become unfruitful because they are planted too deeply. The finer varieties of dessert Plums require wall protection, especially in the north, to bring out the best quality and flavour of their fruits. In the south such sorts as Czar, Pond's Seedling and others that will stand the wet weather of autumn, should be planted against walls facing north, as by this means the Plum season may be extended considerably. In the north all Gage Plums require the warmth of a wall to bring them to perfection.

Fruit Room.—The fruits stored in the fruit room should be examined frequently, so that specimens showing decay may be removed before they contaminate others.

Walnuts.—Husked Walnuts which have been dried should now be placed in jars, in layers, with a little salt sprinkled on them, and a final covering of sand.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Ground Preparation.—Take advantage of dry, open weather to dig vacant land. Double digging is to be preferred where good supplies of leaves, grass trimming and manure are available, as land treated in this way is soon brought to a high state of cultivation, and the effects are lasting. Bastard trenching brings fresh material to the surface, thus making a change of soil for crops, and by this method the same kind of vegetable may often be grown on the same site again. If manure is not available for the time being, resort to very high ridging, making the ridges three feet apart. Manuring and levelling may be done as the spring advances.

Shelters.—Many vegetables are unable to make constant, steady growth when they are exposed to cold winds. A portion of a crop should always receive protection by means of improvised screens made from various materials such as boughs of evergreens, dried Bracken, Furze and litter. Wattle hurdles are perhaps the most satisfactory shelters when procurable, as they are easily removed from site to site. Spinach, Lettuce, Parsley and early Cabbage continue to make good, steady growth when shelter is afforded the plants.

Spinach.—The winter batch of Spinach is producing a good crop of leaves. Hand weed the plants, and remove the smallest weeds discernible. Hoe the soil regularly, and apply soot and wood ash liberally.

Cabbage.—The plantations of Cabbage should be carefully examined for any plants that are "blind" through injury by drought or caterpillars. Such plants should be speedily removed, and their places filled with strong, healthy plants. Water those that are newly set in this way, and afterwards dust the ground with soot, and hoe this in the soil.

Chicory.—Place sufficient crowns in boxes of soil to meet requirements. Cover the crowns with 5 or 6 inches of leaf-mould to thoroughly blanch the stems. If extra good Batavian Endive is regularly produced, it is far superior to Chicory in every respect, and Chicory could be dispensed with.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Early Figs in Pots.—St. John's, Pingo de Mel, and Violette Sepor are excellent varieties of Figs for early forcing as they are not so liable to cast their fruits as most of the others. Provided the trees receive proper treatment and are grown in a suitable structure, they seldom fail to produce good crops of fruit. Now that the trees have shed their foliage they should be closely examined for insect pests, the most troublesome being scale and mealy bug. White scale adheres tightly to the bark, and a moderately stiff brush is required to effectively remove it. Use, as an insecticide, a strong solution of soft soap and petroleum (a wineglassful of the latter to three gallons of soapy water); keep the mixture well stirred when using it. Care must be exercised in handling the immature tips of the branches, for they are rather tender and easily broken. In cases of bad infestations it may be necessary to repeat the application, and it is always advisable to examine the trees a second time for any insects that may have been missed during the first operation. Mealy bug may be destroyed in a similar manner; this pest hides in cracks and crevices, and it is therefore essential to thoroughly work the insecticide into such places.

Potting or Repotting Figs.—This work is best done before growth is completed, but it may still be done provided extra care is taken. The compost should consist of turfy loam, roughly broken, an eighth part of old lime rubble or broken plaster, and a six-inch potful of bone meal to each barrowful of soil. During the season of active growth, the roots require copious supplies of water, and it is therefore essential to use compost that will not become sour through frequent applications of water. It is advisable, when shifting Figs into larger pots, to allow room for subsequent top-dressings when the trees are swelling their fruits. The fermenting material for plunging purposes should be of a mild and lasting nature, and should consist principally of leaves. If bottom heat is principally derived from hot water pipes, it is still advisable to use leaves for packing around the pots, and the warmth they generate is quite sufficient to start the trees steadily into growth. Very little, if any, fire-heat will be needed to maintain a temperature of 60° to 70°. Syringe the trees with tepid water on bright days, and damp the floors and walls to promote a humid atmosphere. But little water will be required if the pots are plunged in moist fermenting material.

Pineapples.—Until recently the weather has been favourable for late-fruiting plants, and they have been materially helped by the bright, sunny weather of the past month. With the advent of winter, the amount of atmospheric moisture should be considerably reduced. The earliest stock plants intended to make a little growth before they "throw up" may be grown in more atmospheric moisture, and the walls and other bare spaces may be damped. The plants, however, need a period of rest, and the temperature should be allowed to fall a little, according to the weather. A general reduction in warmth and moisture is now necessary. Where the pots are plunged in tan or leaves, the roots will require little or no water, but excessive drought must be guarded against. A temperature of 60° at night and 70° by day, with 70° to 75° bottom heat, will suit the plants at this season.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cattleya and Laelio-Cattleya.—Members of the autumn and early winter-flowering section of these Orchids form the chief attraction at this season. A good stock of the handsome species and numerous hybrids, with their wide range of colouring, is of the greatest value in maintaining a display of flowers, and the spikes when cut are charming for all kinds of decorative purposes; indeed, when seen by artificial light there is nothing to surpass these gorgeous flowers. The beneficial effects of the past season upon these Orchids are now apparent in the good quality of the flowers the well-matured growths are producing, and the absence of dull weather this autumn has afforded conditions most favourable for the best development of the blooms. Orchid growers know the length of time that many Cattleyas will retain their flowers in good condition at this season, and also know that to leave them on the plants until they completely fade means ruin to many specimens. Plants thus weakened often require a considerable time to regain their former healthy condition, and if they suffer considerably from this cause they rarely make satisfactory growth the following season. It is often the starting of the plants on a downward course, and they get weaker and weaker, only to be saved by very great care. On the contrary, spikes cut too early or before the flowers are fully expanded, quickly fade when in a dwelling room, whereas, when left for, say, a week or ten days they keep fresh much longer when cut. Cattleyas produce flowers more freely than many other kinds of Orchids, and even weakly plants will send up flower-spikes. The removal of these poor flower-spikes is of the greatest benefit, and will assist a plant in regaining its lost vigour. Still, it must be remembered that the removal of the spikes from healthy plants before they are opened will often result in mischief by causing the plant to grow out of season. After cutting the flower-spikes at this season, Cattleyas need special care, particularly C. aurea and its hybrids, as they are very apt to be injured through the thick, fleshy flower stem rotting, which often occurs, so far as to destroy the leaves and pseudo-bulbs they spring from. To prevent this, it is well to cut the scape clean out from the base as soon as the blooms are over, and prevent moisture getting into it until the cut surface is quite dried up. A little powdered charcoal placed on the top of the cut surface will help to dry up any moisture, and often prevent rotting. The resting season of the members of this section commences soon after the plants cease to flower, and the majority will remain dormant until the spring. The reduction of water at the roots should be gradual, for so long as the roots of any plant are sufficiently active to take up moisture this should be supplied. During the resting period give water in considerably less quantity, but severe drying of the plants is harmful at any time. Plants of the spring and early summer kinds should be given every encouragement to complete their season's growth, after which they should be rested until the flowers commence to develop next year. Unflowered seedlings that are approaching flowering size should be treated in a similar manner. The younger plants, that are always more or less active, should be kept together, as these need more warmth and moisture, both at the root and in the atmosphere, throughout the winter.

PLANTS UNDER GLASS.

By JAMES WHYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Chrysanthemums.—The careful watering of Chrysanthemum plants at this season, especially in view of the shortage of fuel for heating greenhouses, is of great importance. Plants from which the blooms have been cut, and which are to be propagated from for another year, should be cut low down to encourage the development of shoots from the base. Place them in a good, light position in a cool greenhouse. Varieties which produce basal growths very sparingly should be placed in a warm house. When cuttings are available, a suitable place to strike them in is a temporary frame in a cool Peach house or vinery where the frame lights may be adjusted as necessary. Fill 4-inch pots with a mixture of sifted loam, leaf mould and sand, place three or four cuttings in each pot, water them and place them in the frame.

Palms.—Thoroughly cleanse all Palms by sponging them with soapy water or an insecticide. Palms are usually grown in comparatively small pots, consequently they should be well fed with liquid manure or fertiliser to preserve the desired colour of the foliage.

Gloxinia, Gesnera and Achimenes.—The tubers of Gesneraceous plants which are at rest should be taken from the soil and put in boxes of perfectly dry sand, and placed in a dry place where there is a little warmth, but where they will keep safely and not make new growth until the proper time arrives for starting them. Some sorts of Gesnera are useful for late flowering in winter, but require a temperature of at least 60°, with a moist atmosphere.

Bouvardia.—The Bouvardia is a winter flowering plant, admirably suited to the present moderate heating arrangements. If early flowers are required, more heat should be afforded. A low-roofed house in which the plants are kept near the glass and fully exposed to the light suits them, provided there is a moderately moist atmosphere.

Tree Carnations.—Cuttings inserted early in October, in boxes, should be potted singly in small pots when rooted, and placed for a time on a shelf near the roof glass in a moist, warm atmosphere. Later on they may be treated like flowering plants, and allowed as much air as favourable weather conditions will permit.

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THE MARKET FRUIT GARDEN.

FEW can remember such a fine October as we have enjoyed this year in the south of England. In what is usually the wettest month of the year rain fell on only six days, the total fall being only .63 in., of which .29 in. was recorded on the three closing days. I have no record of anything approaching such a low rainfall for October at my place. So dry was it, indeed, that ponds and wells gave out, and it was necessary to cart water for horses. For work on the fruit farm nothing could have been better. The harvesting of Nuts and the heavy crop of late Apples went on almost without interruption throughout the month, and some useful hoeing was done also. A wet October would have been most disastrous, for, even as it was, I had Apples still on the trees at the end of the month, and other growers were in the same plight.

GOOD CROP OF COX'S ORANGE PIPPIN.

This has been a particularly good season for Cox's Orange Pippin with me. Not only was the yield good, but the fruit was well coloured and exceptionally free from scab. One block of three-quarters of an acre of bush-trained trees, eighteen years old, yielded 255 bushels of marketable fruit, equal to 318 bushels per acre. This is only a little over one bushel to a tree, but it is a good crop for the variety. Moreover, the fruit was nearly all of the first grade, and realised the full control price, so that the net return was just over 19s. per tree. A leading London salesman remarked that they were the best sample of this Apple received this year; and he not only returned the full control price, but charged the buyer with commission and carriage. On land under Lucerne in another orchard the fruit was much smaller, but made up for this to some extent by brilliant colour.

APPLE-STORING PROSPECTS.

All late cooking Apples for which accommodation can be found are being stored. It is a pity to sell them at the present low prices, as there seems to be every prospect of an improvement when supplies become shorter. The scarcity of sugar has no doubt decreased the demand for cooking Apples. There is, on the contrary, no object in keeping dessert varieties, which are already making close on the control price. Thus it seems probable that the public will have to put up with nothing but cooking varieties later on, except for those that come from overseas. At one time I was doubtful whether such a peculiar season would yield Apples that would store well. I am now of a different opinion, as I find that there is remarkably little rotting amongst fruit which has lain for several weeks waiting to be packed for market. Moreover, the late Apples are particularly sound in the skin, there being few of the minute punctures made by various insect pests which are noticed in some seasons, and which are quite enough to cause early rotting in the store.

WANTED, A LATE DESSERT APPLE.

It is to be hoped that amongst the new varieties that have lately been introduced will be found a really first-class late dessert Apple for market. It is a curious fact that, amongst our long list of Apples, there is nothing quite satisfactory for market purposes to follow Cox's Orange Pippin and Allington, and these cannot be relied upon much after Christmas. Growers whose soil does not suit Cox's Orange Pippin even say that there is nothing after Worcester Pearmain. There are, of course, many excellent late Apples so far as flavour is concerned, and these suit the private gardener very well, but unfortunately the general public will have colour. Trial trees of several varieties, mostly recommended by readers of this journal, are growing in my garden. Of these, Barnack Beauty is perhaps the most promising, though it is hardly bright enough and certainly nothing to boast about in flavour. Still, it fruits freely, is a healthy tree, and keeps well. Lord Hindlip is brilliant enough in appearance, but I have not had it long enough to test its cropping powers. Baumann's Reinette is perfect for colour, and should keep until February. Often it has scabbed badly, but this year I have a good crop, which has been stored; so I shall see whether it sells well in spite of its poor quality. There is, of course, Blenheim Pippin, which is a recognised market variety, but this always sells wholesale as a cooking Apple. At a recent show I was attracted by two varieties in a nurseryman's exhibit which are all that can be desired in appearance. One of these, Reinette Rouge Etiolée (often called Calville Rouge Précoce) is a very pretty Apple, which would certainly sell freely. It is largely grown for market in Belgium, and might be worth planting in this country, as it is said to be free from canker and to crop regularly—two very important points. Unfortunately, it does not remain in season after December. The other variety is Heusgen's Golden Reinette. This is not quite such a neat Apple, but the colour is good, and it is said to be in season in March, whilst the flavour is excellent. I should be glad to have readers' experiences of these two varieties. They are of no use for market culture unless they crop freely and regularly, thrive under rather rough-and-ready conditions, and are reasonably immune from canker.

APPLES IN BOXES.

The revival of the Kent Commercial Fruit Show will no doubt rekindle interest in the packing of Apples in bushel boxes, which is its main object. Before the war a good many advanced growers were taking up this business, and a promising start had been made in export trade. For this purpose it is well worth encouraging, but for home markets I cannot see that we need to imitate the methods of overseas growers, whose fruit has to travel thousands of miles, although there is said to be some demand for boxed Apples amongst the large stores, hotels, and clubs in London. Certainly it will be a good thing if an extensive export trade in English Apples can be built up, for we seem to be threatened with over-production in this country. In recent years fruit-growing has been taken up by numbers of intelligent young men, and there are hundreds of acres that will soon be coming into full bearing. As it is, it needs only a big crop like that of the present season to glut the market with cooking Apples and bring prices down to a level which leaves little margin for the grower. With timber at its present high price there is not much chance of an immediate increase in the practice of boxing, but it should be worth attention as soon as foreign timber can again be imported freely. For home markets I doubt if we shall ever find a better package than the present bushel and half-bushel baskets, which are supplied by the salesmen and used over and over again. For this purpose boxes are unnecessarily expensive, are wasteful because non-returnable, and occupy a lot of space for storage. If non-returnable packages are favoured they should be of cheaper construction, such as the convenient chip "bonnets," which hold half a bushel and are stored in a small space because they nest one within another.

BIG BUD IN BLACK CURRANTS.

Last winter I made the experiment of cutting down some rather old Black Currant bushes to see if they could be given a new lease of life. They had originally been planted only 3 ft. apart in the rows with the idea of cutting back every other bush in alternate years and so encouraging the production of plenty of young wood. Unfortunately this programme was never carried through until the bushes got past their prime, and Bud Mite had gained some headway, there being a not unnatural reluctance to sacrifice the bushes whilst they were cropping well. The result of last year's cutting shows that even old bushes respond wonderfully well to the knife so far as making a new bush is concerned, but, as was feared, the young growth is in many cases badly infested with Bud Mite. This pest seems to prefer young growth, probably because the buds on it are softer and of looser build than on the older wood. A good many of the bushes also look suspiciously as though they were reverting as a result of the treatment. I shall have the big buds picked off and see how the bushes crop next year, but I am not very hopeful. *Market Grower.*

Grapes at the R.H.S. Fruit Show.—The outstanding variety of white Grape was Muscat of Alexandria. The first prize, in its class, was awarded to two of the best finished bunches in the whole show. These were grown, so I was informed, in a "Hamburgh" house. Mrs. Pearson, a choice variety, was staged remarkably well, as also was Lady Hutt, which is really a white Gros Colmar; it is quite distinct because of its colour, and a good keeper. The best of the black sorts were Black Hamburgh (mostly well-finished bunches), the third prize being won by bunches grown without fire heat. Alicante was better than usual, two exhibits of this Grape in its class were very close, and the berries of each had a dense bloom. The next best Grapes were the first prize bunches of Madresfield Court, these being almost perfect examples. Prince of Wales was much finer than usual. Muscat Hamburgh was also shown first-class in every respect. *J. Hudson.*

CRINUM POWELLII.

HARDY Crinums have much to commend them. Their massive, ornamental foliage and the beauty of their large flowers never fail to arrest attention, but their cultivation is comparatively neglected in average gardens because of doubt as to the hardiness of the plants, and the danger of their being lost in winter. Many see them under glass alone, and are not cognisant of the charms they display in the border. One of the most delightful of the hardier Crinums is C. Powellii, a hybrid between C. longifolium and C. Moorei, and sometimes known as C. Lesemannii. This hybrid is one of the finest of the hardy Crinums, and is also one of the most satisfactory for gardens. It has handsome, sword-shaped leaves, three or four feet long, and bears some eight or more flowers on a scape about two feet high. The individual flowers are large and have pointed segments, each with a pleasing red tinge along the centre.

FLORISTS' FLOWERS.

SELECTION OF THE BEST SWEET PEAS.

THE following is a list of varieties of Sweet Peas drawn up by the Floral Committee of the National Sweet Pea Society as representing an up-to-date selection of varieties. The Committee has also compiled a list of too-much alike varieties which cannot be exhibited together in the same competitive exhibit at the Society's exhibitions. The asterisk indicates the variety which the Floral Committee considers the best in each of the colour classes.

Bicolor (*light*).—*Dora (A.M., 1915), Mrs. Cuthbertson and Sparkler.

Bicolor (*dark*).—*Adelaide and Marks Tey.

Blue (*light*).—Margaret Fife (A.M., 1915), *Mrs. Tom Jones, and Princess Mary.

Blue (*dark*).—*Jack Cornwall, V.C., Lord Nelson Spencer, and Commander Godsall.

Blush (*pink*).—Daisybud, Mrs. Hardcastle Sykes (A.M., 1905), and *Valentine.

Blush (*lilac*).—Agricola (A.M., 1912) and *Elegance.

Maroon (*red*).—*Maroon (Dobbie's) and Splendour.

Mauve.—*King Mauve, Lady Eveline, and New Marquis.

Orange.—Golden Glory, Orange (Dobbie's), and *Tangerine.

Orange (*pink*).—*Edrom Beauty, John Porter, and King Alfred.

Orange (*scarlet*).—May Unwin, *The President, and Thos. Stevenson (F.C.C., 1911).

Picotee Edged (*cream ground*).—Cherub, *Jean Ireland (F.C.C., 1915), and Mrs. C. W. Breadmore.

Picotee Edged (*white ground*).—*Annie Ireland and Elsie Herbert (A.M., 1906).

Pink (*pale*).—Elfrida Pearson and *Mavis.

Pink (*deep*).—*Hawlmark Pink, Hercules, and Progress.

Purple.—*Royal Purple (A.M., 1914) and Royalty.

Rose.—Old Rose (A.M., 1916), *Rosabelle, and Verdun.

Salmon.—*Barbara (F.C.C., 1911), Liberty, and Melba.

FIG. 115.—CRINUM POWELLII FLOWERING IN THE OPEN ON A WARM BORDER.

This gives the whole flower a rosy appearance, and renders it one of the most charming of the race. There is a deeper coloured variety called C. Powellii rubrum, and a delightful white one named C. Powellii album. This Crinum and its varieties are splendid border plants, and thrive specially well in a good border in front of a greenhouse, conservatory, or other glass structure (see Fig 115). C. Powellii needs a deep, loamy soil, and a position where it can be supplied with plenty of water during the growing season. The hybrid and its varieties are hardy in a great portion of the British Isles, provided they receive a little protection in cold localities. In certain districts it is sufficient to allow the old foliage to remain, but in others a covering of straw or a mat is necessary. Bracken Fern also provides suitable protection. In general, however, little more attention is required, provided the plants are watered in dry weather in spring, summer and early autumn. So far as I can discover, there is no record of the raiser of C. Powellii. Mr. J. G. Baker described the plant in his *Amaryllideae* from a specimen in the garden of Sir W. Bowman, at Jolwynds, Dorking, in July, 1887, but gives no statement regarding the raiser. *S. Arnott.*

Carmine.—*John Ingham (F.C.C., 1904).

Cerise (*pale*).—Doris, *Hope, and Mrs. G. W. Bishop.

Cerise (*deep*).—Fiery Cross (Silver Medal, 1915), Honor Bright, and *Royal Salute.

Cerise (*scarlet*).—*Alex. Malcolm.

Cream, Buff and Ivory.—Cream (Dobbie's), *Felton's Cream, and Ivorine.

Cream Pink (*pale*).—*Mrs. A. Hitchcock and Giant Attraction.

Cream Pink (*deep*).—Edith Cavell, *La France, and Market Pink.

Crimson.—*Charity and Sunproof Crimson (A.M., 1909).

Fancy.—*Prince George and Magic.

Flushed.—Mrs. J. Balmer (rose on cream ground), *Mrs. J. T. Wakefield, and Rosy Rapture (rose on white ground).

Lavender.—Austin Frederick, Lavender Geo. Herbert, and *R. F. Felton (A.M., 1912; S.M., 1913).

Lavender (*pale*).—Faith, *Victory (Bolton's) (A.M., 1915), and Lavender (King's).

Lilac.—*Dorothy and Ivanhoe.

Marbled and Watered.—*Birdbrook, Helen Pierce Spencer, and May Campbell (A.M., 1911).

Maroon (*dark*).—King Manoel and *Warrior.

Salmon (*pink*).—*Lady Miller (A.M., 1912 and Surprise.

Scarlet.—*Hawlmark Scarlet, Scarlet (Dobbie's), and Scarlet Emperor.

Striped and Flaked.—Loyalty, Phyllis, and *Senator Spencer.

White.—Edna May Improved, King White (A.M., 1912), and Nora Unwin.

White (*tinted*) (these are dark seeded varieties). —*Constance Hinton and Miss Burnie.

PRIMULA LITTONIANA.

Few are successful with this Primula as a hardy perennial, and many have given up its cultivation in despair. It may be worth considering whether it would not be better to treat it in the same manner as most growers treat P. Cockburniana, that is by raising seedlings every year to take the place of the older plants, which are admittedly difficult to retain. In general appearance the flower spike is more like an Orchid than a Primula. The flowers are of a charming lilac mauve, and a beautiful feature of the plant is that the unopened buds possess brilliant scarlet bracts. *A.*

NOTES ON MANURES FOR NOVEMBER.*

It is not generally recognised how largely the British farmer availed himself of artificial fertilisers during the war. For the first time for many years the demand exceeded the supply. Sulphate of ammonia, of which formerly we had to export a large surplus, was especially largely used, the consumption by farmers in the United Kingdom rising from 80,000 tons before the war to 269,000 tons in 1919. The consumption of superphosphate rose from 560,000 tons in 1915-16 to 750,000 tons in 1919; while that of basic slag rose from 321,000 tons in 1915-16 to 540,000 tons in 1919. These figures demonstrate more vividly than any words the great increase in the use made by British farmers of the aids to crop production now at their disposal.

The notice recently issued by the Board of Agriculture in regard to sulphate of ammonia emphasises the need for early purchases. Prices are higher than those ruling last year owing to the withdrawal of the Government subsidy and the substantial increases in wages and in costs of coal and other raw materials.

FIG. 116. RICHARDIA HYBRID WITH COLOURED SPATHE AND UNDULATED FOLIAGE.

For the first time since 1916 there is the possibility that nitrates may be obtainable by farmers. Sodium nitrate is now appearing, and may be expected in larger quantities as the season advances and more shipping becomes available. At present its price is high, but in any case no grower needs it till spring. Another nitrate is perhaps more likely to appear on the market at an early date—nitrate of lime. Unlike nitrate of soda, this is a manufactured and not a natural product, but it is made in Norway and has only a short sea voyage. During the war it was needed for munitions, but will now be available for agriculture.

Another very effective nitrogenous fertiliser—nitrate of ammonia—is being offered by the Ministry of Munitions at a considerably lower price per unit than that of any other nitrogenous fertiliser on the market. The Ministry is asking £25 per ton. Now nitrate of ammonia contains 33½ per cent. of nitrogen against 20 per cent. in sulphate of ammonia; further, one-half the nitrogen is in the form of nitrate, which is more active than the ammoniacal nitrogen. Inquiries for this material should be addressed to the Surplus Government Property Disposal Board, Explosives and Chemicals Department, Storey's Gate, Westminster, London, S.W.1. It is understood that deliveries are made f.o.r. Swindon, Wilts, for orders in the south of England; and Saltney, near Chester, for orders in the north; the fertiliser is packed in barrels, which are supplied free.

A further nitrogenous manure that may soon be expected in quantity is cyanamide. Like nitrate of lime this also is a manufactured article and also has only a short sea voyage, so that it can be expected to arrive here, even with the present demands on shipping.

The outlook for nitrogenous fertilisers is therefore better than it has been. This is fortunate, because the need is at least as great as it was during the war.

The position as regards phosphates is more hopeful than it was last year, and growers can look forward to sufficient supplies for their needs. Superphosphate and basic slag are the chief sources of supply; each has its special features, though both are to some extent interchangeable. The root crop is the chief consumer of superphosphate, and it needs this material partly to swell out and produce sufficient bulk and partly to increase the feeding value. Throughout the eastern and southern counties superphosphate is the better material; it can be applied in quantities up to 3 or 4 cwt. per acre. In the west country and parts of the north basic slag is often equally good, especially where finger-and-toe is prevalent; 4 to 5 cwt. would be a suitable dressing.

The potash position is now fundamentally different from what it was last year, as Alsatian potash is now being produced. In addition, German potash may be expected, and there is still the possibility of English potash. Those who have light soils will do well to use potash this year on their Potatos, Mangolds and grass laid down for hay, as the land is probably now somewhat depleted. Although lack of potash less generally causes trouble than lack of phosphates or nitrogen it is no less serious when it occurs, and this is not unlikely on light, chalky or peaty (but not fen) soils.

Assuming the bulk of the Alsatian potash to be up to samples received it would be necessary to apply 4 to 6 cwt. per acre of the sylvinite or French kainit to Mangolds and 3 or 4 cwt. to meadow hay known to respond to potassic fertilisers. One to 1½ cwt. of the chloride would probably suffice for Mangolds.

Winter is the best season for adding lime or chalk to the land, and it is to be hoped that the process which has begun so well will continue. So far as can be seen there has been a distinct increase in the use of lime or chalk during the last two seasons; the figures available (the years ending July 31) are:—

	Tons. 1917.	Tons. 1918.	Tons. 1919.
Burnt Lime ...	142,000	213,000	183,000
Ground Lime ...	36,000	54,000	39,000
Ground Limestone ...	4,000	7,000	10,000
Ground Chalk ...	2,000	16,000	13,000

There still remain, however, large areas where lime is needed. Carted chalk should be applied as early in winter as is convenient; lime, good limestone and ground chalk can be put on later whenever the land allows carts to travel. In order to determine how much lime is required it is necessary to decide whether the roots, Clover, and grass will need it or not. If the roots are liable to finger-and-toe it may be presumed that they will respond to lime, unless they are receiving a heavy dressing of basic slag, in which case nothing further may be needed. If the Clover is likely to fail it probably needs lime, particularly if the failure is in patches rather than general, such as might arise from faulty seed or from the spring drought. Grass shows its need of lime when it forms dark green patches, when Clover tends to disappear and Sorrel tends to spread. Sorrel alone is not a sufficient indication, since it is often found on soils well supplied with lime; it is the absence of Clover and the spreading of Sorrel that afford evidence. In many cases, however, the difficulty is complicated by lack of drainage. No good result can be expected until this is remedied.

Assuming that the order for artificials has been placed early, the question of storage arises as soon as deliveries begin. All the manures dealt with in the preceding paragraphs will keep perfectly providing they remain dry. They are unaffected by air or time of storage (within the limits of the farmer's season), but they suffer considerably from damp; the shed in which they are kept must, therefore, be quite dry. As the most expensive manure sulphate of ammonia will probably receive the most attention. If the shed is not well built the bags should be kept off the floor and stacked on a low platform made by laying some boards on bricks; they should also be kept away from the outside walls. If, however, the shed is weather proof, has a perfectly dry floor and an inside wall, the bags can stand directly on the floor without harm. Nitrate of ammonia is sent out in casks which should not be opened until the fertiliser is required. Superphosphate should receive as much attention as sulphate of ammonia in storing, as it is liable to lose condition if damp. If any of the manures are found to become a little lumpy on storage this can be remedied by breaking them down with a wooden beater immediately before drilling.

* From the Rothamsted Experimental Station, Harpenden, Herts.

FOREIGN CORRESPONDENCE.

IMPROVEMENT OF RICHARDIA.

The war's vicissitudes have not allowed me till now to see the article on the Richardias published in *The Gardeners' Chronicle*, October 26, 1918, together with the illustrations of R. africana, R. Elliottiana, R. Pentlandii, and R. Rehmannii. The note reads: "Hybrids between these several species have been recorded, though it it doubtful if they are more than garden sports." As I have been working in hybridising these plants since 1900, I can report my experience on this subject, the more so as the work gives very splendid results.

R. Rehmannii and its varieties rosea and violacea, referred by some botanist to the genus Zantedeschia, are very unlike the other species, but they may easily be crossed with R. Elliottiana. I made the first cross between R. Rehmannii rosea ♀ and R. Elliottiana ♂ in 1900, and the immediate offspring was the hybrid Mme. Fosca Ragionieri, with pale cream

and rosy violet-coloured spathes, described by Prof. Bois in *The Révue Horticole*, August 1, 1909. A variety of that hybrid with tri-lobed spathes was described and illustrated in *The Gardeners' Chronicle*, September 4, 1909.

According to the Mendelian laws I was sure that a number of fine forms would be produced in the following generations. Among the twenty plants produced from the first cross, eighteen were perfectly similar ones. They were as fertile as their parents, and thus I obtained a good crop of self-fertilised seeds. I secured in F_2, and afterwards in F_3, some very magnificent varieties, with large, well opened spathes of various colours—rosy-violet, purple, orange-yellow, and yellow, shaded violet. There was also, of course, great variety in the leaves. The inter-crossing of F_2 products gave me still better results.

The photograph reproduced in Fig. 116 (about a third of the natural size) represents one of these hybrids, flowered this summer after growing for three years in the open ground, in winter, too, without any protection. It is one of the rare forms with narrow, lanceolate, undulated, uniform greenly leaves.

Unfortunately, almost the entire collection of my hybrids has been killed by an irremediable disease, but I have pictures of some painted in water-colours by my daughter.

The foliage of these hybrids varies greatly, and some of the leaves are very ornamental. There are lanceolate and hastate leaves of various shapes and dimensions. A bed of these hybrids grown in the open in summer, like Gladioli and similar plants, produces a very magnificent effect.

As a modest contribution to genetical studies I append some short notes from my study book:

R. Rehmannii rosea ♀.	R. Elliottiana ♂.
1. Tuber small, very proliferous. Recessive character.	Tuber large, not very proliferous. Dominant character.
2. Leaves narrow lanceolate, short petiolate. Recessive character.	Leaves broad hastate, long-petiolate. Dominant character.
3. Leaves with rare, small, linear, whitish-green blotches. Recessive character.	Leaves with numerous whitish blotches. Dominant character.
4. Spathes small, short-petiolate, little open. Recessive character.	Spathes large, long-petiolate, well open. Dominant character.
5. Spathes light rosy violet. The rosy-violet colour dominant.	Spathes yellow. The yellow colour almost recessive.

The production of the F_2 forms followed exactly the Mendelian lines. I have noted, however, in this cross, two facts worthy of note:—(1) The production in F_1 of two plants, among the twenty composing the whole first progeny, that grew very slowly, with small tubers and small, malformed leaves. The plants never developed flowers, and after seven years died. The same fact I have not infrequently observed when hybridising quite different species or genera, in Amaryllidaceae (A. Belladonna × Crinum), Acanthaceae (Barleria × Libonia and Justicia × Aphelandra), Bromeliaceae (Bilbergia Leopoldii × B. Moreliana). (2) The production in F_2 of some plants with uniform green leaves, without any white spot or line, both the two parents having their leaves more or less spotted.

The many attempts I have made since 1900 to cross R. Elliottiana, R. Rehmannii and hybrids with R. africana were unprofitable ones. I saw the female, fertilised flowers often increased in size and apparently produced well developed fruits, but they were always without seeds. R. africana fertilised with the pollen of R. Elliottiana, and R. Rehmannii produced often a few perfect seeds, but they gave always plants of the pure R. africana parent. Of that singularity I had the explanation later: it is useful to know.

In a normal spadix of an Araceous-Callaeous plant the two sexes are well separated, the male flowers being on the top, the female ones in a well-limited lower segment. Therefore in these flowers castration is easily effected by cutting off the male, terminal portion before the issue of the pollen, but in some garden varieties of R. africana it often happens that in the upper part of the pistilliferous, or female portion, a few male flowers are mixed, and thus self-fertilised seeds may sometimes occur. This is the explanation.

A rose, or purple, or yellow winter-flowering Calla, like R. africana, would be most welcome in gardens.

According to my experiments R. Elliottiana and R. Rehmannii may be crossed with R. albo-maculata and similar species. *Attilio Ragionieri.*

Fig. 117.—Plum Dewson's Marvellous, a late October variety.

FRUIT REGISTER.

AN OCTOBER PLUM.

At the meeting of the Royal Horticultural Society, on October 21-1, 1919, Messrs. R. H. Bath, Ltd., exhibited a variety of Plum named "Dewson's Marvellous," and the illustration in Fig. 117 shows its remarkable cropping qualities. Long branches were exhibited with the Plums hanging in clusters. The fruits have no great merit as to flavour; are a little larger and slightly more oval than Damsons, and coloured dull purple, with a heavy bloom. That this late Plum keeps a remarkable time is shown by a specimen that we have before us (November 11), which was obtained from the Royal Horticultural Society meeting, and, although withered, is still edible. This prolific late Plum will doubtless prove valuable for market purposes, and the fruits would be useful for bottling. We believe there are several late prune Plums in cultivation, but we have never met with one of such an extraordinary prolific nature and so late in the season.

GISBORNE PLUM.

I know of no other Plum that crops so heavily as Gisborne, either on standards or bush trees. Although the quality of the fruit is not equal to that of Coe's Golden Drop it is excellent for cooking, preserves and bottling, the flesh being of a yellow colour and parting freely from the stone. Of this variety I also intend to grow more trees, as they are hardy and may be planted in more open positions than some others, in fact, two seasons ago it was the only one that bore a good crop here, notwithstanding when in full flower the shoots and branches were thickly coated with snow for some time. I grew the Gisborne many years ago in Kent and it rarely failed to bear good crops. *H. M.*

PLUM COE'S GOLDEN DROP.

No wall space devoted to Plum culture is well filled unless this excellent dessert variety is grown. Given good treatment it crops freely and

quite as regularly as most other varieties. It has also a property, apart from its pleasing golden colour and richness of flavour, which is found in few plums, *i.e.*, it will keep sound for a long time after it is gathered if fruits are taken from the trees while quite dry and placed in an airy store. Although I have several trees growing in different aspects I hope to plant others this autumn, as Coe's Golden Drop is so well liked here. The variety is said to have been raised by a Mr. Jervaise Coe, Bury St. Edmunds, about the end of the last century, from a Greengage pollinated with White Magnum Bonum. Plums delight in a good loam containing plenty of lime, brick mortar and decayed manure thoroughly mixed together and trodden firmly so that the roots may have a firm root hold and good drainage. *H. Markham.*

TREES AND SHRUBS.

EUCRYPHIA PINNATIFOLIA.

I WONDER why this glorious shrub or tree is so comparatively rare. When one thinks of its merits; its flowers like a beautiful white Hypericum with a crowd of stamens with their golden anthers; its immunity from diseases; the ease with which it grows among Rhododendrons and Azaleas; the period at which it flowers, the end of July and beginning of August, when flowering shrubs are few; the glorious colours the foliage assumes in late autumn; and the ease with which it may be propagated from the seeds which it produces in abundance, one marvels that it is not in every garden which contains a Heath or an Andromeda. The seeds, it is true, take 16 months to ripen, but they germinate with great ease and regularity in soil which contains a little peat. Can it be that in some cases those who have the shrub have not looked for the seed capsules? They are very easily recognised now —brown, woody, wrinkled and pear-shaped, each capsule consists of some 10-20 carpels, and each carpel on an average will have one to two seeds. The carpels are now cracking, and in some cases the seeds have already dropped out. If the carpel, which is boat-shaped, like the seed vessels of Aethionema coridifolium, is held up to the light, the seed can be easily seen, and a pin pushed along the bottom of the boat makes the seeds fall out. There is no difficulty in selecting fertile seeds such as one meets in examining a head of Gerbera Jamesonii. The seedlings grow quickly and soon become plants of 1 ft. or 1½ ft. high, that may be shifted into their permanent quarters. They form an abundance of roots, just as Thunbergia natalensis does. *A. C. Bartholomew, Reading.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Apple Queen Mary.—Like all other varieties when first introduced, this Apple received its share of criticism when shown at the R.H.S. Fruit Show. Several good Apple judges likened it to American Mother in shape and skin colour. A close inspection with the added test of flavour convinces me that Queen Mary is absolutely distinct from any other variety. In shape it is less pointed than American Mother, and it has a wider eye. In flavour there is a marked difference. The latter was not in condition, while Queen Mary (see pp. 227,228) was in perfect condition. This is an Apple all critics and Apple lovers should include in their collections, no matter how small. *E. Molyneux.*

No American Blight (see pp. 185, 229).—Probably Mr. G. C. Wareham (p. 229) is right in crediting the ladybird beetle with the clearance of American blight. I noticed that the larvae of this beetle were particularly numerous this year, and found that they were doing splendid work in destroying Aphis malifoliae on Apple trees. Practically every leaf curled up by this pest contained the larva of a ladybird. It had not occurred to me that this useful insect would feed also on American blight, but it is quite likely. *Market Grower.*

Silver Leaf Disease.—On page 212 of the *Gard. Chron.* of the 25th ult. there is an article by *Magister Palae* under the heading of "Fruit Problems." We are the manufacturers of the preparation which *Magister Palae* states he has used. We have been favoured with results of important experimental work carried on by this expert over a number of years. Being manufacturing chemists and deeply interested in horticulture, we have assisted this gentleman in his investigations and, after numerous trials, we can safely state our Silver Leaf Cure is effective. *Parkin, Ness and Co., Darlington.*

Gardeners' Wages.—I quite agree with "*A Gardener*" and *S. G.* (page 229), and consider it is time something was done to bring the gardener up to the level of other workers in regard to a living wage. In the county of Devon there are head gardeners working from 7 a.m. till 6 p.m. during the summer, and from daylight to dark in winter, besides doing necessary work on Sundays and attending to fires at night, for 25s. per week and a cottage. In many cases single men only receive 25s. per week and no extras, and in very rare cases do they have a half-day holiday each week. Unless something is done to compel employers to pay a living wage the majority of them will not do so. Men are leaving such situations for other and more remunerative employment, but as work is scarce and unemployment is increasing, certain gardeners are at the mercy of the employer. The farm labourer, the woodman on the estate, and the cowman all come under the Corn Production Act in regard to a minimum wage, but not so the gardener. The prices of all things still rise, and the gardener has to pay the same and buy in the same market as other people; he is expected to look respectable and to take an interest in his work, and he has to pay more care and attention and give more forethought to that work than many employers realise, and yet his wage is below that of a farm labourer. As a class, gardeners are not grumblers nor money grabbers, but they certainly deserve better pay and conditions than they receive at present. Surely the Government should fix a compulsory living wage for almost the only body of men who have to struggle on without it. *Another Gardener.*

L'Ordre du Merite Agricole (see p. 214).—The late Mr. Edward Beale received the Cross of a Chevalier of l'Ordre du Merite Agricole in the early winter of 1889, this being one of the awards made in connection with the great Paris International Exhibition of that year. There were 36 British subjects who received decorations, and two the Cross of the Merite Agricole —the late Mr. Edward Beale and myself. The special feature of these awards was that, for the first time, they were conferred publicly and in a semi-official manner. They were given at a dinner at the Mansion House, over which the late Duke of Cambridge presided as representing Queen Victoria, and the event was generally regarded as the first public step towards that better feeling between the two countries which has since developed into the Entente and the comradeship in arms of the war. The French Ambassador made the investitures. The Order, it may be interesting to note, was instituted in June, 1883, when M. Méline was Minister of Agriculture, M. Tisserand the permanent Director of Agriculture, and M. Jules Grévy the President of the third Republic. The Order establishing it stated that "Agriculture, so justly honoured in all countries and in all ages, does not, as yet, occupy in France—so far as honorary distinctions are concerned—the rank it is entitled to." To meet this, the Ordre du Merite Agricole was established. It was "destined to reward the services rendered to agriculture," and the nominations to it were placed in the hands of the Ministry of Agriculture. The real object of the Order was to hasten the improvement of agriculture in France, which had not made the progress desired or necessary after the war of 1870-71, an object which it certainly helped very materially. From the very first "foreigners" were eligible for the Order, and a number of Englishmen received it before Mr. Beale and myself. Both Sir John Lawes and Sir Joseph Gilbert—the famous Lawes and Gilbert of Rothamsted—had the Order some years before Mr. Beale and myself, and Sir John Lawes often spoke to me of the useful work which it had accomplished in France, and of the encouragement it had given him in his work. It may interest you to know that what impressed both M. Léopold Faye, the Minister of Agriculture in 1889, and M. Tisserand, in awarding the cross to the late Mr. Edward Beale, was the very great work which his firm (Messrs. James Carter and Co.) had done in connection with (1) the improvement of our cereal crops, and especially in the way of earlier maturity in Wheat to suit Canadian prairie requirements; and (2) their experiments in Tobacco cultivation in England, on which Mr. Beale wrote a very interesting work. I rejoice very much that Mr. Beale's son has now received the decoration, and should like to give him the hearty congratulations of one who knew his father well and who still appreciates very highly the great work which his firm is still doing. *Henry F. Moore.*

October Dessert Apples.—Your correspondent, *C. A. Jardine*, mentions several October Apples on p. 216, but omits Gravenstein, which I consider one of the best for that season, either for dessert or cooking purposes. I herewith send some fruits for your inspection. *Thos. Denny, Down House Gardens, Blandford.*

(Some good specimens of this useful Apple accompanied this note.—EDS.)

——The writer of the article on "Scarcity of Desirable October Dessert Apples" in the *Gardeners' Chronicle* of October 18 does not mention that old variety, Yellow Ingestrie. Perhaps he considers it not a "desirable" one. Personally, I always enjoy this dessert Apple during October and early November; and rarely at this time of the year have I obtained from shops any eating Apple that I like better. It does not long retain its crispness, becoming soft and losing its brisk flavour in late November, but for those who can only manage to eat a soft apple it is not to be despised right up to Christmas. A strong point in its favour, either for table or kitchen use, is its very small, shallow core, resulting in little waste. A tree of this variety has been growing in an old orchard here for at least 60 years, and it is still vigorous, bearing a good crop of fruit in alternate years. In the North-West of England, with its lack of summer heat and sunshine, dessert Apples on standard trees often fail to ripen sufficiently. This is notoriously so with the old Ribston Pippin; but Yellow Ingestrie never fails to mature its fruits, hence it would seem to be an Apple not to be neglected for this part of the country. In the South of England Yellow Ingestrie may, of course, be reckoned a September Apple, and even here some fruits are usually ripe enough for eating towards the end of the month, but I should consider October the best month for it. *J. P., Carlisle.*

——I am very much surprised Mr. V. F. Gregson should recommend the varieties Beauty of Kent and Cellini as good October dessert Apples. My experience of both these varieties proves them very good cooking Apples, but amongst the last that should be recommended as fit for dessert in October. Beauty of Kent is a useful Apple to grow, and Cellini is of very attractive appearance when grown on warm soil, but one of the worst varieties to canker that I am acquainted with. Moreover, the flavour is much too sharp and acid to suit most palates. I admit the truth of Mr. Molyneux's assertion that good October dessert Apples are scarce. I think one of the best Apples (from a very limited few suitable for this season) is American Mother. The tree is a good grower, and bears freely; the fruit is of attractive appearance, very highly coloured when exposed to the sun, and the flavour is excellent. I have known people to eat a fruit of Bramley's Seedling or a Lane's Prince Albert with evident enjoyment, but that would not lead me to regard these varieties as fit for dessert. *Wilmot H. Yates, Rotherfield Park Gardens, Hants.*

SOCIETIES.

ROYAL HORTICULTURAL.

Awards at Wisley.

The following awards have been made to Turnips, First Early Potatos and Autumn Raspberries by the Royal Horticultural Society, after trial at Wisley.

Turnips.

Awards of Merit.

No. 12 *Extra Early Purple Top*, sent by Messrs. Barr and Sons; 9 *Little Marvel*, sent by Messrs. Barr and Sons; 44 *Red Globe* and 51 *Early Snowball*, both sent by Messrs. Sutton and Sons; 55 *Early White Model*, sent by Messrs. Barr and Sons; 69 *Greentop Sixweeks*, sent by Messrs. Sutton and Sons; 70 *Manchester Market*, sent by Messrs. Barr and Sons*; 71 *Manchester Market*, sent by Messrs. Dickson and Robinson; 72 *Marble Green Top*, sent by Messrs. Barr and Sons. (Nos. 69 to 72 are regarded as similar to one another.)

Highly Commended

No. 5 Early White Milan, sent by Messrs. Sutton and Sons; 16 Red Milan, sent by Messrs. Ed. Webb and Sons; 22 and 23 Matchless, sent by Messrs. Barr and Sons* and Sutton and Sons; 27 White Gem, sent by Messrs. Sutton and Sons; 31 Jersey Navet or Half-long White Vertus, sent by Messrs. Barr and Sons; 42 Early White Strap-leaved, sent by Messrs. Sutton and Sons; 43 Strap-leaf White Stone, sent by Messrs. R. Veitch and Son; (Nos. 42 and 43 are regarded as similar to one another). 57 Model White Stone, sent by Messrs. Watkins and Simpson; 76 and 77 Green Top Stone, sent by Messrs. Barr and Sons and R. Veitch and Son.

*This sender has not yet catalogued this variety.

First Early Potatos.

Award of Merit.

No. 44 *Western Hero*, sent by Messrs. R. Veitch and Son.

Highly Commended.

No. 46 Eclipse, sent by Mr. W. G. Holmes; 21 Midlothian Early, sent by Messrs. R. Veitch and Son; 1 Sharpe's Victor, sent by Mr. W. G. Holmes; 114 Witch Hill Seedling, sent by Messrs. Cross; 59 Sharpe's Express, sent by Messrs. Dobbie and Co.

Commended.

No. 99 Early Champion, sent by Mr. Finlay; 109 Epicure, sent by Messrs. Barr and Sons; 117 Resistant Snowdrop, sent by Messrs. Cross.

Autumn Raspberry.

Award of Merit.

No. 9 *Surprise d'Automne*, sent by Mr. Cousens.

EASTERN COUNTIES COMMERCIAL FRUIT.

November 5 and 6.—Under the presidency of Sir Douglas Newton, with Prof. J. S. Gardiner as treasurer, Mr. Chas. Wright as hon. secretary, and a strong committee with Mr. F. Glenny as chairman, a very instructive commercial fruit show and conference was arranged for the Eastern Counties and held at the Corn Exchange (show) and University Examination Buildings (conference) on the above dates. For a first attempt it was excellent and the enthusiasm displayed was exceptional, both in the practical and spectacular effect of the show and the educational value of the conferences. With such a happy commencement and such excellent attendance and competition the future success of the Society seems assured.

Apples in Boxes.

Bramley's Seedling, three bushel boxes, was a fairly good class, but in many instances the packing was very poor. Mr. J. Russell, North Brink, Wisbech, was an easy 1st with large brilliantly-coloured fruits, packed tightly in even rows, 7 by 3, thus giving 21 fruits to a layer. The fruits were packed sideways. Certain competitors showed poorly filled baskets, and others had so filled their boxes that the lids had badly bruised the top fruits.

The need for a standard size of box was evident in the Newton Wonder class, because if the larger boxes held a bushel the smaller ones certainly did not. Messrs. Gardner, Bros., South Brink, Wisbech, won 1st prize with a 3 by 2 pack of handsome specimens. Lane's Prince Albert, three boxes, was best shown by Mr. E. Cundell, Cottenham, but although the fruits were fine they did not sufficiently fill the box. Mr. A. E. Morton, Upwell, led for three boxes of Lord Derby, with a straight pack of large fruits; Mr. Baston's 2nd prize set were packed upright and close and would doubtless have travelled well. Mr. R. Stevenson, Burwell, was 1st for a box of Worcester Pearmain, with a straight pack of fruits on their sides; there was some very bad packing in this class. The Allington Pippin class was better, and Mr. H. Baston, Hollesley Bay, Suffolk, was 1st for a 3 by 2 pack, upright, of excellent and even fruits. The best box of Cox's Orange Pippin, two dozen fruits in a layer, was exhibited by Mr. H. T. Mason, Hampton Hill, Middlesex, who sustained the high reputation he enjoys for growing and marketing fruits of this fine dessert Apple. Clean wood wool was used for packing. Miss K. Courtauld, Earl's Colne, Essex, won 1st prize for "any other" dessert apple, in a bushel box, with a fine lot of Charles Ross; Mr. R. Ferguson's 2nd prize lot was also of this variety, finely packed.

Apples in Sieves.

There was as great variety in the quality of the fruits and the packing in the classes for Apples in bushel sieves, as in the box classes.

Bramley's Seedling in three bushel sieves made a large class, and Mr. R. Brown, Somersham, Hunts, was awarded 1st prize, apparently for the quality of the fruits, as the packing appeared somewhat loose. Mr. W. Hunter's 2nd prize sieves were better packed. An even, closely packed set of Newton Wonder won 1st prize for Mr. E. L. Porter, Haddenham, Ely, in a class for this variety; Messrs. R. H. Bath, 2nd. In the class for Lane's Prince Albert the competition was keen, and the 1st prize was won by Mr. J. G. Faircliffe, Burwell, with excellent fruits, highly coloured and well packed; Mr. E. L. Porter, who was 2nd, had also a well packed set.

Mr. H. Baston led for three bushel sieves of Lord Derby, but Mr. Blofield's 2nd prize lot appeared to be packed too full. For two bushels of "any other" cooking Apple than specified, Mr. F. Norman, Hadenham, was a capital 1st prize winner with grand fruits of Peasgood's Nonsuch, splendidly packed; Mr. J. B. Udall, Witham, 2nd, with Bismarck rather loosely packed.

With highly coloured and well developed fruits packed on their sides, Mr. R. Stephenson won 1st prize for two half-sieves of Worcester Pearmain. For two half-sieves of Allington Pippin, Mr. J. Russell was placed 1st for lovely specimens, well packed, on their sides; Messrs. Greaves, Torpington, who were 2nd, also had a finely packed lot of capital fruits. For one half-sieve of Cox's Orange Pippin, Mr. H. T. Mason led with full-sized, gorgeously coloured specimens, admirably packed; Mr. J. Russell, 2nd. This was a fine class, with 25 entrants. For "any other" dessert variety, one half-sieve, Mr. J. Russell was placed 1st for Rival; Mr. C. Bluff, Colne, 2nd with finely packed King of the Pippins.

Apples in Barrels.

Apples packed in barrels or half-barrels do not "take the eye" like those in boxes or sieves.

Mr. A. Anger, Leverington, Wisbech, was 1st prize winner for two half-barrels of Bramley's Seedling, and he had such large fruits that there were many gaps between them. For a similar quantity of Newton Wonder, Messrs. J. Gautrey and Son, Cottenham, led with fine fruits, closely packed. Messrs. J. Chivers, Lakenheath, led for Lane's Prince Albert with a good pack; whilst Messrs. Gardner Bros. scored for Lord Derby.

Pears.

Conference Pears, nicely packed with white paper between the layers, won for Mr. F. Smith, Willingham, 1st prize for a half-sieve of this variety. Messrs. Gardner Bros., Wisbech, were 1st prize winners for a box containing one layer of one dozen fruits of this Pear—a grand lot.

Col. B. J. Petre, Westwick Hall, Norfolk, was 1st prize winner for a box of Doyenné du Comice Pears, one dozen fruits in a single layer, and he showed splendid specimens, packed in white paper. The same competitor led for "any other" dessert Pear, with a dozen fine examples of Pitmaston Duchess, similarly packed.

Trophy Class.

One class was provided for the purpose of encouraging competition between local associations in the Eastern Counties. The prize, a silver trophy, offered by the proprietors of *The Fruit Grower*, was for the best dozen of any packages mentioned in the schedule, in six varieties of Apples, two packages of each variety. It was a pity the two exhibits staged were a long way apart. The trophy was won by the Wisbech Fruit Growers' Association (see Fig. 112), with sieves of very fine fruits of Bramley's Seedling, Allington Pippin, Cox's Orange Pippin and Peasgood's Nonsuch. The Spalding Bulb and Market Gardeners' Association were placed 2nd with a dozen boxes of straight packed fruits of Newton Wonder, Bramley's Seedling, Lane's Prince Albert, Lord Derby and Gascoyne's Scarlet. We were informed that some of the Wisbech fruits were packed in the sieves after arrival at the show and that all the Spalding fruits were shown as packed at home by the senders.

Non-Competitive Exhibits.

Messrs. W. Seabrook and Sons, Chelmsford, contributed a fine collection of splendidly-developed Apples in considerable variety. Mr. L. J. Walker, Fordham, also exhibited fruits. Messrs. J. Chivers, Histon, exhibited a large and particularly interesting group of Apples and Pears, consisting of a number of Californian as well as numerous English varieties. Of the former, the Banana Apple and Bartlett Pear were especially noteworthy.

Conference.

The Conference which was held in connection with the show, and presided over by Sir Douglas Newton, was attended by a large number of visitors who followed the proceedings with marked attention. Both the Chairman and Dr. Keeble, who opened the show, drew attention to the value of commercial exhibits, and particularly to the remarkable display of colour and variety presented by the Apples exhibited. The Chairman also pointed out the desirability of lending every encouragement to increase the acreage under fruit. Valuable papers on the methods of cultivation in different districts were read by Mr. C. S. Smith and Mr. W. Seabrook, the former giving an account of Kentish methods and the latter those practised in Essex. A paper on "Stocks," by Mr. R. E. Hatton, followed, in which were summarised the results which had been obtained at the experimental station at East Malling, by Mr. Hatton and his colleagues. The conference was brought to an end by Mr. F. T. Brooks, who spoke on "Plant Sanitation in Fruit Plantations," and Mr. R. Wynne, of the Chamber of Horticulture, who spoke of co-operation and its advantage to growers.

SANDY SHOW.

A general meeting of the Flower Show Committee of the Sandy Show was held on the 28th ult., Mr. Sills presiding. The chief business was to receive a statement of accounts. In consequence of the deluge of rain which fell on the last show day, everybody feared that there would be an exceedingly heavy loss to face. Thanks to the untiring efforts of Mr. F. W. Western, the general secretary, the deficiency has been reduced to £184 14s. 8d. The total expenses were £1,599 19s. 10d., and the total receipts £1,415 5s. 2d. Mr. Western submitted the statement of accounts and stated that no

less than £615 had been contributed as subscriptions and contributions to the Show Committee, this being three times the amount received in an average year. The Langford Show Committee had very generously shown their sympathy by sending £5; the Local Ladies' Committee collected £62 12s. 6d.; the Live Stock Department brought in £368 by entry fees, whilst live stock prizes amounted to £287. The secretary stated that the Victory Cinema had kindly promised benefit evenings, and it was agreed that the Ladies' Committee be asked to organise a monster jumble sale, whist drives and dances to wipe out this adverse balance and place the Society in a sound financial position. The outstanding accounts were passed for payment. The Committee realise that they have a heavy task before them to raise this money, and will greatly appreciate the help of the Society's many supporters.

NATIONAL CARNATION AND PICOTEE.

November 8.—The annual meeting of this society was held, on the foregoing date, in the library of the Royal Horticultural Society, Vincent Square, Westminster. There was a good attendance of the members.

The hon. treasurer submitted the accounts for the year, showing a balance in hand of £42.

The schedule for the Annual Floral Meeting was discussed and various classes added. The date of the meeting was fixed for July 13th, 1920, in conjunction with the fortnightly meeting of the R.H.S.

It was decided to invite local Horticultural Societies to become affiliated to the Society, particulars of which can be obtained from the hon. secretary.

KINGSTON, DITTON AND DISTRICT CHRYSANTHEMUM.

November 5.—After a lapse of four years the above Society resumed its annual show at the Baths Hall, Kingston-on-Thames.

The exhibits were fewer than formerly, but it was generally agreed that many of the blooms were the finest that have ever before been seen at Kingston. The outstanding exhibit was that of 12 Japanese blooms, four distinct varieties, shown by D. Stoner Crowther, Esq., Hay Green, Kingston Hill (gr. Mr. M. L. Sargent), and this included the collection with which he was so successful at the N.C.S. Show the previous day in the William Wells Memorial Class. H.R.H. the Duchess of Albany, Claremont, Esher (gr. Mr. J. Kelly), was a close 2nd, and this collection also elicited deserved admiration. In the class for 12 Japanese blooms distinct the above competitors were again in the same order with equally admirable blooms. The examples of such varieties as Queen Mary, Mark Luxford, Mrs. G. Drabble, Mrs. J. Gibson, H. E. Converse and Mrs. L. Pockett were excellent.

D. Stoner Crowther, Esq., was a particularly successful exhibitor, for in addition to these two 1st prizes he was placed 1st for (a) 5 White Japanese, and (b) 5 Yellow Japanese, and was 2nd (a) 5 Japanese blooms, any colour but yellow, and (b) 6 winter-flowering Begonias; and was 3rd for (a) 3 bunches of black Grapes, and (b) Tomatos.

The Duchess of Albany won 1st prizes for (a) 4 dishes of Apples, 2 varieties each of dessert and culinary, (b) a dish of Tomatos, (c) a decorative basket of cut Chrysanthemums, and (d) a collection of nine kinds of vegetables, and, in addition to the classes above named, was 2nd for (a) 12 Japanese blooms distinct, (b) 6 bunches of singles, and (c) 4 dishes of Pears, distinct, and was 3rd with 5 Japanese blooms yellow, and 5 Japanese blooms any other colour.

The best 6 bunches of single-flowered Chrysanthemums was shown by the Marquis of Ripon, Coombe Court, Kingston (gr. Mr. T. Smith), and R. S. Bond, Esq., J.P., Croylands, Surbiton (gr. Mr. S. Pead), was similarly successful in the class for 5 Japanese blooms, any colour but yellow.

In the amateurs' classes the Mr. T. O. M. Sopwith Silver Challenge Cup and the Society's Medal, offered for the best 5 distinct varieties, was won by Mr. J. Surry, who also won 1st prize for a vase of Japanese blooms (6 Japanese blooms), and was 2nd with 3 yellow Japanese blooms.

Semi-circular groups of Chrysanthemums and of other plants were a very attractive feature at Kingston, and the 1st prize was awarded to the Marquis of Ripon for a splendid contribution. The same exhibitor had the best group of miscellaneous flowering and foliage plants; 3 bush Chrysanthemums in 10 in. pots and 6 plants of Caprice des Printemps type, arranging excellent plants in all the classes.

The 2nd prize miscellaneous group was exhibited by Mr. F. R. Spofforth, of Australian cricket fame, Ditton Hill Lodge (gr. Mr. H. J. Mustchin), who was 2nd with Caprice des Printemps varieties, and 3rd with 3 bush plants.

The special prize, by Messrs. J. and T. Trower, Ltd., for a collection of 6 kinds of vegetables in open competition, was won by H.R.H. the Duchess of Albany, and D. Stoner Crowther, Esq., won the special prize for the best Chrysanthemum bloom in the show.

ANSWERS TO CORRESPONDENTS.

Controlled Price for Apples: *F. S. B.*—The Apple Control Order of December, 1918, is still in force, and no variety of Apple may be sold retail at a higher price than 9d. per lb. It is obvious that the varieties, Cox's Orange Pippin and Ribston Pippin, are included.

Names of Plants: *D. S.* Tropæolum speciosum with fasciated growth.—*F. R. S. Gower.* Maurandya scandens, often called Lophospermum scandens in gardens.—*R. R.* Crinum Powellii.—*F. D.* The Rose is Sunburst, a variety which is very variable in colour.

Names of Fruits: *M. K.* Dumelow's Seedling.—*Market Harboro.* 1, Lane's Prince Albert; 2, Ben's Red.—*J. H. O.* 1, Gansel's Bergamotte; 2, Beurré Diel; 3, Marie Louise; 4, decayed, probably Beurré Hardy.—*E. C.* 1, not in character; 2, Cox's Orange Pippin.—*M. C.* Not in character; 2, King of the Pippins; 3, Worcester Pearmain; 4, American Mother; 5, Cox's Orange Pippin; 6, Bramley's Seedling; 7, Ecklinville.—*L. M. N.* 1, Bismarck; 2, Chelmsford Wonder; 3, Newton Wonder; 4, not recognised, probably a local seedling.—*J. T.* Lord Derby.—*E. G. H.* The Pear is Forelle; the Apple is The Queen.—*E. D. R.* 1, Gascoyne's Scarlet; 2, Five Crown Pippin; 3, Peasgood's Nonsuch; 4, Belle Dubois; 5, Winter Hawthornden; 6, Bramley's Seedling; 7, Cellini; 8, Norfolk Beefing; 9, Mère de Ménage; 10, Cellini.—*D. I.* 1, Cox's Orange Pippin; 2, Sturmer Pippin.—*A. P.* Apples: 1, Greenup's Pippin; 2, Api Gros; 3, Lord Suffield; 4, Wyken Pippin. Pears: 1, Beurré Clairgeau; 2, Josephine de Malines; 3, Doyenné Boussoch; 4, Fondante d'Autcmne; 5, Beurré Diel; 6, Beurré Bachelier; 7, Autumn Nelis.—*W. T. T.* 1, Lord Burghley; 2, King of Tompkin's County; 3, Cockle Pippin; 4, Warwickshire Pippin; 5, Margil; 6, Adams's Pearmain; 7, Sam Young; 8, King of the Pippins; 9, Newton Wonder.—*W. D.* 1, over-ripe; probably Beurré Hardy; 2, Noveau Poiteau; 3, Marie Louise; 4, Fondante d'Automne; 5, Beurré Jean van Geert.—*S. G.* 1, Triomphe de Jodoigne; 4, Maréchal de la Cour; 5, Josephine de Malines; 21, Zephirin Gregoire; 35, Huyshe's Prince Consort.—*A. S.* 1, Calville Rouge Précoce; 2, Baxter's Pearmain; 3, Alfriston.—*G. T.* 1, Durondeau; 2, Fondante d'Automne; 3, Easter Beurré; 4, Josephine de Malines 5, Conference; 6, Doyenné d'Alencon; 7, Louise Bonne of Jersey; 8, Doyenné du Comice; 9, Beurré Diel; 10, Glou Morceau; 11, Marie Louise; 12, Bergamotte Esperen; 13, Maréchal de la Cour; 14, Pitmaston Duchess.—*W. H. S.* 1, Lane's Prince Albert; 2. Potts's Seedling; 3, Newton Wonder, 4, Margil; 5, Lane's Prince Albert; 7, Ecklinville; 8, King of the Pippins; 9, Cox's Orange Pippin; 10, Catshead; 11, Golden Noble; 12, Stirling Castle; 13, Lady Henniker; 17, Castle Major.—*F. P. H.* 1, Marguerite Marillat; 2, Louise Bonne of Jersey; 3, Josephine de Malines; 4, Beurré Hardy; 5, Vicar of Winkfield; 6, Comte de Lamy; 7, Marie Louise; 8, Bellissime d'Hiver; 9, Beurré Diel; 10, Golden Reinette; 11, Cox's Orange Pippin; 12, Broad End; 13, Cullen; 14, Bramley's Seedling; 15, Aromatic Russet; 16, Flower of Kent; 17, Leon Leclerc de Laval.—*A. C.* 1, Devonshire Quarrenden; 2, Bismarck; 3, Duchess's Favourite; 4, Crown Apple; 5, Lord Grosvenor; 6, Lemon Pippin; 7, Northern Greening; 8, Old Hawthornden; 9, Cox's Orange Pippin; 10, Tower of Glammis; 11, Bramley's Seedling; 12, Catshead; 13, Stirling Castle; 14, Warner's King; 15, Lord Derby; 16, Hanwell Souring; 17, Washington; 18, Worcester Pearmain; 19, Lord Grosvenor; 20, Keswick Codlin; 21, Lane's Prince Albert; 22, Dean's Codlin; 23, Lane's Prince Albert; 24, Ecklinville; 25, Seedling Blenheim; 26, Newton Wonder; 27, Ribston Pippin; 28, Lemon Pippin.

[Owing to great pressure on our space we are compelled to hold over many names of fruits until the next issue.—Eds.]

Narcissus Bulb Diseased: *G. R.* Of the two bulbs received the one with the decayed base is affected with eelworm. To free the bulbs of this pest it is necessary to soak them in warm water at a temperature of 110° F. for three hours. It is essential that the water be kept at this temperature throughout the soaking period, which is an extremely difficult matter unless an efficient apparatus is employed. If the bulbs are not of costly varieties it would be advisable to burn all which are soft and plant only those which are hard and sound. Care should be taken to plant the bulbs on ground which has not previously carried a diseased crop of bulbs. Even if you are in a position to carry out effectually the hot water soaking, it is claimed that if performed at this time of the year the heating has a decided retarding effect on the growth of the bulbs in the spring. The other bulb (evidently a specimen of the var. Victoria) is what is commonly known as a "breeder," owing to the abnormal production of "offsets." The variety Victoria is particularly prone to this formation of numerous small bulbs, evidently at the expense of the mother bulb, and the cause is obscure. Such bulbs when planted with the offsets attached produce an abundance of foliage with usually not more than one flower.

Stoneless Grapes: *W. E.* The stoneless condition of your Muscat Hamburgh Grapes is due to a shortage of lime or phosphates, perhaps both, and although the other varieties may appear satisfactory at present, they would not continue so Muscat Hamburgh is one of the most difficult of Grapes to cultivate, and suffers first. Give the border, as soon as possible, a dressing of newly slaked lime (brown lime for preference, as it is stronger than white), ½-bushel to the perch, and 6 or 8 lbs. of steamed bone flour. Fork these ingredients in as deeply as possible without disturbing many of the roots. A week or two before the flowers expand apply a little sulphate of ammonia to the border. One pound to the perch is a full application, and must not be exceeded at any one time. Apply sufficient water to dissolve the sulphate, but not a full watering until a day or two later. Your vines are planted inside, but it is very probable the roots are not all there. Dig a trench, if there is nothing to prevent it, 3 or 4 ft. away from the house and sever any roots that may be found. If these are numerous, give the retained portion a similar dressing to that recommended for the inside border, not forgetting to do the same with the soil which is returned to the trench. Whenever there is occasion to sever roots it should be done as soon as possible after the primary leaves change colour.

Communications Received.—A. J. S.—H. H.—W. A.—W. R.—A. F.—J. J. S.—A. W. S.—H. L.—G. H.—W. G.—J. E. R. N.—A. W. T.—P. W. S.—J. T.—A. H.—E. M. S.—R. L.—Adam—Sussex—Miss M.—J. H. M.—A. F.—W. T.—F. J.—C. H.—P and R.—E. H. M.—W. W.—W. H.—G. B.—H. M.—E. J. S.—B. Nursery, Ltd.—J. G. B.—E. F.—E. A. H.—D. W.—M. B.—W. G.—F. W. C.—E. F. T.

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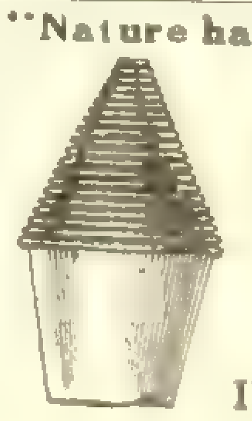

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MARKETS.

COVENT GARDEN, November 12.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.

Plants in Pots, &c. : Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.)	
Asparagus plumosus	12 0–15 0	60's	9 0–12 0
—Sprengeri ..	12 0–18 0	72's	7 0– 9 0
Aspidistra green	48 0–72 0	Erica nivalis—	
Cacti per tray 12's. 15's ..	5 0– 6 0	48's	24 0–42 0
Chrysanthemums 48's per doz. ..	18 0–24 0	60's	15 0–18 0
Cyclamen 48's per doz.	24 0–30 0	72's	5 0–10 0
Erica gracilis—48's per doz. ..	15 0–30 0	Marguerites white	18 0–24 0
		Palms Kentia ..	24 0–36 0
		—— 60's	15 0–18 0
		— Cocos	24 0–36 0
		Solanums, 48's per doz.	15 0–21 0

Ferns and Palms : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis, in variety, 48's	12 0–18 0
— elegans ..	15 0–18 0	— 32's	24 0–36 0
Asplenium 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ..	5 0– 6 0
— nidus 48's ..	12 0–15 0	— small 60's ..	4 0– 4–6
Cyrtomium 48's	10 0–15 0	— 72's per tray of 15's	3 6– 4 0

Remarks.—Ferns and Palms are now offered in larger quantities and all sizes. Erica gracilis and E nivalis appear to be finishing, the supply being very limited. Cylamens, Chrysanthemums and Solanums are the leading subjects among other plants.

Vegetables : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans Guernsey, per lb.	1 6– 2 0	Parsnips, per bag	11 0–12 0
Beets, per bag ..	10 0–11 0	Parsley, per doz. bunches ..	3 0– 4 0
Cabbage, per doz.	3 0– 4 0	Potatos, per cwt.	12 0–12 0
Carrots, per bag	9 0–10 0	Radishes, per doz. bunches ..	1 6– 2 0
Cauliflower, per doz.	6 0– 8 0	Spring Onions, per doz. bunches ..	5 0– 7 0
Celery, per fan, (12 heads) ..	4 0– 5 0	Sprouts, per bag 28 lb.	8 0–10 0
Cucumbers, per doz	9 0–15 0	Tomatos, English, per doz. lbs. ..	6 0–10 0
Garlic, per lb. ..	1 3– 1 4	—French	3 0– 4 0
Herbs, per doz. bun.	4 0– 6 0	—Outdoor Jersey	2 0– 5 0
Mint, per doz bun.	9 0–12 0	Turnips, per bag	8 0–10 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Watercress, per doz	0 9– —
Mushrooms, per lb.	4 0– 5 0		
Onions, per cwt.	9 0–10 0		

Fruit : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)		Aubergines, pr. doz	2 0– 3 0
—Allington Pippin	4 0– 6 0	Bananas, singles	30 0–45 0
—King of the Pippins per ½ bus.	5 0– 7 0	Grapes Alicante	1 0– 1 6
—Cox's Orange Pippin per ½ bus.	6 0–12 0	—Special per lb.	2 0– 2 6
—Lord Derby	5 0– 7 0	—Gros Colmar ..	1 6– 2 0
—Warner's King, per bus. ..	6 0– 7 0	—Special	2 6– 4 0
—Lane's Prince Albert, per bus.	6 0– 8 0	—Almeria per barrel	30 0–45 0
—Bramley's Seedling per bus. ..	6 0– 8 0	—Cannon Hall ..	2 6– 7 0
—Blenheim Pippin per bus. ..	10 -12 0	—Muscat, per lb.	2 6– 6 0
—Newton Wonder	6 0– 8 0	Lemons 300's	38 0–45 0
—Nova Scotian—Blenheim Pippin Nos. 1 and 2 ..	30 0–34 0	Nuts—Brazils (new) per cwt.	125 0–130 0
—Ribston Pippin	30 0–34 0	Cob Nuts, per lb.	1 3– 1 4
		Walnuts, English singles	0 8– 0 9
		doubles	1 0– 1 6
		Pears, English per ½ bus.	
		—Doyenne du Comice	12 0–20 0
		Pineapples each ..	2 0– 6 0

Remarks.—The main feature during the past week has been the heavy quantities of English Apples available. Considering the large supplies, trade must be considered fair, and prices, while low for medium and common samples, have been firm for well-packed and graded consignments of good fruit. English Tomatos are finishing, and the new crops are in good demand. Teneriffe Tomatos are arriving in good condition. The improvement in trade for hot house Grapes is well maintained, and prices are firm all round. Heavy shipments of British Columbian Apples are due to arrive, and are expected to arrive in good condition. Pines are also expected this week-end. Guernsey Beans are in firm request and prices show a slight advance. Most green outdoor vegetables remain in short supply, and prices are consequently high. Fewer Potatos are offered, and prices show an advance on those ruling last week.

Cut Flowers, &c. : Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea White, per doz. bun. ..	15 0–18 0	Orchids—Cypripediums per doz.	6 0– 8 0
Carnations per doz. blooms, best American var.	6 0– 9 0	Pelargonium, double scarlet, per doz. bun. ..	8 0–10 0
Chrysanthemums—		— white, per doz. bunches ..	6 0– 9 0
— White, per doz. blooms ..	4 0–10 0	Physalis, per doz. bunches ..	12 0–18 0
— Yellow „ ..	4 0–10 0	Richardia (Arums), per doz. blms.	18 0–24 0
Pink „ ..	4 0–12 0	Roses per dozen blooms—	
— White per doz. bun.	24 0–31 0	— Liberty ..	6 0–10 0
— Coloured „	24 0–30 0	— Melody ..	6 0–10 0
Gardenias, per box special ..	12 0–	— Mme. Abel Chatenay ..	6 0– 9 0
ordinary ..	5 0– 6 0	— Ophelia ..	9 0–12 0
Heather, white — —per doz. bn.	10 0–12 0	— Richmond ..	5 0– 8 0
Lapagerias, per doz. blooms ..	5 0–6 0	— Sunburst ..	8 0– 9 0
Lilium longiflorum, per bunch ..	21 0–25 0	— White Crawford	– 6 0
Lilium speciosum album per bunch	6 0– 8 0	—Roman Hyacinth per doz. spikes	4 0– 5 0
— rubrum per bun	7 0– 8 0	Stephanotis 72 pips	6 0– 7 0
Michaelmas Daisies in variety ..	6 0–12 0	Stock Dbl. White	
Orchids per doz. :		Violets Single large per doz. bun.	10 0–15 0
— Cattleyas ..	24 0–30 0	— Ordinary ..	6 0– 9 0

Remarks.—The conditions in this department are similar to those mentioned last week. Carnations during the past week have been insufficient for the demand, and prices are still high for best blooms. Roses are also lessening in quantity, and prices are advancing; the principal sorts are Madame Abel Chatenay, Lady-love, Melody, Sunburst, Molly Crawford, 'Liberty, and Richmond; the best blooms of these sorts are selling from 8s. to 10s. per dozen blooms. The supply of all Chrysanthemums is very limited. The principal white blooms offered are those of Moneymaker, Mrs. Roots, and W. Thorpe. Some fine blooms of Ivy Gay (pink) are now offered. Bronze and yellow blooms are a very short supply. Bunch spray and white flowers are only of medium quality Single varieties are gradually increasing in quantity, disbudded blooms of red, pink and yellow sorts being most attractive. Violets, during the past week, have been very scarce; no doubt owing to the severe weather. Cut Roman Hyacinths are now offered in larger quantities and prices are easier. Richardias (Arums) and Liliums, such as longiflorum and speciosum rubrum, are selling freely at high prices, while L. s. album is unobtainable. Amongst foliage Smilax is now a better supply. Asparagus plumosus and A. Sprengeri appear sufficient for the demand, as also is Maiden Hair Fern. The first lot of French Parma Violets reached the market to-day.

THE WEATHER.

THE WEATHER IN SCOTLAND.

The notable feature of the past month is again the small amount of rain recorded. A total of 1.60 inch is considerably below the average for October, and of this total 1.16 inch fell between the 22nd and the last day of the month. The rainiest day was the 22nd, with 0.40 inch, and the number of "rain days" 9. Of bright sunshine we had 106.5 hours, an average of 3.4 hours per day and a percentage of 27.9; there were only 4 sunless days. With a mean of 30.14 inches the barometer varied from a highest of 30.56 inches on the 7th to a lowest of 29.36 inches on the 13th. Temperature was about normal, the mean being 45°, with a mean maximum of 52° and a mean minimum of 38°. The highest maximum of 66° was on the 6th, and the lowest maximum of 29° on the 25th, while the lowest maximum of 41° and the highest minimum of 54 degrees were on the 28th and 5th respectively; the mean range is thus 14° and the absolute range 37°. On 3 nights the temperature fell below the freezing point of water. On the grass the mean minimum was 34° with a lowest of 23° on the 25th; there were 9 nights of ground frost. At 1 foot deep, with some fluctuations, it fell from 51° to 41°. In the screen the dry and wet bulb thermometer showed means of 46.2° and 44.2°, giving, a relative humidity of 85 per cent. There was a slight fall of snow on the 28th. A brilliant display of Aurora was observed on the evening of the 1st, and several rainbows from the 12th to the 29th. While the prevailing winds were from the south and west, northerly winds were frequent, and notably towards the end of the month. There was a gale on the 26th. *James Malloch, Director of Studies, Training College Gardens, Kirkton-of-Mains, near Dundee.*

GARDENING APPOINTMENTS.

Mr. J. K. Hoare, for twelve years Gardener to Col. Colin Campbell, Stanmer Park, Port Regis, and Doddington Park, as Gardener to Baron de Tuyll, Little Sodbury Manor, Chipping Sodbury, Gloucestershire.

Mr. F. Skinner, for the past nine months (since demobilisation) temporarily Gardener to Capt. H. Wheler, Ospringe Place, Faversham, as Gardener to E. G. Neame, Esq., Fairbrook, Faversham, on the return of Mr. T. Newport to Ospringe Place, from the Salonica Army. (Thanks for 2s. for R.G.O.F. Box.—Eds.)

Mr. L. G. Palmer, for the past 20 months Gardener at Bere Court, Pangbourne, and previously Foreman at Brocket Hall, as Gardener to Lady James-Douglas, Harwood Lodge, Newbury.

Mr. H. E. Jolly, for the past five years with H.M. Forces, previously for seven years Gardener to Joseph Hood, Esq., Broomfield, Whyteleafe, Surrey, as Gardener to J. Wild, Esq., Shord Hill, Kenley, Surrey. (Thanks for 2s. 6d. for R.G.O.F. Box.—Eds.)

Mr. J. Hextall, as Gardener to J. E. Pilgrins, Esq., The Spinneys, Wood House, nr. Loughborough, Leicestershire.

Mr. A. W. Mitchell, for the past 5½ years Gardener to F. Lane, Esq., Weybourne Hall, Holt, Norfolk, as Gardener to the same gentleman at Pickenham Hall, Swaffham, Norfolk. (Thanks for 2s. 6d. for R.G.O.F. Box.—Eds.)

Mr. J. Slater, for the past nine months Gardener to A. Devine, Esq., Northwood Park, Winchester, as Gardener to Sir F. Hervey Bathurst, Somborne Park, Stockbridge, Hants. (Thanks for 1s. for R.G.O.F. Box.—Eds.)

Mr. H. Jones, as Gardener to F. Alexander, Esq., at Ogbeare Hall, North Tamerton, near Holsworthy, Devon.

Mr. D. MacGregor, for the past three and a half years with His Majesty's Forces, and previously for six and a half years Gardener to the Right Honourable J. Parker-Smith at Jordanhill and Linburn, Midlothian, as Gardener to D. Johnstone Smith, Esq., Ardardan, Cardross, Dumbartonshire.

Mr. W. J. Short, for more than three years temporary Gardener to the Earl of Jersey, Middleton Park, Bicester, and for 12 years previously at Freeland House, Woodstock, as Gardener to H. J. Reckett, Esq., Little Green, Compton, nr. Petersfield.

Mr. A. Ranger, prior to joining the Colours, for the past three years Gardener to the late Henry M. Weston, Esq., West Hersley Place, Leatherhead, Surrey, as Gardener to J. Duffy, Esq., Sylvan Mount, Woldingham, Surrey.

Mr. J. Roberts, after serving with H.M. Forces, and previously Foreman at Oakley Park Gardens, Eye, Suffolk, as Gardener to C. H. Lomax, Esq., Grove Park, Yoxford, Suffolk. (Thanks for 3s. for R.G.O.F. Box.—Eds.)

Mr. H. Bound, for three years with His Majesty's Forces, and previously Outside Foreman to Mr. Doxat, Wood Green Park, Hertfordshire, as Gardener to Viscount Gladstone, Dane End House, Ware, Herts. (Thanks for 2s. for R.G.O.F. Box.—Eds.)

Mr. Thos. Ryder, for eleven years Gardener to Col. Courage, Sutton Manor, as Gardener to W. J. Hornsey, Esq., Middleton House, nr. Whitchurch, Hants.

Mr. A. J. Smith, for the past seven years Gardener to Mr. T. R. Quarrell, Brown Heath, Droitwich, and previously for five years Foreman at Weston Park Gardens, Shifnal, as Gardener to Captain Van-Bergen, Ferney Hall, Onibury, Salop.

Mr. C. Turner, for the past three and a half years with His Majesty's Forces, previously at Wakehurst Place, Ardingly, Sussex, and for three years General Foreman at Hollycombe Gardens, Liphook, as Gardener to E. A. Cotton, Esq., Forest Mere, Liphook, Hants.

Mr. H. G. Worsfold, for nearly three years with His Majesty's Forces, and previously Gardener to Sir Thomas Pink, as Gardener to S. A. Peto, Esq., Downs Court, Sandwich.

Mr. A. Williams, for more than two years Gardener to Geo. A. Kessler, Esq., New York Lodge, Bourne End, and previously for six years at Thornton Hall, near Buckingham, as Gardener to Major E. Hebbert, Ashby St. Ledgers, Rugby. (Thanks for 2s. for R.G.O.F. Box.—Eds.)

Mr. A. J. S. Smith, previously Gardener to Sir Charles Henry, Bt., M.P., Parkwood, Henley-on-Thames, as Gardener to G. Coleman, Esq., Northamber, Godalming, Surrey.

Mr. G. Coombs, for four years with His Majesty's Forces and previously for seven years Foreman to Mrs. Ackroyd, Mrs. Farewell, as Gardener to Mrs. Pinerscroft, Burnham, Buckinghamshire.

Mr. James M. Morton, for the past sixteen years Gardener to the Right Hon. The Earl of Durham, at Harraton House, Spring, nr. Newmarket, as Gardener to the Right Hon. The Earl of Durham, Lambton Castle, Fence Houses, Durham. (Thanks for 5s. for R.G.O.F.—Eds.)

Mr. T. Seymour, for the past three years with His Majesty's Forces, and previously Gardener to Mrs. Hartree, Havering, Tunbridge Wells, as Gardener to A. H. Chaytor, K.C., Iridge Place, Hurst Green, Sussex.

Mr. Wm. B. Burchill, for the past seven years Gardener to the Hon. Mrs. Wynn, Rûg, Corwen, North Wales, as Gardener to W. M. Killick, Esq., Hankelow Court, near Audlem, Cheshire. (Thanks for 2s. for R.G.O.F. Box.—Eds.)

CATALOGUES RECEIVED.

Hillier & Sons, 95, High Street, Winchester.—Planters' Guide and Catalogue of Trees and Shrubs, Fruit Trees, Roses.

Kent and Brydon, Darlington.—Bulbs and Plants.

W. Wells and Co., Merstham, Surrey.—Chrysanthemums and Perpetual Flowering Carnations.

SITUATIONS VACANT.

Twenty words (or three lines including headline) **3s.**, *and* **6d.** *for every succeeding eight words (or line) or portion thereof. Fee for having replies addressed to this office,* **6d.**

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

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PRIVATE.

SOMERSET COUNTY COUNCIL.

THE AGRICULTURAL INSTRUCTION COMMITTEE of the Somerset County Council invite applications for the appointment of HORTICULTURAL SUPERINTENDENT.

Applicants must have a sound, scientific and practical knowledge of all branches of Horticulture, and be capable of organising the whole of the Horticultural Education in the County, including Poultry-keeping and Bee-keeping. Knowledge of these two latter subjects not essential but desirable. Preference will be given to an applicant who has been on military service.

Commencing salary £350 per annum and travelling expenses

Applications stating age and full particulars of experience accompanied by copies of not more than three recent testimonials to be delivered not later than 1st December, 1919, to:—

THE COUNTY AGRICULTURAL ORGANISER,
5, Graham Road,
Weston-super-Mare.

WANTED, HEAD GARDENER or LADY to work large, well-stocked Garden on business lines; early forcing of choice Flowers, Fruit, Vegetables, under glass; mushroom expert.—References, terms, to Mrs. GEOGHEGAN, Bert House, Athy.

GARDENER (SINGLE-HANDED), experienced, required immediately; wages 35s. and good cottage.—Major YEATMAN-BIGGS, Longhall, Stockton, Codford S.O., Wilts.

WANTED, SINGLE-HANDED GARDENER (with help); married (no children); understand Vines, Peaches, also heating appartus for House.—State wages, with house and vegetables, to Mrs. SANDEMAN, Crickhowell, South Wales.

WANTED, experienced WORKING GARDENER for Garden and Nursery, also wife and daughter for household duties; comfortable house, all found. Apply with references and wages required to J. S. DOIG, Nettleton Lodge, Caistor, Lincolnshire.

WANTED, Married Man as KITCHEN GARDENER.—Apply, stating wages, references, etc., to J. H. KEAT, The Gardens, Upton House, Banbury.

WANTED, UNDER GARDENER (single) Kitchen and Flower Garden.—Apply, Mr. WILFRID THOMAS, "Eryldon," Caswell Hill, Glam.

FOREMAN (SINGLE). — Wanted, INDOOR FOREMAN with thorough knowledge of Carnations, Orchids, Fruit, etc. Good wages (with bothy) to competent man. Also JOURNEYMAN (single).—Apply, stating experience and wages required, to Mr. H. G. SMALL, The Gardens, Bookham Grove, Surrey.

WANTED, JOURNEYMAN, chiefly for Outside; wages 33s. per week, bothy, etc.—Apply, T. CRADDUCK, Middleton Park, Bicester, Oxon.

WANTED, good JOURNEYMAN for Plant Houses; must have first-class references from Head Gardener; wages 35s. per week, bothy, milk and vegetables; 1 o'clock Saturdays.—F. CAPP, Nostell Priory Gardens, Wakefield.

WANTED, immediately, JOURNEYMAN for Glasshouses, to live in bothy; Carnations a speciality.—Reply, LOGIE-PIRIE, Tottingworth Park, Heathfield, Sussex.

WANTED, early in December, TWO JOURNEYMEN, with good experience in Fruit and Plants under Glass; wages 35s. per week. Also an IMPROVER; wages 25s. to 30s., according to experience, under a good Foreman; duty every third week; 6s.; good bothy, milk and vegetables; full particulars of experience to F. W. GALLOP, Lilford Gardens, Barnwell, Peterborough.

JOURNEYMAN required for Inside and Out; bothy.—Write full particulars, wages required, to Mr. HEATHER, The Gardens, Clarendon Park, Salisbury, Wilts.

WANTED, JOURNEYMAN (Inside).—State experience and wages required, with bothy, vegetables.—J. PEPLOW, Compton Verney Gardens, Warwick.

WANTED JOURNEYMAN (Inside); good general knowledge Fruit and Plants. Please state age, wages expected, with bothy, attendance and usual allowances.—Apply, A. R. RIX, The Gardens, Stanstead Park, Emsworth, Sussex.

WANTED immediately, JOURNEYMAN, experienced, Scotch preferred, for Inside and Out; duty every third week; 1 o'clock Saturdays; comfortable bothy.—Write, stating wages, references, etc., to D. LESLIE, The Gardens, The Elms, Spaniards Road, Hampstead Heath, N.W.

WANTED, active MAN for general Garden work; single (no bothy). Kindly state wages required. — W. JOHNSTONE, Bay Cottage, Codicote, Welwyn, Herts.

WANTED, MARRIED MAN, strong, experienced in Kitchen Garden and Pleasure Ground work and able to assist Inside when necessary; also take duty; good wages, cottage and garden; good references essential.—Apply, J. KNIGHT, Bowood Gardens, Calne, Wilts.

WANTED, a reliable MAN for the Houses; good general knowledge of Fruit and Plants.—State experience and wages (with bothy, milk and vegetables) to J. W. SHANN, Betteshanger Park Gardens, Eastry, Kent.

WANTED, two good, experienced MEN; one for Plant Houses, Carnations and Tomatos, and to act as SECOND GARDENER; other for Kitchen Garden and Pleasure Grounds; able to prune and tie Fruit Trees, Roses; wages 35s. and 33s. repectively, with bothy.—Apply, with references, to GARDENER, Aberpergwm House, Glyn-neath.

WANTED, three active YOUNG MEN for Gardens, one for Kitchen Garden, one for Lawns and Pleasure Grounds, and one to look after garden horse and to fill up time in gardens; wages 32s. 6d. per week, bothy, vegetables and attendance; 1 o'clock Saturdays.—Please write full particulars, age, etc., to G. F. HALLETT, Netherby Gardens, Carlisle.

WANTED, YOUNG MAN for the Orchid Houses.—Apply, with particulars, to J. W. FLETCHER, The Glebe Gardens, Sevenoaks, Kent.

WANTED, YOUNG MAN for Fruit and Plant Houses; 30s. week, bothy, etc.—SUNS, The Grove, Stanmore,, Middlesex.

WANTED, SINGLE MAN where three kept, for Pleasure Grounds and Kitchen Garden; room found. State age, salary expected, and particulars of past experience.—Address, H. S., 52, Kensington Court, London, W.

WANTED, LADY GARDENER with some experience of Gardening, Inside and Outside; wages 23s. 6d.; bothy, milk, and vegetables.—Apply, with full particulars, to ADDISON, Lyme Park, Disley, Cheshire.

WANTED, ODD MAN for House Garden or stables; care of one or two cows or charge of oil engine; wages 32s. per week; cottage and garden or lodge in.—Address, Sir C. FITZWILLIAM, Royal Mews, Buckingham Palace Road, London.

TRADE.

WANTED, LANDSCAPE FOREMAN.—Apply, stating salary required, to JOHN WATERER, SONS, AND CRISP, LTD., Bagshot, Surrey.

WANTED, WORKING LANDSCAPE FOREMAN under Landscape Manager; good Ground Man, to work from plans, and used to levels; permanent situation for suitable man; single preferred.—Write, with full particulars as to age, ability, salary required, to CARTER. PAGE & CO., LTD., 52/53, London Wall, London, E.C.2.

GOOD JOBBING GARDENERS required.—Apply WILLS and SEGAR, Royal Exotic Nursery, Onslow Crescent, South Kensington, S.W.7.

WANTED, early in the New Year, a thoroughly competent and experienced GROWER for Tomatos, Cucumbers and Grapes especially, and with a good general knowledge of Nursery work under Glass.—W. T. WRIGHT, F.R.H.S., The Nurseries, Pangbourne, Berks.

LANDSCAPE FOREMAN wanted, also learners; good prospects.—Apply, giving full particulars of experience, and copies of reference. state salary expected, to LAKELAND NURSERIES, Windermere.

WANTED, SINGLE MAN as GROWER; Tomatos, Cucumbers, and bedding; also Handyman for repairs.—Refs. and wages, to C. H., Box 24, 41, Wellington Street, Covent Garden W.C.2

WANTED, a MAN who thoroughly understands Pruning and can give his reasons for it; can also reshape bush trees when necessary.—Apply, APPLES, Box 2, 41, Wellington Street, Covent Garden, W.C.2

WANTED, IMPROVERS for Inside and Out. State full particulars of experience, age, wages, to V. N. GAUNTLETT and Co., Ltd., Japanese Nurseries, Chiddingfold, Surrey.

WANTED, SINGLE MAN for Cucumbers, etc.; must be used to his job and able to take charge.—Apply stating age, experience, wages required to W. RIX, Clifton Fruit Growers, York.

WANTED immediately, smart, up-to-date, pushing MAN to take sole charge of Garden, Seed, Bulb, and Sundry Departments; knowledge of Farm Seeds and Nursery Work preferred; owing to housing difficulties, preference given to single man; highest references essential.—Apply, stating age, references, and salary required, to L. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

PACKER and STOKER wanted at once.—State age, references, and wages required, to HASSALL AND CO., Orchid Growers, Southgate, N.14.

WANTED, where a large counter and order and trade is done, a thoroughly capable and energetic man as SHOPMAN; exceptional references required.—State age, experience, salary required, etc., to G. & W. YATES, LTD., 28, Market Place, Manchester.

CLERK WANTED with some previous experience in the Trade.—Apply by letter, giving full particulars, age, and salary required, BARR & SONS (Private), 11, 12 and 13, King Street, Covent Garden, W.C.2.

WANTED, an experienced FLORIST with also a knowledge of Plant Growing; must be expert in making up designs and in everything pertaining to Floral Art. State age, experience and wages to GARDENIA, Box 14, 41, Wellington Street, Covent Garden, W.C.2.

FLORIST wanted, high-class retail trade; North of England town.—Wanted, YOUNG LADY, good saleswoman, first-class designer, skilled in every particular; good wages and prospects.—D. L., Box 6, 41, Wellington Street, Covent Garden, W.C.2.

WANTED immediately, LADY FLORIST, competent, to manage good Floral business at Bradford.—References, etc., salary required, to WALTER ALLSOP, Bond Street, Leeds.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from Gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

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PRIVATE.

SIR FREDERICK FITZWILLIAM, Bt., highly recommends his late HEAD GARDENER (recently demobilised); thoroughly efficient in every branch, Inside and Out; good manager of men, with plenty of energy and initiative; could undertake reorganisation or alteration of gardens; capable of managing small estate if desired; age 37; 10 years as Head prior to enlistment.—ARTHUR HERBERT, Leigh Park Gardens, Havant, Hants.

MR. H. BURTON TATE recommends J. RYMILL as HEAD GARDENER; well understands all glass and outside work; 18 years' experience; age 35; married; recently demobilised;—Apply J. RYMILL, New House Cottage, Gnarlford, Great Malvern, Worcester.

MRS. BORLASE ADAMS, The Tower House, Slough, wishes to highly recommend her HEAD GARDENER to Lady or Gentleman requiring competent man; age 34; married (two children); demobilised.—W. ELKINS, 12, Brocas Street, Eton, Bucks.

GENTLEMAN can recommend late HEAD GARDENER; life experience; married (two children); good references; age 36; recently demobilised.—Apply, MARTIN, 7, Meadow Road, Southborough, Kent.

MRS. McCALMONT, Bushey House, Bushey, Herts, wishes to highly recommend ROBERT HALE, her Head Gardener; thoroughly experienced in all branches of the profession, management of Men, Land and Stock; estate sold.

GENTLEMAN highly recommends HEAD GARDENER, where competent man is required, for charge and upkeep of Garden or Estate; 30 years' practical experience in all branches, including poultry, pigs and cows; could take charge of electric plant, all running repairs; age 46; 10 and 15 years last situations as Head.—GARDENER, c/o Mrs. Watts, 130, Burnt Ash Road, Lee.

A. E. BARTON, Esq., giving up estate, wishes to highly recommend his HEAD GARDENER to any Lady or Gentleman requiring a thorough competent man; life experience in all branches.—GODDARD, Windlesham Park Gardens, Up-Down Hill, Camberley, Surrey.

ESTATE SUPERVISOR seeks position of trust; Garden, Farm, Woods, and all duties connected with the management of a large estate; excellent references.—W. M., c.o. W. J. King, Esq., 26, Castons Road, Basingstoke.

GARDENER (HEAD). — Scotsman, age 35 years; married (one child); thorough practical experience in all branches gained in large establishments, both England and Scotland; excellent references.—G.A., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD or good SECOND); life experience Inside and Out; excellent references; married; just demobilised.—Apply, ELLIS, 5, Bath Cottages, Southgate Road, Potters Bar, Middlesex.

GARDENER (HEAD) where three or four are kept; excellent references; experience in all branches; demobilised; married (one child).—F. WILTSHIRE, The Cottage, Great Burgh, Epsom Downs.

GARDENER (HEAD of three or four) seeks situation, with cottage; life experience all branches; good references; personal reference if required; age 34; married; demobilised.—G. ARNOLD, Rose Hill, Burnham, Bucks.

HEAD GARDENER requires situation where others employed; experienced all branches, good establishments; willing to work Gardens in accordance with the times, commercially if desired; age 40; married (one girl, 12).—BUTLER, The Laurels, Hampton-in-Arden.

GARDENER (HEAD or good SINGLE-HANDED) seeks situation; recently demobilised; married; age 33; experienced both Inside and Out; well recommended.—G. ANDERSON, 4, Woodlands Road, Tonbridge, Kent.

GARDENER (HEAD of three or four), late N.C.O. Instructor, Army Agricultural Schools, France, seeks situation; 16 years' practical experience, all branches; good references; age 31. — FISHER, Thirlestane, Althorpe Road, St. Albans, Herts.

GARDENER (HEAD), demobilised, seeks situation; life experience in large establishments; excellent references for cultivation of choice Fruit, Flowers and Vegetables; good decorator; married (no family); age 36.—WILSON, 47, Catherine Street, Westminster, S.W.1.

HEAD or good SINGLE-HANDED; practical life experience all branches; good references; age 45; married (no family at home).—WOOD, Cradhurst Lodge, Westcott, Dorking, Surrey.

GARDENER (HEAD) seeks situation; life experience; nine years' Head in Nobleman's family at Harlech, North Wales; excellent references.—THOMAS RICE, 29, Highfield Road, Berkhamsted, Herts.

GARDENER (HEAD) seeks re-engagement; 20 years' highest experience gained in good establishments, including, Orchids; keen, energetic; married (no family); excellent references; over 2½ years' service.—F. PERKINS, 101, Flax Road, Leicester.

GARDENER (HEAD of three or good SINGLE-HANDED); twenty years' experience gained in good establishments; experienced Vines, Peaches, Flowers, Vegetables, Land and Stock if required; age 36; married (no family); excellent references.—G. DALMON, Pulborough, Sussex.

GARDENER (HEAD) or GENERAL FOREMAN; demobilised soldier seeks re-engagement as above; good general all-round experience; also Electric Plant; well recommended.—W. PRITLER, 1, Mount Street, Ware, Herts.

GARDENER (HEAD) or GARDENER-BAILIFF.—The Earl of Donoughmore wishes to recommend his present HEAD GARDENER, who has had considerable experience in all branches, including land, stock and estate.—Apply, F. L. THURSTON, The Gardens, Chelwood Beacon, Uckfield, Sussex.

GARDENER (HEAD or superior SINGLE-HANDED); Vines, Peaches, and Outside Fruit speciality; married (no small children); good references; now disengaged; house essential; understands Electric Light plant.—MANSBRIDGE, 196, Crawley Road, Horsham, Sussex.

GARDENER (HEAD or good SINGLE-HANDED); life experience in all branches; good reference; married; just demobilised; age 32.—W. H. WEBBER, Sunnyside, Headley, Newbury, Berks.

GARDENER (HEAD) or good Single-Handed; life experience in Fruit, Flowers and Vegetables; Inside and Out; age 49; married, no family; can be well recommended.—ELLIS, Warfield Dale, Warfield, near Bracknell, Berks.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, Inside and Outside; marketing produce; abstainer; age 46.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

GARDENER (HEAD WORKING); life experience, all branches; energetic and skilful cultivator; highest class references; married; age 31; discharged sergeant. — BOOTH, 20, Sion Hill, Clifton, Bristol.

GARDENER (HEAD WORKING) seeks situation; all-round experience; highly recommended; married (no family); age 34.—BRIGHT, 8, Cape Road, High Cross, Tottenham, London, N.17.

GARDENER (HEAD WORKING); age 34; married; 15 years' practical experience, Inside and Out; just demobilised; good refs.—F. LAWRENCE, 13, Avondale Road, Masbro', Rotherham.

GARDENER (HEAD WORKING); first-class experience in Fruit, Flowers and Vegetables; Inside ond Out; Orchids and Carnations; 16 years Head; highly recommended; age 48; married; no family. HEATH, North Lodge, Mark Hall, Harlow, Essex.

HEAD WORKING GARDENER, thoroughly reliable and trustworthy desires re-engagement; disengaged through death; educated all branches gardening; personally recommended; excellent references; recently demobilised; age 41; married.—GARFORTH, West Lodge, Hadley Wood, Barnet.

GARDENER (HEAD WORKING where two or three are kept); 15 years' experience Inside and Out; good references; age 34; married (no family); understand electric light plant; just demobilised.—WALKER, The Ferns, Cropwell Bishop, Notts.

GARDENER (HEAD WORKING) where two or three are kept; life experience in all branches; excellent references; married (no family); age 30.—WEBB, 107, Hylton Cottages, Merstham, Surrey.

GARDENER (HEAD WORKING), where one or two under kept; life experience; 4 years last situation; age 35; married.—G. ASHTON, 8, Burcot's Cottages, near Abingdon, Berks.

GARDENER (HEAD WORKING); age 46; married (two children); life experience, 16 years as Head, 10½ as such with Lord Ampthill.—KING, Crabtree Cottage, near Warminster, Wilts.

GARDENER (HEAD WORKING); life experience gained in good establishments; can be well recommended; married when suited.—G. MOSS, 40, High Street, Highgate Village, N.6.

GARDENER (HEAD WORKING), Scotch, demobilised; life experience in all branches, Flowers, Fruit, Vegetables, Lawns, Rock Garden, and Electric Light Plant; good references; married (two children, 9 and 5); age 42.—DONALDSON, 5, High Street, Sandy.

GARDENER (HEAD WORKING), where four or more kept; 21 years' general experience, Inside and Out; good references.—B. W., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

HEAD WORKING GARDENER. — Lady Markham has much pleasure in recommending F. BENNETT as above, to any Lady or Gentleman requiring a thoroughly competent and trustworthy man; practical life experience gained in good establishments; 20 years Head; leaving through estate given up; married (no family).—F. BENNETT, Beachborough Park, Shorncliffe, Kent.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; thorough practical life experience all branches; several years' Head in good families; thoroughly reliable and highly recommended; married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) seeks re-engagement; practical life experience; three years Head last situation, previously five years as Foreman; excellent personal references; demobilised; age 32; married (no family).—T. REED, 14, Tudor Road, Reading.

HEAD GARDENER (WORKING). — Mr. BURFOOT, late Head of Ditton Hill Gardens (18½ years), seeks re-engagement with Lady or Gentleman requiring a life-experienced practical man in all branches, Inside and Outside; keen, energetic; age 46; married; very highly recommended.—28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD WORKING); Scotch; life thorough practical experience all branches, including Vines, Peaches, Carnations, Roses, Herbaceous Borders, Lawns, Flowering and deciduous Shrubs, Rock and Water Gardens, Hardy Fruit and Kitchen Garden, and the management of a well-kept establishment; can be confidently recommended by present employer; seven years Head present place; age 42; demobilised last January; married (one child).—Apply, LATIMER, Maytham Hall, Rolvenden, Kent.

GARDENER (HEAD WORKING), thorough practical experience gained in good gardens, both Inside and Out; Herbaceous Borders, Roses, Vegetables, etc., Hardy Fruit; age 36; good testimonials.—W. KING, The Gardens, Woodcote Grove House, Coulsdon, Surrey.

GARDENER (HEAD WORKING). — J. F. SYMONS-JEUNE, Esq., highly recommends late Head Gardener, Alfred Eyre; good knowledge of all kinds of Plants and Fruits, gained in first-class establishments; just demobilised; married ;age 35.—Address, EYRE, Runnymede House Gardens, Old Windsor.

GARDENER (HEAD WORKING or otherwise); good general experience; excellent references; abstainer; age 33; married (two children); demobilised. —W. FROST, Barden Road, Speldhurst, Tunbridge Wells, Kent.

GARDENER (HEAD WORKING); thorough practical experience with Vines, Peaches, Melons, early and late Forcing, Fruits, Flowers, Vegetables, Carnations, Violets, Chrysanthemums, Kitchen Gardens, and Pleasure Grounds; age 46; married (no family); please state wages.—JONES, c.o. A. Shaw, High Street, South Collingham, nr. Newark.

GARDENER (HEAD WORKING); life experience; good references; age 38; married (no family); disengaged.—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

GARDENER (HEAD WORKING); life experience in good establishments; good at Landscaping, and all branches, Inside and Out; understands electric light plant, oil engines and gas; would live in.—W. E. BAIGENT, 81, Stephens Road, Tunbridge Wells, Kent.

HEAD GARDENER (WORKING); life experienced, all branches, Inside and Out; highly recommended by all previous employers; 40; demobilised; no family.—VOLLER, c.o. Wright, Little Parndon, Burnt Mill, Essex.

HEAD WORKING GARDENER; thorough practical experience, all branches, Inside and Out; five and seven years' excellent references; married; age 43.—KIY, 56, Southwood Lane, Highgate, N.6.

GARDENER (good SINGLE-HANDED, or help given); practical life experience in all branches; married (no family); good references; recently demobilised.—GOODMAN, Castleacre, Swaffham, Norfolk.

GARDENER (SINGLE-HANDED or SECOND), age 38; married (one child); can be well recommended.—G. OSBORNE, Downe, Orpington, Kent.

GARDENER (SINGLE-HANDED or with help); good references; age 29; married (no family).—...NAGE, 20, Blakesby Avenue, Ealing, W.5.

AS SINGLE-HANDED; life experience in Fruit, Vegetable, and Rose Growing; some knowledge of Glass; demobilised, 2½ years abroad; age 37; married (little girl age 10).—CROPLEY, c/o H. Chapman, Esq., All Souls' College, Oxford.

GARDENER seeks situation (SINGLE-HANDED or where help given); 12 years' experience; demobilised; married (one child); state wages.—JOSEPH HAYTREE, North Lodge, Stockingford, Nuneaton, Warwickshire.

GARDENER, with over fourteen years' practical experience, desires situation; thoroughly understands Grapes, Peaches, Carnations, etc.; age ..; married.—G. DAWES, The Lodge, Well Green, near Lewes, Sussex.

W. TRATT, Holywell Park Gardens, Wrotham, Kent, can with confidence recommend ...CROFT as Second or good Single-handed; 14 years' experience; good references; disengaged 17th; age 32.

GARDENER (SECOND), Inside and Out, or Single-Handed; experienced; excellent references, age 29; married; Kent man.—PAGE, 58 Teviot Street, Poplar, London, E.14.

GARDENER (SECOND), Inside or Inside and Out; age 26; good experience; well recommended; single.—W. M., Box 5, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (SECOND), Inside and Out; experienced; excellent references; disengaged when suited; bothy preferred.—H. W. STANDING, Bramble Reed, Matfield, Paddock Wood, Kent.

FOREMAN (INSIDE) or good SECOND; experienced in Fruit and Plants; good references; age 31; single.—A. ELLARLY, Lockington, near Beverley, E Yorks.

FOREMAN (INSIDE or GENERAL); recently demobilised; life experience in all branches gained in first-class establishments; excellent references; age 34; single.—S. BARRETT, 76, Rose Street, Wokingham, Berks.

DEMOBILISED soldier seeks situation as FIRST JOURNEYMAN; Inside; age 28 years; nine years' experience, previous to war; bothy preferred.—H. SWANBOROUGH, Haines Hill, Twyford, Berks.

JOURNEYMAN, age 23, seeks situation, Inside; bothy; 5½ years' experience; good references, just demobilised.—All particulars to H. SHEPHERD, No. 10, Sand Hutton, near York.

JOURNEYMAN seeks situation Inside good establishment; seven years' experience; references; age 23; bothy.—W. INGLEDEW, Chevet Gardens, Wakefield, Yorks.

GROUNDSMAN.—Gardener seeks situation as Assistant Groundsman; able to drive motor mower; age 30; please state particulars, wages, etc.—F. W., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

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MANX MARVEL

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Mr. S. S. ADAM, *29th July*, 1919.

SIR,—Your "Manx Marvel" is rightly named; in all my fifteen years of experience I have never seen its equal. From a commercial point of view it is extra. "Manx Marvel" is at least a fortnight earlier than other varieties grown on this Island. On the 24th of this month I saw these Tomatoes, and each plant had 4 or 5 trusses on it, which were nearly all ripe, each truss bearing 16-20 Tomatoes, all a good colour, shape, and uniform in size. I do not doubt for a moment that trade growers will find this Tomato of great interest.

Yours truly, WM. LONG,
Head Gardener to Sir HALL CAINE.

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A New Tomato of exceptional merit, and of especial interest to trade growers. Yours faithfully, ARTHUR R. ATHEY,
Late of London Gardeners' Guild, R.H.S., Wisley.
Gardener to Lt.-Col. Wood, D.S.O., The Towers, Marown, I.O.M.

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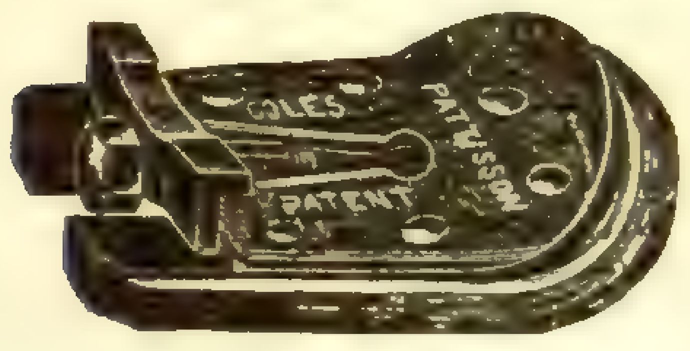

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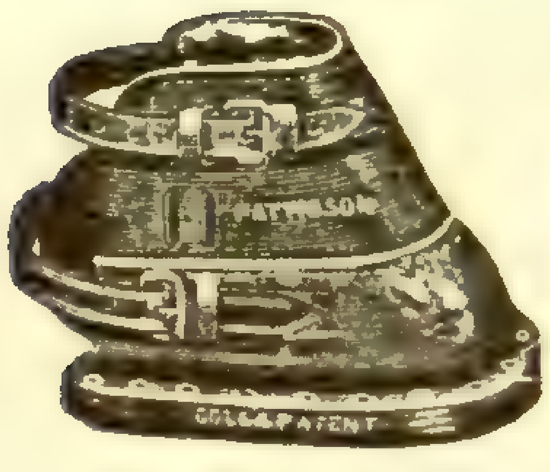

Fig. 2, A Quality.

Fig. 2, A or B Quality.

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(James Grieve x William Crump, see *Gardeners' Chronicle*, p. 227, Nov. 1, 1919).

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THE

Gardeners' Chronicle

No. 1717.—*SATURDAY, NOV.* 22, 1919.

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Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 41.7°.

Actual Temperature :—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday* November 19, 10 a.m.: Bar. 29.7; temp. 53°. Weather—Rainy.

The Spraying of Potatos Attacked by Aphis. A year or so ago it was pointed out in the Report of the Food Production Department on the results obtained by the spraying of Potatos with Bordeaux or Burgundy mixtures that when Potatos are growing under special and presumably unfavourable conditions spraying may result in damage to the crop.

From observations made during the last few years, and particularly during the past season, it is fairly certain that spraying after Aphis attack also results in harm rather than good. Therefore, although spraying as a measure of insurance is undoubtedly to be recommended in the generality of cases, it should not be undertaken when Potatos have been attacked by "fly." It may be that the dry season has been responsible for more than usually severe attacks by Aphis on Potatos, and it is to be hoped that this, rather than a growing preference of Aphis for this plant, is the cause of the prevalence of Aphis on Potatos during the past season. From analogy with the state of affairs in the United States, where Aphis attack is so serious as to necessitate the spraying of the Potato crop with an insecticide, and where the summer climate is drier than that obtaining in most summer seasons in the British Isles, it would seem probable that this year's visitation is indeed to be ascribed to the dry summer. It is curious that in America, where Bordeaux mixture is, we understand, combined with an insecticide spray fluid, no general injury appears to result from spraying; yet here, when Aphis-infested Potatos are sprayed with Bordeaux mixture alone, damage has undoubtedly occurred which cannot be attributed to the after-effects of the Aphis.

It is, of course, not surprising that a plant punctured at innumerable points should suffer when sprayed with solutions of copper sulphate. For, whereas, when the spray fluid is discharged on a sound plant it remains as a sort of investing armour on the surface, and does its beneficent work by destroying the spores of blight at the moment they are in the act of penetrating into the plant, when the spray solution is distributed over a plant perforated by large numbers of Aphis-produced punctures it may enter readily into the tissues of the leaf and stem and poison the cells thereof. The conclusions which should be drawn from these observations are not that spraying shall be abandoned, but that if a Potato crop is infested with Aphis effort should be directed to ridding the plant of this pest before spraying is done. It would be interesting to know how soon, after Aphis have been got rid of, spraying might be done without risk of damage to the crop; in other words, how long do the minute wounds caused by Aphis take to heal. It would also be useful in this connection to know in what the process of healing consists. Is it a mere drying and hardening of the perforated cells, or are minute barriers of cork formed? It is usually assumed that the former is the healing procedure, but, for our part, we are inclined to think that a wounded plant must be able, even in the case of minute wounds, to do what we know it can do in the case of larger wounds, that is, form a barrier impermeable to water and therefore prevent the ingress or egress of fluids. It would, therefore, be worth while for a microscopist skilled in histological methods to find out what chemical changes occur in the walls of cells bordering on such minute punctures as those formed by the attacks of Aphis.

Revival of the London Daffodil Show.—On the recommendation of the Schedule Sub-Committee of the Narcissus and Tulip Committee, the Council of the Royal Horticultural Society has agreed to the revival of the London Daffodil Show in 1920, on April 13. Certain members of the Committee will again make themselves responsible for the cash prizes, and the Council will give the medal awards. We understand there are sufficient funds in hand to provide all the money prizes next year. The schedule will be practically identical with the one published in 1917.

New Home for the Horticultural Club.—Every since it was known that a return to the Hotel Windsor, Victoria Street, Westminster, was impossible, the Committee of the Horticultural Club has endeavoured to obtain new and suitable quarters for the Club in Westminster. Efforts were unavailing until the suggestion was put forward that a room or rooms might be available in the Royal Horticultural Society's Hall. As a result of enquiries and negotiations final arranegments have been made for the use of No. 2 Committee Room as the headquarters of the club in the near future. It will also be possible to hold the monthly club dinners in the same premises, and the Lecture Hall will be available for lectures and conversazonies.

Kew Guild.—Kewites will be interested in learning that Mr. Arthur W. Hill has finished his term of office as Chairman of the Committee of the Kew Guild, and that Mr. Charles H. Curtis, a former president, has been unanimously elected Chairman for the next period of three years. Mr. Hill will become the next president of the Kew Guild.

Small Holdings in Scotland.—Mr. Munro, in a written answer to Major Mackenzie Wood in the House of Commons, states that up to October 31st the Board of Agriculture for Scotland had received from civilians 6.739 applications for new holdings and 4,750 for enlargement of existing holdings; and from ex-Service men 2,524 applications for new holdings and one application for enlargement. The figures quoted may be regarded as the present ascertained demand for small holdings; 92 discharged men have been settled on the land to date. It is expected that 200 additional men will be settled at Martinmas, though actual entry at that term may not be possible in all cases owing to difficulties in connection with buildings.

Sir David Prain, C.M.G.—The President and Council of the Royal Society have recommended Sir David Prain, Director of the Royal Gardens, Kew, for the post of treasurer of the Society.

Presentation to a Gardener.—Mr. William Cruden, who has been gardener at Castle Kennedy since 1887, when he succeeded Mr. Archibald Fowler, was on the 11th inst. visited at his house by representatives of the Bowlers' and Curlers' Clubs and other friends in the district and presented by Mr. John MacMasters, one of the oldest tenants on the estate, with £200 in Treasury notes as a token of esteem and regard. Mrs. Cruden was presented with a gold watch, suitably inscribed, by Mr. James Smith, Stranraer.

Loss of Lily Bulbs.—We understand that many thousands of Lily bulbs have been lost in a steamer which was sunk on its way to America from Japan. As there is a short crop of Lily bulbs in Japan this season this loss is likely to cause prices to rise beyond the present high rates and mean a shortage of white Lily flowers in this country, as shipments of bulbs may be diverted from the United Kingdom to help make good this loss in America.

Journal of Pomology.—A new publication, *The Journal of Pomology*, will be issued by Messrs. George Bunyard and Co., Ltd., of Maidstone. The editor is Mr. Edward A. Bunyard, F.L.S., and the object of the work is to encourage the study of fruit. It will be published quarterly, price 10s. per annum, or 3s. 6d. for single copies. The promoters state that the journal will not be conducted for profit, and if it succeeds in more than paying its way, the surplus will be devoted to its improvement. Literary contributions should be sent to Mr. Edward A. Bunyard, Allington, Maidstone, and subscriptions and business enquiries to Messrs. George Bunyard and Co., Ltd., Maidstone.

Agricultural Returns, 1919.—The yield of Wheat in England and Wales is estimated at 28¾ bushels per acre, which is 4 1-5 bushels less than last year, and 2 2-5 bushels below the average of the ten years 1909-18. The total production, from a smaller area, amounts to 7,979,000 quarters. Although this is fully 2½ million quarters less than last year (the highest on record) and about half a million quarters less than in 1915, this total is, apart from these two years, the highest since 1898, and nearly half a million quarters above the average of the last ten years. Barley has yielded 29 bushels per acre, or 3 2-5 bushels less than 1918, and nearly three bushels below average. The total production is 5,476,000 quarters or 600,000 quarters less than in 1918, and 310,000 quarters below the average; with the exception of 1915 and 1916, this is the smallest crop since official estimates were first collected in 1885. The production of Oats, although nearly 3,000,000 quarters less than in 1918 (the highest on record) is, except for that year, the highest since 1907; but the yield per acre is nearly six bushels less than in 1918, and nearly 4 bushels less than the average. Mixed or dredge corn, distinguished for the first time last year, shows a slightly increased total production, but the yield per acre is somewhat less. Beans have yielded 2¾ bushels to the acre less than the average and 4½ bushels less than last year and, although the area was increased this year, the production is 35,000 quarters less. Peas yielded nearly two bushels per acre above average. The hay crops were very light: the total production, 5,195,000 tons, being the smallest since 1893, and only about three-quarters of last year's crop, and two-thirds of the average of the last 10 years. Seeds' hay (Clover, Sainfoin, and grasses under rotation), from an area larger by about 55,000 acres, yielded nearly 330,000 tons less than in 1918, the yield per acre (23 3-5 cwts.) being more than 5 cwts. less than in 1918 and than the average; it is the lowest since 1896. The yield per acre of meadow hay (16 2-5 cwts.) is also more than 5 cwts. less than in 1918 and is the lowest since 1901; it is nearly 6 cwts. below the average.

Professor J. B. Farmer, F.R.S.—Gardeners, no less than biologists, will learn with pleasure that Professor J. B. Farmer—some time editor of this journal and an enthusiastic gardener—is the recipient of a Royal Medal awarded, with the approval of H.M. the King, by the President and Council of the Royal Society, for his notable work on plant and animal cytology.

The Jubilee of "Nature."—The permanent and honourable place which our contemporary, *Nature* has won for itself is recognised by men of science throughout the world, and this journal rejoices to join in the congratulations bestowed upon the Editor on the occasion of the Jubilee of *Nature*. The number in which this happy even is celebrated is enriched by contributions from many of the most distinguished veterans of science, and contains tributes of appreciation from the chief learned societies and from leaders in the many branches of science which *Nature* throughout the past 50 years, has done so much to foster.

Forestry Commissioners.—The Commissioners to be appointed under the Forestry Acts are as follows:—Lord Lovat (chairman), Director of Forestry, B.E.F., France, and member of Forestry Reconstruction Sub-Committee and of the Interim Forest Authority; Mr. F. D. Acland, M.P., chairman of the Home-grown Timber Committee, chairman of the Forestry Reconstruction Sub-Committee, and chairman of the Interim Forest Authority; Lord Clinton, formerly president of the Royal English Arboricultural Society and member of the Interim Forest Authority; Mr. L. Forestier-Walker, M.P.; Sir John Stirling-Maxwell (hon. secretary), formerly president of the Royal Scottish Arboricultural Society and member of the Forestry Reconstruction Sub-Committee; Mr. T. B. Ponsonby, member of the Interim Forest Authority; Mr. R. L. Robinson, member of the Interim Forest Authority, secretary of the Forestry Reconstruction Sub-Committee, and formerly head of the Joint Forestry Branches of the Board of Agriculture and Office of Woods; and Col. W. T. Steuart-Fotheringham, member of the Interim Forest Authority.

New Public Park at Guildford.—Foxenden Quarry, together with Allen House Gardens, Guildford, is being converted into a public park and pleasure ground. The site is one of great natural beauty, and includes the bowl of an old and long disused chalk quarry which is being converted into a Japanese garden. Other features of the new park are a Pyrus avenue, a formal garden and Lily pond, tennis courts and bowling green. The park is being laid out from plans submitted by Mr. H. Ascroft.

National Horticultural Society for Luxemburg.—A National Horticultural Society is being formed in the Grand Duchy of Luxemburg, under the auspices of, and with the hearty co-operation of, the Department of Agriculture. A preliminary meeting has already been held, called by Monsieur Jean Bintner, the horticultural representative of the Department of Agriculture, and it has been decided to amalgamate all the small horticultural societies and form, in that way, the nucleus of the National Society. The smaller societies will, however, retain in certain functions their independence, and a special branch is to be formed for amateur horticulturists. Luxemburg is a country excellently fitted by climate and formation for the production of first-class horticultural and agricultural produce, and is capable of supplying far more than her own needs in this respect. It is hoped by the formation of this new Society to give a great impetus both to trade and private enterprise, and periodical exhibitions, held under its auspices will both stimulate the efforts of those already interested and create interest among classes of people at present outside the gardening world. The educational side of the matter is not being overlooked, and leaflets, books, and periodicals are to be distributed broadcast. Special courses in different branches of gardening are also to be organised. Monsieur Jean Bintner, of Helmdange, is acting at present as secretary of the Society, a provisional committee for which has already been formed. He recently spent seven years in this country, and is, therefore, well acquainted with English methods of gardening and horticulture. He writes and speaks excellent English, and when giving us the above particulars he quaintly observes, "It (*i.e.*, the formation of the Society) seems to us one of the best remedies for squashing Bolshevism in the working class."

FIG. 118.—GLYPTOSTROBUS SINENSIS.
(*a*) Showing imbricated foliage only: From a native specimen. (*b*) From a specimen in the gardens at Leonardslee.

Changes at Reading.—In the issue for November 8 we announced that Mr. F. W. Macdonald had retired from the service of Messrs. Sutton and Sons, of Reading, after serving fifty years with the firm. Mr. Macdonald succeeded the late Mr. James Martin as superintendent of Messrs. Sutton and Sons' Flower Seed Grounds and Plant Houses at their Reading Nursery. The new range of plant houses was erected in the London Road, Reading, soon after the appointment of Mr. Macdonald, and these were devoted to the cultivation of Primulas, Cyclamen, Calceolaria and other florists' flowers which the firm has exhibited extensively at the Temple, Chelsea and other flower shows. Mr. Macdonald is succeeded by Mr. E. R. Janes, who has held the post of Horticultural Instructor and Lecturer at the Reading University College for the past three years. Mr. Janes was formerly gardener to Lord North at Wroxton Abbey, Banbury, and whilst at Wroxton Abbey he was the contributor of the weekly article on the kitchen garden to *The Gardeners' Chronicle*.

Horticultural Exhibition in Paris.—After an interval of five years the French Société Nationale d'Horticulture has resumed the holding of its fine series of autumn shows of Chrysanthemums and fruit under the great tent and in the gardens of the Cours la Reine at Paris. Although the recent show, held from October 27 to November 7, was not of the magnitude of the exhibitions of previous times, it was, nevertheless, extremely attractive and interesting, and the exhibits of fruit were in particular both numerous and excellent in quality. As indicative of the enterprise of French railways, the exhibit put up by the commercial branch of the Paris—Lyon—Mediterranée is worthy of special notice and might well serve as a hint to the railway companies of this country. It consisted in a collective exhibit of the produce raised by growers in the regions served by the railway, and served incidentally to demonstrate the great variety of the products of French soil, ranging from Oranges, Diospyros, Pomegranates and Figs of the Mediterranean region, to the more commonplace fruits characteristic of more temperate districts. Another exhibit of interest alike to French and English visitors was that of English varieties of Potatos staged by M. Georges Truffaut. No fewer than 30 varieties of Chrysanthemums received certificates of merit. Among the most interesting varieties were:—Ami Paul Labbé, brownish red; Chrysanthémiste Paul Oudot, a fine yellow brown; Mme. Paul Labbé, delicate rose; Suzanne Ruffier, fine rose; Liége, a fine delicate rose; and Bruxelles, a bright yellow seedling raised by MM. Vilmorin Andrieux and Co. Messrs. Vallerand showed a striking tuberous-rooted Begonia named Fournaise, with large, double, bright red flowers. Another noteworthy plant was Mahonia Aquifolium Moseri exhibited by Messrs. Moser and possessing the meritorious quality of bearing throughout the year bright, red tinted foliage. The first "grand prix d'honneur" was awarded to Messrs. Vilmorin Andrieux and Co., and the second to Mr. Laveau for a fine exhibit of Chrysanthemums.

FIG. 119.—TAXODIUM DISTICHUM VAR. IMBRICARIUM. Form with closely appressed leaves.

TREES AND SHRUBS.

NOTES ON TAXODIUM AND GLYPTOSTROBUS.

TAXODIUM and Glyptostrobus belong to two distinct genera, but they are often confused—especially it will be found that the American Taxodium distichum var. pendulum is being grown in error under the name of the Chinese plant, Glyptostrobus heterophyllus. These are the best known names, but the correct designations are—Taxodium distichum var. imbricarium, Sargent. and Glyptostrobus sinensis, Henry.

With good specimens from adult plants there is little difficulty in separating the two, and when growing side by side they can easily be distinguished, but if small twigs are taken from immature plants it may be difficult, or impossible to do so.

The Chinese plant (Fig. 118), has many synonyms:—

Glyptostrobus sinensis, Henry.
Glyptostrobus heterophyllus, Endlicher.
Taxodium heterophyllum, Brongniart.
Thuya pensilis, Staunton. (also Lambert.)
Thuya liniata, Poiret.
Juniperus aquatica, Roxburgh.
Cupressus sinensis, Brongniart, 1833.

FIG. 120.—TAXODIUM DISTICHUM VAR. IMBRICARIUM. Form with relatively spreading leaves.

The American plant has nearly as many:—

Taxodium distichum var. imbricarium, Sargent.
Taxodium distichum var. pendulum, Carrière.
Taxodium ascendens, Brongniart.
Taxodium sinense, Gordon.
Glyptostrobus pendulus, Endlicher.
Cupressus disticha var. imbricaria, Nuttall, 1818.

The leaves of Taxodium distichum var. imbricarium are closely appressed to the deciduous twigs, which in my plants are erect, but which are said to be sometimes pendulous—(see Figs. 119 and 120).

The ordinary form of deciduous Cypress (Taxodium distichum), (Fig. 121), is well known but there is a variety with foliage similar to the type that has branches of a weeping habit. This is often called in nurseries "variety pendulum." This name, however, belongs to another plant.

In my collection I have labelled this, "Taxodium distichum, pendulous variety." Another variety is mucronatum."

The tree of this form, at Santa Maria del Tule, near Oaxaca, Mexico, is one of the most remarkable in the world. Its girth at 6 ft. from the ground is 154 ft., and it is 120 ft. high. This variety has the leaves pectinately arranged as in the type, but they are more persistent. It is tender in England.

There are few living plants of the Chinese species in Great Britain; in most gardens it is the American species which is grown in error for it.

In Elwe's and Henry's great work on the *Trees of Great Britain and Ireland*, page 172, there are mentioned plants growing at Castlewellan and at Kew. The Castlewellan plant no longer exists, and the photograph (page 17) in the book of the Castlewellan plants, does not represent the Chinese species. The Kew plant in the Temperate House is in the young stage with pectinate foliage.

On the same page (172 in Elwe's and Henry) there is a reference to a figure of the Chinese plant under the name of Thuya pensilis in Lambert's *Pinus*. Lambert, however, does not give a figure, only a short description.

A photograph of a fruiting branch, from a native specimen, showing cones and the two kinds of foliage, is given at page 71, Vol. III., in H. Clinton-Baker's fine work, *Illustrations of Conifers.*

There are also three text figures in *Freiland-Nadelhölzer*, by Graf Silva Tarouca, showing cone and the two forms of foliage.

In the adult state the Chinese plant has the foliage in two forms: In one the leaves are arranged in a spiril, and spreading; in the other the leaves are closely imbricated. In the young state the arrangement is pectinate. See Fig. 118 (b), where both kinds of foliage are seen on one branch.

There is a good figure of the American plant under the name of Glyptostrobus pendulus in the *Botanical Magazine*, tab. 5603, but the habitat is erroneously stated to be China. This synonym is unfortunate, and has no doubt helped the confusion.

The twigs of these specimens of Glyptostrobus are closely imbricated (see Figs. 122, 123, and 124.) I have never seen the twigs of Taxodium similarly imbricated, but it may be noted that the twigs of Glyptostrobus sinensis bearing the spreading leaves are very similar to the deciduous twigs of Taxodium.

The Glyptostrobus from China is rather tender, a plant lived here for twenty years but did not thrive, and died last spring. *Edmund G. Loder, Leonardslee, Horsham.*

ZANTHORHIZA APIIFOLIA.

LOVERS of autumn-colouring in plants should make a note of this interesting little shrub. A good sized batch of it growing here is, at the time of writing, a very charming sight. The outermost leaves are of a deep, rich claret colour, and from these, through to the less-exposed leaves, the tone passes through gradually lightening shades of this colour, with a tinge of bronze, to the palest green, the effect being extremely good and pretty. A point worthy of notice is that the foliage of this shrub does not fall so quickly as that of many other subjects. It is a low growing shrub, from 2 ft. to 3 ft. high, pinnately leaved, pretty at all seasons, and flowering in March and April from the apices of the shoots. The somewhat drooping panicles are produced in clusters, the colour of the individually small flowers being purple. Zanthorhiza apiifolia does well here in poor, stony soil. *D. Wilmshurst, Hillbrook Place Gardens, Iver Heath.*

HARDY FLOWER BORDER.

VIOLA BIFLORA.

IT is usually stated that Viola biflora is an accommodating and easy plant, that it will flourish almost anywhere, and will sow itself naturally, that, should it forsake one corner, it is only that it may be happier in another. We may plant it or sow it in places most like those it haunts in its home in the Alps—cool, rather moist places by the entrances of caverns, and such like. It may thrive in such situations for a year or two, producing, above its pretty, light-green, kidney-shaped leaves, golden flowers which are so charming in a cool, shaded place. Another year it may vanish and be seen no more.

It seems unable to survive drought, and in a dry sandy soil is apt to disappear.

TROLLIUS ACAULIS.

IT is hardly justifiable to apply the popular name of Globe Flower to this Trollius, as its blooms have not the globular shape we associate with the genus. But this species is not alone in departing from the rounded form of flower, as there are a few others which produce flattish, open blooms. T. acaulis is one of the neatest and prettiest of these. The small, yellow, Buttercup-like blooms almost, but not quite, justify the specific name, as the stems rise to a height of some five or six inches above the neat leaves. In its treatment it requires more consideration than most of its congeners; and it was due to a dry season that it vanished from my garden. The roots need plenty of moisture, but the "collar" should be kept fairly dry. A moraine with underground water is probably the best place in which to plant it.

SPIGELIA MARILANDICA.

FEW plants have given more trouble to the cultivator of hardy flowers than Spigelia marilandica, the Indian or Carolina Pink, Pink-root, or Worm-grass of its native land, the latter being the most commonly used name in this country, although the least pleasing of its designations. So far as I can learn, it is the only one of about

FIG. 121.—TAXODIUM DISTICHUM, THE DECIDUOUS CYPRESS.

three dozen Spigelias known to botanists which has found a place in our gardens, and it is unfortunate that its reputation in the United Kingdom is such that it is never likely to become a popular plant. It is, indeed, a plant for the gardener who is never content unless he can eclipse the performances of the majority of his compeers by successfully undertaking the culture of some difficult subjects which have baffled the skill or patience of others.

A remark made that S. marilandica is an easy plant to grow (in opposition to the writer's own experience) has led to a search among the literature of the subject. No more forcible or more descriptive expression exists than that of Mr. Reginald Farrer in his book on *Alpine and Bog Plants*, and I venture to quote his opinion as follows:—"The plant is not easy to grow, uncertain in temper, miffy in constitution, depending on perfect drainage and abundant moisture. And, when after all these stumbling-blocks have been surmounted, and you at last succeed with the plant, as one year I had the privilege of doing, you see a weedy growth like a poor Gentiana asclepiadea, carrying very similar flowers, trumpet-shaped, reddish outside and yellow within—

or the other way round; I cannot really remember. In any case I do not love it nor glory in it; and when it departed this life, I did not replace it." Mr. Farrer will pardon me, I hope, for quoting at such length, but his experience so fully corresponds with my own that I give his verdict feeling it expresses my general conclusion.

Most growers who have referred to S. marilandica and its culture have been more restrained in their judgments, and from what they say they have probably not cultivated or tried to cultivate it for any length of time. They tell us that it is "considered difficult to grow," and that it should have ample drainage, partial shade, and plenty of moisture in summer. This is quite true, but even with these conditions there seems something wanting in the character of our climate which makes it difficult. And, after all, one is tempted to say, *cui bono?* Is the Spigelia worth the trouble when we have so many more charming plants comparatively easy to grow and flower and far superior to it in beauty? It cannot be called one of the best rock plants, yet it is more suitable for the conditions of the rock garden than of the border. In a wild garden there might be room for it, but a plant which grows from one to two feet high can hardly be prized in the small rock garden, especially when it has such a disappointing way as this Spigelia. And when it does flower the blooms look small for the stature of the plant, though on examination they are pleasing, with their tubular form, the scarlet of the outside and the yellow of the interior.

Spigelia marilandica is a native of woods from New Jersey and Carolina to Florida, and to give it the conditions it is said to desire is not easy. I failed to flower it in the open in a northern garden, after coaxing it in various ways, and only succeeded by keeping it in a shaded frame, set in full sun to give the plant the heat it seems to like in summer, and soaking it with water daily. *S. Arnott.*

1 2 3 4 5 6 7 8 9

FIG. 122.—SHOOTS OF GLYPTOSTROBUS AND TAXODIUM × 2½.
1. Imbricated twig of a plant of Glyptostrobus sinensis, growing at Leonardslee.
2, 3, 4. Imbricated twigs of Glyptostrobus sinensis, which lived at Leonardslee 20 years and which died last spring.
6 & 7. Deciduous twigs of the American Taxodium distichium var. imbricarium.
8. Young shoot, persistent, of Taxodium distichum var imbricarium.
9. Young shoot, persistent, of Taxodium distichum.

The Week's Work.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Cherries.—The Cherry requires an open situation and will not succeed in low, damp districts. The soil should be deep, open in texture, and sweet. Land with a clay subsoil is not suitable for Cherries, but it may be made suitable by draining it, breaking up the subsoil and mixing suitable compost with it. Planting should be done as early as possible in November and the greatest care should be taken not to damage the roots when lifting the trees. The ends of broken roots should be cut with a clean surface as in root pruning. In planting spread out the roots evenly and keep them near the surface. They should never be allowed to become dry by exposure to the air. A suitable compost for scattering amongst the roots is formed of sandy loam, lime rubble and grit from the roadside. A few early varieties should be planted on a south wall to give early fruits, but walls facing east are the most suitable for the general crop. The Morello Cherry does well on a north wall, and in the south other kinds give late crops on north walls, and this prolongs the season. Trees grown in orchards on the wild Cherry stock should be planted 30 to 40 ft. apart, according to the richness of the soil, and bushes worked on free growing varieties of the Bigarrean section 12 ft. apart. For training as espaliers and cordons, trees on the Mahaleb stock are best and the distances apart depend largely on the height of the walls or trellis. They may be put from 12 to 20 ft. apart according to the mode of training.

Blackberries and Loganberries.—Plantations of these Rubus fruits should be made now. A sunny situation should be selected, and practically any soil is suitable provided it is well drained. The roots need plenty of water. The ground should be deeply trenched and enriched with well-decayed manure and old lime rubble. Young plants rooted this year will soon grow into strong specimens. They may be trained and grown in a similar manner to Raspberries. After planting apply a good dressing of strawy manure to the roots. The best Blackberries are Newberry, Parsley Leaved and Wilson Junior, all very profitable varieties. Old plants should be well mulched with decayed manure and be given a liberal dressing of bone meal.

General Remarks.—Fruit trees that have carried heavy crops should receive liberal supplies of liquid manure, and its application may be continued throughout the winter. All trees which have not been top-dressed with manure should be mulched as soon as possible in order that the rains may wash the manurial properties into the soil. Continue to plant all kinds of fruit trees when the weather is favourable for the work.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Asparagus.—Preparation may now be made for forcing early crowns of Asparagus. Obtain long stable litter and leaves for placing beneath a garden frame and well mix the materials, turning them two or three times. The hot-bed should be 2 ft. wider all round than the frame and the material should have a depth of 3 ft. when it has settled. Place three inches of soil on the manure and arrange the Asparagus roots closely together, covering them with an additional three inches of soil. The heat should be on the decline when the roots are planted, as a very gentle warmth is all that is needed to force the growths. Keep the lights closed and spray with clear water when moisture is needed.

Spinach.—Place garden frames over fermenting material giving a very steady heat and sow summer varieties of Spinach. The hot-bed may be formed of leaves and long manure or long grass trimmings. Sow the seeds in a few inches of rich soil. Spinach grown in this way will be very useful during the winter.

Carrots.—A hot-bed such as that recommended for forcing Asparagus should be prepared to accommodate a light or two for forcing early Short-horn Carrots. The seed may be sown in six inches of sandy soil in drills made nine inches apart and half an inch deep.

General Remarks.—Plants wintering in cold frames need careful attention. Remove decayed leaves, keep the soil open by stirring it and exercise great care in watering. Take up a clump or two of Chives and place them in boxes in gentle warmth for forcing.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Early Peach House.—If ripe Peaches and Nectarines are desired during the month of April, the early house should be closed towards the end of this month, or in the early part of December. When the trees have been pruned, remove them from the trellis and tie the shoots into bundles, so that the roof may be cleaned. If the trees are infested with scale, the bearing wood should be carefully sponged with an insecticide, and the old branches cleansed with a brush previous to being bundled. Paraffin emulsion is an excellent insecticide either for scale, mealy bug or red spider. It is a good plan to spray the trees with an insecticide prior to sponging, as the pests are then more easily removed. For a slight attack of red spider hot water applied at a temperature of 145° will be sufficient to clear the trees, but if seriously infested, use paraffin emulsion, and

repeat the application before tying out the trees. The next operation is training the branches. Leave sufficient space for tying in young wood without danger of the leaves overlapping each other, making due allowance for increase of growth. Do not make the ties too tight. The surface of the borders should be cleared of any rubbish and the soil and roots examined. If these are found to be satisfactory, simply remove an inch or two of the surface soil and top-dress with some good loam, to which is added some old plaster or mortar rubble and wood ash; air slaked lime may be used in place of the plaster or mortar rubble, and if the soil of the border is of a light character,

FIG. 123.—IMBRICATED BRANCHLET OF GLYPTOSTROBUS SINENSIS. (See p. 259.)

a good sprinkling of bone flour will be beneficial.

Transplanting.—Any trees to be transplanted should now be moved. Where a reserve stock of home-grown trees can be drawn upon the trees, if carefully lifted and transplanted, will give a crop of fruit without detriment to their future well being. Newly-planted trees should receive a thorough soaking of water at the roots at the time of planting. Allow the trees to settle into position before securing them finally to the trellis. It is advisable when starting the trees to close the house for a week or ten days without fire heat, weather permitting, and then apply sufficient artificial heat to maintain a night temperature of 45° with a rise of 10° during the daytime. If the days are bright, dispense with fire heat as far as possible and close the house early to conserve sunheat; damp the trees, paths and walls at the same time. During the early stages of forcing, guard against an excess of atmospheric moisture, as it tends to force growth before the flowering period is over, and disbudding cannot be carried out without danger to the embryo fruits. Admit air when the temperature of the house rises to 60°, but do not permit cold draughts.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Gynerium.—The Pampas-grass should be planted in deeply-worked, freely-drained soil that has been well enriched with manure. In large gardens there are many sites that are suitable for growing this noble plant, including banks by the side of streams and lakes and in damp situations generally where the water does not stagnate.

Bulbs.—Narcissi and other hardy bulbs should be extensively planted in groups in suitable places, such as beneath trees or by the sides of paths. Some soils need but little preparation before planting bulbs, but where the ground is poor in quality it should be broken up and well manured. If this is done the clumps should increase in size, produce strong growth and an abundance of large, well-developed blooms for several years in succession. When planting in grass-land remove the turf carefully, break up the soil, and add manure and leaf soil freely. Plant the bulbs and relay the turf. The varieties Emperor, Empress, Golden Spur, princeps, Telamonius, Van Sion, Horsfieldii and Silver Spur are all excellent for naturalising. Hyacinths, Tulips, Snowdrops and Croci may be planted in well-prepared soil in suitable places, also large patches of Blue Bells, Lily of the Valley and Primroses.

Rock Garden.—Any necessary alterations and renovations in the rock garden should be done during mild weather. Pockets that require fresh soil should receive attention, employing suitable compost for the different subjects, according to their requirements. Vacancies where plants have failed should be filled, and tender subjects protected from severe frosts. Cocoanut fibre or leaf mould is suitable for the latter purpose in the case of many subjects.

Ferns.—These may be planted in shady places and in corners where other plants would not thrive. Fern rockeries should be formed, employing good soil to encourage healthy, sturdy growth.

Salvia patens.—If not already lifted take up the roots of Salvia patens, arrange them in suitable boxes containing good drainage and soil, and stand them where frost cannot harm them. See that the roots do not get excessively dry. In spring they may be started in a gentle warmth when an abundance of shoots suitable for cuttings will develop. Cuttings that were rooted in September need a position near the roof glass. If repotted in February or planted in boxes and forwarded in mild warmth, they will develop into splendid specimens for bedding purposes, and give a good display of blue flowers during summer and autumn.

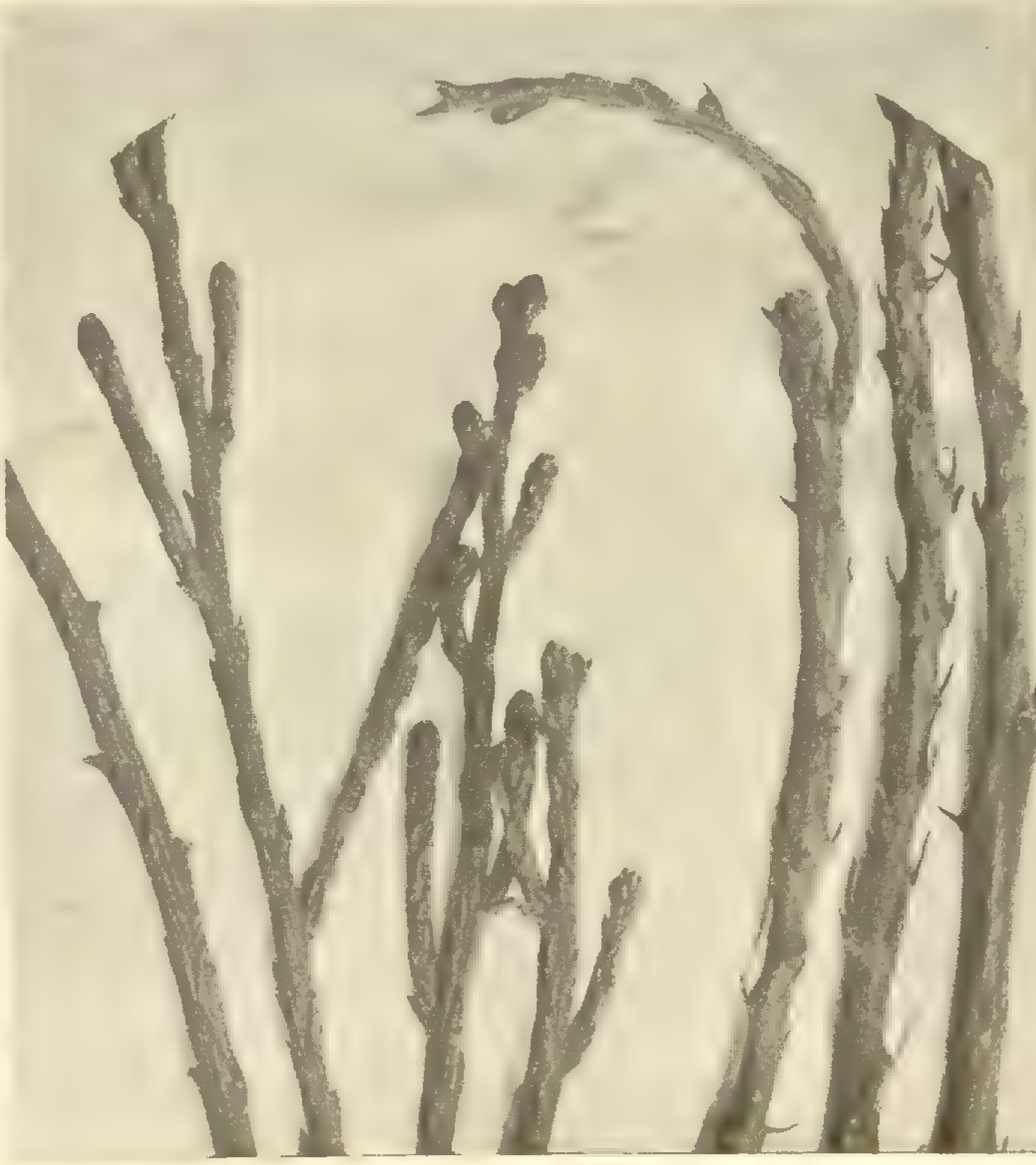

FIG. 124.—SHOOTS OF GLYPTOSTROBUS. SHOOTS OF TAXODIUM. (See p. 259.)

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Seasonable Notes.—We have now reached the time of year when no ray of light should be intercepted. Orchid growers in the neighbourhood of large towns will find that for the next few months they have a difficult task before them to obtain the maximum of light, as the heavy atmosphere brings with it impurities that leave a black deposit upon the glass. The first thing is to frequently wash the glass on the outside, and time now cannot be better utilised than in thoroughly washing the glass and woodwork of the houses inside. The cleansing of the houses inside is not only necessary for the admission of light, but for cleanliness, which forms an important feature in the successful culture of Orchids. It is good practice to move all plants at this season, wash the pots and the stages on which they stand, and, finally, rake over the moisture stages and the floor underneath these stages, applying a thin surfacing of fresh material. The moist exhalation from green or slime-covered surfaces cause an unwholesome atmosphere that is injurious to plant life. To return to the subject of light, anything that can be done in the way of shifting plants to bring them nearer to the glass, or any alteration that can be made to give each one room to stand clear of its neighbour, is time well spent. Especially is this the case with plants backward in growth, for light even more than heat is necessary to harden the tissues, which, as every cultivator knows, is essential to satisfactory flowering. The plan of arranging plants with the smallest in front, near the path, in span-roofed houses is a bad one, and just the opposite conditions are right, though a little more trouble in watering is inevitable. All Orchids, although they need light in winter, do not suffer in the same degree as young seedlings, small Odontoglossums, or small plants of other kinds that are more or less active throughout the winter, and this should be kept in mind when rearranging the plants.

Plants in Hanging Baskets.—Regarding hanging plants, there are one or two common sources of danger that should be avoided. The plants should be kept at a reasonable distance from the glass during winter and be placed out of reach of draught from the top ventilators. When hanging, as they sometimes are allowed to, from eyes screwed or driven into the rafters, condensed moisture from the latter often runs down into the compost, or worse still, into the hearts of the plants. In winter this water is very cold, and many a plant has been ruined by it. If a rod is fixed to the rafters, at right angles to them and running the length of the house, the plants may be hung on this between the rafters, where they are out of danger. The plants, too, where possible, should be suspended over the paths.

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MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.*

No. 10.—THE HIGH TOPS OF HPIMAW.

IN the long amphitheatre of peak and ridge that rises in a wall above Hpimaw Fort, immediately overhead to the east, there are various eminences emerging, of which perhaps the most conspicuous is Hpawshi Bum, which closes the line and the view to the north. In spring and early summer this and its attendant line of crests are all bare and brown, delightfully suggesting smooth alpine lawns, to be covered with flowers later; it is only as that "later" develops that they are seen to become smoothly green indeed, but with a uniform dense vesture of Bamboo-brake as high as a man, and almost impenetrable. The last thousand feet of the climb to the ridge is entirely clothed with this vegetation, and below it the various ascending ribs are covered in forest and jungle, that only tail away into Brackened slopes towards the base of each spur, where villagers have at some time burned the woodland and established cultivation for a time. Above these bared stretches no track, however slight, ascends; up the rocky promontories, through the deep forest above, through the jungle of tall Bamboo above that, and of small Bamboo up towards the crest, every step of the way has to be carved out before one can hope to attain the ridge. It will not be wondered at that, from the valley, it takes three nights of camping and three hard days of going to attain the saddle under Hpawshi Bum.

I am never stale to the wonder of finding so little of interest in these lowland regions, so little of interest even throughout the higher ones, and until the actual summits are reached. In Kansu-Tibet my own experience showed me that beautiful plants might be found at 7,000 feet, while we knew that many of the treasures of Yünnan hail from no higher than 8,000 ft. But here the glory of the Alps does not begin at all until one has reached 10,000 ft., and often not before one has topped 11,000 ft. The Brackened slopes of the valleys yield Lilium Wallichianum indeed, and occasionally a handsome Hemerocallis of scarlet-orange colour. Otherwise there is nothing but Edelweiss and a rare appearance of an ugly Epipactis. A little higher, and Epilobium angustifolium takes possession, more luxuriant than on any English upland, but still the same. Even when the lower woods are gained there is little improvement, though the sweet white Rhododendron relieves the dulness. R. agapetum begins higher yet, occupying the deep darkness of the forest between 8,500-9,000 feet, and literally lighting it up with the scarlet blaze of its flowers. But the undergrowth holds nothing livelier than the little Ophiopogon, with flower-spikes precisely mimicking Pyrola or Lily-of-the-Valley; and overhead the big tree-Rhododendrons are now all out of flower.

Up peak after peak of the spur the scramble continues; its second lap clambers up the sharp face of a rocky ridge, the slopes of which are dotted with ancient tree-Junipers, and moribund specimens of the Coffin-tree. Just below this, however, a new Rhododendron has given zest to the climb. This is a great beauty, but so very rare here, and in so limited an area, that I, who do not believe readily in unique occurrences, suspect that I shall ere long find it elsewhere in better health and abundance. Here, in the woodland and on its edges, common enough, but only within a range of some fifty yards, this new treasure occurred, either as a tall bush or small tree, handsome in the foliage, and more than handsome in the flower. Even at the end of June this was not yet unfolded from the bud, but a precious spray gave me a notion of its coming value, enhanced as this is by the lateness of the blooming period. We shall most of us be glad to find room for a July-flowering Rhododendron, with loose heads of three to five blossoms, very large and solid, pure white, with a basal flush of yellow, and intensely fragrant. This, indeed, with R. agapetum, would give an even finer association and contrast than the earlier-blossoming white. Winter-seed still lingered, but I have grave doubts of its validity. The plant here did not seem to have its full health, and often the great ovoid capsules were still tightly shut, and corroded with fungus.

When the tall Bamboo monopolises the forest, at about 10,000 feet, the going becomes considerably easier, for it grows in big clumps, through which one can almost comfortably thread upward over the dank silence of the woodland decay, beneath its safe interlacing canopy of green, high overhead. The tree Rhododendrons here also occur, indeed, but not so abundantly as on Hpimaw Pass; and the Bamboo has it all its own way, equally at service for building a shanty, a table or a water-spout at five minutes' notice, besides providing one with a prompt fire in the heaviest rain, and a succulent vegetable from its stout young shoots. Much less useful is the smaller Bamboo, into the zone of which one penetrates at 11,000 feet, and which continues thence up to about 12,500 feet. It is man-high, or a little more, grows densely, and serves no use at all except to collect all the superabundant moisture of the mountains and shower it down like fountains on anyone unlucky enough to be engaged in its meshes. There is other scrub, too, among it, but the tree-Rhododendrons have all been left below, the highest climber of them being the beautiful polychromatic trumpet of the one found also on Sabiya-Kaw, which here seems to be in better health even than there, developing into quite a small tree. Now all its blossoms are fallen, but the conspicuous calyces preserve the effect of a head of green flowers; while its very broadly obovate-rounded leaves, which tend to curl when the weather is fine, open to their fullest extent to receive the rain. Below and among this are low tangles of the bronzy-apricot Rhododendron that I wrote of last time, and compared with my notion of R. euchroum. And, indeed, this would be the plant's most fitting name; for, from the poor specimen off Hpimaw Pass, I had formed no idea of its real splendour. In low, spreading tangles of a foot or so in height, it sprawls densely in the clearer spaces of the upmost Bamboo jungle, and on the more open crests of the ridge has a monopoly. Its flowers are bigger than I had first seen them, and of a blazing orange that often passes into sheer scarlet. Altogether it should prove a notable acquisition to the garden, and of the most unassailable hardiness. But these exhaust the tale of floral wealth. The upper Bamboo-tangle is no richer than the deep and solemn shade of the lower. Slowly continues the arduous climb; high point over high point looms down upon one dimly through the mist, and it is all pure guess-work as to when one has topped the last, and actually attained the Ridge. But when reached the reward is instantly before one. *Reginald Farrer.*

* The previous articles by Mr. Farrer were published in our issues for June 21, June 28, July 12, August 9, August 23, September 6, September 27, October 18, and November 1.

BUSH APPLES.

SEEING that hardy fruit trees of all kinds, and Apples in particular, are being planted extensively this season, the following remarks on bush Apples may be of interest to intending planters.

The hardiness of the Apple is one of its greatest merits, and it succeeds in most soils and districts. Planters should, however, be careful in their selection of varieties and choose only those that are known to do well in the particular locality. Apple trees might more often be substituted for other more common trees whilst exhausted and unprofitable specimens should be replaced by young trees of superior varieties. The bush type is one of the most suitable forms of Apple tree, and when the planting of such trees is carried out in a proper manner they may be relied upon to give good results. Small gardens generally offer suitable protection from cold winds, and where the soil and climate are good most varieties of Apples will succeed in the south. In northern counties a careful selection of varieties and close attention are necessary to grow good Apples. Selection of site and preparation of the ground are matters of first importance; in no case should fruit trees be planted in the shade of large trees or in borders where the roots of such trees are growing, for the latter would rob the fruit trees of moisture and nourishment. Almost any kind of soil will grow good Apples, but clayey or calcareous loams are the best. In small gardens the soils may be improved by mixing with it old turf, burnt earth, and, in the case of light ground, strong loam. Drainage must be provided where necessary, but soils that are naturally drained are preferable to those that need artificial draining. Ground intended for fruit plantations should be worked deeply. One of the best methods of preparing either grass or arable land for fruit trees is to trench it and plant it with Potatos the first season. The trees will then grow healthily and vigorously the first few years, which is important. As a rule, ordinary garden soil is rich enough for Apples and needs but little preparation. The situation should face south or south-west, and be sheltered from north and east winds. Mark out the stations for the trees, which should be put 10 or 12 feet apart. Make a hole about 3 feet wide and 1½ feet deep, breaking up the soil at the base. Shorten any damaged roots with a sharp knife, cutting from below upwards, also sever any roots which are inclined to grow downwards, as deeply plunging roots result in gross top growth, which is not conducive to fertility. An examination of the stem will reveal how deeply the tree was planted in the nursery and will be a guide

as to the depth for planting. Spread the roots carefully and cover them with fine soil, keeping the more fibrous ones about 3 inches below the surface. As the hole is filled in make the roots firm, allowing for the old soil-mark on the stem to be about 3 inches above the ground level. Fresh turf, burnt earth, and other suitable materials may be used about the roots, more or less according to the nature of the soil. Fresh animal manure should not be placed below the ground level at the time of planting. Pack turfy loam and rich soil around the tree up to the earth mark on the stem. The ground will settle later, and this fact must be taken into account, for deep planting is harmful. Stakes are not required for small bush trees, but support must be provided if necessary.

Planting.—November is the best month for planting, but the work may be done from November to March whenever the ground is in a suitable condition. Two or three-year-old trees are the best and suffer the least from transplanting. Encourage the trees to make free, healthy growth in their early stages by giving the roots plenty of water in dry weather, and nourishment at other times, according to the nature of the soil. On light soils a surface mulch of half-decayed manure should be applied in the early spring. Hoeing the surface soil is the best precaution against injury by drought, and the need for constant use of the hoe cannot be too strongly emphasised. Moreover, grass and other weeds are very detrimental to the growth of newly-planted fruit trees.

Varieties.—It is impossible to recommend varieties that will suit all soils and districts, and those who are in a position to consult a local grower are recommended to act on his advice. Six reliable, dessert varieties of free-cropping qualities and moderate growth suitable for small gardens are Beauty of Bath, James Grieve, Worcester Pearmain, Cox's Orange, Pippin, Allington Pippin and King of the Pippins. Lady Sudeley, Rival and Christmas Pearmain may be substituted in the north for Beauty of Bath, Cox's Orange Pippin and King of the Pippins, as these sorts do not succeed in cold soils. Culinary Apples of moderate growth are Grenadier, Norfolk Beauty, Lane's Prince Albert, Newton Wonder, Royal Jubilee and Edward VII. Those who have room and wish to extend their list may plant Benoni, American Mother, Baumann's Red Reinette, Charles Ross, Coronation, The Houblon and William Crump. Ribston Pippin, Baumann's Red Reinette and Charles Ross all do well in the north. The following new or recently introduced varieties may all be recommended: Ellison's Orange, Welford Beauty, Lord Beatty, Millar's Seedling and Queen Mary; the last is of suitable size for dessert purposes, of fine colour, and the flesh is of excellent flavour.

The culinary list may be extended with Cox's Pomona, Lord Derby, The Queen, Bismarck, Bramley's Seedling, and Alfriston. Nancy Jackson is much superior to Bismarck in the north on cold soils. Good exhibition varieties include Peasgood's Nonsuch, Emperor Alexander, Gascoyne's Scarlet Seedling, Warner's King, Golden Noble and Rev. W. Wilks. All the above varieties may be planted as trees on the Paradise stock, with the possible exception of Lane's Prince Albert. If this fine variety is liberally treated the first few years, and the fruits thinned freely, very fine exhibition fruits may be obtained from trees on the Paradise stock.

Pruning.—This operation is, perhaps, the least understood of all work connected with fruit growing. The first three years should be devoted to building up the tree, but many sacrifice a good specimen for the sake of a few fruits of very average quality the first season or two. Much difference of opinion exists as to the need for pruning the trees the first year after planting, and the right time to carry out the work. My experience leads me to prune all recently planted trees, especially when the work has been carried out in a satisfactory manner. The best time to prune is when the sap is moving and the buds swelling. The shoots may then be cut away just above the strongest and best-placed buds. Remove all the centre growths the second year after planting to keep the centre of the tree open, leaving the leading branches well apart and pruning them only moderately. Follow the same method of training the third year, with a still more liberal extension of the leading branches. Summer pruning consists in pinching surplus and side shoots to three or four buds, but do not pinch short, sturdy growths with the leaves almost in a circle and a fruit bud in the centre, as such varieties as Irish Peach, Lady Sudeley, The Queen, Baumann's Red Reinette and many others fruit freely on the points of these shoots. Summer pruning should be done early, in order that the trees may derive the greatest benefit from the operation.

Root Pruning.—This attention is often necessary for trees in small gardens, but seldom needed where a full extension of growth can be allowed. Only gross and unfruitful trees should be root-pruned. Dig a trench about 18 inches deep and from 2 to 4 feet from the stem, according to the size of the tree. Gradually work towards and under the tree, and shorten all strong roots carefully with a sharp knife. Take care to preserve all fibrous roots and replant them in layers, keeping all roots near the surface as the work proceeds. In the case of large trees, half the roots should be pruned in alternate years.

Watering and Mulching.—Where these two operations can be carried out, especially on dry, light soils in the south and midland counties, much finer fruit will be obtained. Any kind of material, such as farmyard manure, manure from spent hot-beds, hop manure and short grass may be used, always bearing in mind the heavier the manure the lighter should be the mulch. With few exceptions, mulching is not required in the north, provided the hoe is kept going. Watering is important, although surface mulching renders the application of water at the roots less necessary. Watering should always be done in dull, showery weather, when it will have twice the effect. Lime is necessary for stone fruits, and a light dusting of this material may be made over the trees and roots of other fruit trees in the spring; the lime will help to keep the branches clear of foreign growth and destroy insect pests. Prevention and remedies for the different insect pests include grease-banding the trees early in October, spraying in winter or early spring, with caustic alkali wash; with Quassia extract just before the flowers open to destroy caterpillars, and again a week or ten days afterwards.

Thinning the fruits is important especially in the case of young trees. Over cropping not only means inferior, small fruit, the trees themselves will suffer from exhaustion and the ill-effects be apparent for a number of years afterwards. Thinning the fruits may be done at intervals during May, June and July; fruits of early varieties of Apples removed at the second thinning may be used for cooking. By careful thinning of the crop, mulching, watering and feeding the roots, the trees will grow satisfactorily and develop fruit of first-class quality. *F. Jordan, Ford Manor Gardens, Lingfield, Surrey.*

Fig. 125.—Laelio-Cattleya Honoria Orchidhurst variety.
(R.H.S. Award of Merit, Nov. 4, 1919.) (See p. 264.)

THE ALPINE GARDEN.

ALYSSUM SPINOSUM.

Alyssum spinosum is one of the most distinct of the Madworts. It has white flowers, perhaps a trifle dull in shade, but they look well in a mass. The small leaves have a silvery appearance, and a plant out of flower is almost as attractive as one in full bloom. There is a variety with rosy-white flowers, but the blooms are rather disappointing in their tone, so that the main charm of this Alyssum lies in its pretty silvery foliage. The plant makes a dense cushion of stiff branches and leaves, old specimens having, near the base of the former, the little spines which give the name of spinosum to the species. *S. Arnott.*

ORCHID NOTES AND GLEANINGS.

LAELIO-CATTLEYA HONORIA ORCHIDHURST VARIETY.

THE illustration in Fig. 125 represents one of the flowers of a spike borne by a plant raised by Messrs. Armstrong and Brown between C. Mantinii nobilior (Bowringiana × Dowiana) and L.-C. Geo. Woodhams (C. Hardyana × L. purpurata). This firm have used the last-named parent, (which received an Award of Merit at the R.H.S. meeting on September 9, 1913), extensively in crossing, because of the rich colour which it imparts to its progeny.

The variety illustrated received an Award of Merit at the Royal Horticultural Society's meeting on November 4. It is a well-marked advance in colour development, the sepals and petals being tinged and veined with bright mauve-purple, and the well-displayed lip ruby-red with bright yellow disc and lines from the base. The variety follows C. Mantinii in its floriferous character, and, like that hybrid, is a late autumn and winter flowerer.

ODONTOGLOSSOM GOLDCREST.

A FLOWER of a beautifully-formed seedling Odontoglossum of a new type, but of which the parentage unfortunately has not been accurately recorded, is sent by the raisers, Messrs. Armstrong and Brown, Orchidhurst, Tunbridge Wells. It is of that pure white familiar in forms of O. crispum xanthotes, and the colour of its markings is of the same pure yellow as in that variety, but it appears to be the first in which that charming combination of white and yellow is introduced into the much blotched hybrid Odontoglossum in which the colour is displayed in a regular "pattern," and not in a fugitive, irregular manner, as in all other sparsely-spotted "xanthotes" Odontoglossums. The inner halves of the sepals and petals bear numerous clear chrome-yellow blotches arranged in a regular manner. The broad lip, which, like the firm texture of the sepals and petals, seems to disclose O. Harryanum in its early ancestry, has numerous blotches of the same tint as those on the other segments. The crest and markings on the column are yellow also. The advent of such a pretty novelty is very interesting, and if the parentage were definitely known it might lead to results whereby some of the other blotched Odontoglossums might be transformed after the same lines.

Since the appearance of O. crispum xanthotes about 1904, seedings have been raised true from it, and, crossed with certain hybrids, it has imparted its features to them, probably the best example being the fine O. Promereus xanthotes for which Messrs. Armstrong and Brown obtained a First-Class Certificate at the Royal Horticultural Society's meeting on June 18, 1918. But in all these flowers the few and stray yellow markings have been as in O. crispum xanthotes. Following their successful experience with raising "xanthotes" crosses, Messrs. Armstrong and Brown used those varieties also in crossing, and it may be that, as in this case, the barrier between the clear yellow marked and the heavily-blotched purple and red forms may be broken and further additions to this desirable class evolved.

PLANT NOTES.

WHAT IS MENTHA ACUTIFOLIA?

IN 1799 Sir James Edward Smith (then Dr. Smith) described a Mint under the name Mentha acutifolia, and gave an illustration of it in *English Botany*, t. 2415. His description, repeated in English in the second edition (his own) of that work, was "Leaves ovate-lanceolate, tapering at each end. Flowers whorled. Calyx hairy all over. Hairs of the pedicels spreading." He had only seen a specimen from Miller's herbarium and another in Buddle's collection, and was doubtful about its range of variation, but was under no illusion that it was related to M. sativa, that is, M. hirsuta × arvensis. More than one botanical work has since given it as a synonym of M. sativa. I could never imagine it to be identical with M. sativa var. rivalis, which is the typical segregate form of the hybrid in view of his figure and description, and resolved to look for the plant in its original habitats, the Medway valley. I found it in abundance, and consider that it is more distinct from the three segregates of M. sativa that have been described than they are from one another. All the three described forms of M. sativa lean towards the M. hirsuta parent in having broad leaves, rounded at the base, while the leaves of M. acutifolia taper to both ends, as in the M. arvensis parent, and that is the broad distinction. M. acutifolia runs through all the variations of M. sativa and, perhaps, more, for I have spicate, capitate and subglabrous forms, as well as many other variations. One so closely resembles M. arvensis in size and form that the chief distinction from the latter lies in the long teeth of the calyx. M. acutifolia is most often subglabrous or thinly hairy, but I have a form from Surrey that is as hairy as M. sativa var. rivalis, and another from Bucks that has exceptionally narrow leaves. *J. F.*

VEGETABLES.

SEEDLING POTATOS.

IN the account of the Ormskirk Potato Conference (p. 242) your reporter refers to a discussion arising out of a question of mine which Mr. Snell placed before the meeting. The question was: If new seedlings arise which are so much like an existing variety as to be indistinguishable from it, is it not possible that, while they preserve all the qualities for which the older form was known, they may, in some instances, be of greater cropping power than it? The practical importance of my question lies chiefly in the fact that for every ounce added to the average yield of a Potato plant, about half a ton is added to the yield of the acre at ordinary planting distances. The discussion elicited certain important statements of fact that your short report could not find room for, but which, if included, would have put so different an aspect upon its general tenor that it seems desirable they should be called attention to, and I refer to some of them in the following. Those who have grown many varieties of Potato know that what is apparently the same variety is grown under different names. It is needless to give instances. This multiplicity of names for what is apparently the same thing arises from a variety of causes. The supposed new form is sometimes definitely stated to be a selection from the known one; sometimes new names are given to good things in ignorance of an older name; different names may be given by different holders of parts of the stock of a new sort simultaneously; or they arise from the exigencies of a local market; but in many cases the statement is made that the form to which the new name is given is a new seedling. That seedlings similar to existing varieties do arise has been denied. All such forms are assumed by those who deny the possibility of such seedlings arising, to be really derived directly from the old variety, perhaps through "volunteers" or "self-sets" appearing among the seedlings. That such mistakes are made cannot be doubted, and human nature being what it is, new names are doubtless occasionally deliberately given to old forms, which are then introduced as new. However, the denial that such seedlings do arise seems to be based upon statements that certain growers have never seen them in their cultures, but, for the first time, so far as I am aware, distinct evidence was produced at the Conference that, in fact, such seedlings do occur. The evidence was as follows: (1) While examining some seedling Potatos, in company with some Potato experts last September, at the Lancashire Horticultural Station at Hutton, raised from a seedball of Duchess of Cornwall by Mr. A. Sowman, we saw two seedlings absolutely identical in habit, form and size of foliage, characters of stem, colour, and so on. [I have since been able to examine the resulting tubers from the two plants. They are absolutely identical in every character.] This proves that two seedlings, as like as two Peas, may arise from the same sowing. (2) Mr. W. Cuthbertson stated that among seedlings raised by him from Myatt's Ashleaf, forms were found indistinguishable from Duke of York and Snowdrop in all characters. (3) Mr. McKelvie said he had found at least one seedling in his cultures quite indistinguishable from Up-to-Date, but because he feels strongly that only quite distinct stocks should be put upon the market this seedling was suppressed. (4) Mr. Snell stated that the Advisory Committee had concluded that a seedling sent in by Messrs. Sutton to the 1919 trials had proved identical with White City. This, Mr. Lasham said, had been suspected before the seedling was sent for trial, and the trial confirmed the suspicion. Much other evidence was forthcoming, but since almost all involved other than first-hand evidence, I omit mention of it. So much for the fact that seedlings may arise identical with others that have already arisen. The answer to my initial question is still to be sought, and it is not easy to obtain. Experiments carried out with the utmost care can alone answer it. Possibly the combination of characters which constitutes, say, the variety Up-to-Date will always be combined with high-yielding powers; possibly the power of cropping is a distinct character heritable independently. It need not, of course, be assumed that an old variety gradually loses its cropping power. Deterioration, where it occurs in varieties propagated vegetatively, is probably more the result of cultivation in ungenial circumstances than to any tendency towards deterioration; and perhaps no plant more quickly shows the result of bad, and none more readily responds to good environment, than the Potato, so far as its powers of crop-production are pre-determined by the treatment the seed-tubers have undergone. It is this variation in stocks of seed-tubers of any one variety that often makes comparison of the crop-yielding powers of varieties so unsatisfactory, and which will make a definite answer to my question difficult to obtain. *Fred. J. Chittenden.*

FLORISTS' FLOWERS.

THE NAMING OF FLORISTS' FLOWERS.

THE naming of florists' flowers leaves, in some cases at least, much to be desired. A prolific source of trouble is that the same name is sometimes used for different plants of one genus. To some it may appear a matter of small account, but it has many times been a source of great worry to me. For a number of years I was engaged in a nursery establishment where new and choice, soft-wooded plants were a speciality. The trouble was that the same names were often given by different raisers to their own productions, the choice generally falling upon some notability of the time. Thus, speaking from memory, the name Prince of Wales crops up about half a dozen times among Pelargoniums, while Princess of Wales is just as often used. A favourite name for Pelargoniums is Achievement. This appellation has been applied to at least two distinct show Pelargoniums, one ivy-leaved Pelargonium, one tricolour Pelargonium, and one zonal leaved Pelargonium. I well remember some forty years or so ago being taken severely to task for supplying Fuchsias wrong to name. The trouble arose through two varieties bearing the name of Avalanche being sent out, in, I think, the same year by Messrs. E. G. Henderson and Son, St. John's Wood, and F. A. Smith and Sons, Dulwich. They were both double-flowered varieties. Messrs. Henderson's was a good dark variety, while the flowers of the other had a white corolla. Now that newer kinds of all sorts of flowers are being raised from seeds it seems to me that it would be a good plan to register names of novelties with some central authority in order to avoid duplication such as are referred to above. Coming to more recent times, I believe I am correct in saying that the Gold Medal of the National Rose Society has been awarded to two distinct varieties each bearing the name of Queen Alexandra. Lastly, a most reprehensible practice is the renaming of recognised varieties, such as happened in the case of Chrysanthemums during the early 'eighties of the last century, and is not altogether unknown among Roses; a case in point being furnished by Frau Karl Druschki which some would rename Snow Queen. *W. T.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Boxes versus Sieves for Marketing Apples.—As one of the many present at the Maidstone and Cambridge Commercial Fruit Exhibitions, I have been greatly interested in the reports of these functions in the pages of the *Gardeners' Chronicle*, as well as the references in the leader on p. 245 and *Market Grower's* notes on p. 250 to the question of whether non-returnable boxes or returnable sieves are the best packages in which to send Apples to market. By "best" I mean the cleanest and more desirable in every way. I feel sure that the non-returnable package is the right one for general use, and, so far, the only sound argument against the wooden boxes is the cost. *Market Grower* states: "For home markets I doubt if we shall ever find a better package than the present bushel and half-bushel baskets which are supplied by the salesmen and used over and over again." What does *Market Grower* mean by "over and over again." In other words, How long is the life of a bushel basket or sieve? And why should the salesman be expected to provide baskets for growers?—*West Middlesex.*

[Fig. 126 illustrates Apples packed in non-returnable bushel boxes and should be compared with Fig 112 which illustrates Apples packed in returnable bushel baskets. Both the exhibits illustrated were shown at Cambridge (see p. 255).—Eds]

Flowers in the Garden in November.—Not the least remarkable feature in this wonderful year is the continuance of the border flowers, which have hitherto been so gay that we have not had the heart to dig up the borders. Even the recent frost (because the air has been quite still and plants had again dried after the fogs of a week ago) has scarcely touched anything. Yesterday, November 12, I could have made up a nosegay of the following flowers, jotted down at random: Antirrhinum, Pentstemon, Salvia coccinea var. Salvia Greggii, and other species; Montbretia, Centaurea montana, Anemone japonicum, Anemone sylvatica, East Lothian Stocks, Rudbeckia purpurea, Corydalis lutea, Chrysogonum aurantiacum, Pansies, Clematis coccineum, C. paniculatum, Lonicera Halleana, Schizostylis coccineum, Centranthus ruber, Silene armeria, Cyclamen hederaefolium, Candytuft (second flowering after clipping), Choisya ternata, Coronilla Emerus, Cheiranthus Allionii, Polyanthus, Nicotiana, Phlox Drummondii, Ceanothus Gloire de Versailles, Veronica Gauntlettii (and others), Pelargoniums (Paul Crampel, Henry Jacoby and Ivy-leaved varieties), Erodium Manescavii, Erodium corsicum, Phygelius capensis, Nepeta Mussinii, Michaelmas Daisies, Hydrangea hortensis. Roses, of course, often throw late flowers, but I have seldom seen, at this time of the year, so much good blossom on such sorts as W. A. Richardson and Rêve d'Or; the Polyantha Rose, Jessie, is still bright, and Orleans is weighted with trusses of bloom. Acacia dealbata is covered with buds, and a solitary flower of Pomegranate still shows scarlet on the wall. Now the snow is falling, and this will be my last note on summer flowers. *Aubyn Trevor-Battye, Ashford Chace, Petersfield, Nov. 13, 1919.*

Scarcity of Insect Pests on Fruit Trees.—*Market Grower* extends to the readers of *The Gardeners' Chronicle* of the 11th ult. an invitation to explain why there was an absence of aphis and other destructive insects on Apple trees during September this year: not only during the month of September, but previous. It was it noticed that ordinary insect pests were not in evidence this season, as in previous years. At first their absence was attributed to the mid-summer sprayings; but, as the weeks sped on and no further need of spraying was necessary, it was certain other agencies were at work. The problem was an important one and worthy of study. After a brief investigation, I concluded that two agencies were responsible for the cleanliness of the trees; (1) the drought, (2) insect friends. Before the middle of August the foliage of fruit trees in the south had become hardened; the one exception was the Peach family. It must not be understood that the foliage was all mature or growth ripe, but from the scarcity of moisture supplied either by the rain or artificial waterings, the leaves became of a leatherlike texture in the hot sunshine; therefore there was a shortage of moisture, such as insects seek from the foliage, and young bark. Insects suck the sweet, juicy sap from plants they attack, and as the drought prevented the sap from flowing in an abundance, the insects were starved out of existence. The ladybird and the ichneumon fly were very numerous this summer. Both the beetle and its larvae and the lace-wing flies devour green flies or aphides of all kinds. Again, it is reported that, among other insects, certain wasps carry off small caterpillars as food for their offspring; however this may be, the two first named "friends" have done excellent work this year, and when the question is under consideration, we cannot but doubt that the drought was responsible for their appearance in such myriads, because a dry season is favourable to them, and the longer and warmer the drought the more numerous they become. The ichneumon fly and its species are parasites which prey upon almost every known stem and leaf-destructive insect pest. *Magister Palae.*

—— I fully endorse all Mr. Wareham states on page 229. On old trees of Scarlet Nonpareil and King of the Pippin Apples I noticed during the summer considerable numbers of ladybirds, settled about the woolly aphis. I was not conscious at the time that they were destroying the pests, but on reading Mr. Wareham's article I examined the trees, and find there is no trace of American Blight, except behind bark, where the ladybirds could not gain access. I am much interested in the subject, and would like to know if any reader can state definitely that the ladybirds really eat the aphis.—*John Nibbs, Whitmore Lodge Gardens, Sunningdale, Berkshire.*

SOCIETIES.

BIRMINGHAM CHRYSANTHEMUM AND THE NATIONAL POTATO.

NOVEMBER 12, 13, 14, 15.—The combined shows of these two Societies, held in Bingley Hall, Birmingham, on the above dates, had been looked forward to with some degree of anxiety on the one hand, and great expectation on the other. The result of the united efforts was satisfactory, although the show was smaller than many of the first named Society's exhibitions in pre-war days.

Owing to the war, the Birmingham Chrysanthemum Society suspended operations in 1914, up to which time fifty-four annual shows had been held in the midland city. The Society's schedule was revised, many cash prizes increased, and classes for specimen plants eliminated, as these latter failed to attract exhibitors and the public seemed to take little interest in them. The quality and variety of the Chrysanthemum flowers were very good, but competition in the plant group classes left something to be desired. Apples were beautifully coloured, especially the Herefordshire group specimens, but Grapes were disappointing. Primulas and Cyclamens, which were great features of the Birmingham shows 15 or 20 years ago, have quite dropped into the background, as not a single specimen of either of these very useful winter-flowering plants was included in this year's show.

For many years past certain seedsmen offered liberal prizes for vegetables, but on the present occasion these were restricted to Potatos, with the result that the garden-loving public lost an opportunity of seeing the produce of some of the most skilful vegetable growers in the country. The newly-formed National Potato Society is to be congratulated upon getting together such a

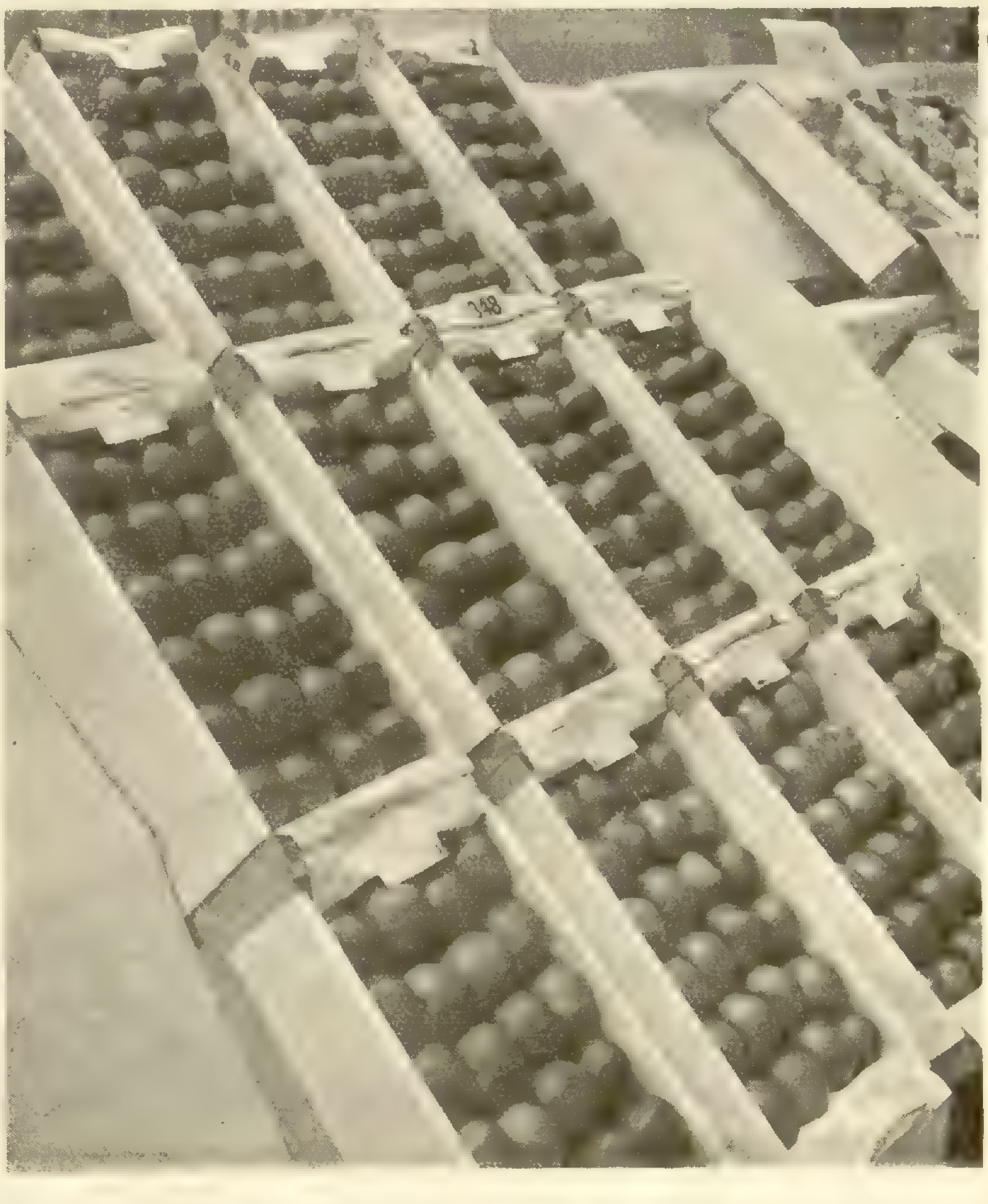

FIG. 126.—APPLES PACKED IN NON-RETURNABLE BOXES FOR MARKET: THE SPALDING SOCIETY'S SECOND PRIZE EXHIBIT AT CAMBRIDGE.

(See also p. 258.)

wonderfully fine collection of the popular tuber. Never has there been seen in Bingley Hall such quality and variety of Potatoes as were on view.

The most popular variety in the single dish classes was Majestic, which was shown by 64 competitors in a class reserved for allotment holders, small holders and gentlemen gardeners. It was rather remarkable that the Ten Guinea Cup, offered by Messrs. J. and W. Birch, of Sefton, Liverpool, should be won by an exhibitor who entered in one class only. The winner was Mr. J. NAYLOR, Walsall, whose six tubers of White City were perfect specimens.

CHRYSANTHEMUMS (OPEN).

GROUPS.

Mr. A. CRYER, gardener to J. A. Kenrick, Esq., Berrow Court, Edgbaston, was the only exhibitor in a class for a group of Chrysanthemum plants arranged as grown on a semi-circular space of 10 ft. by 6 ft. Cut blooms were admissible, also foliage plants, but not Codiaeums (Crotons). The group consisted almost exclusively of large flowered Japanese varieties. The plants were of sturdy growth with flowers of good quality and effectively arranged. The same exhibitor had no competitor in the next class, which was for a group of decorative Chrysanthemums on a space of 12 ft. by 8 ft. Thinning was allowed, but not disbudding to single flowers.

In classes for (1) six decorative varieties grown in pots not exceeding 6½ inches diameter, and in another for (2) three decorative varieties, Mr. CRYER was awarded the 1st prize in each case.

CUT BLOOMS.

The principal class was for Japanese and incurved blooms displayed on table space of 18 ft. by 5 ft. The 1st prize was won by Mr. H. WOOLMAN, Shirley, Birmingham. The leading feature of this very attractive exhibit consisted of seven tall stands, each containing an average of seven monster blooms. The varieties included Shirley Golden, W. Turner, Golden Champion, Mrs. R. C. Pulling and Mrs. Algernon Davis.

In a class for a group of single-flowered varieties occupying flat table space of 8 ft. by 4 ft. Mr. H. WOOLMAN and Captain W. F. DICKENSON, Kingsweston, Taunton (gr. Mr. B. Dacre), were the only contestants, and they were placed in the order named. Mr. WOOLMAN's flowers were of excellent quality, clean, fresh and arranged in bold masses, edged with Cineraria maritima, Ferns and Begonia Rex.

There were five good entries in a class for three Japanese varieties, three blooms of each. 1st Mr. H. WOOLMAN, who showed handsome specimens of Golden Champion, W. Rigby and Mrs. Algernon Davis; 2nd W. H. ALLEN, Esq., Bromham House, Bedford (gr. Mr. H. Blakeway), whose large blooms of Mrs. Drabble and W. Rigby were much admired; 3rd Captain W. F. DICKENSON (gr. Mr. B. Dacre). The two last named exhibitors were placed 1st and 2nd respectively in a class for twelve Japanese varieties, one bloom of each, arranged on table space of 6 ft. by 3 ft. Mr. ALLEN's flowers were large, shapely and pleasingly arranged over golden-coloured Fern fronds. The varieties W. Rigby, Mrs. R. C. Pulling, Mrs. Algernon Davis and Undaunted were surprisingly good. In Captain Dickenson's stand the best blooms were Mrs. Drabble, Princess Mary and W. Rigby.

The best vase of three blooms of a pink-coloured Japanese variety came from Captain DICKENSON, who showed the variety Mrs. Algernon Davis in beautifully fresh condition; 2nd J. H. WHEATLEY, Esq., Berkswell Hall, Coventry (gr. Mr. W. H. Westbury), with Mrs. J. Gibson; 3rd W. H. ALLEN, Esq. (gr. Mr. H. Blakeway). The best of three exhibits in a class for three blooms of a crimson-coloured Japanese variety was shown by the last named, whose flowers of His Majesty were richly coloured; 2nd J. H. WHEATLEY, Esq. (gr. Mr. W. H. Westbury), with Pockett's Crimson; 3rd Mr. H. WOOLMAN with Elsie Davis. The winning vase of three white Japanese blooms came from J. H. WHEATLEY, Esq., whose specimens of William Turner were unusually large, well finished and pure white. This vase was considered to be the best vase of Japanese blooms in the show; 2nd W. H. ALLEN, Esq. (gr. Mr. H. Blakeway), with excellent examples of Mrs. Drabble; 3rd Mr. H. WOOLMAN, with William Turner. There were seven first-rate entries in this class. In a class for three yellow Japanese blooms W. H. ALLEN, Esq. (gr. Mr. H. Blakeway), excelled with huge flowers of W. Rigby; 2nd Captain W. F. DICKENSON (gr. Mr. B. Dacre) with the same variety; 3rd Mr. H. WOOLMAN with Shirley Golden. The last named exhibitor won the 1st prize in a class for six varieties of decorative Chrysanthemums, six sprays of each. The flowers were large, richly coloured and borne on very stout stems.

LOCAL CLASSES (OPEN).

Although the local classes were not very keenly contested many flowers of good quality were exhibited. In a class for four vases of incurved Chrysanthemums, three blooms in each vase, and in another class for two vases of incurved varieties in two distinct varieties, H. F. KEEP, Esq., The Grange, Edgbaston (gr. Mr. T. W. Davies), and J. A. KENRICK, Esq. (gr. Mr. A. Cryer), were placed in the order named. Mr. Cryer had the best twelve Japanese varieties, three blooms in a vase. He showed heavy blooms of Mrs. E. Tickle, Miss Elsie Fulton, Mrs. R. C. Pulling, George Hemming and Mrs. G. C. Kelly; 2nd Mrs. R. PEYTON, Edgbaston (gr. Mr. A. W. Young), whose best flowers were William Turner, Mrs. G. Lloyd Wigg and Mrs. Drabble; 3rd H. F. KEEP, Esq. (gr. Mr. T. W. Davies). Mrs. R. PEYTON (gr. Mr. A. W. Young) beat three contestants for two Japanese varieties, three blooms of each; 2nd H. F. KEEP, Esq. (gr. Mr. T. W. Davies); 3rd J. A. KENRICK, Esq. (gr. Mr. A. Cryer).

AMATEURS' CLASS.

Mr. ERNEST D. CLARK, Moseley, had the leading three Japanese varieties in a class reserved for amateurs who do not employ a permanent gardener; 2nd Mr. J. S. Pearson, Erdington.

Special prizes were offered by Messrs. W. J. Godfrey and Son, Exmouth, for one vase of fifteen single flowered Chrysanthemums in not fewer than six varieties, all to be catalogued since 1912. The 1st prize vase, set up by Mr. Loo THOMPSON, Ailsa Craig, Formby, was perhaps the finest vase of single Chrysanthemums ever seen at Birmingham. The flowers were unusually large, refined and richly coloured. C. W. CATT, Esq., The Oakwoods, Duffield (gr. Mr. J. H. Coley), had very creditable blooms, but as some of the varieties had been in cultivation longer than the specified time, this exhibit was disqualified. Another good exhibit came from W. J. GRESSON, Esq., Stoke House, Stoke Severn (gr. Mr. T. Parry). Prizes were offered by Mr. H. Woolman, Shirley, Birmingham, for three vases of nine Japanese blooms in not fewer than six varieties. The 1st prize was won by Mr. ERNEST D. CLARK, Moseley. Mr. Woolman also offered prizes for four vases of Japanese varieties, three blooms in a vase, reserved for gentlemen's gardeners. First, W. J. GRESSON, Esq. (gr. Mr. T. Parry), who showed splendid blooms of Reginald Vallis, William Turner, Mrs. E. Tickle and Amy Poulton; 2nd. H. F. KEEP, Esq. (gr. Mr. T. W. Davies).

MISCELLANEOUS PLANTS AND FLOWERS.

J. A. KENRICK, Esq. (gr. Mr. A. Cryer) was awarded 1st prizes in each of the following classes, viz.: 1, Twelve plants of Begonia Gloire de Lorraine; 2, three Palms; 3, one Tree Fern; 4, six plants of Salvia splendens grandiflora and 5, six Ferns. The prize in the last named class was given by Mr. H. N. Ellison, West Bromwich.

FRUIT.

For a collection of British-grown fruit, occupying 8 feet by 4 feet, the first prize of £7 and a silver challenge cup value fifteen guineas, the last named presented by W. Waters Butler, Esq., was won by HUGH ANDREWS, Esq., Toddington Manor, Winchcombe (gr. Mr. J. R. Tooley), who had 14 bunches of Grapes, highly coloured Apples in great variety, together with Pears, Peaches, Quinces and Medlars. Unfortunately, the table was very much overloaded, there being ample fruit for double the space allotted; 3rd (2nd not awarded), Mr. A. S. DUNTON, Wolverhampton. In the next class, which was for a collection of British-grown hardy fruits, on separate tables each 12 feet by 8 feet, there were two exhibits; 1st, Mr. C. W. POWELL, Wareham, Hereford, who had a grand collection of beautifully-coloured, well-arranged Apples in which the following varieties were of outstanding merit, viz.—Charles Ross, Newton Wonder, Lady Henniker, Gascoigne's Seedling, Annie Elizabeth, Emperor Alexander, Rival, Tyler's Kernel and King of the Pippins. Of Pears, Pitmaston Duchess, Doyenné du Comice, General Roosevelt, Conference and Louise Bonne of Jersey were all excellent. Quinces, Medlars, Crabs and Walnuts were also included in this pleasing exhibit; 2nd, Mr. ERNEST HILLS, Rhydd Gardens, Hanley Castle, Worcestershire, whose Apples, Emperor Alexander, Newton Wonder, Cox's Orange Pippin and King of the Pippins were of superior merit.

HUGH ANDREWS, Esq. (gr. Mr. J. R. Tooley) won first prizes in classes for (1) three bunches of black Grapes and (2) three bunches of white Muscats. In a class for two bunches of black Grapes, reserved for local growers, R. W. PADMORE, Esq., Edgbaston (gr. Mr. C. Batchelor), won 1st prize; Mrs. R. PEYTON, Edgbaston (gr. Mr. A. W. Young), followed closely. The winning exhibit of six varieties of culinary Apples, sent by Mr. C. W. POWELL, Wareham, was a remarkably fine one. The varieties were Emperor Alexander, Byford Wonder, Newton Wonder, Bramley's Seedling, Lord Derby, and Peasgood's Nonsuch; 2nd, HUGH ANDREWS, Esq. (gr. Mr. J. R. Tooley), who had creditable examples of Emperor Alexander and Peasgood's Nonsuch; 3rd, W. J. GRESSON, Esq. (gr. Mr. T. Parry). An extra prize was awarded to Mr. W. P. ORRILL, Hinckley. In a companion class to the last named, but for dessert varieties, Mr. C. W. POWELL, HUGH ANDREWS, Esq. (gr. Mr. J. R. Tooley) and W. J. GRESSON, Esq. (gr. Mr. T. Parry), were again placed in the order named. The 1st prize winner showed superb fruits of Rival, King of the Pippins, Blenheim Orange, Cox's Orange, James Grieve and Charles Ross.

The best local exhibit of two dishes of culinary Apples came from Mr. ROBERT PRICE, Erdington, who showed Cox's Pomona and Bramley's Seedling; 2nd, Mr. C. EAVES, Selby Park; 3rd, J. A. KENRICK, Esq. (gr. Mr. A. Cryer).

HONORARY EXHIBITS.

Gold Medals: Messrs. ED. WEBB AND SONS, Stourbridge, for a wonderfully fine collection of artistically-arranged vegetables; Messrs. WATERER, SONS AND CRISP, Bagshot, for a collection of well-grown hardy shrubs. *Silver-gilt Medals:* Messrs. GUNN AND SONS, Olton, for fruit; Messrs. W. WELLS AND CO., Merstham, Surrey, for Chrysanthemums; Messrs. ROBINSON BROS., West Bromwich, for horticultural sundries. *Silver Medals:* Messrs. W. J. GODFREY AND SON, Exmouth, for Chrysanthemums; BAKERS, Wolverhampton, for hardy shrubs; Mr. H. N. ELLISON, West Bromwich, for Ferns, Selaginellas and Palms; STONEHOUSE, Ltd., West Bromwich, for sundries; FOUR OAKS SPRAYING MACHINE CO., for spraying machines. *Bronze Medals:* Mr. E. J. PARSONS, Worcester, for fruit; Mr. J. J. KETTLE, Corfee, Wimborne, for perpetual fruiting Raspberries and Violets; Miss S. S. THOMPSON, Handsworth, for Cacti; Mr. A. BAYLIS, Birmingham, for rustic work; Mr. J. L. EDGINGTON, Sheffield, for horticultural sundries.

Potatos.

OPEN CLASSES.

For 12 dishes of Potatos, distinct varieties, Mr. FRED ASHLEY, Irlam, won the 1st prize, Mrs. SMART, Abergele, being 2nd. For 6 varieties, Mr. H. J. TILLEY, Cheltenham, led with a nice, clean lot of tubers; 2nd, Major HARCOURT WEBB, Bewdley (gr. Mr. W. Gaiger). In a class for 3 varieties, there was spirited competition. The Hon. F. T. HALSEY, Gaddesdon Place, Hemel Hempstead (gr. Mr. T. Avery), won the premier position, followed closely by Major HARCOURT WEBB (gr. Mr. W. Gaiger). The Rev. F. SANDY, Oscott College, Birmingham, was placed 1st of twelve competitors in a class for three immune varieties.

SINGLE-DISH CLASSES.—The first seven classes were reserved for first-early varieties and al

though competition was not very brisk in this section, quite a number of excellent dishes were placed before the judges. Mrs. E. N. Tice, Wokingham, won 1st prize for May Queen; Mr. Fred Ashley, Irlam, for America; Mr. O. Hartshorn, Leicester, for Duke of York; Mr. M. Hoad, Willesborough, Kent, for a splendid dish of Sharpe's Express; Mrs. T. H. Barnard, Kempton Hoo, Bedford (gr. Mr. A. W. Ralph), for Dunnottar Castle; Mr. W. Coleman, Buckingham, took the lead in a class for any other first early variety not included in the above, with grand specimens of Witch Hill.

Second Early Varieties.—Eight classes were provided for these. Mr. Fred Ashley was awarded 1st prize in a class for British Queen and its types with a beautifully-shaped, clean lot of British Queen; Mrs. Smart, Abergele, 1st with Sir John Llewelyn; Mr. George Ashley, Irlam, won first prizes in classes for (1) Great Scot, (2) The Ally and (3) King George. Mr. H. Morgan, Tenbury Wells, had the best tubers of Arran Comrade, and Mr. H. J. Tilley sent the winning dish of Edzell Blue. In the next class, which was for any variety not included in the above, Mr. Fred Ashley was the victor with Sir Douglas Haig.

Early and Late Maincrops.—W. J. Gresson, Esq., Stoke Severn (gr. Mr. T. Parry), won 1st prize with Up-to-date. His specimens were large and shapely. Mr. E. Whitehouse was 1st with lovely examples of King Edward; Mr. W. Coleman had the winning dishes of Arran Chief and Kerr's Pink; Mr. Fred Ashley showed handsome tubers of The Bishop, and the Rev. F. Sandy led in the next class with Culdees Castle; Mrs. Smart's dish of Golden Wonder was best of 15 entries. Mr. H. J. Tilley led with Arran Victory, Mr. M. Hoad with Tinwald Perfection, and Mr. George Ashley with Lochar. The Hon. F. T. Halsey (gr. Mr. T. Avery) beat 17 contestants in a class for any variety not included in the preceding classes. His tubers of Templar were highly meritorious.

Special Prizes.

Messrs. Randall Bros. and Parsons' prizes were offered to allotment holders. Mr. W. P. Orrill, Hinckley, had the best of six collections of six dishes of Potatos, closely followed by Mr. W. Coleman, of Buckingham. The class for six dishes of immune varieties attracted ten exhibitors. The last-named exhibitor took the lead with clean, shapely specimens; 2nd, Mr. W. Perks, Stourbridge. Mr. O. Hartshorn, Leicester, had the best of nine entries in a class for three varieties, and Mr. W. Coleman brought the three best dishes of immune varieties.

Messrs. Sutton and Sons' Prizes.—The best dish of Edinburgh Castle came from Mr. W. Robinson, Forton Garstang; 2nd, Mr. M. Hoad. Mr. A. E. Turner, Lowestoft, staged the winning dish of Stirling Castle; Mr. J. J. Sharp, Limpsfield, being 2nd. The first prize for White City was well won by Mr. J. Naylor, Walsall, whose exhibit also carried off the extra prize of a Silver Cup offered by Messrs. Birch, of Liverpool, for the best dish in the competitive classes. The Hon. F. T. Halsey (gr. Mr. T. Avery) had the best of 29 entries in the class reserved for Majestic (the specimens were exceedingly good); 2nd, Mr. C. T. Bradley, Birmingham. The class for Abundance was also well contested: 1st, Rev. F. Sandy, Oscott College; 2nd, Mr. George Ashley. The best dish of Gordon Castle came from Mr. Edward James, Stonehouse.

Messrs. E. Webb and Sons' Prizes.—The best dish of Colonist came from Mr. A. Basile; 2nd, W. J. Gresson, Esq. (gr. Mr. T. Parry). Mr. F. Woolford, Purton, Wiltshire, showed the leading dish of Guardian. The dish of Great Scot selected out of 42 entries which won the first prize for Mr. W. J. Middlebrooke, Thruston, Hereford, was of a very high order of merit; 2nd, Mr. H. Davis, Stourbridge. The tubers of Prosperity from the Hon. F. T. Halsey (gr. Mr. T. Avery) were of even, regular size and were deservedly awarded the 1st prize; 2nd, Mr. A. Basile. Mrs. Smart showed the best dish of Goldfinder, Mr. F. Woolford being placed 2nd.

Messrs. Dickson and Robinson offered prizes for six dishes of immune varieties: 1st, the Hon. F. T. Halsey (gr. Mr. T. Avery); 2nd, Mr. George Ashley.

Messrs. Cross and Co.'s prizes were offered for nine dishes of immune varieties: 1st, Mr. Mr. Percy Artingshall, Lathom; 2nd, Mr. A. W. Patterson, Moseley.

The strongest competition was found in the four classes reserved for allotment holders, small holders and amateur gardeners only. The prizes were offered by Messrs. Bees, Ltd., Liverpool. The entries numbered 237. In the class for Majestic, 64 exhibitors competed and the 1st prize was won by Mr. H. Andrews, Berkhamsted; 2nd, Mr. C. T. Bradley, Birmingham. The last named excelled in the class for Kerr's Pink, in which there were 60 entries; 2nd, Mr. A. Basile. The best of 35 dishes of Tinwald Perfection came from Mr. G. Powell, Redditch. Mr. T. Butcher, Ashford, Kent, being 2nd. In a class for any variety other than the three named, Mr. E. J. Keeling, Birmingham, was placed in front of 77 competitors—the biggest number in any one class. His tubers of Arran Comrade were particularly good; 2nd, Mr. Fred Ashley.

Honorary Exhibits of Potatos.

Large Gold Medals were awarded to Messrs. Sutton and Sons, Reading, for an unusually large and very fine exhibit of Potatos, including a large number of varieties not yet in commerce; Messrs. Dickson and Robinson, Manchester, who had, in addition to Potatos, a very fine collection of Onions.

Small Gold Medals: Messrs. Bees, Ltd., Liverpool; Messrs. Ryder and Son, St. Albans; Messrs. J. and W. Birch, Sefton, Liverpool; Mr. J. L. Clucas, Ormskirk; Messrs. Sumer and Leivesley, Ormskirk.

Silver Medals: Messrs. Dickensons, Ormskirk; Messrs. Tillie and Whyte, Edinburgh.

Bronze Medals: Mr. W. J. Campbell, Edinburgh; Messrs. Percy Artingstall, Ltd., Lathom.

From the Ormskirk Trial Grounds of the Board of Agriculture and Fisheries came a collection of immune and non-immune varieties of Potatos. This exhibit was of great educational value and formed a most interesting and instructive feature of the show. The Birmingham Parks Department contributed Potatos which had been grown in the city parks.

ROYAL HORTICULTURAL.

November 18.—There was a very interesting and attractive meeting and exhibition at the Society's hall, Vincent Square, on this occasion, and the attendance was good, probably as a consequence of the warmer and brighter weather prevailing on this date.

Fruits, Chrysanthemums and Potatos were the leading features of the exhibition, but Carnations and shrubs were also shown, and several artists contributed garden scenes and flower studies.

Two Gold Medals were awarded. The Floral Committee granted four Awards of Merit, and the Orchid Committee granted one First-Class Certificate and one Award of Merit.

Floral Committee.

Present: Messrs. H. B. May (in the chair), E. A. Bowles, Sydney Morris, W. B. Cranfield, J. Jennings, W. J. Bean, John Green, G. Reuthe, John Heal, Wm. Howe, J. F. McLeod, W. H. Page, J. W. Barr, John Dickson, Charles Dixon, Chas. E. Pearson, W. P. Thomson, E. H. Jenkins, George Paul, W. Cuthbertson, R. C. Notcutt, J. T. Bennett Poë, H. Cowley and H. R. Darlington.

Awards of Merit.

Chrysanthemum Barbara Field.—A useful decorative, white variety, with broad-petalled flowers of considerable substance. In form and colour it is reminiscent of Elaine, but has better stems. It is free flowering and will come a good size when disbudded. Raised by Mr. Lewis Smith. Shown by Messrs. Whitelegge and Co.

Chrysanthemum Princess Mary.—A large-flowered Japanese variety of rich yellow colouring. A sport from Queen Mary. Shown by Messrs. W. Wells and Co.

Chrysanthemum Percy A. Dove.—A very large, full and handsomely proportioned incurved variety of cream-white colour. It is loosely incurving, as shown, but no doubt will eventually become a popular exhibition sort. Shown by Mr. A. B. Hudd, Farrants, Bickley, Kent.

Carnation Mrs. Walter Hemus.—This is a lovely perpetual flowering variety and a home raised one. The colour is light, bright pink, and the blooms are of good form, slightly fringed on the edges of the firm petals, fragrant, and $3\frac{1}{2}$ inches in diameter. Stems long and stiff. It is a capital grower as proved by the plants shown, and we understand it is very free blooming. The Floral Committee of the British Carnation Society adjudicated on this variety during the day and granted an Award of Merit in its favour. The pointing was as follows:—Size, 18; colour, 18; stem and habit, 19; form, 13; substance, 9; fragrance, 8; calyx, 4; total 89—the highest number of points yet given to a variety. Shown by Mr. Walter Hemus, Willowdene, Hanworth, Middlesex.

Groups.

Mr. H. J. Jones filled about one-third of the side of the hall with Chrysanthemums and put up a fine lot of flowers in large stands, as a background, with bunches of decorative and single varieties below, and a number of big Japanese blooms in front. Of the show varieties Mrs. H. J. Jones, Mrs. C. H. Curtis, Mrs. Thomas Stevenson, Mdme. Stuart, Victory (a long petalled white), General Allenby (golden yellow), Mr. E. Dove, Sir A. Rollit and Rosemary Simmons were some of the best. (Silver-gilt Flora Medal.)

A very imposing exhibit of Chrysanthemums was arranged by Messrs. W. Wells and Co., and it filled about one-third of the length of the hall. The centre of the display consisted of about 50 big blooms of Queen Mary. Wm. Rigby, Louisa Pockett, Princess Mary and Mrs. Gilbert Drabble were equally well and extensively shown, and in between these fine flowers were smaller groups of single, incurved, pompone and decorative varieties. (Silver-gilt Flora Medal.)

Mr. Keith Luxford's exhibit of Chrysanthemums was composed of bright decorative and single varieties. Of the former Cranfordia, Bronze Cranfordia (new), Almirante, Batchelor's White, H. W. Thorpe, and Market Red were shown in very good form, and they are all good free flowering sorts. (Silver Banksian Medal.) The Misses Price and Fyfe showed a pretty set of single Chrysanthemums, notable varieties being Rose o' the River, Claribel, Oriole, Mavis (very fine) and Mrs. Doris Hilder. (Bronze Banksian Medal.)

Some capital flowers of perpetual Carnations were exhibited by Messrs. Allwood Bros, whose leading varieties on this occasion were Triumph, Jane Allwood (yellow), Mary Allwood, Wivelsfield White, May Day, Enchantress, Supreme and Beacon. (Silver Banksian Medal.) Messrs. S. Low and Co. made a small contribution of perpetual flowering Carnations, the best of their varieties being Mrs. E. Douty and Red Ensign. (Bronze Flora Medal.) Messrs. Wm. Cutbush and Son were exhibitors of perpetual Carnations, and staged good blooms of Baroness de Brienen, Carola, Scarlet Carola and Mikado. (Bronze Flora Medal.)

Nerines in variety were shown by Messrs. Barr and Sons, and their interesting group included a charming range of colouring, from the white of Snowdon, the soft pink of Miss Jekyll, the lilac of Mrs. Douglas, and the purplish rose of Carnival, to the scarlet and crimson of Miss Willmott and J. W. Barr. (Bronze Banksian Medal.) Messrs. H. B. May and Son exhibited Ferns in variety, with Cyclamen and Solanums. (Silver Banksian Medal.)

Interesting shrubby plants were exhibited by Messrs. J. Piper and Sons, and some of these were Juniperus pachyphloea varieties, Cupressus bullata, Corokia variabilis and C. Cotoneaster. (Bronze Banksian Medal.) Mr. G. Reuthe also showed shrubby plants, with a few Alpines and a bright central grouping of Nerines. (Bronze Banksian Medal.)

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Messrs. Jas. O'Brien (hon. secretary), W. Bolton, Arthur Dye, R. Brooman White, S. W. Flory, W. J. Kaye, R. A. Rolfe, Gurney Wilson, Stuart Low, R. G. Thwaites, Pantia Ralli, E. R. Ashton, Frederick J. Hanbury, A. McBean, J. E. Shill, J. Charlesworth, and Walter Cobb.

AWARDS.

FIRST-CLASS CERTIFICATE.

Laelio Cattleya Schröderae magnifica (L.-C. Bella alba × C. Maggie Raphael alba) from Baron BRUNO SCHRODER, The Dell, Englefield Green (gr. Mr. J. E. Shill). A superb variety and slightly superior to that for which a First-Class Certificate was previously awarded. The finely-grown plant bore three very large flowers with pure white sepals and petals, the broad violet-purple lip having a clear yellow disc and gold lines on a purplish base.

AWARD OF MERIT.

Cypripedium Dixmude (Leeanum × Thalia) from Baron BRUNO SCHRODER. A massive flower of good shape with the dorsal sepal green at the base and white above, the median area bearing heavy, spotted lines of dark purple. The petals and lip are mahogany-red with yellow margin.

OTHER EXHIBITS.

Messrs. STUART LOW AND CO. were awarded a Silver Flora Medal for a group of finely-flowered Cattleyas and Laelio-Cattleyas with a bright selection of scarlet Sophronitis crosses.

Messrs. J. and A. MCBEAN, Cooksbridge, were awarded a Silver Flora Medal for an effective group with Cymbidiums, Oncidium incurvum album, and other slender Oncidiums at the back, the body of the group being of Laelio-Cattleyas and other hybrids. A fine feature in this exhibit was eight plants of Laelio-Cattleya Linda (L.-C. Arachne × C. Dowiana aurea), all of handsome appearance and varying in colour.

Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), showed three hybrids with the Gatton Blue tints, but was prevented by the unfavourable weather from making a large display of those beautiful Orchids, as many had not expanded their blooms. The display, weather permitting, will be made at the next meeting.

RICHARD G. THWAITES, Esq., Chessington, Streatham, sent two new hybrids flowering for the first time. Odontioda Livinia (Odm. amabile × Oda. Thwaitesii) had a first flower of great size and fine shape, in colour dark chocolate-purple with a crimson shade, and rose-purple markings on the lip; Odontioda Saturn (Odm. Argon (Edwardii × amabile) × Oda. Sanderae). The flowers showed the influence of Odm. Edwardii, as is usual in crosses with that distinct species. They are dark chocolate coloured with yellow crest to the lip. This exhibitor also showed the fine pure white Cattleya Snowdon.

Messrs. FLORY AND BLACK, Slough, showed a selection of hybrids, including Brasso-Cattleya Juliet, var. Witchery (B.-C. Madame J. Leemann × C. chocoensis alba), a good, bold white flower with pale yellow disc to the lip; B.-C. General Diaz, B.-C. Nestor, and Sophro-Laelio-Cattleya Aeros (L.-C. elegans × S. grandiflora) with brilliant scarlet flowers.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (Chairman), W. Poupart, G. P. Berry, Owen Thomas, F. Jordan, G. Reynolds, E. Beckett, W. H. Divers, E. A. Bunyard, H. Markham, Geo. F. Tinley, A. R. Allan, A. Bullock and Geo. Kelf.

Several new varieties of Apples were submitted for award, and four of them were very promising. One, named Tythby's Seedling, received a provisional Award of Merit, which will be confirmed if the cropping and general qualities of the tree prove satisfactory after an inspection by members of the Committee next season. This excellent fruit has a warm yellow colour, flushed with crimson; it is of large size, regular in outline, and the flesh is of good flavour. The eye is set in an even basin and the segments are closed. The stalk is about half an inch long. This is a remarkably handsome variety and would probably prove a good market Apple. Another excellent Apple, named Histon Cropper, was considered by the Committee to possess merit. It is a conical fruit, with green skin, bearing a heavy flush on the side next to the sun. The eye is shallow with closed segments, and the basin is somewhat plaited; the stalk, which is half an inch long, is deeply set. Histon Favourite, a very attractive Apple, is grown largely in the Histon neighbourhood as a market variety. Mr. E. A. Bunyard stated that a two acre plantation of half-standard trees, fourteen years planted, of this sort, had given a crop of two thousand bushels in three years. These three varieties of Apples were sent by Messrs. CHIVERS.

Mr. THOMAS COOMBER, The Hendre Gardens, Monmouth, showed a new seedling Apple of the Emperor Alexander type named Thomas Coomber. The fruits are highly coloured and of conical shape. The eye is large and set in a plaited basin; the stalk, which is about three-quarters of an inch long, is also set in a deep cavity. Mr. W. H. DIVERS showed fruits of the old Crofton Scarlet variety which is now very little known in gardens. The fruits are narrow and almost equally broad at the top as at the base. The skin is very highly coloured with pale yellow about the eye. Hogg describes it as "a most delicious dessert Apple, of first-rate quality, in use from October to December, and does not become mealy."

Messrs. SUTTON AND SONS, Reading, filled one end of the hall with a most interesting exhibit of Potatos. This display, chiefly of finely grown and admirably staged tubers, included no fewer than 37 varieties immune to wart disease and 65 non-immune varieties, with 100 seedlings of various types. About 1½ tons of Potatos were on view. There were many curious forms, such as Fir Apple and Congo. Examples of Wart disease were shown in sealed bottles and created a great deal of interest. A few of the immune varieties shown were Kerr's Pink, Edzell Blue, Dargill Early, Bishop, Arran Victory, The Lochar, Border Queen, White City, Sutton's Surpreme, Snowdrop, Rector, The Ally, Sutton's Flourball, Tinwald Perfection, Favourite, Climax, Majestic, Great Scot, Arran Comrade, Golden Wonder and Langworthy. The Gold Medal awarded for this educational display was thoroughly deserved.

The Hon. VICARY GIBBS, Aldenham House, Elstree (gr. Mr. E. Beckett), contributed an exhibit of fruit which, for high quality and skilful arrangement, was equal to any of the collections of vegetables for which the gardens are famed. The use of a pale green wooden stand of an ornamental nature enabled Mr. Beckett to arrange some of the dishes on stands above the general collection and these added much to the effectiveness of the exhibit. Where all the individual dishes were of such excellence it becomes difficult to select any for special mention, but probably the many bunches of perfectly finished Grapes deserve the very highest praise. These were of such varieties as Alnwick Seedling, Cooper's Black, Appley Towers and Gros Maroc. Pears in many varieties, Medlars Filberts, as well as a great variety of splendid Apples, all illustrated very high cultivation. (Gold Medal.)

Messrs. G. G. WHITELEGG AND CO. staged an interesting collection of Apples and Pears. Of the former, a dish of Blenheim Pippin was of unusually brilliant colour, and consequently exceedingly attractive. Other varieties of perhaps higher colour than normally were Donnington Pearmain and Bismarck, while of the Pears Beurré Alexander Lucas, Doyenné du Comice and Charles Ernest were especially good. (Silver-gilt Knightian Medal.)

A splendid collection of 12 boxes of Cox's Orange Pippin Apple, of the very best market type, was shown by Mr. W. H. PAGE, Hampton. This exhibit illustrated excellent methods of grading and packing perfectly-formed, highly-coloured fruits. (Silver-gilt Hogg Medal.)

The Society sent from the Wisley Gardens a collection of Potatos from their trials of early varieties. As both cooked and raw tubers of each sort were on view it was a particularly valuable exhibit.

NATIONAL CHRYSANTHEMUM.

The Floral Committee met at Essex Hall on November 17, and made the following awards:—

FIRST-CLASS CERTIFICATE.

Cissbury Pink.—A medium-sized, elegant Japanese variety, of good form and substance. The colour is bright pink, with a little yellow in the unfolded central petals. Shown by Mr. C. AISH, Cissbury Nursery, Dunstable.

AWARD FOR COLOUR.

Bronze Cranfordia.—A compact, medium-sized Japanese variety, with broad and firm petals. It is a sport from Cranfordia, and the colour is deep apricot rather than bronze. Shown by Mr. K. LUXFORD, Sheering Nursery, Harlow.

The Executive Committee met at 6 p.m. at the offices of the British Florists' Federation, Wellington Street, Covent Garden, and there was a good attendance. It was reported that the amount of prize money won on November 4 was just over £76. The schedule sub-committee reported a first revision of the schedule for 1920, and the meeting agreed to an allocation of not more than £100 for prizes next year. Preliminary arrangements were made for the holding of the 1920 show at the Royal Horticultural, Hall, on November 2, and also for a minor exhibition for the encouragement of early-flowering Chrysanthemums at the last R.H.S. meeting in September, 1920.

At the conclusion of business Mr. F. Ladds opened a discussion on Methods of Protecting Chrysanthemums from the Effects of Frost. Mr. Ladds referred at some length to the use of heavy smoke, and said that if a greenhouse were filled with smoke from damp hay or straw pressed firmly over a piece of hot coke in a bucket or pot, the plants in the house would be kept safe from several degrees of frost, and that the same sort of fumigation would successfully thaw out frozen plants of Stocks, Marguerites and many other "soft" plants. A capital discussion followed.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

OCTOBER 16.—Committee present: Rev. J. Crombleholme (in the chair), Messrs, A. Burns, D. A. Cowan, J. Cypher, J. Howes, A. Keeling, D. McLeod, J. McNab, Dr. F. T. Paul, E. W. Thompson, and H. Arthur (secretary).

AWARDS.

FIRST-CLASS CERTIFICATES.

Cattleya Lady Veitch alba, from P. SMITH, Esq., and *Cattleya Adula alba* from S. GRATRIX, Esq., exhibited at the meeting on October 2, were confirmed.

Brasso-Cattleya Oberon Sander's var., from S. GRATRIX, Esq.

AWARDS OF MERIT.

Odontoglossum illustrissimum Purple Emperor O. crispum mosiacum; *Cattleya Queen of Roumania* (parentage unknown); *Cypripedium Rossettii Perfection*, from S. GRATRIX, Esq.

Cypripedium T. Abbott (Leeanum Clinkaberryanum × Harri-Leeanum), from Messrs. A. J. Keeling and Sons.

GROUPS.

Mrs. BRUCE and Miss WRIGLEY, Bury (gr. Mr. A. Burns), staged a group for which a Silver-gilt Medal was awarded. The collection included Cattleya Portia, C. Mantinii, C. nobilior, and C. Bowringiana; Vanda coerulea, Cypripedium Maudiae, Odontoglossum grande aureum, Cymbidium erythrostylum, and Epidendrum vitellinum autumnalis.

S. GRATRIX, Esq., Whalley Range (gr. Mr. J. Howes), was also awarded a Silver-gilt Medal for a group containing Cattleya Queen of Roumania, C. Snow Queen, C. Ivernia, Laelio-Cattleya luminosa Golden Glow, Sophro-Cattleya Faboris excelsa, and others.

PORTSMOUTH CHRYSANTHEMUM.

NOVEMBER 6, 7 and 8.—The annual show of the above Society was held in the local Town Hall on the 6th, 7th and 8th inst., being the first exhibition for five years. The show was opened by the Mayoress, Mrs. J. Timpson. The exhibits were the best ever exhibited in the town hall. Very fine blooms were exhibited by Mr. H. WOOLMAN.

Sandy Hill Nurseries, Birmingham, and his exhibit was awarded a special Gold Medal. There were three entries in the class for 36 blooms of Japanese Chrysanthemums in 18 varieties. The 1st prize, a Silver Cup, was awarded to the Hon. R. LINDSEY; 2nd Messrs. GROOM AND SON, florist, Gosport. In the class for vases of single Chrysanthemums there were five entries. The 1st prize was won by Mr. H. SNOOK; 2nd Mr. W. SNOOK. Messrs. GROOM AND SONS showed well in all classes. The exhibits in the class for a group made a fine display. There were four entries, Mr. SOAMES, gardener, Victoria Park, being a good 1st, the prize including a cup; 2nd Messrs. GROOM AND SONS; 3rd Mr. W. JEFFERIES.

For specimen Chrysanthemum plants Mr. W. JEFFERIES was placed 1st, Mr. C. JOHNSON 2nd, and Messrs. GROOM AND SONS 3rd. For a group of single Chrysanthemums there were six entries, and the 1st prize was won by Mr. SOAMES, Victoria Park, with the finest group shown in the town hall; 2nd Mr. C. JOHNSON. Mr. SOAMES also exhibited the best table plants among five entries. The best black Grapes were shown by Mr. MILLER; 2nd Mr. PALMER. Apples made a fine show, and the 1st prize was awarded to Mr. H. DARIUMN; 2nd, the Executors of the late Alderman GILL. Mr. DARIUMN also excelled with Pears. There were 225 entries in the vegetable classes. The Silver Cup offered for the highest points gained in the vegetable classes was won by Mr. G. GEORGE; 2nd Mr. WELCH.

The Trade was well represented, and Gold Medals were awarded to Messrs. FAY AND SON, florists, Southsea, for floral designs; Mr. E. and E. SMEE, florists, Southsea; Messrs. GROOM AND SONS, Gosport; Messrs. TOOGOOD AND SONS, Southampton; and The BARNHAM NURSERY Co.

NORTH OF ENGLAND HORTICULTURAL.

A special general meeting of the North of England Horticultural Society was held at the Church Institute, Leeds, on the 11th inst., to consider questions relating to the future of the society. Mr. J. S. Brunton presided over a small attendance of members.

Mr. H. Dyson Walker (Mirfield), as chairman of an Investigation Committee which was appointed in June, said that the members of that body had decided that they could not proceed with their duties until further powers were granted to them. They required the permission of the society to consult with the Royal Horticultural Society, with a view to amalgamation.

Mr. P. Clapham (Calverley) submitted correspondence with the Royal Horticultural Society, from which he surmised that the premier Society would be willing to accept the North of England Horticultural Society as their branch for the North.

Some discussion ensued. Several of the members urged that an endeavour should be made to persuade the Royal Horticultural Society to allow the North of England Horticultural Society to have control of the North of England, and it was hoped that the latter would not lose its individuality.

A resolution was eventually adopted granting powers to the Investigation Committee to pursue the plan of amalgamation, and to interview the Council of the Royal Horticultural Society in London, the committee afterwards to present a report to the January meeting of the North of England Horticultural Society.

TRADE NOTE.

JAPANESE BULB IMPORT CONTROL.

AFTER much strenuous effort on behalf of the importers and growers of Japanese Lily Bulbs, the Japaneses Bulb Import Control Committee, which has met under the auspices of the British Florists' Federation, has now completed its work. The Committee was appointed with the approval of the Import Restrictions Department of the Board of Trade; it obtained concessions for importers, drew up rules and regulations for the disposal of bulbs to growers and, during the season immediately following the Armistice, it fixed the selling price of bulbs.

After the removal of the prohibition of imports the Committee at once endeavoured to ascertain its position and what effect, if any, the licences and regulations issued would have. Many communications passed between the Committee and the Board of Trade and the Import Restrictions Department. From both of these the Committee received thanks, but it was not until early in the present month that its position was defined, in writing, as follows:—

Board of Trade,
Department of Import Restrictions,
22, Carlisle Place,
London, S.W.1.

Sir,—In reference to to-day's interview, I write to inform you that the position regarding your Committee is as follows:—

With the removal of the restrictions on import in August last, the whole basis on which the Committee and its regulations rested was removed. It is unlikely therefore that any agreements made in accordance with those regulations could now be legally enforced, and it appears to me that the Committee's work must come to an end. This may entail some little dislocation in the arrangements already made; but such dislocation appears inevitable owing to the suddenness with which the decision to remove the restrictions on the importation of bulbs was taken by His Majesty's Government.

I am, Sir,
Your obedient servant,
R. E. Enthoven,
Controller.

Chas. H. Curtis,
British Florists' Federation,
35, Wellington St., W.C.2.

The members of the Japanese Bulb Import Control Committee, as reconstituted in 1918, were Messrs. Geo. Monro, Jnr. (Chairman), H. Morgan Veitch, W. H. Page, W. Bunting, W. A. Sherwood, A. Dimmock and Chas. H. Curtis (Secretary).

MARKETS.

COVENT GARDEN, November 19.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)		Apples	
—Allington Pippin	4 0– 6 0	—Ribston Pippin	30 0–34 0
—King of the Pippins per ½ bus.	5 0– 7 0	Aubergines, pr. doz	2 0– 3 0
—Cox's Orange Pippin per ½ bus.	6 0–12 0	Bananas. singles	30 0–45 0
—Lord Derby	5 0– 7 0	French Figs, 12's 15's per box	1 6– 2 6
—Warner's King, per bus. ..	6 0– 7 0	Grapes Alicante	1 0– 1 6
—Lane's Prince Albert, per bus.	6 0– 8 0	—Special per lb.	2 0– 2 6
—Bramley's Seedling per bus. ..	6 0– 8 0	—Gros Colmar ..	1 6– 2 0
—Brit. Columbian— Cox's Orange Pippin, Jonathan, Grime's Golden, Nonesuch, McIntosh Red	40 lb. boxes 20–10 control.	—Special . .	2 6– 4 0
		—Almeria per barrel	30 0–40 0
		—Canon Hall ..	2 6– 7 0
		—Muscat, per lb.	2 6– 6 0
		Lemons 300's	35 0–45 0
		Nuts—Brazils (new) per cwt.	125 0–130 0
		Cob Nuts, per lb.	1 3– 1 4
		Walnuts, English singles	0 9– 1 0
		doubles	1 6– 2 0
—Blenheim Pippin per bus. ..	9 [illegible]–10 0	Pears, English per ½ bus.	
—Newton Wonder	6 0– 8 0	—Doyenne du Comice	12 0–20 0
—Nova Scotian— Blenheim Pippin Nos. 1 and 2 ..	30 0–34 0	Pineapples each ..	3 0– 8 6

REMARKS.—Business has been fairly satisfactory in most sections, and supplies have been more plentiful. English Apples have shown a slight falling in price, due to the large quantities available. A shipment of British Columbian Apples arrived in perfect condition, and are selling with no difficulty at control price, such being the demand for good coloured and well-packed dessert varieties. The quantities of English new crop Tomatos are inadequate for the demand, but the market is more or less overdone with inferior-coloured fruits, which are difficult to clear at any price. Hothouse Grapes continue in firm demand. French Figs are now available. Guernsey Beans are harder in price, due to comparative shortage of high-class vegetables. With more open weather green vegetables are already easing in price. Potatos continue short, with no change in price.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.) 60's	9 0–12 0
Asparagus plumosus	12 0–15 0	72's	7 0– 9 0
—Sprengeri ..	12 0–18 0	Ericra hyemalis— 48's per doz .	24 0–36 0
Aspidistra green	48 0–72 0	Erica nivalis— 48's	24 0–42 0
Cacti per tray 12's. 15's ..	5 0– 6 0	60's	15 0–18 0
		72's	5 0–10 0
Chrysanthemums 48's per doz. ..	18 0–24 0	Marguerites white	18 0–24 0
		Palms Kentia ..	24 0–36 0
Cyclamen 48's per doz.	24 0–30 0	—— 60's	15 0–18 0
		— Cocos	24 0–36 0
Erica gracilis— 48's per doz. ..	15 0–30 0	Solanums, 48's per doz.	15 0–21 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis, in variety. 48's	12 0–18 0
— elegans ..	15 0–18 0	— 32's	24 0–36 0
Asplenium 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ..	5 0– 6 0
— nidus 48's ..	12 0–15 0	— small 60's ..	4 0– 4–6
Cyrtomium 48's	10 0–15 0	— 72's per tray of 15's	3 6– 4 0

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans Guernsey, per lb.	2 6– 3 0	Parsnips, per bag	11 0–12 0
Beets, per bag ..	10 0–11 0	Parsley, per doz. bunches ..	3 0– 4 0
Cabbage, per doz.	2 0– 3 0	Potatos, per cwt.	12 0–13 0
Carrots, per bag	9 0–10 0	Radishes, per doz. bunches ..	1 6– 2 0
Cauliflower, per doz.	3 0– 4 0	Spring Onions, per doz. bunches ..	5 0– 7 0
Celery, per fan, (12 heads) ..	4 0– 5 0	Sprouts, per bag 28 lb.	7 0– 8 0
Cucumbers, per doz	9 0–15 0	Tomatos, English, per doz. lbs. ..	6 0– 9 0
Garlic, per lb. ..	1 3– 1 4	—Teneriffe, Best, per bundle	28 0–30 0
Herbs, per doz. bun.	4 0– 6 0	ord ,, ,,	20 0–25 0
Mint, per doz. bun.	9 0–12 0	Turnips, per bag	8 0–10 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Watercress, per doz	0 9– —
Mushrooms, per lb.	4 0– 5 0		
Onions, per cwt.	9 0–10 0		

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea white, per doz. bun. ...	15 0–18 0	Orchids per doz.: — Cattleyas ..	24 0–30 0
Carnations per doz. blooms, best American var.	6 0– 9 0	Orchids—Cypripediums per doz.	6 0– 9 0
Chrysanthemums— — White, per doz. blooms ..	4 0–10 0	Pelargonium, double scarlet, per doz. bun. ..	8 0–10 0
— Yellow ,, ..	4 0–10 0	— white, per doz. bunches ..	6 0– 9 0
Pink ,, ..	4 0–12 0	Physalis, per doz. bunches ..	12 0–18 0
— White per doz. bun.	24 0–36 0	Richardia (Arums), per doz. blms.	18 0–24 0
— Coloured ,,	24 0–36 0	Roses per dozen blooms—	
French Flowers— —Mimosa, per pad	18 0–20 0	— Liberty ..	8 0–12 0
—Narcissus, Paper White per pad	40 0–45 0	— Melody ..	6 0–10 0
—Violets, Parma, per bun	8 0–10 0	— Mme. Abel Chatenay ..	6 0– 9 0
Gardenias, per box special ..	12 0–	— Ophelia ..	9 0–12 0
ordinary ..	5 0– 6 0	— Richmond ..	6 0–10 0
Heather, white — —per doz. bn.	10 0–12 0	— Sunburst ..	8 0– 9 0
Lapagerias, per doz. blooms ..	5 0–6 0	— White Crawford	6 0– 8 0
Lilium longiflorum, per bunch ..	24 0–26 0	—Roman Hyacinth per doz. spikes	4 0– 5 0
Lilium speciosum album per bunch	6 0– 8 0	Stephanotis 72 pips	7 0–
— rubrum per bun	7 0– 8 0	Stock Dbl. White	
		Violets Single large per doz. bun.	10 0–15 0
		— Ordinary ..	6 0– 9 0

REMARKS.—Carnations and Roses were only in moderate supply during the whole of last week, and their prices continued very firm. This morning the supplies of the former appeared to be more plentiful, and prices showed a tendency to drop. Best graded blooms of Roses were scarce, especially white varieties, which were not in sufficient numbers for the demand. The best sorts offered are: Mdm. Abel Chatenay, Ophelia, Sunburst, Liberty, and Richmond. There are very few choice flowers, such as Lapagerias and Stephanotis, which are almost finished. Gardenias are scarce and dear. There is only about one arrival of Lily-of-the-Valley a week, and the consignment is sold immediately. Cut Roman Hyacinth increases in quantity, and the quality is much better. The supplies of Liliums and Richardias (Arums) show little change from last week. There is only a moderate demand for these flowers, doubtless owing to their high prices. Chrysanthemums, including disbudded, large and medium sized blooms are more plentiful than the bunched spray varieties. All the best blooms and bunched white and coloured Chrysanthemums are soon cleared. Their prices show but little alteration from those of last week. The first consignment of Narcissus, Mimosa, Parma Violets and a few single Violets from the South of France reached the market on Friday. The Narcissi and Parma Violets arrived in good condition. The former realised from 48s. to 50s. per pad of forty-eight bunches. The Parma Violets 10s. per bunch.

Obituary.

T. W. Turner.

It is with very great regret that we record the death of Mr. Thomas W. Turner, Superintendent of the gardens, Royal Hospital, Chelsea. Mr. Turner was for many years general foreman in the Chiswick gardens of the Royal Horticultural Society, under the late Mr. A. F. Barron, and subsequently under Mr. S. T. Wright, and he will be remembered as a prominent official at the meetings and exhibitions of the R.H.S. in the 'nineties, also as the grower chiefly responsible for the trials conducted in the Chiswick gardens during the long period he was foreman. He entered Chiswick in 1888 and succeeded Mr. W. P. Thomson as foreman. When the Royal Horticultural Society's gardens were removed to Wisley, Mr. Turner was appointed in charge of the gardens of the Royal Hospital, Chelsea, an office he held at the time of his death, which occurred on the 13th inst., in St. George's Hospital. Mr. Turner was a man of strong personality, fearless in his duties, extremely capable as a gardener, and, notwithstanding his independence of spirit, had a very wide circle of friends. For some years after leaving Chiswick he served as a member of the Floral Committee of the Royal Horticultural Society, but in recent years increasing pressure of his duties prevented his attendance at the meetings. Exhibitors at the numerous shows held during recent years in Chelsea Hospital gardens found Mr. Turner always ready with that assistance a capable person on the spot is in a position to give. His remains were interred at Brookwood Cemetery, on Tuesday, the 18th inst., at the time when one of the fortnightly meetings of the Royal Horticultural Society, with which he had been so long and usefully associated, was being held, and as a consequence many of his intimate friends and former colleagues were unable to be present to pay a last tribute of respect and esteem. He leaves a wife and one son, to whom we tender our deepest sympathy in their sad bereavement.

THE LATE MR. T. W. TURNER.

Answers to Correspondents

Apple Shoots Diseased: *A. P.* The trouble is due to "canker and blossom wilt," caused by the fungus Monilia cinerea. The "blossom wilt" condition is the first evident symptom of the disease and easily overlooked in its early stages. Soon after the flowers open, the leaves, or some of the fruiting spurs commence to wilt and soon become brown and withered. The fungus spreads and attacks the stem, causing the portion above the cankered part to die. During December the immature pustules of spores break through the bark, and in spring the spores are liberated. Spraying with fungicides is of very little use in checking the disease; the best method of eradicating it is by the removal and destruction of all infected spurs and cankered shoots.

Apples for Market: *G. B. C.*—The following are ten recognised market varieties of Apples named in order of ripening :—Dessert : Beauty of Bath, Mr. Gladstone, Worcester Permain, Duchess of Oldenburg, Allington Pippin. Cooking : Early Victoria, Lord Grosvenor, Royal Jubilee, Bramley's Seedling. A few trees of Cox's Orange Pippin might be planted to give fruits before Allington Pippin, but they would very likely canker on clay soil.

Basic Slag for Fruit Trees: *H. T.*—The present is the most suitable time to apply basic slag to fruit trees, and it may be used at the rate of two or three ounces to the square yard. This phosphatic fertiliser, which also includes an appreciable amount of free lime, is a very suitable manure to apply to fruit trees of all kinds in autumn.

Climbers for a Verandah Under Glass: *Constant Reader.* To cover the wall spaces under a verandah there is nothing better than Myrtles and Camellias, as they are evergreen and easily kept under control. If you prefer a climber to train under the roof, Passiflora coerulea and the white variety, Constance Elliott, are both excellent subjects; they also have the advantage of not being liable to attacks of insect pests. Clematis indivisa var. lobata, a New Zealand species, with white starry flowers, should prove hardy under a verandah, as also should Clianthus puniceus, trained on the back wall. Trachelospermum jasminoides, Lonicera sempervirens, Lantana salvifolia (delicatissima), Jasminum primulinum, Berberidopsis corallina, Cestrum elegans and C. Newellii. Rhodochiton volubile should grow well and may be raised from seed every year. All the plants enumerated should succeed, as all are more or less hardy on warm walls in the south-west.

Hard-centred Chrysanthemum Flowers: *E. S. R. C.* When Chrysanthemums are treated very liberally with a view to the production of large blooms for exhibition purposes, it sometimes happens that a period of hot, bright and dry weather in early autumn upsets the grower's calculations. Such weather hardens the growth of the plants so that "ripening of the wood," as it is called, is excessive. The result is delay in the opening of the flowers, and in some instances a severe hardening of the centre of the buds occurs and the flowers fail to expand satisfactorily. Great care is necessary in watering and the application of manure during seasons like the one recently experienced.

Lack of Colour in Tomato Fruits: *H. F. M.* The lack of colour in the Tomato fruits is due to absence of potash in the soil in which the plants have been grown. Dry wood ash or other potassic fertiliser should be added to similar soil if such is used for Tomatos next season.

Mealy Bug on Amaryllis Bulbs: *Constant Reader.* To clean Amaryllis bulbs of mealy bug, turn them out of their pots when they are at rest, wash all the soil off the roots, and carefully remove all loose and decaying scales. Wash the bulbs in soft soap and warm water, 2 ozs. to one gallon of water, or an insecticide may be used instead. With a small, fairly stiff painter's brush, carefully clean out all the insects from the crown of the bulbs; then turn the latter upside down to drain and dry. When dry they may be re potted; this can be done any time during or just before winter if it is proposed to start them into growth. As mealy bug gets between the scales the pest is very difficult to eradicate; therefore, when the bulbs are starting into growth, they should be examined daily, and any insects seen removed from between the scales by means of a brush. With constant attention, it is possible to eradicate all the mealy bug in the course of a single season.

Melons unsatisfactory: *W. H.* From your description of the fruits we suspect that they are troubled with a bacteria, causing bacterial rot. Send a fruit for examination.

Names of Fruits: *J. M.* Fearns Pippin.—*G. J.* 1, Blenheim Pippin; 2, Adams's Pearmain; 3, Lord Derby.—*Ajax.* Fruits decayed.—*F. G. M.* 1, Probably Harvey Apple; 2, Warner's King; 3, Bismarck.—*J. R.* Hollandbury.

Names of Plants: *A. W.* A, Spiraea Van Houttei; B1 and B2, Euonymus europaeus; C, Ruellia Portellae.—*J. T. R.* Cryptomeria japonica var. elegans.—*G. F.* 1. Acer Reitenbachii. 2. A. Schwedleri.—*Miss B.* The shrub is Pieris floribunda. The Conifers are Cedars, probably Cedrus Libanii and C. Deodara, but the specimens were insufficient.—*C. W. T.* No numbers. Abies firma and Pinus excelsa. —*R. C.* 1. Magnolia acuminata. 2. Quercus acuta. 3. Q. Ilex.—*A. D.* 5. Halesia hispida. 6. Cryptomeria japonica var. elegans.

Nerines: *Constant Reader.* Nerines flower best when the receptacles are crowded with bulbs, and the plants should not be re-potted frequently unless they are in a bad condition. If it is desired to transfer them to larger pots, the work is best done just when they have finished flowering; if they are in good condition, with plenty of healthy roots, do not disturb the soil, simply transfer the mass of soil and roots to a larger pot. If the roots are in bad condition, the old and sour soil should be shaken off, and the roots washed clean, carefully removing any that are dead and any decayed matter about the base of the bulbs. When the roots are dry, re-pot them into as small-sized pots as will hold them, and give them little or no water until new roots form and leaf growth begins. For plants in a bad condition, re-potting is best done about the end of July, as they then have a better chance to make a few fresh roots before winter.

Pelargonium plant unhealthy: *W. W.* No disease due to fungous or insect attack is present in the plant you send. The roots have died as a result of some wrong cultural condition, such as unsuitable soil or drought. The soil you send is not of first-class quality, but we can find no trace of any foreign substance, such as oil, which would cause the death of the plants.

Raising Seed from Double Flower Begonias: *E. A. H.* It is more difficult to obtain seed from double Begonias than from single ones on account of the difficulty of obtaining pollen. Pollen should be taken from flowers of the best semi-double kinds. The male blooms should be cut and placed in dry sand on a shelf in a dry place. The flowers will spread open, the anthers burst and give a little pollen. Apply the pollen to the stigma as lightly as possible by means of a camel hair brush, on a bright and sunny morning. All the double flowers should be taken from the plant to be fertilised, leaving only the female blossoms. We know of no modern book on the culture of the flowers: the older works on the subject are out of print.

Rose shoots with discoloured foliage: *F. H. M.* The dark appearance of the foliage is not due to fungous disease, but is merely the natural browning which occurs on Rose foliage at this season of the year.

Varieties in a Collection of Fruit: *A. T.* Charles Ross and Rival are distinct varieties of Apples and you would not be disqualified provided two sorts or varieties of Apples were admissible in the collection. It is probable, however, that you have confused the term "kind" with "varieties." If the schedule calls for, say, six distinct kinds of fruits, then only one dish of Apples would be admissible, unless the schedule expressly stated that more than one sort of any particular kind was allowed. Apples, Pears, Plums and Grapes are distinct "kinds"; Charles Ross and Rival are distinct "varieties" or "sorts."

Communications Received.—C. A.—J. M.—E. R.—E. A. C.—A. J. B.—J. R. A.—A. J. S.—Mrs. A.—W. J. H.—H. C. M.—H. T. H.—A. C. B.—A. P.—D. J. D.—E. J. D.—J. W. M.—W. P.—A. G. E.—M. C. S.—Dr. H.—O. A. S.—Prof. B.—J. W.—W. G. G.—H. M.—G. K.—J. S.—L. H. E.—A. J. C.—W. H.—V. C. A. F.—G.—R. E. A.—C. C. S.—J. C.—G. T.—C. C. C.—F. M.—R. W. B.

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GARDENER (HEAD WORKING); Scotch; life thorough practical experience all branches, including Vines, Peaches, Carnations, Roses, Herbaceous Borders, Lawns, Flowering and Deciduous Shrubs, Rock and Water Gardens, Hardy Fruit and Kitchen Garden, and the management of a well-kept establishment; can be confidently recommended by present employer; seven years' Head present place; age 42; demobilised last January; married (one child). — Apply, LATIMER, Maytham Hall, Rolvenden, Kent.

GARDENER (HEAD WORKING); demobilised; life experience gained in first-class establishments; good references; age 35; married.—W. FREEMAN, c/o Mrs. A. BROOKS, Stoke Heath, nr. Bromsgrove, Worcestershire.

GARDENER (HEAD WORKING or otherwise); life experience; excellent references; abstainer; age 33; married (two children); demobilised.—W. A. FROST, Bardon Road, Speldhurst, Tunbridge Wells, Kent.

GARDENER (HEAD WORKING); age 36; married (no family); practical experience in all branches in England and America; just demobilised.—H. LICKMAN, Culham Lane, Henley-on-Thames, Oxon.

GARDENER (HEAD WORKING); life experience; good references; age 38; married (no family); disengaged.—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

HEAD WORKING GARDENER, age 35, demobilised; good experience, Inside and Out; excellent references, from good establishments.—F. FISHER, The Bowers, Yattendon, Newbury, Berks.

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GARDENER (HEAD WORKING), Scotch, demobilised; life experience in all branches, Flowers, Fruit, Vegetables, Lawns, Rock Garden, and Electric Light Plant; good references; married (two children, 9 and 5); age 42.—DONALDSON, 5, High Street, Sandy.

GARDENER seeks situation (demobilised) as HEAD of one or two, or good SINGLE-HANDED; married (no family); cottage essential; age 30.—T. KING, Bencombe, Uley, Dursley, Glos.

GARDENER (SINGLE-HANDED or with help; life experience, Inside and Out; successful cultivator; highest possible testimonials for personal character and ability; married (one child, 10).—A. S., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (SINGLE-HANDED or otherwise); life experience, Inside and Out; excellent references; age 28; married (no family); demobilised Navy; wife help in house if required.—LACEY, 12, Grafton Crescent, Kentish Town, N.W

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GARDENER seeks situation; SINGLE-HANDED preferred; thoroughly understands Outside Fruits and Vegetables, Flowers; cottage preferred; good references.—Address, W. PARKER, 63, Hurley Road, Kennington, S.E.

GARDENER seeks situation as KITCHEN or SINGLE-HANDED on Pleasure Grounds, for North London; good references.—W. KEMP, 6, Rosebery Avenue, Tottenham, N.17.

GARDENER (SINGLE-HANDED or with help); good references; age 29; married (no family).—DINNAGE, 20, Blakesley Avenue, Ealing, W.5.

GARDENER (good SINGLE-HANDED or with help); life experience in all branches; excellent references; married; oge 30; one child; demob. N.C.O., A.1.—E. WHITE, The Lodge, Dellfield, Cowley, Middx.

GARDENER (SECOND), Inside or Inside and out; good experience; well recommended; single; age 26.—W. M., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

UNDER-GARDENER (20) desires employment about February 1st; bothy; near London; previous experience, In and Out; good references. Please state terms.—A. N., 22, Cranley Gardens, N.13.

GARDENER (SECOND) seeks situation; married (no family); age 26; over ten years' experience, Inside and Out; good reference; discharged from Army.—CYRIL DUNNELL, Honingham, near Norwich.

MR. C. WHITEHEAD, Gardener, Dulford House, Cullompton, Devon, thoroughly recommends strong, active YOUNG MAN, age 19, as UNDER-GARDENER; leaving through staff being reduced.

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YOUNG MAN requires situation as SECOND JOURNEYMAN (INSIDE); three years' experience experience; age 20.—F. PALLINTINE, c/o P.O., Maldon, Essex.

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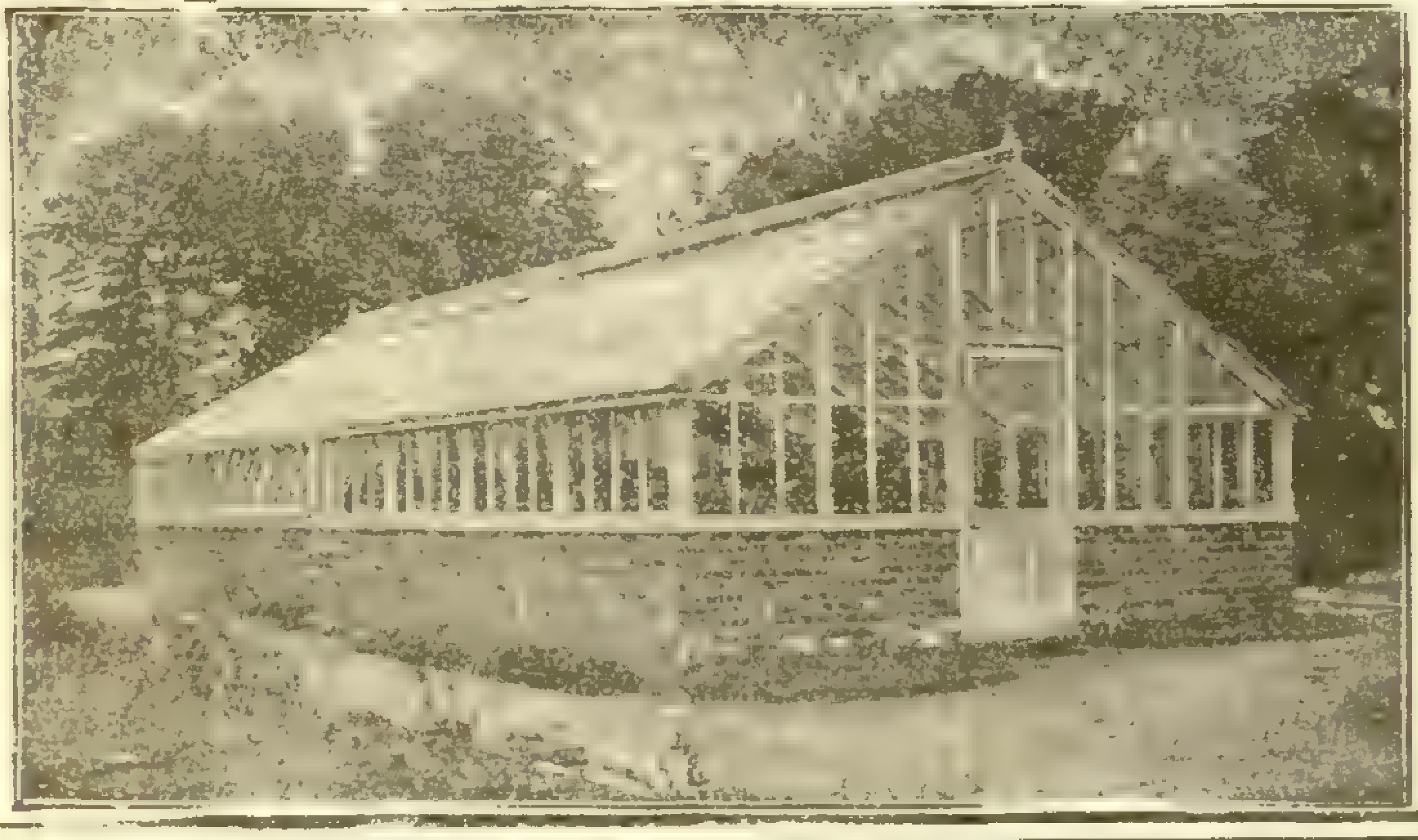

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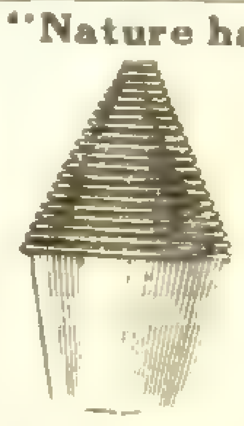

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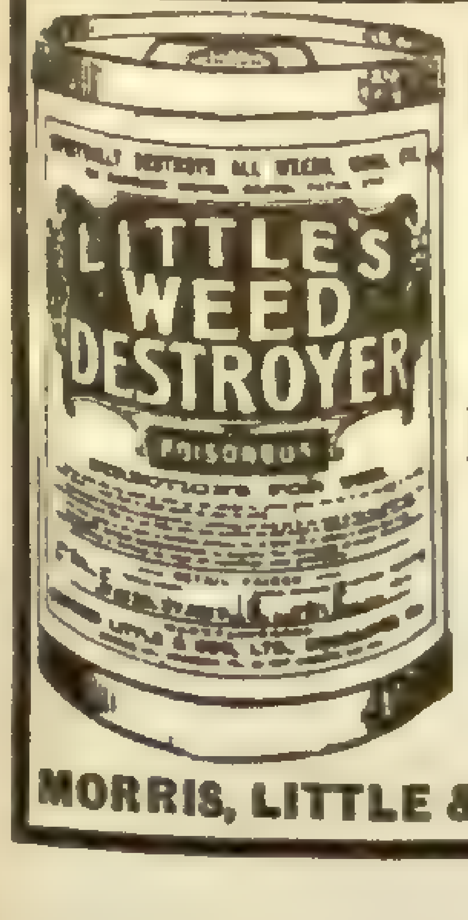

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THE
Gardeners' Chronicle
No. 1718.—*SATURDAY, NOV.* 29, 1919.

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AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 41.1°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, November 26. 10 a.m.: Bar. 29.4; temp. 41°. Weather—Bright.

The Rev. W. Wilks. Everyone interested in horticulture will feel regret on learning of the resignation of the Rev. W. Wilks as Secretary of the Royal Horticultural Society, and those who are best acquainted with the wonderful work which he has done, both for the Society and for British horticulture, will feel not only regret but also a sense of irreparable loss. Whatever their position, whether amateurs in search of knowledge, professional horticulturists requiring advice, or scientific men desiring to bring practice and science into closer touch, they found in Mr. Wilks an alert, circumspect and far-seeing friend. Mr. Wilks joined the Society in 1865 or 1866 and became Secretary in 1888, so that his membership of the R.H.S. extends well over half a century and his secretaryship has lasted 32 years; hence he has earned the right to listen to the voice of advancing year—"unarm, the long day's task is done." Never, indeed, was task better done, and Mr. Wilks will take with him in his retirement all that should accompany old age, "love, honour, and obedience, troops of friends." When he assumed office the Society was but a poor and attenuated shadow of its present self; its finances broken and its membership poor. Now, thanks in large measure to his labours, it is not only a great and prosperous society, but it has come to play a notable part in the national life.

With singleness of purpose and clear vision of essentials, Mr. Wilks—with the support of a group of particularly able men, the late Sir Trevor Lawrence, Sir Harry Veitch, Sir Daniel Morris and others—recognised that a Society's aspirations for extended spheres of usefulness can only be realised if its finances are sound. They were made sound, a task which required unending patience, a constant checking of impatience in others, and at times the insistence on policies which the more enthusiastic with their habitual recklessness may have resented as narrow and unworthy of a great Society. Nevertheless, Mr. Wilks, with the support and approval of the Council, held on his course. This foresight and pertinacity have been amply justified and have placed the Society in a position which is now enabling it to carry out on a worthy scale all those branches of work for the promotion of which it received its Charter—the advancement of the practice of horticulture and the extension of knowledge of horticultural science.

Single of purpose, yet subtle in achieving it, Mr. Wilks's great qualities of leadership were recognised by all who had to do business with him. His influence with the Council was great, so great, indeed, as at times perhaps to lead to a passing impatience on the part of others used also to authority; yet he knew as well how and when to yield as how and when to insist and by giving

REV. W. WILKS, M.A., V.M.H.

ground to win respect and admiration. After all, a man is judged by the sum and substance of those qualities of mind and heart which form his personality. To that in all difficult and critical periods his success or failure, so far as it depends on him, is due. Mr. Wilks's personality was strong, dominating by its suavity which, however, none could fail to see was a sign not of hesitancy but of resolution. It is pleasant to know that Mr. Wilks in resigning the Secretaryship does not cease to hold office. With his decision to serve the Society as strong as ever he has accepted the office of joint Editor of publications. Mr. W. R. Dykes is recommended by the Council as the successor in the secretaryship to Mr. Wilks. Mr. Dykes's devotion to horticulture is well known, and his knowledge thereof is declared in his fine monograph of the genus Iris and in his investigations on the genus Tulipa.

Mr. Wilks in his retirement will be able to pursue at Shirley the avocation of gardening which he loves so well, and will carry with him the knowledge that his work has earned the approbation and applause of men, than which no solace can lighten more the burden of advancing years.

Reorganisation of the Board of Agriculture and Fisheries.—The President of the Board of Agriculture and Fisheries (Lord Lee of Fareham) has now approved of the reorganisation of the Board and the re-grouping of its functions into five main Departments, each under an Executive Head responsible, in the case of the three Agricultural Departments, to the President direct, and, in the case of the Fisheries and Welsh Departments, to the President through the Parliamentary Secretary (Sir A. Griffith-Boscawen, M.P.). Sir A. Griffith-Boscawen, in addition to his duties as Parliamentary Secretary, has been appointed Deputy-Minister of Fisheries. The following appointments have also been made:—Sir A. Daniel Hall, K.C.B., F.R.S., to be Chief Scientific Adviser to the Board and Director-General of the Intelligence Department; Mr. Lawrence Weaver, C.B.E., to be Chief Commercial Adviser to the Board and Director-General of the Land and Supplies Department; Mr. F. L. C. Floud, C.B., to be General Secretary to the Board and Director-General of the Finance and Economics Department. The above form the President's Administrative Council, which meets twice weekly to consider questions of policy and to secure the co-ordination of the various Departments. Sir A. Boscawen has been appointed Deputy Chairman and Sir A. Daniel Hall Vice-Chairman, of the President's Administrative Council. Mr. H. G. Maurice, C.B., has been appointed Fisheries Secretary and Principal Assistant Secretary to the Board. Mr. C. Bryner Jones (an Assistant Secretary of the Board) has been appointed Welsh Secretary, in special charge of the Welsh Office. Both these officers will be entitled to attend the Administrative Council when matters affecting their respective Departments are under consideration. The same rule applies to Mr. F. A. Jones, C.B., the Legal Adviser to the Board. Mr. R. J. Thompson, O.B.E., and Mr. H. L. French, O.B.E., have been appointed Assistant Secretaries of the board to fill the vacancies created by the promotions of Mr. F. L. C. Floud and Mr. H. G. Maurice. The Councils of Agriculture and the Advisory Committee, which are to advise the board on Agriculture questions, depend for their creation upon the passage through Parliament of the Agricultural Councils Bill, but it is hoped that they will be constituted shortly. The higher organisation of the board will then be complete.

Mrs. Maxwell T. Masters.—We learn with very deep regret of the sudden death from heart failure of Mrs. Maxwell T. Masters, at 9, Mount Avenue, Ealing, on Monday, 24th November. Since the loss of her husband, Dr. Maxwell T. Masters, F.R.S., for forty one years Editor of *The Gardeners' Chronicle*, this lady had lived in the closest retirement, but in her earlier life her association with her husband's work and her love of home prevented her from appearing often in social gatherings. Those friends who were privileged to enter the inner circle of her acquaintances always appreciated her sympathetic manner and the keen interest she ever displayed in current events. Her surviving family consists of two daughters. The interment took place at Brookwood, on Friday the 28th inst., after cremation at Golder's Green.

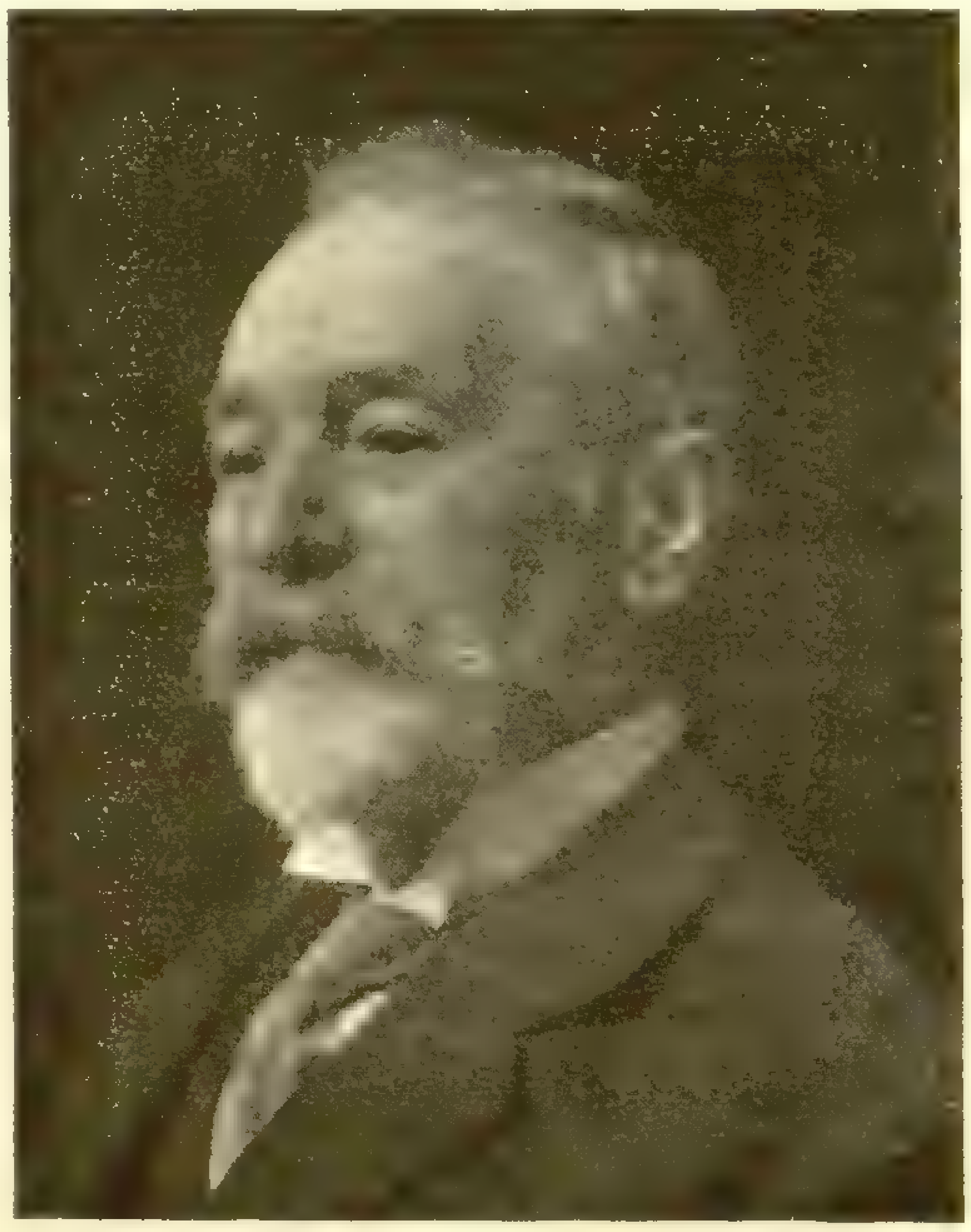
American Horticultural News.—Mr. Harry A. Bunyard, who has been engaged with the Y.M.C.A. in France, has joined the firm of Messrs. Henry F. Mitchell Co., Philadelphia.—The *American Florist* records the death, from heart failure of Karl Heinemann, of the firm of F. C. Heinemann, Erfurt, Germany.—Owing to the strike of dock workers several steamers with bulbs from Europe have returned, taking the bulbs with them.—An exhibition was given by the New York Botanical Garden in co-operation with the Horticultural Society of New York, on November 8-10, at the time of the opening of the new general display house given to the Botanical Garden by Daniel and Murry Guggenheim.—At the international trade conference, having for its object the re-establishment of normal trade relations between America and Europe, held recently at Atlantic City, N. J., Mr. Hancar, of the Belgian delegation, said he might take up the matter of the embargo with King Albert, then present in Washington, and hoped something would be done in the way

of a direct protest from the Belgian Government to those in authority in the United States to relieve the situation.—Messrs. Vilmorin-Andrieux and Co., Paris, France, have been awarded the White Medal of Honour for distinguished services to horticulture, by the Massachusetts Horticultural Society. This is the eleventh award of the White Medal, which is given annually in recognition of eminent services in horticulture.—The death of Mr. Robert Johnston is announced by *Horticulture*. "A gardener of great ability and a thorough gentleman in every sense of the word." Mr. Johnston was a native of this country and settled in America in 1889. For a number of years he was engaged in the firm of Messrs. R. and J. Farquhar and Co., in their landscape department.

Garden Pictures at the "Englishwoman" Exhibition.—There was remarkably little at the Exhibition held this month (November) at the Central Hall, Westminster, to mark the love of gardens and of the open air which is characteristic of the English woman, although the exhibition took its name from the journal which is entitled *The Englishwoman.* The hall was crowded—rather too much so for the comfort of visitors—but the stalls were almost exclusively devoted to two subjects—dress and toys. There was a gardenesque suggestion about the tea enclosure, which was shut off from the rest of the hall by trellis work, over which were daintily arranged trails of autumn leaves; and near by were specimens of colour photography by Mr. Vivian P. Davis, representing scenes in many of the most celebrated gardens. The views were somewhat marred by the strong grain marks, especially noticeable in some stereoscopic slides he was exhibiting; but the colours were fairly natural, with the exception of the greens, which never yield quite satisfactory results in this kind of work. Miss Aumonier was showing very dainty water colour drawings grouped under the general heading of "Gardens in Sun and Shade," suitable for gift cards and calendars. The Dryad Works, of Leicester, had a stall full of Raffia garden baskets and Raffia mats of all shades, in which the colours were very prettily blended. M. Bruce Low had two or three somewhat "impressionist" drawings of out-door subjects, one of some children leaning over a parapet, which was very natural and life-like, though the subject is unusual.

The Agriculture (Councils) Bill.—The main objects of this Bill, which has now passed the Committee stage in the House of Commons and may be regarded as the first fruits of the reorganisation of agriculture, and its general recognition by the public, are the creation of Central Advisory Committees for the Board of Agriculture and Local Administrative Committees for Agriculture in the Counties. Each County Council is to appoint a Local Agricultural Committee under a scheme whereby the County Council appoints a majority and the Board of Agriculture at least a third of the members. These bodies are to be the Local Agricultural Authorities, similar in some respects to the Local Education Authorities, so that we shall have in each county a live body concerning itself with all agricultural questions, stimulating interest and making for progress. To these local Agricultural Committees all agricultural questions now coming before the County Councils will stand referred, and their sub-committees will deal with such questions as animal diseases, small-holdings and allotments, the control of cultivation and land drainage. In the two latter cases, they will exercise the powers of and take instructions from the Board. There will be established:—(1) An Agricultural Council for England and an Agricultural Council for Wales, each body having representatives of the Local Agricultural Committees and a certain element nominated by the Board, which will include representatives of Labour, Women, Horticulture and Agricultural Education and Research. There will also be representatives of the Agricultural Wages Board. These Councils will meet at least twice a year and discuss agricultural questions of general interest. (2) A much smaller body, called the Agricultural Advisory Committee, consisting of 12 members representing both England and Wales, partly nominated by the English and Welsh Agricultural Councils and partly by the Board, to meet at least once a quarter and perhaps more often, and to be an Advisory Committee for the assistance of the President.

Retirement of Mr. Charles Dixon.—This venerable gardener, whose portrait we have pleasure in reproducing, has recently retired from the charge of the gardens at Holland House, Kensington, after fifty five years' service. Mr. Dixon is well known to a wide circle of horticulturists, for Holland House has been the venue of those summer shows of the Royal Horticultural Society to which these famous London gardens have given the name. Mr. Dixon has for a number of years been a prominent member of the Floral Committee of the Royal Horticultural Society. Those who have had the privilege of inspecting the private gardens at Holland House know how excellently everything is cultivated there, in spite of the unsuitable atmosphere, for Holland House is within a short distance of Charing Cross and in the heart of one of the most densely populated districts in the metropolis. Like many other famous gardeners, Mr. Dixon is a Scotchman, and he was born in Perth in 1834. He commenced his gardening career as an apprentice at Rossie Priory, Perth, when he was sixteen years of



MR. CHARLES DIXON.

age. He left Rossie Priory and took a post as foreman in the gardens at Fordel House, Fifeshire, and subsequently was engaged at Loch Naw Castle, Wigtonshire. On the recommendation of the late Mr. Hugh Low, he was appointed foreman at Belton House, Lincolnshire, where he remained five years. He next saw service in the Royal Vineyard Nursery, at Hammersmith, where he had charge of the vineries, and it was from these noted Hammersmith nurseries that he received his appointment to Holland House, Kensington, in 1864, where he has remained until the present time. Mr. Dixon was a frequent exhibitor at the famous South Kensington shows of the Royal Horticultural Society, where he won many awards for fruits and vegetables. He is still hale and hearty, and was present at the recent meeting of the Royal Horticultural Society. Our readers will join with us in wishing him continued good health and the enjoyment of a well-earned rest from his labours.

The Orchid Review.—The last two issues of the *Orchid Review*, as usual, contain much interesting matter. There is a graphic illustration of the destruction of M. Th. Pauwels' Nursery at Meizelbeke during the war, one of the Cattleya houses being shown as a complete wreck. Figures are given of the two diverse kinds of flower borne by the plant known in gardens as Arachnanthe Lowii, but which is now separated as a distinct genus under the name of Dimorphorchis Lowii, Rolfe. Another new genus appears in Hyalosema, Rolfe, formed to include the remarkable Bulbophyllum grandiflorum and its allies, five of which are in cultivation. Over a dozen species are known, natives of New Guinea and the adjacent islands. The female flowers of the Chiriqui Cycnoches Dianae, Rchb. f., are described, these having at last been obtained, by Mr. C. W. Powell, after a lapse of over sixty years. An old Orchid Book, British Natural Hybrid Orchids, Orchids at Home, and an important account of the discovery of what are now know as the Mendelian phenomena over a century ago, are also interesting features of these issues.

Taxodium and Glyptostrobus.—Sir Edmund Loder writes that in his "Notes on Taxodium and Glyptostrobus," two sentences have been transposed. The words "see Fig. 118 (b)," etc., etc., in line 34, middle column, page 259, should come immediately after the word "imbricated," in line 32.

The Prickly Pear in Australia.—A bulletin issued by the Institute of Science and Industry (Commonwealth of Australia) states that an area of over 20,000,000 acres is infested with Prickly Pear (Opuntia) in Queensland, and an area of over 2,200,000 acres in New South Wales. The rate of increase of the pest is estimated at 1,000,000 acres per annum. Rich country is as quickly overcome as poor country, and in a short time is rendered unproductive and valueless. The plant is extremely difficult to eradicate, and no satisfactory machine for destroying it has yet been invented.

Nursery Stock and Re-afforestation.—An article by *Nurseryman* in the *Transactions of the Royal Scottish Arboricultural Society*, XXXIII., Part II., July, 1919, draws attention to the desirability of the raising in home nurseries of seedling trees required for afforestation. The war has handicapped nurserymen very severely and there is a shortage of certain tree seeds, in particular of Scots' Pine, but *Nurseryman* is confident that if the trade are notified of probable requirements British nurseries will be able to produce the stock likely to be required. Another article by Alexander S. MacLarty insists on the importance of growing all forest trees from properly selected seed. He urges that more attention should be given to the selection of trees from which the seed is to be gathered, particularly with respect to its strain.

Award to a Popular Specific.—"A Highly Commended" Certificate has been awarded by the Royal Horticultural Society, to Price's Patent Candle Company, Limited for Gishurst Compound, which was found, after trial, to be entirely efficacious in the treatment of Rose Mildew.

The Potato Crop.—According to the estimates of the Board of Agriculture the area in England and Wales under Potatos in 1919 was 330,000 acres. The yield is expected to prove somewhat below the average, but generally free from disease.

Publications Received.—***Notes from the Royal Botanic Garden, Edinburgh, January, 1919.*** Price 1s. 6d. ***Notes from the Royal Botanic Garden, Edinburgh, July, 1919.*** Price 3s. Published by His Majesty's Stationery Office. ***The Orchid Review, for September—October.*** Frank Leslie & Co., 12, Lawn Crescent, Kew. Price 1s. ***Australian Saltbush.*** United States Department of Agriculture, Bulletin No. 617. Washington: Government Printing Office. ***Derris as an Insecticide.*** Washington. Journal of Agricultural Research. ***British Rainfall, 1918.*** By Hugh Robert Mill. London: Edward Stanford Ltd., 12-14, Long Acre. Price 10s. ***Applied Botany.*** By G. S. M. Ellis. London: Hodder and Stoughton. Price 4s. 6d. ***Horticulture.*** By Kary Cadmus Davis. London: L. J. Lippincott Co. 8s. 6d. nett. ***Poultry Industry and Smallholder Movement.*** By F. G. Paynter. St. Margaret's-on-Thames: A. & E. Dicks, Printers.

ANEMONE HALLERI, A. PULSATILLA AND A. MONTANA

Mr. W. R. Dykes (*Gard. Chron.*, 1917, 209; *The Garden*, 1919, 200), has from personal observation made a careful comparison of the characteristics of Anemone Pulsatilla (see Fig. 127), and A. montana from careful personal observations.

As regards A. Halleri, one does not find very much written upon it in gardening periodicals, yet I suspect that many plants grown as A. Pulsatilla are, in reality, A. Halleri.

In my limited experience I think the former is not so vigorous a grower and does not produce such magnificent clusters of blossoms as A. Halleri, and probably for this reason nurserymen frequently supply the latter when A. Pulsatilla is ordered!

As to the specific characters of A. Halleri, the original description (*Allioni, Fl. Ped.* II., 170; t. 80, III; 1785) is as follows:—Tota planta sericea lanugine obducitur. Foliorum pinnae profundius & acutius incisae sunt. Flos autem omnino purpureus cum aliquo sericeo villo. Petala autem tenera sunt, non dura, & firma ut in A. sulphurea, cujus petala flavo, denso, sericeo villo teguntur. Semina sunt, ut in congeneribus, cauda plumosa instructa.

This plant was called Haller's Anemone because it was founded upon that author's "1148, Anemone tubis caudatis, involucris multifidis, foliis hirsutis, pinnatis, pinnis acute lobatis. Emend. VI., n. 30" (*Hist stirp. Helvet.* II., 62, 1768). A long and careful description follows, but the majority of the characters are contrasted with those of his No. 1147 (A. vernalis), which is not very helpful as regards this present note.

However, his description indicates, and Allioni's plate clearly shows, a plant with root-leaves possessing a few broad segments only, not with numerous narrow divisions as in A. Pulsatilla, so obvious in Relhan's, *Fl. Cantab.*, t. facing p. 208 (1785) and Sowerby's, *Eng. Bot.*, I., t. 51 (1792).

It may be worth recording the following points of difference* between A. Pulsatilla and A. Halleri, which I noted when growing both species side by side in my garden:—

A. Pulsatilla.	A. Halleri.
Mature leaves, slightly hairy beneath.	Mature leaves silkily hairy beneath.
Involucrum, with distinct segments, the upper part much divided into narrow segments.	Involucrum ± complete, the upper part less divided with slightly broader segments.
Perianth segments narrow, not overlapping when the flower is fully expanded in the sun.	Perianth segments broader, always overlapping.
Anthers oblong, and about twice as long as broad.	Anthers linear-oblong, about thrice as long as broad.
Heads of fruit about $6\frac{1}{2}$ cm. in diameter.	Heads of fruit about $7\frac{1}{2}$ cm. in diameter.
Achenes 4-5 mm. long, with ascending-patent hairs, including style about $3\frac{1}{2}$-4 cm. long.	Achenes 5-6 mm. long, with ascending hairs (*i.e.*, not so spreading as in A. Pulsatilla except at the top of the achene), including style about 4-$4\frac{1}{2}$ cm. long.
Fruiting receptacle conical, ± pointed, narrower, than the thickened base.	Fruiting receptacle rounded hemispherical, about as wide as the thickened base.

The beautiful, silvery, silky hairs of A. Halleri seemed far more noticeable and abundant on the whole plant than in A. Pulsatilla.

Turning to A. montana Hoppe, this species, I think, must be closely allied to A. Pulsatilla on account of its similar foliage. Mr. Dykes has clearly shown that its flowers always droop (or perhaps become horizontal in brilliant sunshine), and do not stare, wide-eyed, upwards to the sky as those of A. Pulsatilla do in the warmer days of May.

The original description of A. montana which Hoppe diagnosed in Sturm (*Deutsch. Fl.* XII., 1826), reads "Mit doppeltgefiederten Blattern, vieltheiligen Blattchen gleich-breiten Abschnitten und aufrechter offener Blüthe," and his figure (t. 46) shows clearly an *upright* flower.

This is somewhat disconcerting, but in part XX. of the same work (1845), Koch comments on Hoppe's earlier description and plate and explains that these were drawn up from dried specimens. Koch clearly emphasises the fact that A. montana differs from A. Pulsatilla at first glance by its nodding flowers, and supplies a fresh plate (t. 90), showing this character. The figure indicates, too, that the styles are exserted—a feature of A. montana often alluded to by later writers—but particular attention is not called to this in the text.

This point is not clearly shown in the drawing by Mr. Dykes (*The Garden*, 1919, p. 200), and one wonders if it is a reliable and permanent distinction.

Besides the wonderfully dark violet-purple colour of the flowers of A. montana as compared with the paler, more mauve tint of A. Pulsatilla, Kittel (*Fl. Deutsch.*, ed. 2, II., 758, 1844) remarks that in the former, the styles are blue, whilst those of A. Pulsatilla are violet. Mr. Dykes (*l.c.*) has noted an interesting point of difference as regards the arrangement of the carpels of the two species when in flower, which seems a valuable observation.

In *Science Gossip* for 1885, pp. 84-85, there are fairly good woodcuts of the three species under discussion, illustrating an article by C. Parkinson on "The Anemones of the Alps." I hope growers of these three interesting plants will be good enough to examine closely the characteristic points of each, *C. E. Salmon.*

* Beyond the leaf character already mentioned.

Fig. 127.—Anemone Pulsatilla: general colour of flowers, violet.

THE BULB GARDEN.

CRINUM POWELLII.

Mr. S. Arnott, in his note on this Crinum on p. 251, states that he has no record of the raiser. According to the late Mr. F. W. Burbidge, in *The Gardener* for January 25, 1890, Crinum Powellii was raised about fifteen or more years before that date by Mr. C. B. Powell, of the Old Hall, Southborough, Tunbridge Wells. He crossed both the rosy and white forms of Crinum capense (Amaryllis longifolia) with pollen of Crinum Moorei, the result being a hundred seedlings, with flowers varying in colour from deep rose-crimson in the bud, to pure white. The plants were subsequently disposed of to Messrs. E. G. Henderson and Sons, of St. John's Wood.

When the collections of plants formed by that firm were sold by auction a number of the bulbs of this Crinum passed through my hands, and I was very much impressed with the size of some of the huge, club-shaped specimens. In planting this Crinum in a permanent position the bulbs should be buried up to the leaves, or nearly so. This entails deep working of the soil, which must be of good quality in order to support the strain of leaf and flower production. Stagnant moisture is very injurious, hence thorough drainage is necessary. When the leaves and flowers are developing the plants are greatly benefited by liberal supplies of water, varied by occasional waterings of liquid manure or some other fertiliser. *W. T.*

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

The Early Winter.—Extremely wintry weather has already been experienced over the whole of the British Isles. Very low temperature was general and frost of an intensity probably unparalleled for November was recorded. In the Calendar of January 11th, I pointed out there should be sufficient piping in all Orchid houses to maintain the requisite temperature without overheating the water in them. I again emphasise the necessity of this, for the well-being of the plants during winter depends largely on the heating apparatus and careful stoking. Nothing is more wasteful than driving the boiler fires, and having the pipes so hot that one can hardly bear one's hand on them; and nothing is more harmful to the plants than the dry atmosphere caused by overheating the water in a limited amount of piping. In severe weather and especially where there is insufficient radiating surface, excessive heating can, to a great extent, be overcome by the use of mats or stout canvas coverings to the houses. Any kind of covering, rolled along the lower portion of the roof and protecting the sides and ends of the houses, if these consist chiefly of glass, will result in economy of fuel and a benefit to the plants. While, however, guarding against excess of fire-heat, it would be foolish to employ too little artificial warmth. During winter more harm will often result from a stagnant atmosphere in mild weather than from a lower temperature in severe weather, and I would especially emphasise the absolute necessity of having the heating apparatus reasonably employed by day as well as by night at these times, to help circulate the air, when it can be admitted, to let moisture pass freely away.

Temperature.—In the issue of October 18 I advised preparing for winter by reducing the temperature in all the houses a few degrees by night, and also by day in the absence of sun-heat. The night temperatures should now be kept at or about 60° to 65° for the warmest divisions, 55° to 60° for the Cattleya or intermediate-house, 54° to 58° for the cool intermediate-house, and 50° to 54° for the cool-house; a few degrees less in severe weather will result in no harm. During the daytime a rise of from 5° to 10° should be permitted, according to the state of the weather, but with artificial heat only. Anything above these readings is likely to lead to trouble from insects.

FRUITS UNDER GLASS.

By W. MESSENGER, Gardener to Major J. A. BERNERS, Woolverstone Park Gardens, Ipswich.

Successional Vineries.—As soon as the leaves have fallen prune the Vines and cleanse the rods and interior of the house. A considerable portion of this work may be done on wet days by the outdoor hands. The old method of coating the Vines with a mixture of clay and materials obnoxious to insect pests is not to be recommended, as such a mixture is not thin enough to enter all the crevices. Having tried many insecticides for the extermination of scale, red spider and mealy bug on Vines, I consider paraffin emulsion the most efficacious. When pruning, the wood should cut hard and clean if thoroughly ripened, if, on the contrary, it is soft, there is a fault which requires remedying. Overcrowding of growths or lack of other essential cultural conditions may account for immature wood, but defective root-action is often the chief source of the trouble. Too deep a root run has a great influence on the quality of the wood, especially if the border is an outside one, as the roots are in cold soil until quite late in the season and the result is imperfectly ripened growth and an irregular "break" when the Vines are re-started. Other evils may be traced to the same source; for instance, in the early stage growth is strong, but when the Vines need most assistance root action does not progress at the same rate as top growth, owing to lack of warmth in the soil. In such conditions the Grapes set badly and generally fail to finish in good condition. To obtain Grapes of the highest quality there must be plenty of fibrous roots near the surface, and where this is not the case the borders should be renovated and the low-lying roots brought near the surface. The drainage should be effectual as stagnant moisture is harmful to the roots.

Outside Borders.—All outside Vine borders should be protected from wet and cold by means of spare lights or shutters; where these are not available, a thick covering of leaves, overlaid with Bracken or strawy litter, forms a good protection.

Strawberries.—For the production of fruits in the month of March a batch of plants should be started in the early part of December. An early vinery, just started, is suitable for the purpose. If there is a mild hot-bed in the house the plants may be placed over it, preferably on trelliswork, as by leaving a space between the fermenting material and the pots there is less danger of growth being unduly hastened. It is essential that growth should be steadily encouraged from the start to ensure stout, healthy foliage and strong flower spikes. As soon as growth becomes active the plants should be removed to a position near the roof glass, either in the vinery or an early Peach house. Before taking the plants indoors remove any dead leaves, mossy growth and weeds. If any signs of red spider are detected dip the foliage in an insecticide. Ram the soil firmly if it is not too wet, otherwise defer the operation until the soil is in a more favourable condition. Worms are often troublesome; if present in the soil put a peck of unslaked lime in a barrel and fill up with soft water; allow it to stand until the water becomes clear and then use it for watering the roots; this will clear out the worms and benefit the plants at the same time. The supply of water during the early stage of forcing must be carefully administered, as over-watering is the cause of many failures at this period.

THE HARDY FRUIT GARDEN.

By JAMES E. HATHAWAY, Gardener to JOHN BRENNAND, Esq., Baldersby Park, Thirsk, Yorkshire.

Currants.—The planting of Currant bushes should be completed forthwith if the work has not been done already. The best time to plant these fruits is as soon as the leaves begin to fall; they thrive best in rich, deep loam; and heavy soil, such as clay, should receive a dressing of gritty material and manure. Currants will grow satisfactorily on moist land, but the soil should not be waterlogged. Light, sandy soil is not suitable for Currants, as it is too hot and dry in summer. Such soils should be dressed with plenty of marl or clay. Black Currants do best in hot seasons in the partial shade of a wall; they may also be planted in orchards between rows of Apple trees, which provide them with partial shade. Rows of Currants are useful for dividing vegetable quarters. The mistake is often made of planting the bushes closely together: in rich soils they should be put 6 ft. apart at least, and 5 ft. asunder in poor soils, for nothing is gained by crowding them. The red and white kinds are useful for training on trellises and walls. Those grown on north walls will give late fruits and thus prolong the season. In planting, care should be taken to see that all the suckers are removed, and the bushes should have a clear stem of 6 inches from the ground. Old plants that have not cropped satisfactorily may be lifted and replanted in fresh soil, but very old plants are best destroyed and young, vigorous plants substituted.

Gooseberries. — These require similar treatment as regards soil and planting. As soon as the foliage has fallen bushes that have been infested with caterpillars should have all dead leaves cleared away and the surface soil about them removed to a depth of two inches, substituting fresh soil mixed with bone meal. This treatment is a great help in checking the pest the following season. Where ducks are allowed to run amongst Gooseberry plantations there are seldom any caterpillars, as they search for and eat the larvae.

Nuts.—Strong plants of Cobnuts and Filberts should be procured and planted during favourable weather. Nuts are best raised from suckers taken from old fruiting bushes in the autumn and planted out in special beds for a couple of seasons. The plants should be cut down to about one foot from the soil. Nuts do well on bank sides or in high, well-drained land that is well exposed to the light, but sheltered from cold winds. They do best in shallow loams; in deep loams and rich soils the trees make too much wood growth. Low-lying and damp situations are not suitable for Nuts, as in such places the bushes are generally injured by early frosts. Nuts are valuable for planting on the outskirts of fruit plantations, and should be set from 8 ft. to 14 ft. apart, according to the variety. The roots should be made firm in the ground, and the stems fastened securely to strong stakes. If the land is of poor quality, manure may be spread on the surface. All suckers should be pulled off the main stem.

THE KITCHEN GARDEN.

By G. ELLWOOD, Gardener to W. H. MYERS, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Horseradish.—One of the best methods of growing Horseradish is to form fresh plantations annually. By this system of culture the roots do not grow so large as when the plants are older, but they are more tender and superior for use than older, fibrous roots. Take up the roots from half the bed, and lay the "ware" in fine soil behind a north wall. Fresh plants may be raised from stout "thongs," nine inches in length, taken from the base of the "ware," with the growing or crown end cut squarely across and the lower end in a slanting direction. Plant the prepared sets in ground that has been liberally enriched with decayed manure or decayed vegetable matter and they will make quick, vigorous growth in the one season. Plant them one foot apart in rows two feet asunder.

Peas.—Where finely flavoured Marrowfat Peas are required during the early spring, it is a good plan to sow seed now, as the plants should grow steadily over a long period. Pots or boxes may be used as receptacles for the seeds, or where glass houses are empty they may be grown in the borders, which will need to be enriched with decayed manure and superphosphate of lime. For 9-inch and 10-inch pots one crock will suffice as drainage, over which place a covering of dried manure. Three parts fill the pots with good loam, with a small quantity of wood ash and leaf soil added. Sow six seeds in each pot, an inch deep, and place the pots in pits or a cool greenhouse, where germination will take place slowly; but keep them from frost.

Broad Beans.—Make a sowing in pots and boxes, and treat exactly as advised for Peas, except that four seeds will be quite sufficient for a nine-inch pot. The green-seeded types are the best for this sowing.

Tarragon and Mint.—A few strong roots of the former should now be potted in large pots and placed in gentle heat. Roots of Mint may be laid in boxes of soil, made firm, watered, and transferred to warm quarters as needed.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Shrubs.—If the weather is favourable, and the soil is not too wet and sticky, the business of planting shrubs should be proceeded with without delay. Although there has been a change to wintry weather, the soil is still exceptionally dry, and therefore planting may be done in sheltered positions if the frost has not penetrated the soil too deeply. Place a good mulch of old manure or leaf-mould over the roots of all newly planted shrubs and trees as a

protection against severe frost and snow. Trees from nurseries should be laid in the soil and have the roots protected until they are required for planting. Keep the labels correctly fastened to the different subjects.

Weeping Standard Roses.—The grace of large, weeping standard Roses forms a very pleasing contrast to the habit of the more erect-growing Hybrid Perpetuals, and they should be more freely planted either in rows by the side of broad walks, or singly in open spaces somewhat sheltered from bleak winds. For these Roses prepare the station thoroughly so that the plants may develop healthy growth and produce large quantities of flowers. If the soil is heavy clay, mark out the sites 6 feet square and dig out the holes $4\frac{1}{2}$ feet in diameter and $2\frac{1}{2}$ feet to 3 feet deep. Break up the subsoil and cover it with quite 6 inches of old broken bricks, over which place turves, grass side downwards, or long litter. Fill the holes with a well-prepared mixture consisting of loam and other suitable material and make the whole moderately firm. If the plants are not at hand for planting temporarily, relay the turf and place a good covering of litter over the sites until they are received, to prevent the penetration of frost and snow. To allow for the development of wide-spreading heads, do not plant too closely to the walks, nor in the lines. Good varieties of these Roses include Albéric Barbier, Paul's Scarlet Rambler, American Pillar, Jersey Beauty, Lady Gay, Blush Rambler, Tea Rambler, Paul Transon, Excelsa, Hiawatha, Francois Foucard, René André, Pemberton's White, Aviateur Bleriot, and White Dorothy Perkins.

Lawns.—Now that most of the leaves have fallen from the trees give the lawns a thorough sweeping and a gentle rolling if necessary. Daisy and Plantain roots should be removed, and top dressing should not be neglected if the grass is at all poor.

PLANTS UNDER GLASS.

By JAMES WEYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

Primula.—Primula malacoides and P. kewensis are serviceable, early-winter flowering plants. They require a dry atmosphere and plenty of ventilation when the weather is favourable for opening the ventilators. The roots of these plants should be watered only when moisture is absolutely necessary, for if they are kept too wet the plants will damp off. The earliest plants of Primula sinensis are commencing to flower. All these plants should be grown in a house having a dry, warm atmosphere and a temperature of 50° to 55°. The roots should be given weak manure water occasionally.

Sweet Peas.—If flowers are required early next year under glass, seed should be sown either in 4-inch pots if it is intended to plant the seedlings in a border in a glasshouse, or in 6-inch pots for growing and flowering the plants in 9-inch or 10-inch pots. Use good loam mixed with leaf-mould, and employ sufficient drainage to ensure water passing away freely. Sow five or six seeds in each pot, and place them in a warm house to germinate. Subsequently remove the seedlings to a position near the roof-glass in a cool house, and admit plenty of air. They may remain in this position until the end of January, when they should be transplanted into their respective flowering quarters. Place Birch twigs in the pots as supports to the plants. At a later stage give the roots a little concentrated fertiliser.

Bulbs.—Care should be taken not to allow bulbs plunged under ashes to remain out of doors after they have started into growth, and the pots are filled with roots. Remove them to a cold frame and use shading for a week, gradually exposing the plants to the sunlight and air. If the roots are dry, give them a good watering. Roman Hyacinths in forward growth may be placed in a warm house or pit and given liquid manure. Bulbs of the earliest Narcissi, such as Golden Spur, may, if well rooted, be placed in a little warmth, but do not force them hard for the present.

ORCHID NOTES AND GLEANINGS.

ORCHIDS FROM USK PRIORY.

R. WINDSOR RICKARDS, Esq., Usk Priory, Monmouthshire, writes: "Do you often see Brasso-Cattleyas with three flowers on a spike? I do not recollect doing so before, but this year I am flowering several of them, as well as Sophro-Cattleyas, with three. I have never grown Cattleyas so well as in this sunny summer and autumn. I have used no permanent shading, only somewhat dilapidated lath blinds."

CATTLEYA AMIEL.

A HYBRID between C. Dusseldorfei and C. fulvescens is represented by a fine spike, the flowers of which have cream-white sepals and petals tinged with rose, and a well-sprayed lip, the orange-coloured base of which, with dotted lines of purple, bears evidence of C. fulvescens (Dowiana × Forbesii). The front lobe and edges of the side lobes are tinged and veined with purplish rose.

LAELIO-CATTLEYA LINDA.

A LARGE and perfectly-shaped flower, obtained by crossing Cattleya Dowiana aurea and Laelio-Cattleya Arachne (C. labiata × L.-C. Haroldiana) has been received from Usk Priory. Aided by the C. Hardyana in L.-C. Haroldiana the flower adheres to the C. Dowiana and C. labiata form, but is larger, and broader in all its parts, and florally perfect. The broad sepals and petals are bright rose colour with sulphur-yellow veining on the petals; the lip is ruby-purple and there are rayed lines of bright yellow from the base to the centre.

BRASSO-CATTLEYAS.

A GRAND inflorescence of three flowers of a fine cross between B.-C. Madame Chas. Maron and C. labiata is sent from Usk, each flower measuring 8 ins. across, forming one of the finest spikes we have seen. The colour is bright rose mauve, the disc of the lip being yellow on white ground. The central flower is terminal, the other two lateral, the whole giving evidence of good cultivation. The hybrid has received the name of Nestor. An equally fine example of Brasso-Cattleya Ilene, a cross between B.-C. Madame Chas. Maron and Cattleya Dowiana, with two flowers, is also sent. The light lilac sepals and petals and handsome labellum, with yellow lines to the centre, are broader than in B.-C. Nestor.

CYPRIPEDIUM INSIGNE SANDERAE.

THE photograph reproduced in Fig. 128 was sent us by Mr. Musk, gardener to General Sir Joseph Laycock, Wiseton, Bawtry. It is of a grand group of C. insigne Sanderae, comprising some ninety plants, several of them carrying 15 to 20 plants of fine size, their clear, yellow blooms with pure white dorsal sepals making a grand display in the Wiseton Gardens. This fine and distinct variety has always been a favourite, and many have propagated a large stock, as Mr. Musk has done, from one or two specimens. For example, William Bolton, Esq., of Wilderspool, Warrington, has a good-sized house full of this Orchid and still propagates more. The whole stock of C. insigne Sanderae in this country can be traced to the plant which appeared in Messrs. Sander's collection in 1888. The original specimen was divided into two, one half passing into the collection of the late Baron Schröder, who paid 70 guineas for it. The other half was divided and each of the owners seems to have been intent on increasing his stock of this charming variety, until at present there are probably some thousands of specimens in gardens, some of which are from home-raised seeds.

FIG. 128.—CYPRIPEDIUM INSIGNE SANDERAE AT WISETON, BAWTRY.

CATTLEYA PRETORIA.

A VERY interesting flower of this cross between C. Peetersii (Hardyana × labiata) and C. Dowiana aurea, sent by Pantia Ralli, Esq., Ashtead Park (Orchid grower, Mr. Farnes), suggests some thoughts on the colour question. Cattleya Dowiana is employed twice in its production, once directly and once indirectly, and this parent, as is to be expected, plays an important part in the form and appearance of the flower, which reminds one of a light C. Hardyana. It was raised by R. G. Thwaites, Esq., Streatham, and shown at the R.H.S. meeting on December 15, 1914, the flower having rose-coloured sepals and petals, a character which others in the batch followed in some degree. The flower now received would not be called beautiful by the casual observer, but examination shows the most pleasing arrangement of branched primrose-yellow lines from the mid-ribs to the margins, and following every nerve and vein in the flower, the rose tint struggling to assert itself, as in the original type, but only appearing in the very small spaces between the veining. The lip is coloured purplish-rose, but largely decorated with gold veining. In this, as in many other instances, evidence is given that yellow and white are basic colours, and their production in hybrids has been much more simple than was at one time anticipated. Yellow is a basic colour in many showy Orchids, appearing especially on the lip and crest, and it is the presence of these basic tints which renders the production or continuation of scarlet, as in the secondary Sophronitis crosses, and of other bright colours. On the contrary, whites and yellows are obtained readily in certain combinations because they are strong natural basic characters. The scarlets and other desired tints are generally surface colours, not sustainable in continued crossing.

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AUTUMN FRUITING RASPBERRIES

THE autumn fruiting Raspberries have been grown in the past more extensively in France, where their value has been fully recognised, and other parts of the Continent, than in the British Isles. In the late autumn I have seen these Raspberries under glass protection at Ferrières-en-Brie, and at Armanvilliers, two well-known gardens within an easy distance of Paris. Thus grown and protected, a later supply of fruits was obtained, carrying the season well on to the end of November. I mention this fact to show the importance the French gardener attaches to the Raspberry as a late autumn fruit.

Within the London radius I have for more than twenty years grown these Raspberries and have extended the season well into November in most years. The latest fruits proved most useful for cooking, even when not so well suited for dessert, but for the latter purpose I used to obtain a supply for dessert use for more than two months. These autumn Raspberry fruits are not affected by wet weather so much as the summer fruits, and yet one might have expected the opposite to have been the case.

Referring to a well-known work by a Scotch gardener (Anderson), I find that he quotes from Mr. Thos. Rivers: "The new varieties of Autumnal Raspberries, the October Red and Yellow, are a great step in advance of our old Double-bearing; both were raised from seed of the Fastolf, and both bear most abundantly in autumn in the southern counties of England. They do not bear good fruit on the canes of the preceding year, or ripen it in July like our summer kinds." This, too, is my experience. It is not reasonable to expect a good crop from the young cane at the end of October, and then another crop from the same cane in the following July.

Two distinct methods of cultivation are required to obtain the best results, and if these are followed, a succession of Raspberry fruits may be maintained throughout the entire season, *i.e.*, from late June to late October. I have often been surprised that so few gardeners endeavour to produce Raspberries over so long a season, as it is not a difficult matter, for where the summer fruiting varieties flourish in the southern counties of England, there will the autumn fruiters thrive when due care and attention is bestowed upon them.

The ground chosen should be prepared as for the summer fruiting sorts, but it should be in as light a position as possible. Bring the ground into good condition ready for planting the canes from the middle to the end of February. Select two good canes, or three if not so strong, for each station, and plant these in rows four feet apart, allowing two feet between the stations. Cut the canes back at the time of planting to within three inches of the base. Tread the ground firmly if not too wet, or do so as soon afterwards as possible. Nothing more has to be done at this time, as no staking or trellis is, for the time being, needed. All that is required is to use the hoe in the plantation, and to tread the soil firmly about the roots, if needful, during March. Some of the weakest of the new growths should be removed during the early summer.

By the end of July or early in August the flower buds will commence to form at the terminals, and it will then be necessary to erect a light, temporary trellis along each row. All that is needed are Bamboo canes fixed horizontally, of fair size and rigid, supported at intervals. At each end of the row, and at intervals along each row, drive in stout stakes, 3 in. by 2 in., and 7 feet in height, for the support of the netting, later on, when stout tarred string is strained from post to post to hold it up. Tie the growths, by means of Raffia, to the Bamboo canes so as to bring them from a pendant up to an erect position. Cut out any shoots not showing flower.

When the fruits commence to colour it will be advisable to put up the netting as a safeguard against birds. For this purpose, I advise one-inch square mesh netting, fixed as tightly as possible. I have found that it is better to renew the plantations of these autumn fruiting Raspberries once in three years. This is done by selecting the strongest canes and throwing the rest away. Trench and manure the ground as before, and get the work done by February. The great point with these late fruiting Raspberries is that a good crop of fruits will be secured the same season as they are planted.

The best varieties to grow are, in my experience, Belle de Fontenay, red, a somewhat dwarf grower, ripening earlier than any other variety; Queen Alexandra, red, a stronger grower with firmer fruits; and the Hailshamberry, red, to all intents and purposes a Raspberry, and the one I found to be the best of all at Gunnersbury as it possesses a vigorous constitution and is an excellent cropper. The berries are of the largest size and the flavour of the best. I have, when I first grew this fruit, planted out young, growing canes in the early spring and fruited them the same autumn.

Mr. Chittenden recently very courteously supplied me with the names of five of the best varieties of autumn fruiting Raspberries as proved this year in the extensive trials at Wisley. These are Queen Alexandra, November Abundance, October Red, Souvenir de Desvié Bruneau, and Surprise d'Automne, the last a dwarf, yellow fruiting variety. Mr. Chittenden also informed me that he had found these autumn Raspberry fruits better than the summer fruits for bottling. I noted an exhibit of heavily fruited clusters of a late Raspberry at the R.H.S. recent fruit show, but I did not take the name. *Jas. Hudson.*

[The variety exhibited on October 21 was named Lloyd George (see *Gard. Chron.*, November 1; Fig. 103, p. 227). Eds.]

CONFESSIONS OF A NOVICE.

I was walking with a friend the other day in my garden, enjoying the marvellous autumn tints of Berberis and Snowy Mespilus, of Bird Cherry and Liquidamber of Vitis Coignetiae and of the Oak and Beech—in fact, of every kind of leaf which this year, instead of going drably the way to dusty death, had bedecked itself brightly for the journey to the unknown. Suddenly the spell of admiration was broken by my friend exclaiming: "What are those colours for!" By questioning I found out that he wanted to know how the colours benefited the plant, and I was free to confess that a novice never knows, though I will admit that the confession was made the easier to me by its accompaniment of hypothesis and conjecture which he—good and patient friend that he is—was kind enough at last to bring to an indeterminate conclusion by that ejaculation which disguises boredom and dismisses the tedious, "how interesting!" It was indeed so interesting to me that although as a host I took the hint and began to talk of other things—of Celery spot and summer pruning—I nevertheless continued to think of what autumn tints were for. Needless to say, my thoughts led me to no clear conclusion, but they gave me some tranquil hours, and if reflection did no more, it at least quickened my observations and gave me, I think, a fleeting glimpse into the shy heart of Nature.

First of all, I was puzzled to understand why an exceptionally dry autumn should have be gotten such a wealth of colour as to make the brilliance of dying autumn leaves outrival that of new-born summer flowers; for I had been used to believe that autumn colours are brightest when the soil is rich in moisture. I am sure that is the case with the flame colour of Liquidamber leaves and think it is true of most of our garden plants. Then I remembered that a wet, late summer preceded the autumn drought and that tree trunks are water tanks of high storage capacity. Hence I could well imagine that when, after the turn of summer, the divining rods of trees, which we call roots, found stores of water in the soil, they sucked them up and filled the water tanks. The leaves, however, as is the way of leaves after the strenuous work of spring and early summer, were already "calling canny" and could no longer play their part of dismissing the water supplied by the roots as vapour into the air. The surplus water therefore remained stored in the trunks, and so, in spite of the almost rainless autumn, the trees were, so to speak, wet, and the leaves were kept alive beyond their natural term by the water which they could neither use nor refuse. Wherefore they lingered half alive, half dead, and in that listless, semi-pathological state ceased to perform with precision the multitude of operations which characterises their normal vigorous life, and began to play those careless chemical tricks which result in the formation of pigments.

I remembered learning long ago that anything which throws a growing plant off its balance brings about the production of pigments. As wintry air may bring a rosy flush to a young cheek, so it may make pink the stems of seedlings and conversely a like symptom of out-of-gearishness may be induced by an unduly high temperature. Anything, in fact, that interrupts the even tenour of the way of plants, even so slender an agent as an insect's bite, may evoke, as though the plant were choleric, that flush of pink which seems to be the plant cells' way of showing the excitement of bad temper. In this way, it seemed to me may we understand even the bright colour of flowers. When the plant is leading the quiet vegetative life and adding unto countless numbers other countless numbers of cells, its physiological temper is even and its shoots are green; but when it undertakes at one and the same time the worrying work of growing and reproducing—these strange incompatibles which represent a compromise between self and racial expression—the physiological temper of the plant is ruffled and its chemical operations are disturbed. The disturbance is manifest in the blush of colour. Nature, that amazing contriver, rigorous to insist on the utilisation of by-products, seizes on this curious peculiarity of plants and teaches them that if "its anger hath its privileges" so the very tints due to

disturbed digestion may be roped into the ring of utility and used as lures to advertise the bribes of nectar and of the pollen which ensure the co-operation of insects in the consummation of reproduction.

I have invited my friend again to visit my garden and propose, unless he lingers till the last leaves have fallen, to try at once this explanation and his temper. I shall also speak to him of the colouring of fruit and suggest, if he stay long enough, that the reason why certain varieties of Apples vary so much in colour in different seasons and soils is that they are hybrids in the Mendelian sense. Because of this they lack the imperious decision which only comes to plants when they inherit from both parents the determination, or, as Mendelians say, the determining factors, for producing any given character, such as colour. The hybrids for colour among Apples, such as Cox's Orange Pippin, Bramley's Seedling, and many another, inherit decisiveness for colour production from one parent only; the other parent did not have it, and so could not impart it. Hence the compulsion to colour is but partial. Whereas the Apple that inherits from both parents the colour-forming character gives no, or little, heed to circumstance, but shows the decision of the pure-bred homozygote, that which receives this character from one only of its parents displays the Hamlet-like hesitancy of the heterozygote. In its case circumstance gives the casting vote, and we therefore say that soil and season determine the colour of its fruit. However it may be, I shall try some day to prove to my friend that science, in seeking to understand, does not destroy, but enhances in our eyes the beauty of the world; for upon the recognition of this truth depends not a little the future of the world. *A Novice.*

TREES AND SHRUBS.

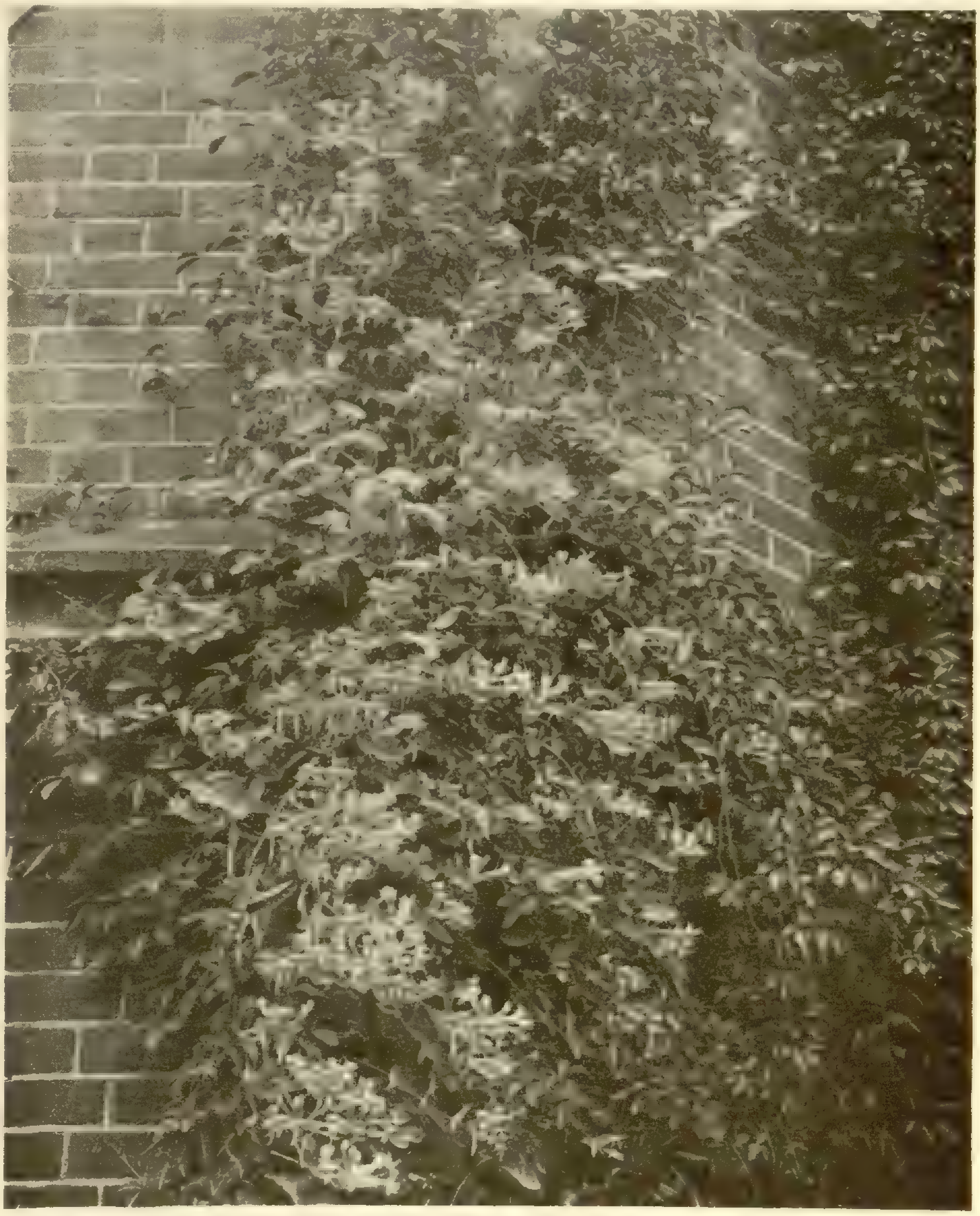
LONICERA TRAGOPHYLLA.

Among the hardy Honeysuckles, this Chinese species is the largest-flowered member of the family, but, under glass, the Burmese L. Hildebrandiana is the giant of the genus. Though introduced nearly 20 years ago, and now fairly widely known in gardens, L. tragophylla is not frequently seen growing and flowering abundantly. This I am inclined to attribute to the positions in which it is planted being frequently open, sunny, exposed and possibly too dry. These conclusions are the result of trying to grow the plant against a south wall, on an open lawn, twining up rough poles, and among other climbers against a house with a north-west aspect. In only the last instance is the plant a success, as illustrated in Fig. 129. Cultivators in the west, Cornwall to Inverness, sing the praises of this Chinese Woodbine, which luxuriates in the genial climate of their gardens.

L. tragophylla is a deciduous and an abundant climber. The rich yellow flowers are as much as 3½ inches long, borne in terminal clusters of ten to eighteen or more. Red fruits and seeds mature in autumn. The species is a native of the province of Hupeh, and specimens were first collected by Mr. Augustine Henry, but we owe its introduction to Mr. E. H. Wilson, who first sent home seeds in 1900. *A. O.*

CAMELLIA SASANQUA.

Though introduced over a century ago this Camellia is even now but very rarely met with. The true species forms a much-branched bush with comparatively slender branches clothed with dark green leaves, from 1½ inch to 3 inches long, and about an inch in width. The flowers, which are a couple of inches or a little more in diameter, are single, with a central mass of yellow stamens, and bright pink in colour. The petals are prettily undulated. A notable feature of this Camellia is the fact that the blossoms commence to open in November and continue for some time. The species is a native of China and Japan, in which last named country it is very popular. Numerous varieties have been raised, some with single and others with semi-double flowers. Certain of these last show, to some extent, the influence of Camellia japonica. Among the distinct sorts is one in which the leaves are freely variegated with pale yellow. The flowers of this variety are the same colour as those of the type, and when in full bloom a specimen is very pleasing. Camellia Sasanqua forms a decided break from the stiffer-growing C. japonica and its innumerable varieties. With regard to its propagation there is a marked difference between the two, as cuttings of C. Sasanqua are not difficult to root. They should be formed of half-ripened shoots of the same year and inserted in late spring or early summer. If the cuttings are dibbled into well drained pots, filled with a mixture of equal parts of loam, peat, and sand, they will soon develop roots in a close propagating case, with gentle warmth. *W. T.*



Photograph by C. P. Raffill.

Fig. 129.—Lonicera tragophylla on a cottage at Kew Gardens.

RHODODENDRONS AS EPIPHYTES.

W. W., in his notes on Rhododendrons, on p. 235, remarks that "the occurrence of Rhododendrons as epiphytes may therefore be looked upon as more or less accidental." The real reason is not accidental, but has a definite purpose. In the glacial period, the species pushed themselves a long way south of the Equator far into the Malay Archipelago, into Sumatra and Java. When the glacial influence receded, the migration of Rhododendrons took a northern direction, but the equatorial heat gained on some varieties so fast that they could not migrate rapidly enough and, by force of circumstances, climbed trees on the higher mountains, as is evidenced to-day by the species being found as epiphytes from south of the Equator through the Malay States, Siam to north of the Shan States and Burma on to the high ranges of Tibet, where they again come back to *terra firma*. That this view is correct is supported by the roots of the epiphytal Rhododendrons in Siam, latitude 21° north, where I found them in 1903 at an elevation of 4,000 to 6,000 ft., growing on the limbs of Moru and other evergreen Oaks at a height of fully 60 ft. from the ground. The Oak tree limbs were clothed in moss six inches deep, into which material the Rhododendron roots, yards and yards long, were growing. In general, Rhododendron roots do not range far and are associated with a fungus (Mycorhiza), but these epiphytal species were devoid of them. It seems to me that these facts point to the survival of the fittest by their adaptation to the altering conditions of existence evidenced by this abnormal length and mass of root system, which alone indicates the manner of the struggle to survive. Although I tried several times to grow these species in the ordinary ground at 700 ft. elevation, they invariably died. The beauty and charm of these species in the primeval forests is beyond description; the majority are small shrubs but with an abnormally long and large root system. The plants flower from November to February. I notice that Mr. Reginald Farrer finds them on the Salween Mekong Divide, but over 1,000 miles north of the seat of my former labours. *C. A. Jardine, late Royal Siamese Forest Service.*

THE PROTECTION OF RAISERS OF NEW PLANTS.

Plant breeders will welcome the sympathetic leading article on "The Protection of Raisers of New Plants," in *Gard. Chron.* November 1, p. 226, in spite of its somewhat pessimistic conclusions. The subject is being seriously considered on the Continent, as was noted in your columns a short time ago, and it is also being taken up in America. It is therefore no longer a matter for discussion on abstract lines, it is practical politics, and it behoves us to try and find a solution that will be acceptable to all the interests concerned, not only in England, but internationally. Of the justice of the claim there is no difference of opinion; it is generously acknowledged by the writer and admitted by all fair-minded persons. That there are difficulties to be overcome no one will deny, but they are by no means great and are certainly not insuperable.

There are two questions involved: (1) The merit or value of the production; and (2) Its novelty or distinctness. These are really quite separate matters, and I think perhaps some of the difficulties raised are due to mixing them together. It is with the latter only that I need concern myself in a consideration of proposals for the protection or patenting of new varieties or strains of plants. I am an advocate of the method of "the application of the patent laws to plant novelties," and all that is asked for is legislation empowering the Patent Office to grant patent rights to plants or strains on the same ground as all other patents are granted, namely, on the sole ground of *novelty*. Thus all difficulties founded on merit or improvement, or on the testing and proving of a new variety are eliminated—or, rather, they do not arise.

The testing and proving of new varieties of plants, the granting of certificates of merit, and the due recognition of the breeder's work, are all very desirable, and so far as they can be carried into effect, will indirectly—but only indirectly—be of great assistance in the necessary research which the Patent Office undertakes to establish novelty. But since, though desirable, they are not of immediate concern, it will be best to consider them separately later.

Confining discussion therefore to the question of patenting a plant novelty, it will be of advantage to examine in some detail the necessary procedure, the work involved, and the results as they may affect the community and consumer, the horticultural trade, and particular interests. The procedure in general would naturally follow the lines of procedure that obtain at present. The raiser or his representative could apply for a patent for any new plant or strain that is not in commerce at the time of application. The Patent Office would examine the claim with respect to novelty and distinctness, and if satisfied would grant a patent for a term of years to be decided. The fees and the mode of paying them would likewise be determined, with due regard to the special character of the subject.

It will be necessary for the Patent Office to establish a new department—which will simply be an additional department to those already existing. The preliminary work involved in organising this department while the necessary lists and data are being compiled will be heavy. Experts certainly will be required, but not more so than in any other department, and the work will be greatly facilitated by existing horticultural records—the R.H.S. list of certificated varieties; the proceedings of the R.H.S. committees; the admirable annual lists of new and rare plants in *The Gardeners' Chronicle;* the lists compiled by various societies devoted to particular flowers; trade lists, and many other records in horticultural literature. When completed, and all records duly filed, the subsequent work will only consist in keeping them up to date, and the research for novelty will be little more than routine for the great majority of claims. When necessary the department would have the power to require the claimant to submit the plants or strains for expert examination and comparison, either on his own grounds or at a testing station. This work might be done in conjunction with the R.H.S. or the department might establish testing grounds for such cases as would be outside the scope of the R.H.S. committees. There would, of course, also be power to require any other information and assistance from the claimant that may be found necessary or desirable. Such information should certainly include the parentage, so far as known—not for immediate publication, but as a record and an assistance in determining the *bona fide* nature of the claim. In view of these considerations and the probability that the number of claims will not be large—only a fraction of the numbers certified every year—I do not see any reason to suppose that a large body of experts would be required, or that the difficulties would be in any way exceptional.

As examples of particular difficulties, I may take two put forward in the article referred to—selected strains and too-much-alike varieties. In the case of selected strains, it seems reasonable, and in accordance with the established patent ruling, that the selector of the strain would only be entitled to take out a patent for *improvement*, and could only sell his improved strain subject to the payment of a royalty to the original raiser. As regards "too-much-alike" varieties, if the difference, or the new character, though small, was important, constituting "a pre-eminently valuable feature," the new variety would surely have a valid claim to a patent. No injustice is done to the older variety, and if the latter should be substituted for the new variety, that is provided for by common law.

In every new departure cases will arise necessitating special consideration, but the Patent Office has now an immense accumulation of experience in dealing with difficulties, and for the most part these would be treated according to the general principles that have been worked out.

Lastly, to consider how the proposals will affect the community in general, and the particular interests involved. In one very important respect they will undoubtedly be of the greatest benefit to the community. For though there will always be breeders of flowers on account of the interest and pleasure derived from the results, and though there is no doubt whatever that the improvements attained in flowers could be paralleled in other directions, and that results of such high economic importance as resistance or immunity to Silver Leaf or to Gooseberry Mildew could be obtained, there can be no interest in such work, and there is no incentive to undertake it unless the breeder is assured of an adequate pecuniary result if successful. The breeding of fruits, vegetables, and economic plants will therefore be greatly stimulated. From my own small experience with flowers I can see that the possibilities of breeding are only in their beginning; there is an illimitable ground as yet barely touched, and wonderful as some of the improvements may seem to us to-day, they are but a faint promise of what the future has in store.

Comparatively few novelties would be patented, for unless the improvement, and the value of it, were exceptional it would not be worth while, and the main bulk of new varieties would continue to be dealt with under the same conditions as at present. I see, therefore, no reason to suppose that there would be any limitation of trade or any appreciable increase of price, even of the patented novelties. But, in any case, quite a small percentage (which plants of exceptional merit are surely well worth) would suffice to pay the patent fees and recompense raiser and distributor.

It is obvious that protection by this method of patenting will not multiply varieties excessively; it will tend to reduce and select them. The proposal to protect by a system of registration of names, on the contrary, would increase them beyond all bounds, and on that account alone it is hardly worth considering any further.

Regarding particular interests affected, it will be best that they should speak for themselves. But it seems to me that though protection would perhaps necessitate some slight changes of practice, it would be of as much advantage to the distributors and the horticultural trade generally as to the raiser, if only because it would give them greater security. I conclude, with the writer of your leading article, though more hopefully—"Where there's a will there's a way." *A. J. Bliss.*

THE POLLINATION OF FRUIT BLOSSOMS.

Mr. Cecil H. Hooper gives, in the *British Bee Journal*, Vol. XLVI., the result of his investigations and experiments on the pollination of fruit trees, including Apples, Pears, Plums and Cherries. He gives a list of fertile and self-sterile varieties of each of these kinds of fruits, and, as set out below, recommends varieties which should be planted together.

Apples.

Fertile.—Irish Peach, Golden Spire, Stirling Castle, White Transparent (occasionally), Lord Derby, Tower of Glammis, Duchess of Oldenburgh, Egremont Russet, Devonshire Quarrenden, Summer Golden Pippin, Christmas Pearmain, Domino, Washington, Ben's Red, Red Reinette, Lord Grosvenor, Early Victoria, Ecklinville, Allington Pippin, King of the Pippins, Peasgood's Nonsuch, Potts's Seedling, Gladstone, Newton Wonder.

Self-sterile.—Astrachan, Ribston Pippin, Lord Suffield, Hoary Morning, Warner's King, Nonpareil, Striped Beefing, Sturmer Pippin, Fearn's Pippin, Belle de Pontoise, Duchess's Favourite, Bismarck, Cox's Orange Pippin, Beauty of Bath, Hambling's Seedling, King of Tompkin's County, Beauty of Kent, Cellini, Worcester Pearmain, Seaton House, The Queen, Rival, Alfriston, Lady Sudeley, Loddington, Blenheim Pippin, Waltham Abbey Seedling, Prince Albert, Grenadier, Hollandbury, Lady Henniker, Cox's Pomona, Golden Noble, Annie Elizabeth, William's Favourite, Mère de Ménage, Sandringham, Graham's Royal Jubilee.

Varieties to plant together.—Bismarck with Barnack Beauty and Lord Derby; Warner's King and Cox's Orange Pippin; Cox's Orange Pippin with Worcester Pearmain, Duchess's Favourite, King of the Pippins and James Grieve; Beauty of Bath with Allington Pippin, Lane's Prince Albert, and Gladstone (but Gladstone does not crop well with Beauty of Bath): Bramley's Seedling with almost any variety, especially Cox's Orange Pippin, Lane's Prince Albert, Newton Wonder, and Grenadier; Lady Sudeley with Gladstone; James Grieve with Cox's Orange Pippin, Stirling Castle, King of the Pippins, and Blenheim Pippin; Gladstone with Cox's Orange Pippin and Worcester Pearmain; Peasgood's Nonsuch with Wellington; Grenadier with Lane's Prince Albert and Early Victoria; Lord Derby, to some extent self-fertile, but improved by cross pollination, crops well with Graham's Royal Jubilee or Beauty of Bath; Lane's Prince Albert with Lord Derby, Stirling Castle, Grenadier, Beauty of Bath, Cox's Pomona, Bramley's Seedling and Allington Pippin; Annie Elizabeth with Warner's King; Newton Wonder with Prince Albert and Lord Derby; Worcester Pearmain with James Grieve; St. Edmunds Pippin with Ribston Pippin; Allington Pippin with Worcester Pearmain; Cox's Orange Pippin with Sturmer Pippin and Lord Grosvenor.

Pears.

Slightly self-fertile.—Conference, Durondeau, Duchesse d'Angoulême, Colmar d'Eté, Hacon's Incomparable, Marguerite Marillat; (in America) Duchesse d'Angoulême, Beurré Bosc, Beurré Diel, Doyenné d'Alençon, Flemish Beauty and White Doyenné.

Self-sterile. — Beurré d'Amanlis, Beurré Superfin, Catillac, Emile d'Heyst, Jargonelle, Josephine de Malines, Louise Bonne of Jersey, Beurré Alexandre Lucas; Clapp's Favourite, Williams' Bon Chrétien, Olivier de Serres, Bellisime d'Hiver, Pitmaston Duchess, General Todleben, Winter Crasanne, Marie Louise, Dr. Jules Guyot, Beurré Diel, Citron des Carmes, Uvedale's St. Germain, St. Luke, Souvenir du Congrès.

Varieties to plant together.—Dr. Jules Guyot with Doyenné du Comice and Williams' Bon Chrétien; Williams' Bon Chrétien with Le Lectier, Winter Crassane and Fertility in England, with Beurré d'Anjou and White Doyenné in U.S.A., with Bailey's Bergamot in Victoria, Australia; Pitmaston Duchess with Catillac, Williams' Bon Chrétien, and Louise Bonne of Jersey; Doyenné du Comice crops fairly

well with Pitmaston Duchess, Conference and Fertility and well with Emile d'Heyst, Souvenir du Congrès and Glou Morceau; Clapp's Favourite with Josephine de Malines; it also fruits well among a mixture of Pears.

PLUMS.

SELF-FERTILE.—Victoria and Czar fruit nearly as well self-pollinated as cross-pollinated; Denniston's Superb, Monarch (but should not be planted alone), Early Favourite, Reine Claude Violette, Mirabella, Giant Prune, Early Transparent, Reine Claude de Bavay, Prince Englebert, Early Favourite, Gisborne, Oullin's Golden Gage, Golden Transparent, Pershore, Magnum Bonum (red and white), Kentish Bush, Warwickshire Droopers, Damsons.

NEARLY SELF-STERILE.—Rivers' Early Prolific, Mallard, Stint.

SELF-STERILE.—Histon Gage, Early Orleans, Sultan, Kirke's, Coe's Golden Drop, Coe's Violet, Washington, Late Transparent, Ickworth Imperatrice, Early Greengage, Old Greengage, Reine Claude d'Althann, Wyedale, Grand Duke, Jefferson, Pond's Seedling, Curlew, Prune d'Agen, Bryanston.

VARIETIES TO PLANT TOGETHER.—Coe's Golden Drop with Pond's Seedling, Early Rivers, Reine Claude Violette, Rivers' Early Prolific, Prune d'Agen, Monarch, Wyedale, Denniston's Superb, Early Mirabella and Reine Claude d'Althann; Early Greengage and Old Greengage do not interpollinate, but set well with pollen of Victoria and Pond's Seedling; Wyedale with Rivers' Early Greengage and Coe's Golden Drop; July Greengage with Old Greengage and Rivers' Early Prolific; Greengage with Egg Plums, Early Orleans, Monarch, Pond's Seedling, Kentish Bush, Victoria, Czar, Rivers' Early Prolific; Rivers' Early Prolific with Egg Plums, Early Orleans, Czar, Monarch, Prince of Wales, Pond's Seedling; Belle de Louvain with Prince of Wales, Duke, Victoria, Czar, Egg Plums and Early Rivers; Pond's Seedling with Pershore Plums and Damsons; Washington with Pond's Seedling, Early Transparent with Late Transparent and vice versa; Reine Claude d'Althann with Coe's Violet, Coe's Golden Drop and Jefferson; Monarch with Rivers' Early Prolific.

CHERRIES.

SELF-FERTILE.—Morello, Kentish Wye, Morello and Late Duke.

SELF-STERILE.—Black Heart, Elton, White Heart, Kentish, Early Rivers, Burg d'Aunay, Black Tartarian, Bigarreau Napoléon, Bigarreau Frogmore, Early Guigne d'Annonay, May Duke.

VARIETIES TO PLANT TOGETHER.—Elton with Early Frogmore; Black Heart with Morello; Early Rivers Black with Baumann's May, Goodenston Black, Turk, Elton, Knight's Black, Governor Wood, Coronne, Florence, Black Heart, Waterloo, Black Eagle, Amber Bigarreau, Old Kentish Black, and Circassian; Elton Heart with Early Rivers, Monstreuse de Mezel and Frogmore; Black Tartarian or Turk with Black Eagle, Napoleon, Elton, Amber Bigarreau, Knight's Early Black and Early Rivers; Kentish or Amber Bigarreau with Black Eagle, Turk, Elton, Frogmore, Waterloo, and Governor Wood; Waterloo Black with Circassian and Amber Bigarreau; Napoleon with May Duke, Webb's Black, Governor Wood, Waterloo, Amber Bigarreau, Morello, and Frogmore (in California it does well with Black Tartarian, Black Bigarreau and Bing, and in Oregon with Deacon and Lambert); Governor Wood with Elton and Napoleon; Old Kentish Black may be self-fertile, but fruits well with Elton, Early Rivers, and Turk; Black Eagle with Turk; Knight's Early Black with Black Eagle; Circassian with Old Kentish Black and Early Rivers; Florence with Napoleon and Early Rivers; Roundel with Amber Bigarreau.

BERRY FRUITS.

In England, Gooseberries, Currants, Raspberries Loganberries, and Strawberries all set and mature fruit perfectly with pollen of the same plant or variety, though some of the Strawberries grown in Canada and the United States need to be interplanted with another variety for cross pollination. Insects are absolutely necessary to pollinate Gooseberries and White, Red, and Black Currants. Raspberries and Loganberries give only imperfect fruit if not pollinated by insects, and Strawberries, though chiefly pollinated by the movement of the air, doubtless benefit by insect pollination.

FRUIT REGISTER.

THE HAUTBOIS STRAWBERRY.

It is so many years since I tasted or saw this delicious fruit that I had forgotten it till turning over some numbers of a now defunct contemporary I came across the following note written by myself in 1876. (*Journal of Horticulture*, 20 July.)

"I dare say some one will say I knew all about growing Hautbois Strawberries before? If so, why did you not tell me? for I have asked more than once for information on the subject in this journal, and scores of times verbally, in fact, of everyone I met who I thought likely to know anything about it. True, I have not been short of advice of one sort and another. One adviser said I had not the right kind, another that the soil was wrong, a third that I gave too much manure, and a fourth, that I ought to give more. Some recommended cutting off the tops, and others growing the plants from seed.

"I changed plants, soil and aspect all to no purpose. There were plenty of leaves, flowers and fruit, such as it was, but the greater portion of it was undersized and perfectly dry and hard. Perhaps three, or sometimes half-a-dozen fruits would swell off on a plant, and I could gather a dish of fruit at a time from a large patch. When I did manage to pick a tolerably good dish, it was very highly commended, and my employer expressed a wish for more. I have been obliged to admit, more than once, that I did not know how to grow them—rather humiliating to one who has given his life to this and kindred subjects.

"Speaking one day to a neighbouring gentleman about Strawberry growing, he informed me that he used to have Hautbois Strawberries in abundance without any special cultivation, that they, in fact, grew in an almost wild state on the site of an old ditch, and I believe he added, that since those plants were removed his gardener has not been able to do much with this kind of fruit. I at once attributed his former success to moisture and shade, and secured both for my plants during the following season, but the result was the same as before. Now I am happy to say I have found out the secret. A portion of my plants last summer were left without any trimming, the runners being allowed to remain where they rooted naturally, and the result is that on these runners there is one of the greatest crops of Strawberries I ever saw, and all the fruit swells off to a good size. There is hardly a fruit on the old stools from which the runners proceed, and the plants kept clear of runners according to the orthodox method of Strawberry growing are, as they ever were, almost fruitless.

Now I know what to do. Hautbois Strawberries in future will be planted 3 feet from row to row, early runners will be encouraged to root in the space between the rows, and the old stools and surrounding soil dug out every season and replaced with fresh rich soil for the encouragement of another succession of runners. Heavy loam liberally treated is the best soil for this and all other Strawberries, excepting President and perhaps the Alpines."

I have now no convenience for growing Strawberries, moreover, my soil is not suited for the purpose. It would be interesting to know if anyone now grows the Hautbois successfully. Is it possible by cross breeding to transmit a portion of its distinct flavour to some of the modern fine looking, yet comparatively insipid varieties? *Wm. Taylor.*

FIG. 130.—CARNATION MRS. WALTER HEMUS.
A NEW PINK, PERPETUAL FLOWERING VARIETY.
R.H.S. Award of Merit, November 18. (See page 267).

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Grapes in Unheated Vineries.—To criticise the remarks of Mr. Hudson on pp. 240 and 250 may be presumption on my part, but I think few gardeners will be induced to grow the varieties of Grapes he mentions, under the conditions he sets forth. There are employers ever ready to take up such suggestions, especially while fuel is dear and scarce. Allowing that Muscat and Madresfield Court Grapes have been grown and finished so satisfactorily absolutely without fire-heat during this exceptional season, does it follow that if cool treatment was adhered to, say, for ten years, the results would be equally satisfactory? I think there would soon be checked growth, imperfect fruit, immature wood, and mildew. I have grown Grapes for the past four years with as little fire-heat as possible, having bottled up every bit of sun-heat when it was safe to do so without scorching the berries or the foliage of the vines, but I had to employ fire-heat during the early stages of growth in April and May; otherwise, the young and tender growths would have been frozen or decidedly checked. A quantity of the Grapes so grown this season are still hanging, but I am using a very little heat to prevent decay. I have also grown Madresfield Court Grapes in Kent for some years, and my experience is that fire-heat is absolutely necessary to get them finished quickly, and this probably has the effect of slightly toughening the skin, thereby preventing splitting, which would certainly occur if the vinery had to be closed early and remain so in order to keep up the necessary warmth to finish this variety if no fire-heat was available.—*J. R. A.*

The Treatment of Silver Leaf.—Although those who know most about the nature of Silver Leaf disease will be most inclined to reserve judgment as to the efficacy of the remedy described on p. 254, nevertheless it is well that every method which has been tested by responsible persons should receive the widest publicity. Before, however, these methods are adopted generally it is important that they should be tested thoroughly, and this is particularly desirable in the case of one which appears to be based on the use of a spray material; for it is very difficult to see how any substance distributed over the surface of a plant can exercise an effect on the fungus which is harboured in the deep seated tissues of a tree, and, as is now well known, this is the case with Stereum purpureum, the fungus responsible for Silver Leaf. The peculiarity of this disease lies in the fact that the immediate symptoms—the silvered foliage—lie far away from the seat of the disease, which is in the wood and often some distance below the leaf-bearing branches. Although very little is known of the extent to which substances may pass from the surface of a branch to the deep-lying tissues, it is known that the lenticels, or breathing pores, of the stems of plants provide channels through which gases may pass from the deeper tissues to the outside. Hence there would appear to be no impossibility of a substance spread over the surface of a stem reaching the deep-seated continuous layers of cells which surround the "wood." But having reached to these layers, the healing substance would then need to be absorbed by these cells and passed on to the elements of the wood in which the fungus occurs. Moreover, the substance would need, perforce, to be of such a nature as to be harmless to the tissues of the stem, whilst lethal to the fungus. This again is not impossible, but it must be confessed that it is in a high degree unlikely. I would, therefore, suggest that those accustomed to make experiments should put the specific recommended to a thorough test, and that until this has been done we should suspend our judgment with respect to the value of this method of eradicating of Silver Leaf. *Stereum.*

FIG. 131.—COLLECTION OF FRUIT EXHIBITED BY THE HON. VICARY GIBBS AT THE R.H.S. MEETING ON THE 18TH INST.
(See p. 268).

October Dessert Apples (see pp. 206, 216, 229, 241, 254).—There are some people who will argue on premises that do not exist, and I think that Mr. E. Molyneux must be one of them. I made no assertion as to the desirability or maturity of any Apple for October, but simply stated the facts as I found them at Wisley in 1918, cautiously suggesting that perhaps some of the sorts named on page 216 were not known to gardeners. In the latter surmise I find I am correct: Mr. Molyneux apparently does not know Bowhill Pippin, Endsleigh Beauty, or Warder's Golden Reinette. All these Apples last year were most excellent first-class varieties at Wisley. Messrs. G. Bunyard and Co. exhibited the first-named variety on October 21, and I had the pleasure of obtaining four fruits of Bowhill Pippin from them. They were of exceptional size, superbly coloured and finished. All my friends who tasted them agreed that this variety was first class. Mr. Molyneux, by his many able articles in your periodical, is a man whose horticultural knowledge commands my respect, but from his letter on page 241 he does not shine in inference or deduction; but nevertheless all progressive men must be open to learn. After twenty years of experience I thought I knew all about Apples, till I went to Wisley, and then I found my mistake. Even Mr. W. Cuthbertson, of Messrs. Dobbie and Co., the Potato expert, acknowledged quite recently that he was indebted to the present director of Wisley for his knowledge of the real facts in the freezing of seed Potatos. There has been a tendency by some gardeners to run down Wisley and to point out that they could always do better than those at Wisley. Those who conduct the R.H.S. Gardens are quite capable of looking after themselves, and need no support from me, but it is only fair to state that few experimental stations have done more with Apples than Wisley. In 1918 the Apple crop all over the Kingdom was a failure, but there was a bumper crop at Wisley, the trees being so laden that the branches were bent down and on the point of breaking. In spite of an insect plague of exceptional severity, the superintendent of the gardens could put up a magnificent exhibit of Apples even this year. What is the explanation of such results? The main factors are three: Interplanting of varieties; choice of sites (*i.e.*, one plantation on river bank or low ground and the other on hillside, high up; and spraying. Interplanting the varieties makes pollination more certain. When late frosts injure the blooms on the low-lying plantation, that on the hill escapes damage; and when drought spoils the hill crop, that on the river bank pulls through and carries its crop. A large percentage of Apples are infertile to their own pollen. This fact was well known in France thirty years ago and has formed the subject of many articles in horticultural papers during the past ten years. It has been the subject of most careful investigation at Wisley in a specially-constructed insect-proof orchard house, entailing exact experiments of some years' duration. With regard to little-known varieties of Apples, perhaps the following list may be of interest:—Blue Pearmain, Dutch Mignonne, Foster's Seedling, Lewis' Incomparable, Rambour Papaleu, Sure Crop, Surprise, and Lord Hindlip, all of which were good at Wisley last year. Ross Nonpareil I had the pleasure of tasting on October 21, from Mr. R. C. Notcutt's stand, and it could not have been in better condition. Earliness or lateness in maturity of Apples within a limit of three weeks or so is due solely to climate. A different climate may be assured in any ordinary garden by changing and ameliorating the soil, still further and more particularly in light soils by raising it six inches to a foot above the ordinary ground level, thus, in the latter case, making a late September Apple mature in October. By similar means an early November fruit may be had fit and perfect for eating in October. Mr. Molyneux knows the source of my information in these letters, which are written for information purely, not discussion, and he can find out all about September Beauty from Wisley. *C. A. Jardine.*

Late Dessert Apples.—On page 250, *Market Grower* asks for information regarding Calville Rouge Etoile and Heusgen's Golden Reinette Apples, both of which I grow. The first does not succeed with me, though such fruits as I get are very beautiful, but Heusgen's Reinette does very well, is a beautiful Apple and keeps unusually well. Its proper season begins in March and lasts till June, though a few samples may ripen a little earlier. In a garden where trees are much subject to canker, the two oldest trees are practically immune, and young trees begin to crop in the second or third season after their maiden year. In a rather more favoured spot the bushes are remarkably healthy. I am almost afraid of mentioning flavour, as this depends so much on personal taste, but Heusgen's Golden Reinette can hold its own with any Apple I know. *E. Robertson, Limavady.*

Judging at the R.H.S. Fruit Show.—At the recent R.H.S. Fruit Show the judging in the Grape and some other classes left no room for criticism, but in the single dish classes it was otherwise. In the classes for "any other" early, and "any other" late dessert Apple, two fruits were to be cut to determine flavour, but I do not think one fruit was cut, therefore, I wonder whether the prizes were awarded for appearance or for flavour? For "any early Pear" Pitmaston Duchess and Doyenné Boussoch secured all honours and the largest fruits were placed first, the prizes being awarded, apparently, for size, regardless of flavour. Pitmaston Duchess and Doyenné Boussoch Pears, at their best, are only second rate. I agree the winning fruits were really fine for the varieties. But if Pitmaston Duchess can win 1st prize as an early Pear, how can the same variety win a prize as a late Pear? If I remember rightly, in 1914, Doyenné Boussoch was placed 1st both as an early and a late variety. If this sort of judgment continues we shall lose sight of the smaller varieties that are of superior flavour The "any other variety" classes, are certainly the most difficult to judge, but my complaint is that the schedule required one thing and the judges another. Weight receives far too much consideration from some of the judges at the R.H.S. shows. There is no comparison between the two following sets of Pears as regards flavour, but ask any exhibitor which he would stage at the R.H.S. Fruit Show if each of the dishes were good for its variety:—Pitmaston Duchess, Marguerite Marillat, Beurré Diel, Beurré Baltet Père, and Doyenné Boussoch; or Directeur Hardy, Marie Louise, Louise Bonne of Jersey, Thompson's, Beurré Superfin, and President Barabe. There will be little difference of opinion as to which Pears are of the finest quality, but do the best get the place of honour on the show bench? *W. Taylor, Shrewsbury*

Awards to New Roses.—I was glad to see your correspondent, *W. T's.* timely remarks on the National Rose Society's lax method of granting awards. The National Rose Society's Gold Medal should be regarded as the high-water mark of merit, but it has become a byeword among Rose growers. Your correspondent in no way exaggerates his point, for instance, he calls the N.R.S. to book for granting an award to a Rose under the name of Queen Alexandra when already one existed under this name. As a matter of fact, no fewer than two already existed, the first having been sent out by Messrs. Jas. Veitch and Sons many years ago. It would be interesting to hear the judges' defence of such methods. Is it supine indifference to the difficulties of growers, both amateur and professional, to keep their stocks true, or is it ignorance and carelessness on their part? Why have they allowed Roses to be called Flame of Fire when already we had a Fire Flame, or a Modesty when for some years we have had an Irish Modesty? Do they not realise that when we have already a C. V. Haworth that the average nursery employee as well as the average Rose amateur will confuse a Mrs. C. V. Haworth with it, and that stocks will become mixed? The National Rose Society should keep a register of names which raisers could avail themselves of and in no way be allowed to approach so that names can be mixed or duplicated. Awards should be granted by a system of marks, so many each for colour, fragrance, habit, form, substance, etc. No doubt one day such reforms will be adopted, and the sooner the better. *A. Raven.*

Clematis tangutica (see p. 234).—In reference to the allusion in your notes it may be worth saying that not only does this plant remain in flower "till October," but that here to-day (Lord Mayor's Day, November 9th) a plant growing rampantly over a north-west wall is bearing an abundance of its yellow, lantern-like flowers. Two other specimens, both on south walls, have been out of flower for about a week. So hardy is this species that seedling plants remained out in pots (not plunged) all through the winter of 1916-17 and were quite uninjured. *Aubyn Trevor-Battye.*

Late Strawberry Fruits.—At Littlemore, Queensbury, Bradford, I have growing in a Carnation house a batch of 50 pots of Royal Sovereign Strawberry plants, which are producing an excellent crop of well-developed fruit. During October I gathered over 5 lbs. of fine berries and hope to continue to gather fruits until nearly the end of November. This is the second time of fruiting the plants within six months. It is the result of an experiment of my own, which I intend to try again in the spring after I have gathered the first crop from this year's runners. *G. Bellamy, Bradford.*

SOCIETIES.

WINCHESTER HORTICULTURAL.

November 12 and 13.—The annual exhibition of the Winchester Horticultural Society was held on these dates in the local Guildhall, the recent show marking the revival of these events, which have been suspended since the outbreak of war.

Chrysanthemums were shown in fewer numbers than at pre-war exhibitions, but the falling off in the numbers of flowers was compensated by the increase in the number of fruits and vegetables. The weather was unfavourable and snow fell during part of the time that the show was held. There was only a moderate attendance.

There were two entries in the class for a group of miscellaneous plants, and the 1st prize was awarded to Mr. F. G. Steuart, Oakwood House, Otterbourne (gr. Mr. G. B. Wise), whose collection included a number of well-grown Chrysanthemums and Begonias. The 2nd prize was awarded to Mr. H. Trimmer, whose exhibit included well-grown Orchids.

Five competitors showed in the class for four vases of single Chrysanthemums, in which Mr. Aris excelled, followed by Dr. Tullis (gr. Mr. S. Knight). Mr. Aris also showed best in the class for one vase of single Chrysanthemums. Lord Northbrooke was successful in the class for four vases of Chrysanthemums, singles excepted. Lord Swaythling (gr. Mr. Rose) exhibited the best vase of Japanese Chrysanthemums arranged for effect.

Competition was fairly keen in the classes for Grapes. Lord Swaythling was placed first for two bunches of Black Grapes, and Mr. A. E. Johnson for two bunches of Black or White Grapes.

Apples, both dessert and culinary varieties, were shown well. Miss Keates won the 1st prize for three varieties of dessert Apples with splendid fruits; and the culinary varieties in a similar class, shown by Mr. A. Bowker, Shoreford, were equally meritorious.

In the vegetable classes Mr. H. Trimmer met with success and won the first prizes offered by Messrs. Toogood and Sons and Messrs. Sutton and Sons, respectively, for collections. Mr. Steuart excelled in Messrs. Edward Webb and Sons' class for a collection, and he also showed the best exhibit in the class for a collection of vegetables exhibited by a local grower.

Obituary.

James Martin.—The death is announced of Mr. James Martin, woods manager to the Duke of Rutland, Belvoir Castle, Leicestershire. He had been in failing health for some considerable time. He was a son of the late Mr. George Martin, who for 47 years was forester to the Earls of Crawford and Balcarres, Dunecht House, Aberdeenshire, but now the property of Lord and Lady Cowdray. Mr. Martin was an authority on all matters pertaining to arboriculture, and was held in high esteem by the duke and members of his family, who frequently complimented him on the ability with which, for fully thirty years, he discharged his duties.

CROPS AND STOCK ON THE HOME FARM.

Autumn Work.

Chalking Land.—In districts where chalk abounds many large chalk pits and quarries are to be found, generally near the road side. Chalk is practically pure calcium carbonate, and its application to land during the winter, at the rate of 20 tons per acre, provides useful work for the horses and men at a time when perhaps the land is frostbound or other work not so important. The chalk should be spread evenly over the surface direct from the cart instead of putting it in heaps. There is a saving of time in not handling it twice. Frost, rain and wind will disintegrate the chalk, and thus it will gradually mix with the soil, setting free some of the plant foods therein, but, of course, not to the extent that lime does. Chalk ameliorates the physical character of the soil, rendering stiff land more easily worked, and is especially useful in fields where Turnips and Swedes are badly affected with Finger-and-Toe disease. Chalk is also valuable for making new roads where the foundation is wet. A thick layer of chalk as the base on which other road material is laid provides a firm foundation. Owing to its soft nature it must not be placed where the frost can affect it. For the making of floors to fowl houses, pigsties, cart sheds, etc., chalk is a desirable and a cheap substance, answering capitally when put down properly, with a smooth surface made by ramming it firmly when wet.

Emptying the Manure Yards.—The present is a good time to clean out the manure yards ready for the reception of cattle for the winter. The manure should be carted direct to the land intended for the next season's crops of Mangolds, Potatos, Cabbages, Swedes, Maize, Kohl Rabi or any other crop requiring manure. Tip the dung in heaps, to be subsequently spread and ploughed in, so that its nitrogen is not lost in the air. Manure applied at this season to land intended for growing the crops noted provides food by the time the plants are ready to assimilate it. Some of the yards may require repairing at the base. Holes should be filled with chalk where obtainable, or stones, to render them as dry as possible, but allow a slope to carry away water from heavy rains, thus adding to the comfort and welfare of the cattle. Every yard should have a shed attached wherein the cattle may shelter during wet or cold, windy weather, by day or night.

Planting and Repairing Hedges.—Now is a good time to plant new, repair old, and cut back overgrown hedges, where renovation is needed. No hedge is so good for retaining cattle as one of Quick or Whitethorn. The only other hedge I recommend is one of common Holly, which provides a warm shelter and is quite impassable by cattle. Owing, however, to its slow growth and great expense Holly is seldom employed. Some persons plant Beech, Lime and other trees with a view to ornamentation, and although they grow rapidly and make an attractive hedge cattle often eat the young, succulent shoots, especially during dry weather when grass is scarce. No matter what kind of hedge is planted the soil should receive a thorough preparation. Trench the ground eighteen inches deep and add manure freely to promote rapid growth. April and May are the best months in which to plant Holly, and November for Quick or any other deciduous subject. There is a difference of opinion as to the method of planting a Quick hedge: some prefer a double row of plants 10 inches apart; I prefer a single row of plants 4 inches apart. In any case cut the Thorns to within 4 inches of the ground in the February following planting. In this way a thick fence is assured at the base, forming a thorough foundation for a perfect hedge. The renovation of overgrown hedges provides work for the autumn and winter. The best way to deal with an overgrown Quick hedge is to lay it, making a slice 1 foot long on the main stems, 1 foot or so from the ground, and laying the branches one on the other in a sloping direction in the centre of the hedge, first shortening them to—say 6 feet in length. The slicing enables the parts to be laid in one straight line in the middle of the fence and does not prevent

their future growth. Hedges which are not too thin at the base, but are too high, may be cut back to any desirable height, trimming off the side growths. The topping of the hedge will induce vigorous growth to push from the main stems, and if this is subsequently cut again, twice the same season, a thick fence will soon be obtained. Hedges that are too thin to lay or too weak to partially cut should be pruned to within 6 inches of the base to promote greater vigour in the subsequent growth.

WINTER FALLOWS.—Land intended for growing spring-sown Oats, Barley, Vetches, Turnips, Mangold and Potatos should be deeply ploughed. Generally these crops follow cereals and provide a distinct change that is beneficial to the future crop.

If the previous straw crop, especially where grown on heavy land, was cut high owing to laid corn or intentionally left high, the straw will be valuable in assisting the future working of the soil as the stubble decomposes.

Where the soil is stiff and the subsoil so inert as to cause stagnation at the roots of growing crops after a spell of wet weather, the land should be ploughed deeper than the ordinary practice admits of with two horses, or is thought necessary for spring cultivation. In this case use three, or even four horses to ensure a deep furrow. The autumn and winter weather will disintegrate this turned-up subsoil and when the next ploughing takes place, the whole will be intermingled and made amenable to cultivation.

BASIC SLAG ON PASTURES.—The present is the most suitable time to apply basic slag to pasture, at the rate of 6 cwt. per acre, with a view to increasing the feeding value of the grass land, even where there is a chalk subsoil, for which many people assume basic slag is of no value. I am more than ever convinced of the value of basic slag for grass land, for various kinds of Clover spring into existence where Clover of any kind was not known before. How this occurs by the aid of basic slag only in one year is a mystery to many. I believe that the Clover seed lies inert in the soil and that basic slag favours its germination. Where sheep are kept during the summer and early autumn mainly on down land the improvement in the herbage is much appreciated by the sheep, the grass being more plentiful and sweeter. For the hay crop, too, basic slag applied to permanent pasture and Clover, mixed with Italian Rye grass, is a great assistance, but it must be sown early in the autumn, for basic slag is so slow in action it does not benefit the crop if the application is delayed until the spring. Sow evenly over the plot not less than 6 cwt. per acre; 10 cwt. may be used with profit. The higher grades are preferable to the lower grades. *E. Molyneux.*

TRADE NOTE.

SALE AT MESSRS. H. CANNELL AND SONS, EYNSFORD.

A WEEK's sale of the whole of the nursery stock, the leases, and goodwill of Messrs. Cannell's nursery business opened on Monday, Nov. 24. Messrs. Protheroe and Morris were the auctioneers. A large company of both nurserymen and market growers attended during the early part of the week, when the stocks of over 60,000 fruit trees were brought under the hammer.

The great popularity of Cox's Orange Pippin, and the exceptional demand for trees, made bidding very brisk when this variety was handled, some Standard and half Standard trees selling for 5s. 2d. each. Most of the smaller bush trees realised prices ranging between 1s. and 2s 6d. each, but Pear trees were not so keenly sought after, a good many of them going for as little as 4d. each.

Mr. Slade, who conducted the sale, referred appropriately to the past records of the firm of Messrs. H. Cannell and Sons, and mentioned that a few offers had been received for the goodwill, so there is still hope of the name being preserved.

ANSWERS TO CORRESPONDENTS.

CYCLAMEN EUROPAEUM 60 YEARS OLD: *C. K. (Switzerland).* It is well known that Cyclamen europaeum lives for a great many years, and the corms grow to a considerable size. So far we have been unable to find any record of a plant living for 60 years, so that your instance is worth placing on record.

DISCOLOURED CHRYSANTHEMUM LEAVES: *A.*—There is no evidence of Chrysanthemum rust on the leaves you sent us, but some damage appears to have been done by the use of an excessively strong fungicide or an insecticide. Damping is due to an excess of moisture in the atmosphere, and may be remedied by careful watering, the use of a little artificial heat, and freer ventilation.

HARD-CENTRED CHRYSANTHEMUM FLOWERS: *Mrs. S.* The hardening of the centre of the flowers and buds is due chiefly to the climatic conditions prevailing during the early autumn. A full reference to this trouble will be found on page 270, in our issue of November 22.

NAMES OF FRUITS: *A. A. W.* 1, Franklin's Golden Pippin; 2, Allington Pippin; 3, Fearn's Pippin; 4, Cox's Pomona; Pears: 1, Beurré Diel; 2, Maréchal de Cour.—*T. L.* Apple: Wealthy.—*H. T.* Pears: 1, Vicar of Winkfield; 2, Doyenné du Comice; Apples: 3, Woodcock; 4, Lord Derby.—*H. S.* 1, Decayed; 2, Madame Eliza; 3, Beurré de l'Assomption.—*J. W. R.* 1, Cellini; 2, Kerry Pippin; 3, Annie Elizabeth; 4, Blenheim Pippin; 5, Ross Nonpariel; 6, American Mother; 7, Alfriston; 8, Winter Greening; 9, deformed specimen.—*Schopwich.* 1, Royal Russet; 2, Lord Suffield; 3, Hawthornden; 4, Stirling Castle; 5, Striped Beefing; 6, Annie Elizabeth; 7, Claygate Pearmain; 8, Egremont Russet; 9, Sam Young; 10, Winter Hawthornden; Pears: A, Marie Louise; B, Maréchal de Cour; C, Nouvelle Fulvie; D, E and F, decayed; G, Beurré d'Amanlis; H, Joséphine de Malines; I, Beurré Clairgeau; J, Uvedale's St. Germain.—*F. B.* 1, Sturmer Pippin; 2, not recognised, a local variety.—*J. W. H.* 1, Reinette de Caux; 2, Newton Wonder.—*E. J. T.* 1, Bismarck; 2, Worcester Pearmain; 3, Yellow Ingestrie (small fruit); 4, Alfriston (large green fruit); 5, probably Margil.—*A. W.* 1, Beurré Bosc; 2, Cullen; 3, Noveau Poiteau; 4, Beurré Hardy.—*E. H. M.* Hanwell Souring.—*H. G.* 1, Durondeau; 2, White Doyenné; 3, Bergamot d'Esperen; 4, Clapp's Favourite; 5 and 6, decayed; 7, Doctor Trousseau; 8, Maréchal de Cour; 9, Nouvelle Fulvie; Apples: 2, King of the Pippins; 3, Golden Harvey; 4, Baxter's Pearmain.—*M. E. T.* 1. Warner's King; 2, Blenheim Pippin; 3, Keswick Codlin; 4, Sandringham; 5, Yorkshire Greening; 6, Kerry Pippin; 7, Cox's Pomona; 8, Domino; 9, Vicar of Beighton.—*E. E.* 1, Winter Strawberry; 2, Wellington; 3, Lord Derby; 4, Reinette de Caux; 5, Hawthornden; 6, Beurré Bosc; 7, decayed; 8, Marie Louise; 9, Iris Grégoire; 10, Hacon's Incomparable; 11, Soldat Laboureur; 12, Beurré Bachelier.—*R. J. R.* 1, Brockworth Park; 2, Passe Colmar; 3, decayed; 4, Beurré Clairgeau; 5, Zéphirin Grégoire; 6, Warner's King; 7, Annie Elizabeth; 8, Wellington; 9, Calville St. Sauvier; 10, not recognised.—*C. F. W.* 1, King of the Pippins; 2, Winter Greening; 3, Emperor Alexander; 4, Ribston Pippin; 5, probably Lord Derby; 6, Belle de Boskoop; 7, Roi d'Angleterre.—*A. E. S.* Annie Elizabeth.—*E. W. R.* 1, Striped Beefing; 2, Greenup's Pippin; 3, Claygate Pearmain; 4, Adams's Pearmain; 5, not recognised (local).—*New Forest.* Decayed.—*C. L.* Court-Pendû-Plat. *A. B. C.* 1, American Mother; 2, Claygate Pearmain; 3, Charles Ross.—*D. M. C.* 1, Annie Elizabeth; 2, Maltster; 3, Dumelow's Seedling (syn. Wellington).—*R. E.* 1, Chelmsford Wonder; 2, Sops in Wine; 3, Sturmer Pippin; 4, Seckle; 5, decayed (probably Doyenné du Comice); 6, decayed; 7, Glou Morceau.—*R. Z.* 1, Gascoyne's Scarlet; 2 and 3, Bramley's Seedling; 4, Cox's Orange Pippin; 5, Ben's Red; 6, Cellini; 7, Doyenné du Comice; 8, Forelle.—*R. W. B.* Cox's Orange Pippin.—*P. W. S.* Fruits decayed.

NAMES OF PLANTS: *C. M.* Berberis vulgaris.—*T. K.* 1, Nandina domestica; 2, Leycesteria formosa; 3, Eleagnus longipes.

PEACH TREE DROPPING ITS FRUIT BEFORE RIPENING: *J. W.* The dropping of Peach fruits either before or after the stoning period may be due to various causes; chief amongst them are excessive drought, over-cropping, unsuitable stocks, and too light soils. If you are sure your tree of Royal George Peach did not suffer from any of the causes stated, examine the roots and add some strong loam and more lime rubble to the compost, thoroughly watering the tree afterwards to settle the soil firmly about the roots.

RABBITS AND STRAWBERRIES: *W. G.* Only on one occasion have we known Rabbits to eat Strawberry plants. This was in a very severe winter of long duration when other food was scarce. As a general rule it is quite safe to cultivate Strawberries in an open field without danger of injury by these vermin.

SOFT ROT OF RICHARDIA. *A.*—The trouble is probably due to the presence of Soft Rot (Bacillus aroideae) in the rhizomes. Please send a specimen of the rhizome of an affected plant.

SPLITTING OF THE FLOWER STEM OF LARGE CHRYSANTHEMUMS: *O. W.* Certain varieties of Chrysanthemum are more susceptible than others to the peculiar horizontal splitting of the flower stem to which you refer. So far as we can gather there is no disease whatever. The splitting appears to be due to the fact that the stem immediately below the flower is shaded to a large extent by the bud and flower, and therefore it does not become so hardened in a dry season as the portion further down. As the season advances, the expanding flower needs a larger supply of moisture for its development, and in the effort of the plant to supply this need through the hardened wood and the soft portion above, the stem is burst or split in this horizontal fashion. If a small vertical slit is made in the stem with a penknife, as soon as evidence of the splitting is seen, there will be no further development of the trouble, but in either case the bloom will not be so fine as it would be if everything had proceeded normally.

THE GOAT MOTH: *T. W. S.* The specimen received is a fine example of the caterpillar of the Goat Moth (Cossus ligniperda). Although the caterpillars or larvae of the Goat Moth are fairly well known to those who have considerable experience with old fruit or forest trees, the moth itself is not very well known. The larvae are capable of doing a large amount of damage to trees by boring into the wood and sometimes eventually honeycombing the wood even in a tree of large size. The presence of larvae in a tree may generally be detected by means of the wood dust which appears at the mouth of the holes bored by them, the holes often being large enough to admit a man's finger. In many instances trees are killed by larvae, whilst in other cases the trunks are so badly tunnelled that during rain or wind storms they break at the point that has been weakened. Where the tunnels are comparatively new it is possible to kill larvae by forcing into the holes a strong parafin emulsion. The fumes of tobacco or sulphur forced in by means of bellows have proved to be very effective, but cyaniding is the most successful treatment yet discovered. A small amount of carbon bisulphide is forced into the tunnel and the hole immediately closed with wet clay. Trees killed by the working of this pest, and also those still alive, but badly infested, should be cut down and burnt.

Communications Received.—H. McL.—T. S.—Pom.—W. D. and Sons, Ltd.—A. P.—C. C. S. P.—A. L.—H. H. B.—G. B.—C. S.—A. T. T.—W. N. C.—A. J. B.—J. W.—T. J.—E. A. C.—J. M.—C. A.—F. T.—G. W.—F. R.—J. E. P.—J. B.—T. W. H.—J. C. W.—A. V. B.—J. D.

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ORNAMENTAL TREES & SHRUBS in all sizes and sorts.

ROSES, STANDARDS, BUSHES, CLIMBERS, etc. Large quantities.

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PRIVET AUREA VARIEGATA, best Golden fine cut back bushes, 1½ to 2 and 2 to 3 feet, fine roots, grand lot.

YEWS, ENGLISH, 3½ to 4 feet, 4 to 4½, 4½ to 5, 5 to 6, and 6 to 7 feet, all good, well rooted furnished plants. We have many acres of Yews to select from.

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MARKETS.

COVENT GARDEN, November 26.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)		Apples	
—Allington Pippin	4 0- 6 0	—Ribston Pippin	25 0-35 0
—King of the Pippins per ½ bus.	5 0- 7 0	Bananas, singles	20 0-25 0
—Cox's Orange Pippin per ½bus. best	10 0-11 0	French Figs, 12's 15's per box	1 3- 2 6
—Lord Derby	5 0- 7 0	Grapes Alicante	1 3- 1 6
—Warner's King, per bus. ..	6 0- 7 0	—Special per lb.	2 0- 3 0
—Lane's Prince Albert, per bus.	6 0- 8 0	—Gros Colmar ..	1 6- 2 0
—Bramley's Seedling per bus. ..	6 0- 8 0	—Special ..	2 6- 4 0
—Brit. Columbian— Cox's Orange Pippin, Jonathan, Grime's Golden, Nonesuch, McIntosh Red	40 lb. boxes 20s. 10d. control.	—Almeria per barrel	20 0-30 0
		—Canon Hall ..	2 6- 7 0
		—Muscat, per lb.	2 6- 6 0
		Lemons 300's	35 0-45 0
		Nuts—Brazils(new) per cwt.	125 0-130 0
		Cob Nuts, per lb.	1 4- 1 5
		Walnuts, English singles	0 9- 1 0
		doubles	1 6- 2 0
—Blenheim Pippin per bus. ..	10 0-14 0	Pears, English selected per doz.	4 0-18 0
—Newton Wonder	6 0- 8 0	—Doyenne du Comice	12 0-20 0
—Nova Scotian— Blenheim Pippin Nos. 1 and 2 ..	25 0-35 0	Pineapples each ..	2 6- 6 6

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans Guernsey, per lb.	2 6- 3 0	Parsnips, per bag	6 0-12 0
Beets, per bag ..	10 0-11 0	Parsley, per doz. bunches ..	3 0- 4 0
Cabbage, per doz.	2 0- 3 0	Potatos, per cwt.	12 0-14 0
Carrots, per bag	9 0-10 0	Radishes, per doz. bunches ..	1 6- 2 0
Cauliflower, per doz.	3 0- 4 0	Spring Onions, per doz. bunches ..	4 0- —
Celery, per fan, (12 heads) ..	3 6- 5 0	Sprouts, per bag 28 lb.	7 0- 8 0
Cucumbers, per doz	10 0-14 0	Tomatos, English, per doz. lbs. ..	6 0- 9 0
Garlic, per lb. ..	1 3- 1 4	—Teneriffe, Best, per bundle	28 0-30 0
Herbs, per doz. bun.	4 0- 6 0	ord ,, ,,	20 0-25 0
Mint, per doz bun.	9 0-12 0	Turnips, per bag	7 0- 8 0
Mustard and Cress, per doz. punnets	1 3- 1 6	Watercress, per doz	0 9- —
Mushrooms, per lb.	4 0- 5 0		
Onions, per cwt.	12 0-14 0		

REMARKS.—Business in most sections has been fairly satisfactory. Hothouse Grapes show a tendency to realise firmer prices. English Apples are still available in considerable quantities, but their prices remain fairly steady. Dessert varieties are a shorter supply, although fruits of Cox's Orange Pippin are plentiful, and except for selected fruits prices are easier. The few English Doyenné du Comice Pears available are in firm request, and their prices rule rather high. Supplies of English Tomatos of the new crop are inadequate for the demand, but the shipments from Teneriffe fulfil requirements. Guernsey Beans are firmer in price. Outdoor green vegetables show a slight falling in value, due to the more open weather: Potatos are still a short supply, and prices show a slight hardening.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's per doz. ..	10 0-12 0	Erica gracilis (contd.) 60's	9 0-12 0
Asparagus plumosus	12 0-15 0	72's	7 0- 9 0
—Sprengeri ..	12 0-18 0	Ericra hyemalis— 48's per doz .	24 0-36 0
Aspidistra green	48 0-72 0	Erica nivalis— 48's	24 0-42 0
Cacti per tray 12's, 15's ..	5 0- 6 0	60's	15 0-18 0
		72's	5 0-10 0
Chrysanthemums 48's per doz. ..	18 0-24 0	Marguerites white	18 0-24 0
		Palms Kentia ..	24 0-36 0
Cyclamen 48's per doz.	24 0-30 0	—— 60's	15 0-18 0
		— Cocos	24 0-36 0
Erica gracilis— 48's per doz. ..	15 0-30 0	Solanums, 48's per doz.	15 0-21 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Adiantum cuneatum 48's per doz. ..	12 0-15 0	Nephrolepis, in variety. 48's	12 0-18 0
— elegans ..	15 0-18 0	— 32's	24 0-36 0
Asplenium 48's per doz.	12 0-18 0	Pteris, in variety 48's	12 0-21 0
— 32's	24 0-30 0	— large 60's ..	5 0- 6 0
— nidus 48's ..	12 0-15 0	— small 60's ..	4 0- 4-6
Cyrtomium 48's	10 0-15 0	— 72's per tray of 15's	3 6- 4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea white, per doz. bun. ..	15 0-18 0	Lilium longiflorum, per bunch ..	18 0-20 0
Carnations per doz. blooms, best American var.	4 0- 6 0	Lilium speciosum album per bunch	6 0- 8 0
		— rubrum per bun	7 0- 8 0
Chrysanthemums— — White, per doz. blooms ..	4 0-10 0	Orchids per doz.: — Cattleyas ..	24 0-30 0
— Yellow ,, ..	4 0-10 0	Orchids — Cypripediums per doz.	6 0- 9 0
Pink ,, ..	4 0-12 0		
— White per doz. bun.	24 0-36 0	Pelargonium, double scarlet, per doz. bun. ..	12 0-18 0
—White and Coloured disbudded per doz blooms ...	6 0-12 0	Richardia (Arums), per doz. blms.	18 0-24 0
—Spray ditto, per doz. bun	? 0 -6 0	Roses per dozen blooms— — Liberty ..	8 0-12 0
— Coloured ,,	18 0-36 0	— Melody ..	6 0-10 0
French Flowers— —Mimosa, per pad	18 0-20 0	— Mme. Abel Chatenay ..	6 0- 9 0
—Narcissus, Paper White per pad	40 0-42 0	— Ophelia ..	9 0-12 0
		— Richmond ..	6 0-10 0
—Violets, Parma, per bun	8 0-10 0	— Sunburst ..	8 0- 9 0
		— White Crawford	6 0- 8 0
Gardenias, per box special ..	12 0-	—Roman Hyacinth per doz. spikes	3 6- 4 0
ordinary ..	5 0- 6 0		
Heather, white — —per doz. bn.	10 0-12 0	Violets Single large per doz. bun.	10 0-15 0
Lapagerias, per doz. blooms ..	5 0- 6 0	— Ordinary ..	6 0- 9 0

REMARKS.—Owing to the milder weather, the supplies of Carnations and Roses have been considerably more plentiful, and the former flowers are offered at much lower prices than a week ago. Roses also show a reduction in price. Trade in Chrysanthemums show but little change from last week; good prices are maintained for white blooms (disbudded) and bunches of spray white, but supplies appear to be increasing all round, and this morning prices showed a tendency to drop, especially for coloured varieties, with the exception of pink varieties in sprays, which are very scarce. Lilium longiflorum and L. lancifolium rubrum and Richardias (Arums) are offered in larger quantities, and the prices of these flowers are easier. Cut Roman Hyacinth is now well supplied. Camellias are the newest subject on sale: a few boxes of these flowers were sold last week at 8s. per box of 12 blooms; this morning they were cheaper. French flowers are arriving very irregularly and, so far, only limited quantities are being received, therefore, prices remain firm. Paper White Narcissus, Mimosa, Yellow Marguerites and Parma Violets, are the chief subjects. A few baskets of single Violets have arrived, but the milder weather during the past few days and the long journey causes the flowers to curl when exposed to the air. A good supply of flowers from the South is expected this season.

GARDENING APPOINTMENTS.

Mr. W. J. Kirby, for 15 years Gardener to Col. the Hon. B. BATHURST, Polebrook, Hever, Kent, as Gardener to THEO. A. STEPHENS, Esq., Hookstile House, South Godstone, Surrey.

Mr. James McKinna, for the past 3½ years with H.M. Forces, previously Gardener at Lauriston Castle, Midlothian, as Gardener to the Earl of MORAY, Donibristle Castle, Inverkeithing, Fifeshire.

Mr. A. T. Lewis, after two years service with His Majesty's Forces, and previously for two years kitchen gardener and hardy fruit foreman, and eight months inside foreman at Highclere Castle, Newbury, as Gardener to A. DEVINE, Esq., Northwood Park, Winchester, Hampshire. (Thanks for 2/6 for R.G.O.F. Box.—EDS.)

Mr. S. R. Arbury, late Gardener at Stoke Rochford, Grantham, as Gardener and Bailiff to Mrs. JEFFERSON, The High Beech, Hollington, Sussex.

Mr. J. T. Smith, for the past 3½ years with His Majesty's Forces, previously at Caldecote Towers, Bushey Heath, Hertfordshire, and for four years in the Royal Botanic Gardens, Kew, as Gardener to R. CORY, Esq., Duffryn, near Cardiff, Wales. (Thanks for 2s. for R.G.O.F. BOX.—EDS.)

Mr. F. J. Collins, as Gardener to W. H. SAVILL, Esq., Upton Grey Manor, Basingstoke, Hampshire.

Mr. Henry Tibbles, recently Gardener to H. BARNETT, Esq., Northchurch Hall, Berkhampsted, Hertfordshire, as Gardener to A. M. MARC, Esq., Champneys, Tring.

Mr. Thos. H. Wright, for 11 years Gardener to the Right Hon. the EARL OF KINTORE, Inglismaldie Castle, Laurencekirk, Kincardineshire, N.B., and for the past 2¼ years at Killochan Castle, Girvan, Ayrshire, N.B., as Gardener to J. REID WALKER, Esq., Ruckley Grange, Shifnal, Shropshire.

Mr. H. Harper, previously Foreman at Swanland Manor, Hull, as Gardener to G. J. BENTHAM, Esq., Swanland House, Hull. (Thanks for 1s. 6d. for R.G.O.F. box.—EDS.).

Mr. W. S. Wilks, for more than 4 years with His Majesty's Forces, and previously Foreman at Bessborough, Co. Kilkenny, as Gardener to Sir HENRY MATHER JACKSON, Llantilio Court, Abergavenny.

Mr. J. Perrett, for 13 years Gardener to J. GODDARD, Esq., at Tilgate Forest Cottage, Crawley, as Gardener to the same gentleman at The Elms, Crawley, Sussex.

Mr. W. Burridge, for 3 years with H. M. Forces, and previously for 3 years' Outside Foreman at Castle Milk Gardens, Lockerbie, N.B., and since demobilised as Inside Foreman at the same place, as Gardener to Colonel POLLOK MORRIS, "Craig," near Kilmarnock, N.B.

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GRAHAM BALFOUR,
Director of Education.

County Education Offices, Stafford.
November, 1919.

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GARDENER (Head Working), highly recommended; life experience, Inside and Out gained in large establishments; past two years Market Gardening; possesses business qualifications; excellent testimonials; 1914 ex-soldier; married; age 35.—GILKS, Sunnyside, Oxhill, Warwick.

GARDENER (Head Working); life experience; good all round, Fruit, Flowers, Vegetables; excellent references; married (no family); age 4[illegible].—FLETCHER, 34, Wellington Square, Chelsea, S.W.3.

HEAD WORKING GARDENER.—Mr. Burfoot, late Head of Ditton Hill Gardens (18 years) seeks re-engagement with lady or gentleman requiring a thorough practical, life-experienced man, all branches, Inside and Outside; keen, energetic; age 46; married; very highly recommended.—28, King's Road, Ditton Hill, Surbiton.

GARDENER (Head Working) or GARDENER and BAILIFF; life experience, thoroughly practical in all departments; highest references; married; age 43.—Apply, H., c/o Dickson & Robinson, The King's Seedsmen, Manchester.

GARDENER (Head Working); demobilised; life experience gained in first-class establishments; good references; age 35; married.—W. E. FREEMAN, c.o. Mrs. A. Brooks, Stoke Heath, near Bromsgrove, Worcestershire.

GARDENER (Head Working) or GARDENER-BAILIFF; thorough practical life experience all branches; several years' Head in good families; thoroughly reliable and highly recommended; married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (Head Working or good Single-handed); life experience, Inside and Out; middle age; good references; married (one boy). State wages.—GARDENER, Grassington, Cranleigh, Surrey.

GARDENER (Head Working) seeks re-engagement; 20 years' thorough practical all-round experience, including Orchids; keen, energetic; married (no family); highest references.—F. PERKINS, 101, Flax Road, Leicester.

GARDENER (Head Working), Scotch; demobilised; life experience in all branches; Flowers, Fruit, Vegetables, Lawns, Rock Garden, and electric light plant; good references; married (two children, 9 and 5); age 42.—DONALDSON, 5, High Street, Sandy.

GARDENER (Head Working). — J. F. Symons-Jeune, Esq., highly recommends late HEAD GARDENER, ALFRED EYRE; good knowledge of all kinds of Plants and Fruit, gained in first-class establishments; just demobilised; married; age 35.—Old Address, EYRE, Runnymede House Gardens, Windsor.

HEAD WORKING GARDENER (Scotch) requires situation where quantities of Fruit, Flowers and Vegetables are required; excellent testimonials; reference to Mr. Maitland, Head Agent, Rufford Hall Estate Office, Rufford, near Ormskirk, Lancs., or to D. CRAIG, Preston Road, Rufford, nr. Ormskirk.

GARDENER (Head Working or good Second); thorough knowledge of Gardening in all branches, gained in first-class establishments; recently demobilised; can be highly recommened by previous employer; age 35; total abstainer; married when suited.—A. MORTIMORE, 2, Jarvis Cottages, Steyning, Sussex.

HEAD WORKING GARDENER, age 35, demobilised; good experience, Inside and Out; excellent references from good establishments.—F. FISHER, The Bowers, Yattendon, Newbury, Berks.

GARDENER (HEAD WORKING); life experience; good references; age 38; married (no family).—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

GARDENER (HEAD WORKING) seeks re-engagement; practical life experience in all branches; three years Head last situation; previously five years as Foreman; highly recommended; age 32; married (no family).—T. REED, 14, Tudor Road, Reading.

GARDENER (28), married, seeks situation; SINGLE-HANDED or otherwise; well recommended.—Apply, stating wages given, SMALL, Hill House Hill, Bramshott, Liphook, Hants.

GARDENER (21) seeks situation; Outside; Single-Handed; certificated by the Royal Horticultural Society; understands bee-keeping; single; ex-soldier.—HAWKINS, "Chyreen," Rosemount, Romford.

GARDENER (SINGLE-HANDED or good SECOND); life experience, Inside and Out; age 29; married (no children); disengaged; good references.—BISHOP, 27, Belgrave Street, Eccles, Maidstone, Kent.

GARDENER seeks situation, SINGLE-HANDED or otherwise; single; Kitchen Garden, Greenhouse, Flower Borders, Lawn, Fruit Trees, Roses. No circulars.—W. G. BAKER, 10, Constantine Road, Hampstead, N.W.3.

GARDENER (demobilised R.A.F.) seeks situation (Single-Handed or with help); good experience; Inside and Out; age 27 years; single.—Apply, F. NEVILLE, Dogmersfield, Winchfield, Hants.

GARDENER (SINGLE-HANDED or otherwise); good references; age 29; married (no family).—DINNAGE, 20, Blakesley Avenue, Ealing, W.5.

GARDENER (SINGLE-HANDED or otherwise); life experience, Inside and Out; excellent references; age 28; married (no family); demobilised Navy; wife help in house if required.—LACEY, 12, Grafton Crescent, Kentish Town, N.W.

GARDENER (SINGLE-HANDED); life experience in Fruit and Vegetable culture; good knowledge of Roses, Herbaceous Borders, etc.; highly recommended by Head Gardeners; demobilised; 2½ years abroad; age 37; married (one little girl, age 10). State wages.—CROPLEY, c/o H. Chapman, Esq., All Souls College, Oxford.

GARDENER (married), age 27, requires situation on gentleman's estate; seven years' experience in herbaceous and Alpine work; first-class references; just demobilised; has had two years' commissioned service; wounded three times.—Apply, giving full particulars, to B. B., Box 15, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER or FOREMAN; good all-round experience; married; age 33; abstainer; understands oil engines, etc.; well recommended. — W. PRITLER, 1, Mount Street, Ware, Herts

GARDENER, married, age 26, demobilised, seeks situation, KITCHEN GARDENER or HANDYMAN, or both. Please state wages.—H. J. CARTER, 51, Higham Road, Chesham, Bucks.

GARDENER seeks situation, chiefly Kitchen Garden; age 32; married (one child); good references; just demobilised. — HARDY, Bachelor's House, Greys Court, Henley-on-Thames, Oxon.

W. TRATT, Holywell Park, Kent, can confidently recommend A. CROFT as SECOND GARDENER; 14 years' experience; good references; age 32; disengaged.—CROFT, Newton Valence, Alton, Hants.

GARDENER (SECOND), Inside and Out; ex-service N.C.O., seeks re-engagement as above; age 27; experienced; excellent refs.; bothy preferred.—W. STANDING, Bramble Reed, Matfield, nr. Paddock Wood, Kent.

EX-SOLDIER, married, seeks situation as SECOND or UNDER-GARDENER; 12 years' experience, Inside and Out.—Apply, A. H. EDMUNDS, 31, Kingsgate Street, Winchester.

UNDER-GARDENER (20) desires employment; bothy; previous experience; In and Out; good references. Please state terms.—L. E., 22, Cranley Gardens, London, N.13.

UNDER-GARDENER seeks situation, Inside, in good establishment; age 26; bothy; Midlands preferred.—A. FARMER, Upper Bentley, Redditch, Worcestershire.

GARDENER (UNDER), Kitchen Garden and Pleasure Grounds; good Scythe Hand; 11 years last situation; age 38; married (no family).—T. H., 20, Kilravock Street, Queen's Park, London, W.

FOREMAN (INSIDE); life experience in Fruit and Plants, House and Table decoration; excellent references; age 32; single four years in the Army as N.C.O.; at liberty.—C. HILLING, Benacre Street, Wrentham, Wangford, Suffolk.

FOREMAN (INSIDE or GENERAL); 14 years' experience Fruit, Plants, etc.; good bothy first consideration; ex-service man.—W. F. SMITH, Mells, Frome, Somerset.

JOURNEYMAN (INSIDE) seeks situation; bothy preferred; age 28 years; ten years' experience, Plants and Fruit; good refs.; disengaged.—Apply, F. W., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

JOURNEYMAN seeks situation, Inside; age 24; 5½ years experience before 1914; nearly 5 years R.F.A.; single; disengaged.—G. E. BAILEY, Sayes Court, Harty, Sheerness, Kent.

DEMOBILISED soldier seeks situation as FIRST JOURNEYMAN (Inside); age 28 years; ten years' experience; bothy preferred.—H. SWANBOROUGH, Haines Hill, Twyford, Berks.

YOUNG MAN, age 26, demobilised, seeks situation as Inside and Out; five years' experience on Herbaceous Borders previous to joining H.M. Forces; bothy and near London preferred.—J. H. BRISTOW, 5, Meadowside Road, Pangbourne, Berks.

LAD, age 17, requires situation, Inside or Out (Inside preferred); excellent references; one year nine months' experience; bothy, etc.—S. STEWARD, Bolnhurst, nr. St. Neots, Hunts.

LADY GARDENER requires post; 3½ years' practical experience, Inside and Out; former preferred.—Please state wages, etc.—F. D., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER seeks situation, private or Nursery; four years' good general experience, chiefly soft-wooded plants and Orchids; well recommended; near London preferred.—Wages and full particulars, Miss M. COOPER, 21, Queen Street, Chertsey, Surrey.

TWO YOUNG LADY GARDENERS, strong, healthy, good references and thoroughly experienced, wish work after Christmas; would go separately; prefer near London or Sidcup.—D. S., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

ELECTRICAL ENGINEER, at present in supply station, requires charge of estate or private plant; any repairs.—W. O., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

TRADE.

ADVERTISER, experienced Grower for market or shop trade, desires appointment as MANAGER; Pot Plants, Cut Flowers and Floral Work; Buyer or Salesman.—A. J., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

FOREMAN (single), fully experienced general Nursery Work under Glass; Kent preferred; highly recommended; three previous places as Foreman. —PARKER, 24, Roxwell Road, Shepherd's Bush, W.12.

FOREMAN GROWER, 33, desires engagement; excellent references; life experience with Tomatos, Chrysanthemums, Ferns, Routine Forcing, Bedding, Florists' Pot Stuff, etc.; used to taking charge.—State terms offered, J. D., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

GROWER (single); life experience Ferns, Palms, Orchids and General Stove and Greenhouse stuff, also high-class Floral Work, offers services to good Firm.—W. W., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

SEEDSMEN and NURSERYMEN.—Competent Book-keeper and/or Order Clerk, with seventeen years' London and prior provincial experience, requires situation; country preferred. Army discharge. disengaged.—A. C. V. LONG, 14, Rosedale Road, Forest Gate, London, E.7.

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H. HARRIS, Horticultural Carpenter and Joiner. Greenhouses and sheds of all description erected; painting, glazing and hot water fitting done. Labour only.—38, Ridley Road, Baker Street, Enfield, Middlesex.

The Gardeners' Chronicle

FOR ADVERTISEMENTS TO BE INSERTED ON AND AFTER JANUARY 3, 1919, THE SCALE OF CHARGES WILL BE AS BELOW.

Advertisements intended for insertion in the next issue MUST reach THE PUBLISHER not later than

TUESDAY, 5 p.m

	Ordinary Positions.	Facing matter or back cover.
Page	£12 0 0	£15 0 0
½-Page	6 0 0	7 10 0
¼-Page	3 0 0	3 15 0
Column	4 0 0	5 0 0
½-Column	2 0 0	2 10 0

Small Advertisements, ordinary positions:—

First 3 lines (not exceeding 20 words...	4 0
Per line (8 words), after	1 0
Per inch, single column	8 0
Per inch, across 2 columns	16 0
Per inch, across 3 columns	£1 4 0

Front page (no display allowed), 2/- per line space (headline counted as two lines).

SITUATIONS WANTED.

First **3** lines (not exceeding **20** words), **2/-**, and **6d.** for every additional **8** words or portion thereof.

(Advertisements at this Special rate are only accepted direct from Gardeners, &c.)

DISCOUNTS.

On front page advertisements no discounts are allowed. On all other advertisements they are allowed as follows: For three insertions, 5%; thirteen, 10%; twenty-six, 15%; fifty-two, 20%.

All Advertisements should be addressed GARDENERS' CHRONICLE, Ltd., and must reach the office before 5 p.m. on TUESDAY for inclusion in the issue of the same week.

All series must be arranged to attain completion within twelve months.

Advertisers may have replies to their advertisements addressed to the GARDENERS' CHRONICLE Office. A box fee of 1s. is charged for this service.

Cheques and Postal Orders are to be made payable to GARDENERS' CHRONICLE, LTD., and crossed "& Co."

41, Wellington Street, Covent Garden, W.C.2.

Telephone: Gerrard 1543.

Telegrams, "Gardchron, Rand, London."

GROW MORE FERNS!!

EVERYONE can grow Ferns successfully in this country, even in conditions which are totally unsuitable for other plants. If your garden is shaded with trees, and you find it difficult to get anything to flourish,

TRY FERNS!

You can learn all about their cultivation in the little book

FERNS AND FERN CULTURE,

which is to be obtained (price 1/3 post free) from

GARDENERS' CHRONICLE, Ltd.,

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OF ALL DESCRIPTIONS

SUPPLIED BY THE OLDEST ESTABLISHED FIRM IN THE TRADE;

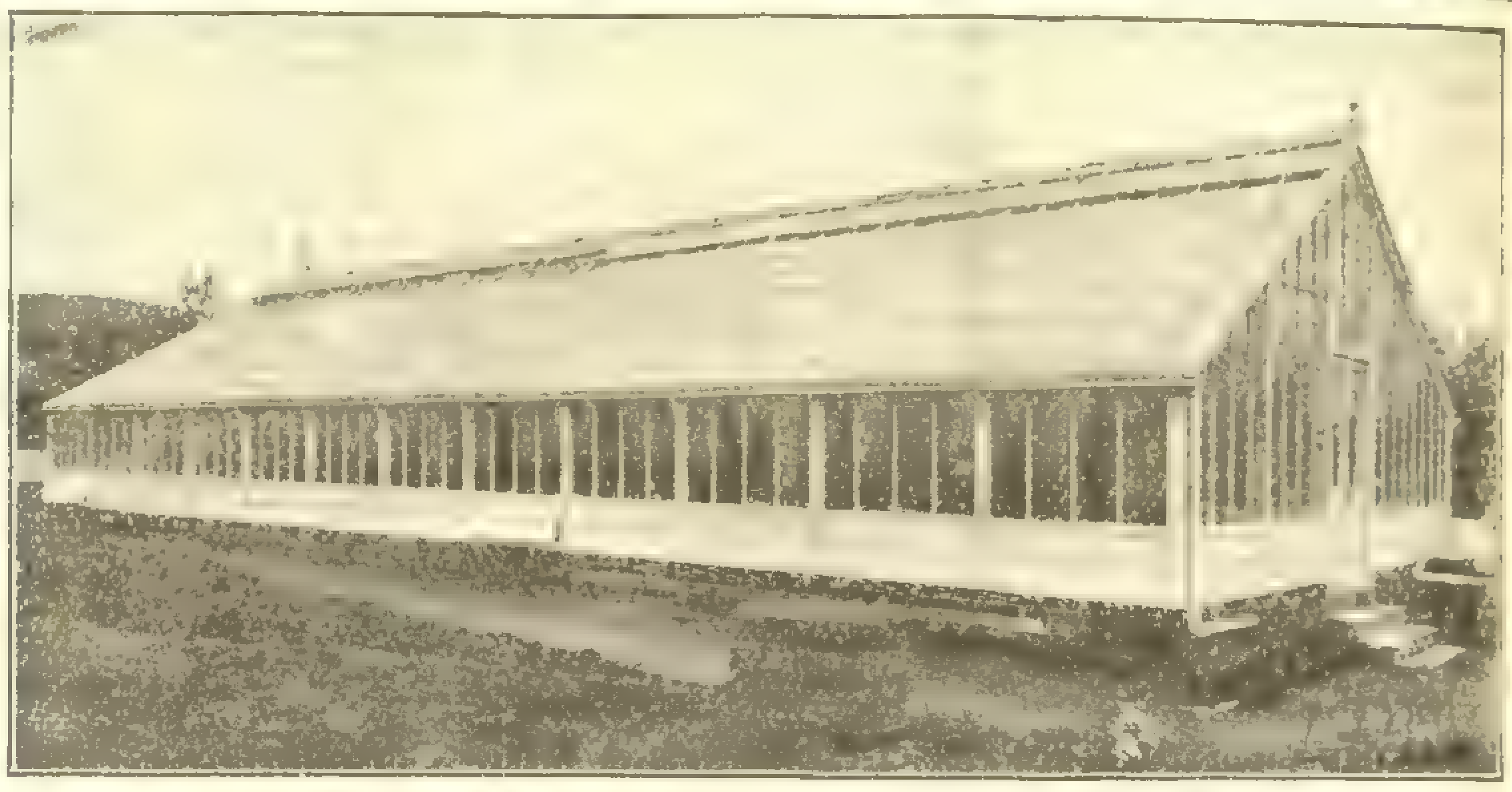
ALSO **HEATING APPARATUS**

FOR GLASSHOUSES, PRIVATE HOUSES & PUBLIC BUILDINGS.

Catalogues free. *Please Address all Enquiries to Head Office:*

J. WEEKS & Co. (CHELSEA),

92, VICTORIA STREET, WESTMINSTER, S.W.1.



ERECTED AT BRISTOL RESEARCH STATION.

Plans and Estimates Free. *Surveys by arrangement.*

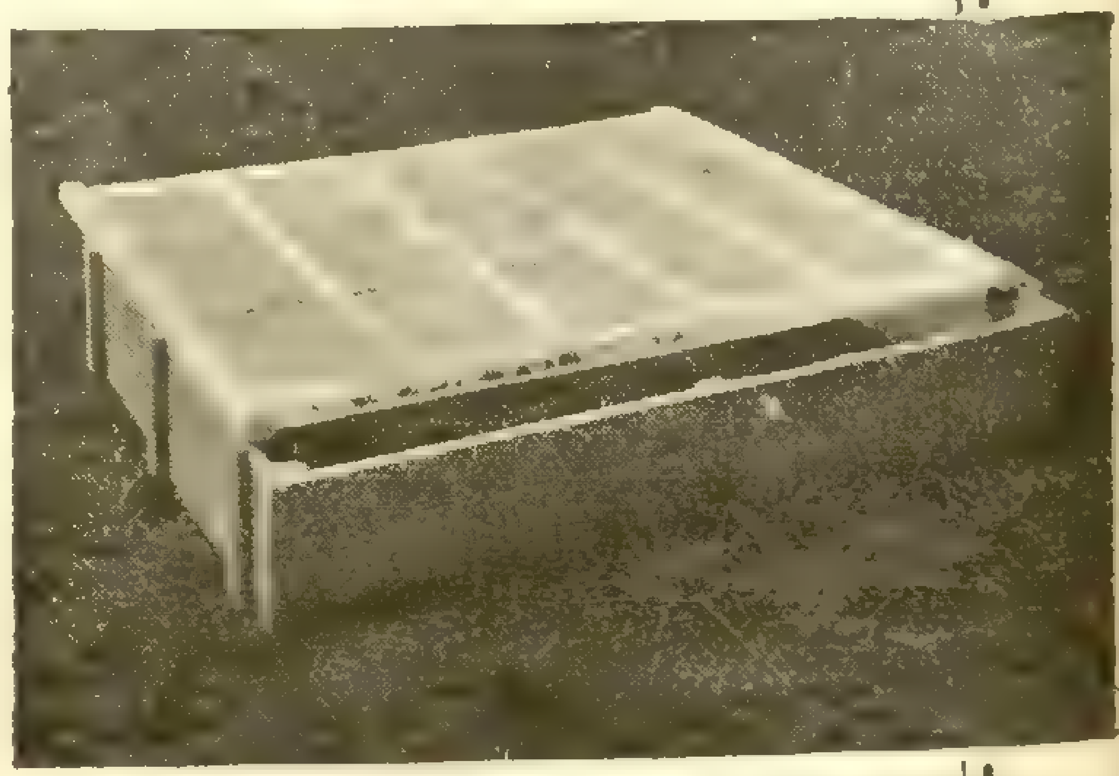
Have the Best of Garden Frames

Built to last—soundly constructed of selected and seasoned materials, of the latest designs—these Garden Frames are, like all products of Boulton & Paul, the best available at the lowest possible prices—consistent with sound workmanship. The great resources of this century-old firm are fully utilised in making these frames, just as in great Conservatories and Horticultural Buildings of their Construction. As the stock is limited and the demand laige, early orders are advised.

These are In Stock Ready for Immediate Delivery.

Carriage Paid to any station in England and Wales.

Write for our List of Garden Frames and Small Greenhouses.



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The fronts are 11 in. high, backs 22 in. high. The frame is 1 in. thick, and the lights 1½ in., glazed with 15 oz. glass, and painted two coats.

1 Light Frame, 4 ft. by 6 ft....	£4 4 0
2 Light Frame, 8 ft. by 6 ft....	£6 3 0
3 Light Frame, 12 ft. by 6 ft....	£8 4 0

Enquiries invited for Greenhouses, Conservatories, Vinery Ranges, Peach Houses, Carnation Houses, Heating Systems, Garden Frames, etc., of all descriptions, with requisite accessories.

No. 80.

This is an Ideal Frame for Allotment Holders and Smallholders. Size, 4 ft. 9 in. by 3 ft. 9 in. Sides, 9 in. high.

Price 44/-

Painted two coats and glazed with 15oz. glass. Frames also supplied in other styles and sizes.

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Boulton & Paul Ltd.
NORWICH

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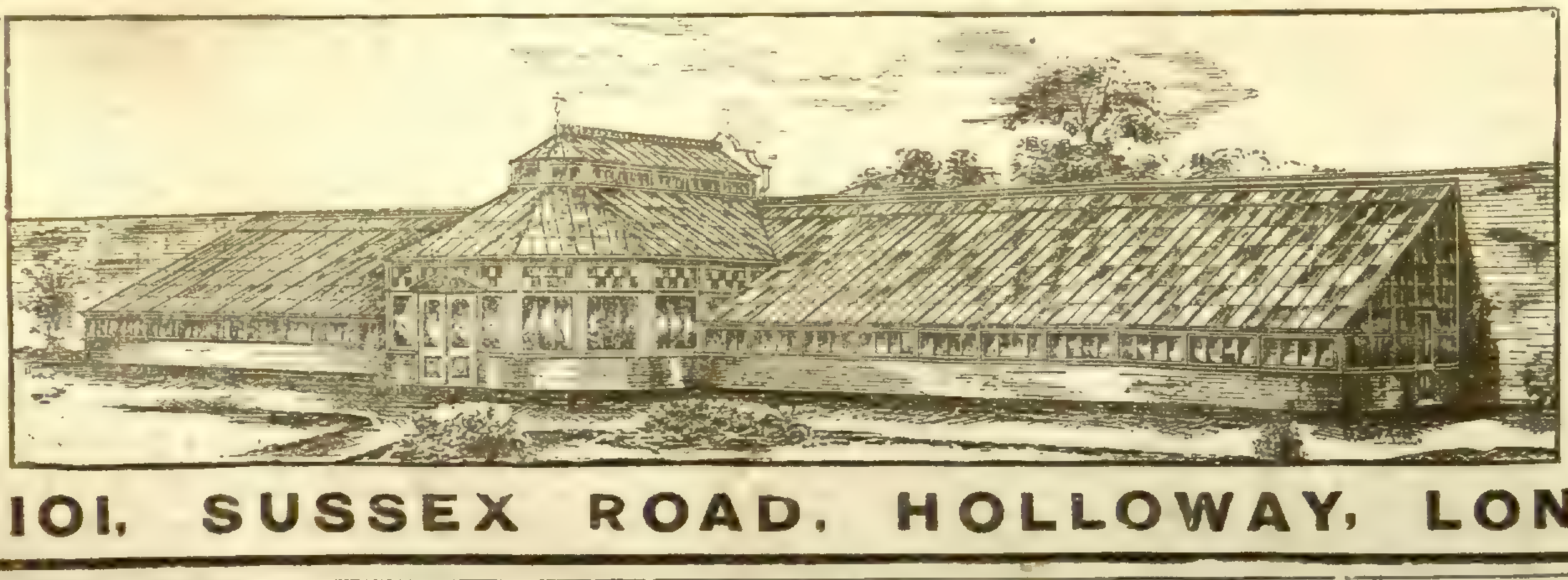

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Surveys Made. Plans Submitted. Fruit Houses.

HEATING Overhauled.

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Printed for the Gardeners' Chronicle, Limited, by ODHAMS LIMITED, 83-95, Long Acre, London, W.C.2, and published weekly by the Gardeners' Chronicle, Ltd., 41, Wellington Street, Covent Garden, City of Westminster, Saturday, November 29, 1919. Agent for Manchester, JOHN HEYWOOD

THE GARDENERS' CHRONICLE

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Postal Address—41, Wellington Street, Covent Garden, W.C.2. Telegraphic Address—"Gardchron, Rand, London." Telephone—Gerrard 1543.

☛ For CONTENTS see page 283.

THE CELEBRATED XL ALL SPECIALITIES. BEEN ON TOP FOR 25 YEARS AND STILL THERE!—XL ALL CAUSTIC WINTER WASH (in powder). 1-lb. tin makes 8 to 12 gallons. It thoroughly cleanses Fruit Trees and Bushes, both buds and bark. Can be used any time before the buds begin to swell in the spring. XL ALL NICOTINE LIQUID INSECTICIDE. The gardeners' favourite Wash for the absolute destruction of Thrip, Scale, Mealy Bug, &c. If this wash is used occasionally, a total absence of insects, both on Fruit Trees and Plants, can be secured in any garden XL ALL NICOTINE SHREDS. The most potent, safe and effectual Fumigant. Used without any apparatus; simply burn on the floor of the Greenhouse. XL NICOTINE FUMIGATING COMPOUND. Both in liquid and cake, these old favourites are still as popular as ever. Many other XL ALL Preparations are indispensable in the garden. Get a complete list from your N.S. or Florist, or send to me for one and name address of your nearest Agent.—G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E.1.

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Oct. 12-15, 1919.

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NEW LIST OF POTATOS READY—POSTED FREE.

Complete Catalogue of Vegetable and Flower Seeds, Potatos, &c., for the coming season ready very shortly. Free and posted free.

FIDLER'S NEW ILLUSTRATED CATALOGUE OF FOOD PRODUCT SEEDS is NOW READY, and a copy will be sent post free to any address on receipt of postcard.
Write at once to
FIDLER & SONS.
Royal Berkshire Seed Stores, READING.

McDOUGALL'S WINTER WASH for Fruit Trees.—To clean Fruit Trees from Moss, Lichen, to destroy Fungoid Spores, Scab, Hibernating Insects, and to check the growth and spread of Canker. For use only while trees are dormant. One gallon drums to make 80 gallons wash, 10s. each; 1 quart tins, 3s. 8d.; 1 pint tins, 2s. From Nurserymen, Seedsmen, and Ironmongers.—McDOUGALL BROS., LTD., Port Street, Manchester.

J. GRAY, LTD., Builder of Conservatories, Greenhouses, &c., and Heating Engineers, Danvers Street, Chelsea, London, S.W.3. Wire, 201, Western, London. Telephone: 201, Western.

WATERER'S new list of AZALEAS, embracing all the elite and popular shades and varieties; now ready; post free.—JOHN WATERER, SONS & CRISP, Ltd., The Nurseries, Twyford, Berks.

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VEGETABLE SEEDS are our great speciality. Selected stocks are available to the Trade.
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RIVERS' FRUIT TREES, Roses, Vines, Figs, Oranges and Orchard House trees are of first-class quality, and a large and select stock is always on view. Inspection invited. Price list post free on application.—THOS. RIVERS & SONS, The Nurseries, Sawbridgeworth, Herts.

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McDOUGALL'S "FUMERS" and Insecticide "Sheets" for greenhouse fumigation. Safe, effectual, economical. Sold by all Seedsmen and Nurserymen.—McDOUGALL BROS., LTD., Port Street, Manchester.

GISHURST COMPOUND has over half a century's reputation for effectiveness in preventing and destroying Red Spider, Scale, Mealy Bug, Thrip, American Blight, Green and Brown Fly, etc. Sold in boxes about 1lb., and 12lb. by Dealers in Garden Sundries. Free sample and particulars from PRICE'S PATENT CANDLE CO., LTD., Battersea, London, S.W.11.

MACKENZIE & MONCUR, Limited, Hothouse Builders and Heating Engineers, London, Edinburgh and Glasgow. By Special Appointment to H.M. the King. London Office: 8, Camden Road, N.W.

NOW IS THE TIME TO PLANT.

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Send measurements of your border.
Paeonies, Delphiniums, Phloxes and other beautiful flowers included in their Colour Schemes, which provide blooms from early spring to late autumn.
Write NOW to the Retail Plant Department.

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MISSOURI BOTANICAL RECEIVED DEC 26 1919

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SALES NEXT WEEK.

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Large quantities of English and Dutch Bulbs in lots to suit private buyers. Azalea Indica and Mollis, Rhododendrons, Aspidistras, and other plants from Belgium. 200 lots of ENGLISH ROSES, standards, bushes and climbers. 150 lots of DUTCH-GROWN ROSES in variety, Rhododendrons, Box and Shrubs.

WEDNESDAY, AT 12 O'CLOCK.

Narcissus, &c., in sacks, early and late flowering Tulips, Gladiolus and other bulbs. Cases of Lily of the Valley, Dutch grown.

9 CASES of DUTCH GROWN ROSES

containing 10,000 Dwarf and Climbing Roses, followed at 2 o'clock by

500 CASES of JAPANESE LILIES.

containing 80,000 LILIUM LONGIFLORUM GIGANTEUM, L. speciosum album and rubrum,

FRIDAY, AT 12 O'CLOCK.

ENGLISH and DUTCH BULBS, in great variety.

MESSRS. PROTHEROE & MORRIS will sell by Auction as above, at their Central Sale Rooms, 67 and 68, Cheapside London, E.C.

On view mornings of sales. Catalogues had.

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ESTABLISHED ORCHIDS,

Comprising the entire collection formed by SIR JOHN EDWARDS MOSS, BART, also from other sources. ORCHIDS IN FLOWER AND BUD, together with an excellent assortment of

CLIPPED BOX TREES

of good variety and well executed designs, and a quantity of

GARDEN ORNAMENTS,

including Lead Figures, Sundials, Vases, &c. which will be sold by Auction by

MESSRS. PROTHEROE & MORRIS, at their Central Sale Rooms, 67 and 68, Cheapside, E.C.,

ON THURSDAY, DECEMBER 11, 1919, COMMENCING AT ONE O'CLOCK.

On view morning of sale. Catalogues on application.

TEDDINGTON.

Clearance Sale of SIX GREENHOUSES, 4,500 ft. of 4-in. Hot Water Piping, FOUR SMALL BOILERS, Brickwork, and a quantity of Flower Pots.

MESSRS. PROTHEROE & MORRIS are instructed by the Executors of the late Mr. M. H. PAGE to sell the above by Auction, at

WALDEGRAVE NURSERY,
WALDEGRAVE ROAD,

ON TUESDAY, DECEMBER 9, AT TWO O'CLOCK.

On view three days prior to sale.

Catalogues can be obtained on the premises; of Messrs. Greenwell, Higham and Co., Solicitors, 4, Berners Street, W.1, and of the Auctioneers, 67, Cheapside, E.C.2.

N.B.—THE FREEHOLD UNRESTRICTED BUILDING SITE, having a frontage of 84 ft. by a depth of 205 ft., will be offered prior to the sale of the Glass.

LEYTONSTONE.

Clearance Sale of ELEVEN GREENHOUSES, 990 ft. of 4-in. and 780 ft. 3-in HOT WATER PIPING, FIVE BOILERS, BRICKWORK, Lights, Flower Pots, SMALL COVERED VAN, SPRING CART, and other sundries.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction at the COBBOLD NURSERY, COBBOLD ROAD,

ON THURSDAY, DECEMBER 11, AT TWO O'CLOCK

On view. Catalogues on the premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.2., and 827, High Road, Leytonstone, E.

CROCKENHILL, SWANLEY, KENT.

IMPORTANT SALE OF FRUIT TREES.

Several thousands Standard, half-Standard and dwarf Apples and Plums; 1,000 3-year Cox's Orange Pippin, splendid trees; also a quantity of fruiting trees, Bramleys, Worcesters, Lord Derby, and other varieties. Standard and half-Standard Victoria and Czar Plums; Baldwin and Edina Black Currants; Wilson's Long Branch Red Currants; Warrington Gooseberries; Strawberry Plants, &c.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the premises, near Swanley Junction, by order of Messrs. CALEB LEE & SONS, and Mr. A. T. MILLER, on

WEDNESDAY, DECEMBER 17, AT 12.15.

Fuller particulars next week.

PRELIMINARY NOTICE.

PONDERS END.

Seventeen Greenhouses, total length 3,000 ft., comprising 94,000 ft. of Glass, all 18 by 24 size, painted this year; 15,000 ft. of 4-in. piping.

Tank House, Boilers, Gas, Engines, etc. in suitable lots. The Greenhouses are mostly planted with Vines. The Freehold Land, 3 acres, with Cottage, forming a fine site for Factory, with entrance from main London Road, and Southbury Road, close to Churchbury Station, and on the tramway route, will be offered as a separate lot.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the premises at an early date, by order of Mr. John Rochford, unless previously disposed of as a whole by private treaty.

Particulars of the Auctioneers, 67 and 68, Cheapside, E.C.2.

BUSINESSES FOR SALE.

£10,000 WILL PURCHASE a very flourishing business showing a net profit of not less than £1,732 per year. Fruit, Flowers and Vegetables. No agent need apply; principals only. Stock up to date will be included in purchase money for an early sale. Reason for sale two partners dissolving; one open to take full control of business if desired.—Apply to GWYETH, Box 26, 41, Wellington Street, Covent Garden, W.C.2.

AUBREY & CO., Nurserymen's and Florists' Agents, 28, Watling Street, London, E.C.4., offer profitable Nursery, Florist's and Fruiterer's business, centrally situated in good Midland town, comprising about 3 acres and 1,200 ft. Glass; Fruit and Floral Shop near by. Turnover about £5,000. Possession arranged with £1,000. Splendid opportunity.

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NOTICES.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

APPROVED SECTION 229.

AMENDMENT TO THE NATIONAL HEALTH INSURANCE ACT, 1918.

ALL PERSONS whose salary does not exceed £250 per year must now be insured. This Society, which has paid out over £2,750 in Sickness and Maternity benefits, and has invested Funds of over £4,000, is open to all Gardeners, Seedsmen and Nursery Workers.—Forms of application may be had from A. C. HILL (Secretary), 35, Alexandra Road, West Kensington, W.14.

NEW ORCHID COUNTRY.—Names of specimens discovered and other particulars at personal interview only. Advertiser setting out early New Year. —ORCHIDS, Box 1, 41, Wellington Street, Covent Garden, W.C.2.

PLANTS, &c., FOR SALE.

BEGONIAS, Gold Medal Strain, in four separate colours, red, pink, white, yellow, 25s. 100 tubers.—COX, 35, Newhall Street, Birmingham.

FERNS! FERNS!!—Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinias, Lilies, Hydrangeas, etc.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.9.

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WANTED, EMBOTHRIUM COCCINIUM in pots, any size; Daphne Laureola purpurea, Rhus Cotinoides, Retinospora Sanderi.—State particulars to, JONES, Thorn, Wembury, Plymouth.

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THE

Gardeners' Chronicle

No. 1719.—*SATURDAY, DEC.* 6, 1919.

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Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 40.6°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, December 3, 10 a.m.: Bar. 29.9; temp. 49°. Weather—Rainy.

Ultra-violet Light and Plant Growth. The radiant energy of the sun is the source of the power whereby the plant is able to construct the material out of which its tissues are made and from the breaking down of that material the plant obtains the energy for doing the work of living. But light is more than a supplier of energy, it is also the sculptor which gives the plant its form. Removed from light, a plant takes on strange outlandish shapes, the stems grow long and spindly,—colourless ghosts of their normal selves, and the leaves remain rudimentary, or if the plant be one of the monocotyl type the pallid leaves grow increasingly in length until the food produced by an earlier exposure to light and stored for contingencies is exhausted. Nor is the influence of light confined to the rough hewing of the plant's form; it defines the contours as well as determining general outline. The dappled shade beneath a tree is not only a rough record of the present spacing of the leaves; it is also a memento of the controlling influence of light on the individual leaves. The solicitude of the sun extends to each leaf and determines the plant to practice a give and take of growth so that leaf does not unduly compete with leaf, or by growing indifferent to the growth of neighbouring leaves deprive its neighbours of a place in the sun.

No less subtle and equally little understood is the influence of light in determining the transition from the vegetative to the reproductive stage of growth.

Careful analyses have been made with the object of determining which parts of the spectrum are chiefly responsible for these several actions, and it is known that the red end of the spectrum is the chief supplier of the energy used by the plant in its manufacturing processes; it is also know n that the control of form resides principally in the rays at the blue end. Speculation and experiment have often been directed to discovering whether the invisible parts of the spectrum, and particularly the ultra-violet rays, play any specific directive or constructive part in the life of the plant.

The most recent investigations* supply an affirmative answer to this inquiry. In examining the results of these researches it is to be remembered that the ultra-violet rays of sunlight are absorbed in large measure during the passage of light through the atmosphere, so that when sunlight reaches the surface of the earth it is relatively poor in ultra violet rays. By experimenting with plants of Sugar cane the author finds that ultra-violet light has a remarkably quick influence in developing the green colour of the plant. If Sugar canes are grown in the dark for a long period—say of thirty days—they become pale, as does grass beneath a board. When these partially etiolated canes are exposed to sunlight they retain their pale colour, but when exposed to the ultra-violet rays from a mercury vapour lamp the leaves turn deep green in 2½ hours.

From other experiments it appears that ultra-violet light exercises a powerful influence on the rate of manufacture of sugar by the plant. If by means of coloured glass screens some of the ultra-violet rays are cut off from the plant the rate of sugar production is reduced; if normal sunlight, with its complement of ultra-violet rays, is allowed to fall on the plant the sugar production is raised by 30 per cent.; if the sunlight is reinforced by ultra-violet rays from a mercury vapour lamp a further increase of 8 per cent. of sugar is obtained. Ripening of fruit is also said to be hastened by the ultra-violet rays. A daily exposure for 40 minutes to additional ultra-violet rays resulted in Pineapples becoming more quickly ripe as well as juicier and larger than others which enjoyed only the light of the sun.

It is claimed also that ultra-violet rays confer additional keeping quality on fruit. Branches, leaves and shoots cut from a tree which had been exposed to ultra-violet light and placed with the cut ends in water retained their freshness for two weeks, whereas similar leaves and shoots from trees not exposed to ultra-violet light withered in the course of six or seven days. It is suggested that this observation may prove useful in commerce, and it should certainly be verified, for if it proves correct there is little doubt as to its useful application to fruit-growing and exporting industries. The author, recognising that mercury vapour lamps are too expensive for general use, is experimenting with the use of small carbon rods impregnated with various substances—sodium tungstate, uranium nitrate, ammonium molybdate and bitumous chloride as a means of producing ultra-violet light.

Should these observations prove correct—and we have no reason beyond the ordinary rule of caution to doubt their correctness—we may expect commercial applications, and we shall also be in a position to picture a world as it would be were our full share of the sun's ultra-violet light not cut off from us by the atmosphere. In such a world fruit would hang on the trees ripe and ready to pick from one season to another, so that there would never be a shortage, nor would rationing of sugar be necessary, for the plants would be all as "sweet as summer." The foliage even in spring would be of the deepest colour, verging on black, and the tender green of the Larch would pass in the twinkling of an eye to its full depth. In spite of our desire to increase food production, we cannot regret altogether that our atmosphere mitigates the blessings that ultra-violet light might shower upon us.

* The Action of Ultra-violet rays on Sugar Cane, Pineapple, and Banana in Hawaii. By T. Tanji. *Louisiana Planter and Sugar Manufacturer.* LX., No. 26. June 29, 1918.

Tree Telephony and Telegraphy.*—That trees may be utilised for purposes of wireless telegraphy first suggested itself to Major-General Squier when difficulties were met with in the telephone and telegraph installations in connection with Army manoeuvres in California in the dry season of 1904. This opinion he found opportunity to put to test during the war when the United States, as a precaution against submarine cable interruptions, was organising receiving stations to pick up and receive radio messages from European stations. In the course of the establishment of a chain of stations across the United States, it was found possible to receive signals from European stations by laying a small wire netting on the ground beneath a tree and connecting an insulated wire with a nail driven into the tree well within the range of the tree top. It was further found that a "tree antenna" of this kind acted as a "multiple receiving set" and also that telephonic transmission through the tree antenna was capable of being received by another tree antenna. The author concludes from his researches that from the minute an acorn is planted it becomes a "detector" and a "receiver" of "electro-magnetic waves." Thus trees appear in a new light—to the physicist they are, and have been from their beginning, pieces of electrical apparatus capable of receiving, conducting and giving out the long electro-magnetic waves used in radio-telegraphy. Science truly recreates the romance which it destroyed. The legend of the talking Oak may be no longer believed, but we now know that though dumb, the tree is a wonderful listener to the secrets which radio-telegraphy whispers through space.

Rot in Timber of Fishing Boats.—The Fisheries Division of the Board of Agriculture and Fisheries reports that several cases have been noted lately of rot in recently-built fishing boats. In the cases brought under notice the timber chiefly affected was the English narrow-leafed Elm. This disease in the timber of boats is probably due to the action of some form of parasitic fungus which attacks trees that have been injured in any way and have received no attention. This disease may be readily overlooked in its early stages, and consequently boat builders are advised to use nothing but fully seasoned timber for all important work. Paint and varnish do not help to preserve diseased wood; indeed, by excluding the air, they help to promote the disease and to extend it to any sound wood adjacent.

Land for Ex-Service Men.—In answer to a Parliamentary question in the House of Commons, Sir Arthur G. Boscawen stated on Wednesday, November 26th, that the number of ex-Service men who have applied for land in England and Wales is 25,305; and according to the latest returns received the number of ex-Service applicants approved is 12,447. The area actually acquired is 161,696 acres, the additional area under consideration is 72,000 acres, and the number of ex-Service men actually in occupation of their holdings is 2,614. This last figure will be largely increased as soon as the present abnormal difficulties of providing buildings and other equipment have been overcome. For information regarding Scotland and Ireland the questioner was referred to the Secretary for Scotland and the Secretary for Ireland respectively. In answer to a further question whether, as land had been secured by only 2,000 men out of 25,000 applicants, the hon. gentleman did not think some additional powers were required in order that the settlement of the men on the land might not be delayed, Sir A. Boscawen stated that he thought, considering the authorities

* By Major General George O. Squier, *Journal of the Franklin Institute*, June, 1919.

were not allowed to buy land until last January and that there had been great difficulty in equipping the holdings, the progress made is more or less satisfactory.

The Royal Horticultural Society's Provincial Show at Cardiff in 1920.—The Royal Horticultural Society is making arrangements for the holding of a large provincial show at Cardiff, in the Sophia Gardens, on July 6th, 7th and 8th, 1920. We understand that the local authorities have arranged to raise a guarantee fund of £1,000 as an insurance against any unforeseen difficulties that may arise in connection with weather or other adverse circumstances. This exhibition will take the place of the usual R.H.S. summer show at Holland House, Kensington.

National Sweet Pea Society.—This Society will hold an exhibition in 1920 at Birmingham, in conjunction with the show of the Birmingham Horticultural Society, on July 23rd and 24th. Efforts are being made to compile a schedule of classes and prizes which will be worthy of the event. In view of the show at Birmingham, the National Sweet Pea Society will not hold an exhibition in London during 1920.

FIG. 132.—ROSE PRINCE OF WALES.

Liverpool Flower Show in Aid of Charities.—The Liverpool Cotton Exchange was the scene of great floral activity on the 10th ult., when Mr. Robert Ker and a few gardening enthusiasts got together a magnificent display of Chrysanthemums and fruit, the commendable object being to help certain Liverpool medical and gardening charities. Lancashire and Cheshire garden lovers responded to the appeal and contributed Chrysanthemums and fruit in abundance. There were two exhibits of outstanding merit: those from George Couvelas, Esq., Lingmel, Heswall (gr. Mr. Mousley), who sent a superb collection of Chrysanthemums, and Mr. Robert Ker, who contributed upwards of 100 dishes of Apples and Pears. During the afternoon the whole of the exhibits were raffled, and realised the sum of £174, which will be divided between the charities referred to above, upwards of £40 being apportioned to gardening charities. Mr. Ker is to be congratulated upon the great success of his well-worked scheme, which might be adopted by other cities with advantage to the gardening charities now so much in need of additional support.

War Prisoners as Land Workers.—With the exception of a few individuals in one county who are leaving during the present week, all prisoners of war working in agriculture have been repatriated and all parent and working camps closed. Since the beginning of September, when repatriation commenced, some 25,000 prisoners have been withdrawn from agricultural work. In every case the farmer was required to pay the standard rate of wages prevailing in the district, and out of this pay the prisoner received 2d. an hour if acting as non-commissioned officer, 1½d. an hour if a skilled workman, or 1d. if an ordinary worker. The average day's work was from eight to nine hours according to the district. In a few places, when conditions and weather made it permissible, overtime was worked, and it was usually found that there was keen competition to be allowed to take part in it, as double pay was given. So far as is known, the record amount of overtime work was done by two prisoners in Yorkshire, who worked 97 hours in a week. The difference between the amount actually paid by the farmers and the amount received by the prisoners, less certain fixed expenses, deducted on collection by the Agricultural Executive Committee, was paid over to the military authorities. There was an exception in the case of ploughing gangs and prisoners employed in tillage operations under the Food Production Department. In these cases the surplus was retained by the Food Production Department and used by the Agricultural Executive Committee for food production purposes in connection with the horse, tractor, and other schemes in progress in different counties. It was also arranged that prisoners should be withdrawn from work in any neighbourhood where there was unemployment among agriculturists, but, generally speaking, there was, until recently, a great shortage of agricultural labour, and very few complaints in this respect were received. Both the efficiency and the conduct of prisoners were satisfactory, and in most places after a time farmers escorted their own prisoners to and from camps, dispensing with the necessity for military guards. Every kind of work was done, including skilled market gardening, for which special men were selected, preparing land for planting trees and tree planting, cleaning out water courses, repairing the river banks in a district where the banks had been carried away by heavy floods, etc. In one district the 1918 Potato crop would have been lost but for the assistance of prisoner labour, and the report received from another district that "nothing but good reports had been heard as to the men's work and behaviour" may be taken as representative of the experience of most employers.

Rose Prince of Wales.—The Hybrid Tea-Rose, illustrated in Fig. 132, named Prince of Wales, was awarded the National Rose Society's Certificate of Merit at the Society's metropolitan exhibition in the Botanic Gardens, Regent's Park, on July 2, 1919. The bloom is reproduced natural size, and it will be noticed that the petals are very broad and are rather full in the centre, so that the form is not so conical as in a bloom of the best shape. Notwithstanding its form, the variety has the excellent attributes of fragrance and superb colouring, for the petals are a clear, rosy-scarlet, fading in the older petals to rich rose. The plant is of dwarf habit and very suitable for bedding purposes. Rose Prince of Wales will also probably be seen on the show board, as its very fine colouring makes it suitable for exhibition. It was shown by Mr. Walter Easlea, Danecroft Nurseries, Eastwood, Essex.

A Sweet Pea and Rose Society for Scotland.—Under the title of the Scottish Sweet Pea and Rose Society, a new Society has been formed for the purpose of encouraging and improving the cultivation of Sweet Peas, Roses and Carnations in Scotland by means of exhibitions, conferences, lectures, etc. At a conference held in Glasgow on September 5, it was agreed by growers and others that hitherto the existing national organisations have limited their field of operations to London and the English Provinces, and consequently there has been an absence of equal opportunties for exhibitors and the large constituency of amateur gardeners in Scotland. The Committee appointed recognises that the new Society's sphere of usefulness would be extended by changing the venue of the show annually, and as an indication that the educational element will not be overlooked it is proposed to hold a conference on the occasion of each show, when papers will be read and discussed. Arrangements have been made to hold the first exhibition in St. Andrew's Halls, Glasgow, on August 4, 1920, and the schedule of prizes is in course of preparation. The membership subscription has been fixed at a minimum of 5s. per annum, and this payment carries with it the right of competing at, and free admission to, the exhibition. The Officers and Committee will appreciate any assistance that can be given them. Sir J. Ure Primrose is Hon. President; Mr. W. Cuthbertson and Mr. Jas. Whitton, Hon Vice-Presidents; Mr. John Yuille, President; Mr. Jas. Kerr, Vice-President; and Mr. John Smellie, Busby, Secretary.

Rev. Professor G. Henslow.—The many horticultural friends of the Rev. Professor Geo. Henslow will learn with deep regret of the death, on the 26th ult., of Mrs. Henslow, aged 73 years. Mrs. Henslow died suddenly at their home at Danehurst, Bournemouth, where she and her husband have resided during recent years.

Publications Received.—*Economy in the Use of Hay.* Board of Agriculture and Fisheries. *Effect of Removing the Pulp From Camphor Seed on Germination and the Subsequent Growth of the Seedling.* Journal of Agricultural Research, Washington. *The Work of the Belle Fourche Reclamation Project Experiment Farm in* **1918.** Beyer Aune. United States Department of Agriculture: Department Circular 60.

NEW OR NOTEWORTHY PLANTS.

VIBURNUM BITCHIUENSE AND V. CARLESII.

For the past eight or nine years it has been known that in gardens of Europe and America two plants were in cultivation under the name of Viburnum Carlesii—one of straggling habit and in every way vastly inferior to the true species. In 1914 I investigated the matter in Japan, and later my colleague, Mr. Rehder, separated the two plants as Viburnum Carlesii Hemsl. and V. bitchiuense Mak. In the *Kew Bulletin*, 1919, page 239, to hand last mail, I note that the latter species has been given a new name by Mr. Hutchinson, who apparently has overlooked the names it already had. They are given in the appended synonymy.*

This Viburnum bitchiuense, the inferior V. Carlesii of gardens, is a Japanese plant native of the mountains of the province Bitchiu, in Western Japan. It was discovered some time prior to 1902, when it was named by Makino. Later, in 1909, this botanist changed his mind and identified it with V. Carlesii Hemsl. This wrong identification has lead to much confusion and disappointment. The Yokohama Nursery Company, on learning from Mr. Makino that Viburnum Carlesii grew in Japan, obtained plants, propagated and exported them. They acted in perfect good faith, having as authority for the name the most competent of Japanese botanists. In 1914 complaints as to the inferior quality of the plant they sold began to reach them, and being in Japan at the time the matter was referred to me.

With its loose, sparsely branched habit, V. bitchiuense looks very different from V. Carlesii Hutchinson (l.c.), gives certain distinguishing characters, but the chief morphological difference is that in V. bitchiuense the stamens are inserted near the base of the corolla-tube, and the filaments are longer than the anthers. Viburnum Carlesii is a maritime Korean plant, found on Dagelet Island, in the Japan Sea, on the Island of Kanghwa, and some small neighbouring islands on the west side of Korea. It is also reputed to grow on the Island of Quelpaert, but on my visit there I was unable to find it. *E. H. Wilson, Arnold Arboretum, U.S.A.*

FLORISTS' FLOWERS.

NEW CHRYSANTHEMUMS.

A by no means large number of new Chrysanthemums has come before the National Chrysanthemum and Royal Horticultural Societies this season, and it would seem as though some raisers are holding their novelties for another season in the hope that they may be then in a better position to place them before the public in first rate condition. Early-flowering varieties, *i.e.*, those that flower out of doors without any sort of protection, appear to be under a cloud at present in so far as their exhibition or the distribution of new sorts are concerned. This is unfortunate, inasmuch as it is only through the medium of this group large numbers of amateurs are able to satisfy their love of Chrysanthemums. One variety, Miss G. K. Thorpe (A. W. Thorpe), a September flowering white variety, considered to be an improvement on Roi des Blancs, was shown at the N.C.S. meeting of September 22. On the same occasion an early single Shrapnel (A. W. Thorpe) was shown; it is orange terra cotta, with an orange-yellow zone around the eye. These obtained the First-class Certificate of the N.C.S. Shrapnel also secured the A.M. of the R.H.S. on the following day.

Majestic (Norman Davis), a golden-amber Japanese variety, gained the higher award on October 30, and on the same date Golden Goacher (K. Luxford) was commended by the N.C.S.; it is a useful market sort. The following day the R.H.S. granted an A.M. to Viscount Chinda (W. Wells and Co.), a big yellow Japanese variety of great promise.

On November 4 the N.C.S. considered the merits of about two dozen novelties, and elected five as worthy of the F.C.C.; these were Madame Stuart (A. Smith), a graceful yellow Japanese variety, which Mr. H. J. Jones is distributing; Dawn of Day (M. Sargent), a golden Japanese variety of good size and form, and for which Mr. N. Davis gained a similar award a few years ago; Mrs. Edwards (P. Ladds), large bronze yellow single variety; Mrs. W. J. Godfrey (Godfrey and Son), a very large, soft pink single variety; and Leilah (J. Hussey), a compact rose-pink pompon variety of American origin. The variety Mrs. W. J. Godfrey gained the A.M., R.H.S., the same day, and a similar award was made on this occasion to Mrs. F. W. Ladds (P. Ladds), a large-flowered yellow variety of the Mrs. G. Drabble type and very like W. Rigby. Miss Gertie Wood (P. Ladds), a coppery-bronze, small flowered Japanese variety; and Mavis (Price and Fyfe), a handsome chestnut-red single, were commended by the N.C.S. on November 4; and Miss Goodburn (Price and Fyfe), a velvety crimson single of good form, was awarded the A.M. of the R.H.S.

Cissbury Pink (C. Aish), a medium-sized, bright pink Japanese variety, gained the F.C.C. of the N.C.S. on November 22, and Bronze Cranfordia (K. Luxford) received an Award for colour. The following day the R.H.S. granted Awards of Merit to Barbara Field, a free flowering decorative white variety; this was shown by the raiser, Mr. Lewis Smith, gardener to Capt. Drummond, Cadland Park, Fawley, Hampshire, and not by Messrs. Whitelegge and Co., as stated in the *Gard. Chron.* of November 22, p. 267, but it is understood that the latter firm, on whose stand it appeared, are to distribute it. Similar awards were made to Percy A. Dove (A. B. Hudd), a fine white, incurving variety (see Fig. 135), which Mr. H. J. Jones is sending out; and Princess Mary (W. Wells and Co.), a large yellow sport from Queen Mary. The latter firm have also an attractive Japanese variety named Viscountess Chinda (see Fig. 133); this has large, rosy amaranth flowers, with silver reverse to the broad, drooping florets. *C.*

CHRYSANTHEMUMS AT CROOKSBURY HOUSE, FARNHAM.

Exceptionally well-developed blooms of Japanese Chrysanthemums have been grown this season in Crooksbury House Gardens, Farnham. The situation is a favoured one, the gardens being on one of the hills that constitute the beauty spots of Hindhead. The flowers opened steadily in a lower temperature than is generally the case. The plants had been grown naturally. Blooms of Mrs. M. Sargent measured 10 in. by 8 in.; specimens of Mrs. Algernon Davis measured 11 in. by 11 in., and they had graceful hanging florets. His Majesty, Mrs. G. Drabble, W. Rigby, Louisa Pockett, Queen Mary, Princess Mary, W. Turner, F. S. Vallis, Mrs. R. C. Pulling, Mrs. R. Luxford, Mrs. H. J. Jones, Lady Talbot, Sir E. Letchworth and Thomas Lunt were not fully out at the time of my visit. Mr. H. Shoesmith, jun., has recently been appointed gardener to Mrs. Tyzack, the new owner of the estate, after just a year with Mr. T. Ellis Briggs, the late owner. As grower he served under Mr. W. Mease, at Leatherhead; and also held a similar post at Welbeck Abbey gardens. *Grower.*

Fig. 133.—Chrysanthemum Viscountess Chinda.
Colour deep rosy amaranth, with silvery reverse.

* Viburnum bitchiuense, Makino, in *Tokyo Bot. Mag.*, XVI, 156 (1902).—Rehder in Sargent's *Trees and Shrubs*, II, 111 (1908); in *Mittel. Deutsch Dendr. Ges.*, XXIV, 228 (1915); in Bailey's *Stand. Cycl. of Hort.*, VI, 3,460 (1917).

Viburnum Carlesii, Makino, in *Tokyo Bot. Mag.*, XXIII, 251 (1909), not Hemsley; Viburnum Carlesii var. syringiflora, Hutchinson, in *Kew Bulletin* (1919), 239.

The Week's Work.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

The Early Vinery.—If ripe Grapes are required in May, the vines should be started forthwith. Their forcing should not be unduly hastened at this period; a temperature of 50° to 55° by day, and 45° by night should not be exceeded, and sufficient warmth will be afforded by a bed of fermenting material placed in the middle of the house on a trellised platform. The fermenting material should be turned occasionally, and it may be necessary to add a certain amount of fresh manure to ensure a steady and constant heat. If the borders have been kept on the dry side, water warmed to a temperature of 70° to 75° should be applied before placing the fermenting material on the border. If a hot-bed is not made, the necessary temperatures must be maintained by the use of the hot-water system. Admit a small quantity of fresh air on bright days, shutting down the valves of the water pipes at the same time. The vines should be syringed when closing the house, and syringing should be continued daily until the buds burst. With fermenting dung and leaves in the vinery, less syringing is required than when fire heat is employed. The rods of young vines should be bent down and tied in position to cause the buds to break regularly.

Tomatos.—As soon as early Tomato plants have produced four or five trusses of fruit they should be stopped. Plants raised from seeds sown now will furnish ripe fruits early in the spring. Sow the seeds thinly in shallow pans or boxes filled with light, sandy compost and germinate them in a house having a temperature of 65°. When the seedlings have made their first pair of rough leaves, transfer them to small 60-sized pots. When well established in these pots transfer the seedlings to larger receptacles and grow them in a temperature of from 55° to 60°. No attempt should be made to force the plants in a very warm house during the winter; they should be allowed to develop slowly to make stout, close-jointed growths. Admit plenty of fresh air when the weather is favourable.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Pleione.—The various Pleiones are charming little Orchids, and are especially bright and effective during late autumn and winter. They are by no means difficult to grow, and present a most satisfactory flowering return for the trouble bestowed upon them. All are deciduous and produce their flowers at the same time as the young growths develop. The blooms continue for three or four weeks in perfection, provided they are kept dry. If required for decorative purposes, detach them with gentle pulling to obtain stems of the fullest length. A distinct growing and resting season must be observed with these Orchids, and, as they commence to grow at different seasons of the year, they require also to be repotted at different times. Temperature is not, perhaps, a very important point in their cultivation, and although they do not require much fire-heat, the very coolest quarters are not quite suitable to them. If room in a cool-intermediate house is not available, grow them in the coolest part of the Cattleya house. Insects are not particularly troublesome to Pleiones, the worst being red spider and brown scale, and these are easily kept under.

Repotting.—All the species are most satisfactory when repotted annually, and the best time to do this is immediately the flowers are over. In shaking the pseudo-bulbs out of the old compost, the last season's roots will, as a rule, be found to be dead. If these useless roots are reduced to one inch from the base of the pseudo-bulbs the tuft will help to steady the plant in the new soil. The best compost is formed of about two-thirds fibrous loam to one of peat, or Osmunda fibre, adding sufficient chopped Sphagnum-moss and finely broken crocks to make a light and elastic mixture that, while holding plenty of moisture, will soon dry out. Let the drainage be ample, and protected from becoming choked by placing a little rough moss on the crocks. The compost should be made up in conical fashion, as the flowers show to greater advantage on plants potted this way. Commence by potting some of the plants in the centre, securing the pseudo-bulbs in position by making the compost moderately firm about them. Arrange the plants evenly over the surface, allowing sufficient space between each for the development of the new growths. If the compost is used in a moderately moist condition water will not be needed for some weeks after repotting, and afterwards it must be sparingly applied for a time. If the plants are healthy, it will not be long before the roots will need plentiful supplies of moisture, for when they begin to ramify in the compost and the leaves to unfold, Pleiones are almost aquatic in their requirements.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Artichokes.—Jerusalem Artichokes keep in better condition, and free from injury by slugs and worms when they are lifted, stored in mounds behind a north wall, and covered with dry earth or finely sifted coal ashes During times of severe frosts an extra covering of some protecting material is necessary.

Parsnips.—The roots of this vegetable are allowed to remain in the ground as frost is said to improve their flower. It is well, however, to lift a number for immediate use, in case hard frosts render it impossible to dig them.

Salsafy and Scorzonera.—These roots should be dug and the crops stored in sand.

Trenching.—All vacant ground should, so far as is possible, be trenched or dug whenever the weather permits of tilling operations. Each plot may be reserved for a particular crop, and manured accordingly. It will be found that some ground will only need trenching to be followed in the spring, when breaking the soil to a fine tilth, by dressings of mortar rubble, wood-ash or burnt garden refuse. Other plots will need leaves and litter in the bottom of the trench, and partly decayed manure beneath the top spit. Ground treated in this way will be suitable for growing Cauliflowers, Broad Beans, Peas and Onions.

Seakale.—Roots should be planted for forcing to supply Seakale for the coming festive season. The best results will be obtained from crowns that have been specially prepared for forcing and quite dormant. Those that have been out of the ground for a month will respond to warmth readily. When planted, spray with tepid water when moisture is needed. Keep the crowns in total darkness.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Rhododendron (Azalea) indicum.—Plants of early varieties of Azalea such as Deutsche Perle, Fielder's White and Hermosa may, if well budded, be placed in a little warmth and forced gradually to come into flower early in the new year. These plants are subject to attacks of thrips, and should be carefully examined before they are brought indoors. If found to be infested with either of these insects, dip them in or thoroughly syringe them with a solution of nicotine. When watering the plants, thoroughly saturate the soil and use a stimulant occasionally, either a top-dressing of plant food or liquid manure or soot water.

Camellia.—In present times when it is difficult to obtain fuel for heating greenhouses, Camellias will give a serviceable supply of flower in mid-winter. Those planted in borders must be well supplied with water, for if the roots are allowed to become dry the buds, that are now swelling, will drop. Feed the roots either with a concentrated fertiliser or liquid manure and syringe the foliage with weak soapy water to cleanse it and destroy white scale insects.

Euphorbia pulcherrima (Poinsettia).—The bracts of these plants when fully developed will keep best in a house with comparatively little warmth, but with a dry atmosphere. Continue to water the roots as needed, but discontinue giving them stimulants.

Pelargonium.—Plants that were suitably prepared in summer will make serviceable winter-flowering specimens. They should be grown in a light house having a dry atmosphere and a temperature of 50°. Keep the roots on the dry side and give them liquid manure occasionally.

Carnation.—Plants in flower need careful attention; do not keep the roots too wet or excessively dry. Water them frequently with a weak liquid stimulant. Admit air freely when the weather is favourable, and use a little fire heat to counteract dampness in the atmosphere. A close, warm atmosphere is most unfavourable to the proper development of these plants. Souvenir de la Malmaison Carnations should be watered carefully, keeping the soil on the dry side Let the air in the house circulate freely, and keep the foliage clean and healthy. Spray the plants with weak salt water.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Plants in Tubs.—Keep Ivy-leaved Pelargoniums and large Fuchsias growing in tubs safe from frost and cold draughts. Give the roots only sufficient moisture to prevent the bark from shrivelling. Ivy-leaved Pelargoniums may be housed in vineries where the bunches of Grapes have all been cut. Remove all decayed foliage, and see that the plants are free from insect pests. Fuchsias may be wintered in frost-proof sheds if free from cold draughts. Dry leaves should be packed around the pots or tubs until it is necessary to prune the plants before starting them in gentle warmth.

Climbing Plants.—Indoor climbers needing attention may be detached from the trellises and rearranged, choosing mild weather for the work. In the case of Roses, it is advisable to remove a number of the old shoots if possible, and train younger branches evenly over the space available. Besides attending to the top growth, the roots should not be neglected. They may require top-dressing and feeding, and especially where the borders are restricted to a small area. Most climbers will respond to dressings of bone meal. Clay's Fertiliser, decayed manure and good loam.

Helleborus.—To obtain early Christmas Roses, cover the plants with hand-lights or very shallow frames. Additional protection should be given in frosty weather. Remove any decayed leaves, clean the surface soil, and place a little leaf-mould over the roots. Plants in pots should be brought forward under glass and given attention in such matters as watering and ventilating.

Gunnera scabra.—This Gunnera is a noble plant for sub-tropical gardening, and grows vigorously by the side of lakes and in other damp places partly sheltered from north winds. Plants in suitable situations and soil quickly

form large specimens. The species is not quite hardy, and needs slight protection in very severe winters. Dry leaves, litter or Fern fronds may be used, and should be placed in position before the roots and crowns of the plants are damaged.

Pruning Evergreens.—In most gardens, where the soil is suitable, evergreens grow luxuriantly, and they need pruning and thinning annually to keep them within bounds. It is not unusual to see conifers and other choice subjects almost smothered by the growth of common shrubs around them, completely spoiling the true character of the choicer plants. The work of pruning and thinning shrubs may be commenced now and proceeded with until late in spring. No hard and fast rules can be laid down as to pruning evergreens and the operator must be guided by the character of the growth of the individual, but it will be safe to shorten long, straggling shoots, thin crowded branches and remove useless undergrowth and shrubs that are encroaching on the choicer kinds. Common Laurels when neglected for several years become very thin at the bottom and unsightly. Such shrubs should be cut down almost to the ground level, young shoots will quickly grow from the base and produce young healthy tops. In gardens where there are many Laurels, a portion of the plant may be cut close to the ground each year till all have been treated in this way.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Black Currants.—Advantage should be taken of mild weather to pick off the swollen buds on Black Currant bushes affected with "big bud." If this is done the trouble may be kept in check in the case of bushes that are not badly infested, but plants having many big buds should be grubbed up and burnt, and the land given a heavy dressing of quicklime. Buds removed should be burnt, and the bushes syringed with soft soap, soda wash and sulphur, at the rate of 7 lbs. of soft soap to 14 gallons of water, caustic soda ¾ lb., and flowers of sulphur 2 lbs. All the soap should be dissolved, the soda and sulphur boiled in one gallon of water, kept well stirred, and afterwards mixed with the soap solution. Add 20 gallons of warm water to the mixture and spray it on the bushes whilst it is still warm. (This is also a useful specific for spraying dormant trees of any kind for the destruction of red spider.) After the bushes are sprayed, dust them liberally with quicklime.

Scale Insects on Fruit Trees.—Trees infested with these pests should be cleansed of them, for if they are allowed to remain they will spoil the fruit and eventually destroy the tree. Mussel Scale on Apples and White Scale on Pears—the two worst kinds, may be destroyed by syringing with a mixture of 1 lb. caustic soda and 1 lb. crude potash to 10 gallons of water. If time permits the bark should be scrubbed with soft soap in water a day or two after the trees have been syringed. Syringing with hot water is also to be recommended.

Cleansing Vines.—Hardy vines should be pruned, and, if infested with insect pests, cleansed. The shoots should then be trained in position, retaining those necessary for extension a good length. If the trees are free from insects it is not necessary to wash them. The borders should receive a dressing of bone-meal and a top dressing of fresh soil, finishing with a thick mulch of farmyard manure.

Basic Slag.—This fertiliser is excellent for fruit trees, and especially those growing on heavy land. It is very slow-acting, and in orchards it may be scattered liberally with the hand over the whole ground, but for individual trees it is best spread in the area of the roots—that is, as far as the branches extend. Basic slag is not of a corrosive nature, and no harm will result by giving a liberal amount.

Nailing and Tying.—The work of nailing and tying fruit trees on walls should be done when the weather permits. Watch carefully that the old ties, whether clips or string, are not compressing the bark.

TREES AND SHRUBS.

THE PENDENT SILVER LIME.

I have a plate of this tree, mentioned as growing at Aldenham House, Elstree (see p. 126). The plate was prepared from a photograph taken on August 19, 1904, just as the tree was passing into the fruiting stage. I was impressed by the size of the tree at the time, and calculated it was about 50 ft. high. It was also the best furnished specimen I had seen, because the branches drooped on all sides, almost from the top of the tree to the grass, on which the lower branches were lying. Tilia petiolaris is one of the most distinct of the Limes. There is a large tree in a garden at Maidstone, but it has been lopped at a height of 40-45 feet because it was darkening the windows or otherwise encroaching on the dwelling house. I can also testify to the hardiness of this tree; for a fine specimen, about 30 feet high, occurs at Killin, in the Central Highlands, at 411 feet above sea level, where the temperature during winter must often be at zero or below it.

ULMUS VIMINALIS AUREA.

There are three or more Elms with yellow leaves, but the above is by far the most graceful of them that has come under my notice. It appears to have originated at Louvain in 1865, in the nursery of M. Rosseels, and was named U. Rosseelsii, Koch, in 1872. It appeared in this country before that time, for Charles Lee, of Hammersmith, exhibited it at a meeting of the London Horticultural Society in 1868, as recorded by the *Gardeners' Chronicle,* pp. 914 and 1038 for that year. It was probably from Mr. Lee's nursery that two fine trees of U. viminalis aurea came to Molesey, and two or three to Ealing. They have been known to me for a number of years past and, speaking from memory, they may be anywhere between 35 and 45 feet high, with a trunk 8-9 inches in diameter. These are the largest trees I have seen or heard of, and should be amongst the oldest in this country. The trees at Molesey are the best, and they are furnished with branches right down to the top of a fence. They are dense in habit and very handsome, for all the larger branches hang down gracefully, not like a weeping tree but with the easy grace of the green-leaved form. There is a rapidly-growing tree at Holland House, Kensington, but it is younger and not so tall as those already mentioned. When newly grafted this golden Elm grows slowly, but much more rapidly afterwards. *J. F.*

THE WEEPING ATLAS CEDAR.

The remarkable tree of Cedrus atlantica pendula pourtrayed in Fig. 134 is growing in the pinetum at Glasnevin Botanic Garden. From information supplied by Sir Frederick Moore, we learn that it was originally obtained by his

Fig. 134.—Cedrus atlantica pendula in the Glasnevin Botanic Gardens.

father, and that in 1879, when Sir Frederick first knew it, it was some six or seven feet high. It has therefore been in Glasnevin for more than forty years. So long as it was convenient to do so the leader was kept erect by staking, but about twenty years ago it was left to itself, since when it has gradually assumed its present arched appearance. We have not been able to ascertain where the variety originated. Messrs. J. Veitch and Sons do not mention it in their manual, but Beissner alludes to a fine example of C. atlantica glauca pendula being exhibited by Mr. Paillet fils at the Paris Exhibition of 1900. Although the tree has been in the Botanic Gardens at Glasnevin for many years, it is evidently quite uncommon and is rarely, if ever, offered by nurserymen in their catalogues. It has, however, been grown in some nurseries, for there are two in the pinetum at Kew, one of which came from the Coombe Wood nursery and the other from Mr. Anthony Waterer, of Knap Hill.

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THE PRE-MENDELIAN AGE.

THERE is a tendency among a section of biologists to regard everything from the Mendelian standpoint. We have the Mendelian theory, Mendelian principles, Mendelian laws, and even Mendelian evolution. Mendelism has become a sort of fetish, which is explained in a jargon that is largely unintelligible outside the circle of its devotees. The year 1900 is the *annus mirabilis*, when the Mendelian principles were "rediscovered and confirmed"; prior to that was the pre-Mendelian age, when biologists walked in darkness, and even hybridists worked without guiding principles. True, there was a mystic date, 1866 to wit, when the great prophet offered his epoch-making discovery to an ungrateful world, who would not realise that the union of two reproductive cells in fertilisation was "a union of pairs of alternating characters which were related to each other in such a way that the reproductive cells would bear one or other of them, but not both." He did not put it quite like that, in fact he said that some of them would bear both, but that has since been explained as probably his mistake. This, however, is a digression.

Mendel was aware that a multitude of hybridisation experiments had been made, and was impressed with the fact that no generally applicable law governing the formation of hybrids had been formulated, and he set out to remedy the deficiency. After much consideration, he selected garden Peas as suitable subjects for a series of experiments, and the results were published in 1866, a few other somewhat contradictory results with other plants being also included. The sequel is well known, and much surprise has been expressed that such a paper should have fallen into oblivion for a period of over thirty years. But will it be believed that Mendel's discovery was anticipated by nearly half a century, and by three Englishmen working with the self-same subjects, namely, garden Peas?

On October 15, 1822, a paper by Mr. John Goss was read before the Horticultural Society of London, entitled, "Variation in the Colour of Cross Impregnated Peas." In the summer of 1820 Mr. Goss deprived some blossoms of the prolific Blue Pea of their stamens, and the next day applied the pollen of a Dwarf Pea of the white-seeded group. Three pods were obtained, and when opened, Mr. Goss remarks, "in order to sow seed, I found, to my great surprise, that the colour of the Peas, instead of being a deep blue, like their female parent, were of a yellowish-white, like the male. Towards the end of the summer I was equally surprised to find that these white seeds had produced some pods with all blue, some with all white, and many with both blue and white Peas in the same pod. Last spring I separated all the blue Peas from the white, and sowed each colour in separate rows; and I now find that the blue produce only blue, while the white seeds yield some pods with all white and some with both blue and white Peas intermixed" (*Trans. Hort. Soc., Lond.*, pp. 234-237).

The Secretary adds a note that previous to the receipt of the above communication, one on the same subject was transmitted by Alexander Seton, Esq., and read at the meeting of August 20. Mr. Seton impregnated the flowers of a well-known green Pea, Dwarf Imperial, with the pollen of a white free-growing variety. One flower produced a pod of four Peas, which did not differ in appearance from the others of the female parent. The plants which grew from the four Peas seemed to partake of the nature of both plants, being intermediate in stature, but when the pods ripened it was found that "almost every one of them had some Peas of the full green colour of the Dwarf Imperial, and others of the whitish colour of that with which it had been impregnated, mixed indiscriminately, and in undefined numbers; they were all completely either of one colour or the other, none of them having an intermediate tint, as Mr. Seton had expected. The representation of one of the pods in Plate 9, Fig. 1, conveys a very perfect idea of its appearance."

The third experiment was recorded at pp. 377-380, by the well-known horticulturist, Thomas Andrew Knight. Mr. Goss had suggested the influence of the foreign pollen as the cause of change of colour in the seeds, but this Mr. Knight was able to explain from his earlier experiments. When the pollen of a grey Pea was introduced into the prepared blossoms of a white variety, no change in form, colour, or size of the seeds took place; all were externally like those of the white seed parent. But when sown, they uniformly gave plants with coloured leaves and stems, and purple flowers, these being followed by grey Peas only. When the seedlings of these were again fertilised with pollen of a white variety of permanent habit, the seeds produced were again uniformly grey, but many of these afforded plants with perfectly green leaves and white flowers, succeeded by white seed. The cotyledons of all the varieties employed or produced were yellow, consequently Peas with white seed coats retained their ordinary colour, though they contained the plumules and cotyledons of coloured plants. The blue colour recorded in the other experiments was due to the blue cotyledons showing through the semi-transparent seed-coats. Knight's experiments began in 1787, and were recorded in a paper published in 1799, entitled "Experiments on the fecundation of Vegetables" (*Phil. Trans. R. Soc., Lond.*, XVIII., pp. 504-509).

It is curious that these papers should have been overlooked by Mendel and his commentators, for they are mentioned in detail by Gärtner, in 1838, together with a set of eight experiments of his own, commencing in 1829, and which fully confirmed the work of his predecessors. Mendel was conversant with some, at least, of Gärtner's writings, for he discussed several of his experiments with other plants, though he made no mention of those with Peas, which latter he deliberately chose as the subjects of his experiments, and for reasons which were stated at the outset of his paper. The rest is matter of history.

Mendel understood the origin of his pairs of alternating characters, and stated clearly that they came from the parental fertilising cells which united to form the new individual, and he remarked that it was only possible for these diverse characters to escape from the enforced union when the pollen and embryo cells were formed. He also pointed out that many of the parental characters which unite in fertilisation are identical in character, and that segregation is only manifested when any of the uniting characters are diverse, and not always then, there being many cases of blended inheritance when the parental characters were obviously quite diverse. In such cases the differences were entirely and permanently accommodated together, the hybrids reproducing themselves true like pure species, and thus acquiring the status of new species. Neo-Mendelians might well return to this simplicity and directness of statement. The essay was not written from the evolutionary standpoint, and in this respect is in need of revision, but this cannot be attempted at the end of an article. *R. A. Rolfe.*

MR. REGINALD FARRER'S SECOND EXPLORATION IN ASIA.*

NO. 11.—HPAWSHI BUM.

How abrupt is the change from starvation to plenty! A moment before, we were toiling up the thankless steeps of the Bamboo jungle, where never a flower to lighten labour was encountered. The inexperienced or pessimistic might easily turn back from this point, fruitless, seeing no reason why there should be anything more in the next fifty yards than in the last. Fatal error: for now we are on the broad back of the ridge, and its pelt of Bamboo here develops mange, and leaves a whole series of clear, grassy glades, alike on the ridge-crest and on its slopes. In the lower ones Nomocharis waves like Daffodils in a coppice, and among golden spires of Corydalis stand up the stately stems of Meconopsis Wallichii. This is not yet in flower by the end of June; I can judge it, though, to be of disappointingly little worth. For, open as many top-buds as I might, I could nowhere find one that promised to be of a good blue, but all were of that vinous purple (ugly even at that) which is such a disappointment to so many lovers of Meconopsis Wallichii in its favourite turquoise form. But the Meconopsis does not seem to ascend above 11,000 feet, and the grassy glades from 12,000 feet upwards are occupied with an even goodlier show. In the first place there is abundance of the golden Caltha, though now all gone out of blossom. But its place is taken by a very fine yellow-orange Potentilla, by Nomocharis, and by sheets and drifts of Anemone narcissiflora, in solid colonies of many yards across, exactly as it grows on the Combes de Barant, but that here the stocks are thicker and more heavily furnished, while the flowers are all of pure dead paper-white. And among all these, and down in creeks of the coppice, there abounds a lovely delicate little Sikkimensis Primula of 6-8 inches, with few-flowered heads of clear citron-yellow, adorned by a flush of orange down the centre of each lobe. I fancy I remember seeing this, or something very like it, exhibited in 1916 as P. Smithiana. This, however, should be a Himalyan plant; the Burmese plant, therefore, may be the connecting form suggested by Prof. Balfour as existing between P. Smithiana of India and P. helodoxa from the southerly marshes of Tengyueh and the Fêng Shui Ling.

In the coppice, too, among the thin scrub of Rhododendron and Bamboo, there struck my notice a Primuloid plant with leaves exactly like a large Viola, and a stout, furry seed-stem carrying one large pod with long, thin style pro-

* The previous articles by Mr. Farrer were published in our issues for June 21, June 28, July 12, August 9, August 23, September 6, September 27, October 18, November 1, and November 22.

truding. It took me some time to realise this; and it was not till I had climbed another hundred feet that I found it in flower, and hailed a new and glorious Omphalogramma which, alas, I am not conscientiously able to differentiate from O. Delavayi (the removal of this group from Primula is not only proper, but, I believe, essential; few Androsaces are so remote from Primula as these strange Bryocarpoid plants that have been included in it). Anyhow, it is a very splendid plant and ought not to give disappointment to any, with its great fringy, six-flanged blossom of rich violet with a white throat. It loves cool, damp situations in the high-alpine zone, among light scrub, but seemed to disdain the company, in the same light twilight of coppice, of a powderless (except inside the calyx) Nivalid that was profuse there, but all gone undiscoverably out of flower, so that I could only tell that its stems rise about 5-6 inches and average 3 blossoms. It would be a safe guess that these are mauve.

But as the ridge climbs higher, the problems of past plants give way to the pleasures of present ones. Now we are for the first time at 12,400 feet, in the region of the dwarf, high-alpine Rhododendrons. And of these there are three here, all over the open brows and rocks (to say nothing of the orange one, rioting away everywhere). The first is the least pretty—a low mass of very dark, metallic foliage, bedecked, none too profusely, with huddled heads of deep violet-purple blossom, rather squinny and spidery, though beautiful in their rich colour. The next is much commoner, and of a charm that my ignorance is unable to locate in the race. From cushiony masses of small, bright green leaves, rise delicate pedicels in pairs, each one of which carries a single little trumpet of waxy texture, coloured mahogany-red inside, and on the outside having the livid bluish bloom of a Plum or Grape. For delicate, elfin beauty, I know few of its family to rival this, but even more do I myself cherish the third, which covers the barest open braes and tops of moorland in a close, flat carpet of dark foliage, from which on pedicels (in pairs) of an inch or so, rise large, round blossoms of a rich, warm magenta-rose. The whole plant recalls its obvious cousin, R. kamschaticum, but the flower is of a far pleasanter shade and is further set off by the brown reverse of the leaves and by the very vivid milky glaucescence of the young shoots. Now that R. chamaecistus has become Rhodothamnus, this lovely plant, alike for colour and habit, ought, if permitted, to take the name.

Among other fry of these high rocks, too, there is a white Lloydia, a wee, purple Crucifer that gets itself mistaken for a Primula and disliked accordingly; a pinky mountain Ash two inches high; a neat two-foot Cerasus; a most lovely little Andromeda which trails in moss-cushions over the brow of boulders, and throws up, on thread-fine crimson stems, solitary snowy Lily-of-the-Valley bells; and a noble and notable Megasea Saxifrage, with fine, upstanding heads of magenta-crimson. A small Iris was coming up, and the Caltha going over; but the actual summit (12,600 feet) of the mountain was not yet fully awake. Down by its rills a Dracocephalum promised, and a Polygonum with fat, bent spikes of vivid, red-currant carmine, and a Meconopsis slugged abed among the scrub, so that I can only say of it that its buds are clothed in brown bristles, and that its very narrow leaves are sinuate and also bristled. But the top was gay with Rhododendron carpets, and in among the rocks the fine lawn was jewelled with clumps of a Primula that differs only from P. bella in being thus clumped, bluer and entirely powderless, but which anyhow made the most lovely effect among similar tufts of a little Chamaejasme Androsace, with flowers of brilliant citron-yellow, such as I cannot call to mind in any other of its race except Douglasia vitaliana. And, on one rock hard by, there overhung masses of a Narcissiflora-Anemone of exactly the same vivid pink that one gets in Potentilla nitida. All this we saw, though not able to see ten yards through the blinding white fog of universal cloud and rain, and so at last, sodden to the skin and lashed to the bone with summit-winds, we wended triumphantly with our spoils homeward to our camp in the glade, that had by this time become a lake in a rippling morass. *Reginald Farrer.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM JOY.

A "CERTIFICATE of Appreciation" was given to this very distinct cross between O. Uro-Skinneri and O. eximium when shown with its first flower at the Royal Horticultural Society's meeting on August 27, 1918, by C. J. Lucas, Esq., Warnham Court, Horsham. This year the original plant has shown the good qualities expected, and another of superior merit has bloomed recently. Mr. Lucas sends a flower of the second plant in which the influence of O. Uro-Skinneri appears very distinctly with all the segments much enlarged. The sepals and petals are claret-red with a few slight, white markings; the broad, well-displayed lip is pure white, densely spotted with dark crimson, the area around the yellow crest and the side lobes being of the same deep colour. The upper side of the rather slender column is dark crimson and the apex white.

CYMBIDIUM ARGO.

FLOWERS of this new cross between C. erythrostylum and C. Winnianum are sent by Mr. W. E. Walker, gr. to G. Hamilton Smith, Esq., Northside, Leigh Woods, Bristol. It is an elegant hybrid with flowers smaller than those of the C. insigne section, and shaped as in C. erythrostylum, but on a larger scale. The sepals and petals are white with slight purple lines following the veining; lip cream-white, with pale yellow centre, the side lobes being decorated with reddish purple dotted lines, and a band of the same colour extending along the margin.

CYMBIDIUM CERES.

MR. HAMILTON SMITH also sends a flower of another new cross between C. I'Ansonii Cravenianum and C. insigne Sanderae. The flower is large, the sepals and petals striped with rose, and the pale yellow lip, which bears evidence of the C. Traceyanum in C. I'Ansonii, is spotted and striped with dark claret colour.

ODONTIODA BLACK PRINCE.

A FLOWER of this very dark coloured hybrid, raised between Odontioda Charlesworthii (Cochlioda Noezliana × Odontoglossum Harryanum) and Odm. Queen Alexandra (Harryanum × triumphans), is sent by J. J. Botton, Esq., Heathfield, Pendleton, Manchester. The influence of C. Noezliana with Odm. Harryanum, giving Oda. Charlesworthii, resulted in uniform colour, and the elimination of the blotches on the other parent. In this case the same lines have been followed, and, although Odm. triumphans, a distinctly blotched species, enters into the parentage, no sign of blotching appears, the well-displayed sepals and petals being blackish-chocolate, and the lip dark reddish-claret, the crest, in which Odm. Harryanum is strongly revealed, being yellow. Notwithstanding its dark colour, the shining surface and red tint on the lip give a bright effect.

FIG. 135.—CHRYSANTHEMUM PERCY A. DOVE.
A cream-white incurving variety.
(See page 285.)

TWO SHOWY-FLOWERED BROMELIADS.

Tillandsia Lindenii is a beautiful Bromeliad which flowers at different seasons, but usually during the autumn. It is well worth growing for the sake of its foliage alone, and a specimen in bloom is exceedingly handsome. This Tillandsia has a tuft of gracefully recurving leaves, which are disposed so regularly as to form a symmetrical specimen, six inches or a little more in height. The flower stem develops from the centre of the plant to a height of eight inches to a foot. The upper part of this stem is furnished with two opposite, closely imbricated rows of bracts of a pinkish tint. brachystachys. The plant is easy of culture and may be depended upon to bloom. The leaves are disposed in a vasiform manner, and are of a pleasing shade of light green. The blossoms are arranged in two rows on the upper part of the flower stem. As in many of its allies the boat-shaped bracts are showier than the flowers themselves, being coloured at the base with deep bright crimson, shaded with purple, which gradually merges into orange on the upper part. The flowers are of a clear yellow, but they do not protrude far beyond the bracts, and last but a short time. The showiest portion of the inflorescence, namely the bracts, remains bright for two or three months. According to *The Kew Hand List of Tender Monocotyledons*, this

Fig. 136.—Tillandsia Lindenii var. Regeliana.
Flowers rich blue-purple; bracts pink or rose.

From the axils of these bracts the flowers are produced. They are about an inch across, and of a rich, bluish-purple colour. The individual flowers do not long remain in perfection, but a succession is maintained for some considerable time. Tillandsia Lindenii is a native of the Andes of Peru, and was introduced in 1867, but, in common with Bromeliaceous plants in general, it is not now cultivated to any extent in British gardens.

T. Lindenii has several varietal forms, and the one named Regeliana, illustrated in Fig. 136, is a very distinct form with green bracts. Regel considered it to be worthy of specific rank, but Morren, who had found many transitional forms, gave it only varietal rank.

A second member of the same order which flowers, as a rule, about December, is Vriesia Vriesia is of garden origin, the parents being Vriesia Morrenii × V. Barilletii.

Both of the Bromeliads here referred to will grow in a house having an intermediate temperature. They should be potted in a good, open compost, consisting principally of fibrous peat pulled to pieces by hand, with the addition of a little sand, chopped Sphagnum-moss and small nodules of charcoal. Good drainage is necessary as the plants need a liberal amount of water when growing.

Considering that Bromeliaceous plants were long favourites on the continent, it is surprising that they have never been very popular in this country; even in the times when stove plants were largely grown, these exotics were but seldom cultivated. *W. T.*

FLORAIRE.

In *Gard. Chron.*, February 23, 1918, I described a visit made to M. H. Correvon, at Floraire, and this summer I visited my genial friend again, but how different was our joyful meeting to that of two years back, when the terrible war brought such anger and sorrow to this stout champion of the Allies. This time it was a little late for the glories of his garden, the heat and drought had been very trying, though as we sat at tea in a shady arbour and ate delicious Mirabelle Plums one forgot the heat.

As we passed a retaining wall I saw Campanula excisa flourishing and showing one or two drooping flowers. "This plant is very difficult," said M. Correvon, "I have tried it in many parts of the garden and succeeded for the first time in this dry wall." A species of Coris was next admired, and then I noticed two Eryngiums, one the beautiful E. serbicum (which grows just as freely all over Roumania), a lovely blue species with small flowers and compact growth; the other E. creticum, very grey in colour. E. florairens, a cross between E. alpinium and E. Oliverianum, was not in bloom at the time of my visit. I should liked to have seen its violet-blue flowers again. Cyclamen europeaum, with its fascinating scent of Daphne and Lily-of-the-valley, was there in all sorts of odd corners, which it preferred to choose for itself rather than stay where planted. Cyclamen repandum (syn. hederaefolium) was also in flower, and the beautiful Gentiana lagodechiana, found in China by M. Kesselrine, and sent from the marvellous collection he founded at Petrograd to M. Correvon. Alas! the Bolsheviks have destroyed his garden from wanton mischief and M. Kesselrine is working in Switzerland.

I said, "Show me your 'choice plants' once more M. Correvon," and we went to his little bed of treasures. There was the rare little Fern, Asplenium fissum, from the Col de Tende, and, rarest of all plants, not alone at Floraire, but in the world, Solanum Sinclairi (?), the very smallest Potato known, with tubers the size of a small Pea; also Rosa berberidifolia, a minute Rose with tiny yellow flowers.

Linaria triornithophora was charming, appearing like a Snapdragon with fragile stems and flowers one inch long, the colour Cyclamen-pink and sulphur-yellow. Ruta patavina, bright yellow, was interesting, but I was more pleased to find the brilliant pink Tamarisk I have been seeking for ten years, having once seen it through an iron grille in a French garden. M. Correvon told me it is named Tamarix kashgarica and that it is not easy to propagate.

The Iris beds at Floraire must be wonderful in their season, for they are planted with 186 distinct varieties.

Helianthus doronicoides is a fine perennial for cutting, the best of its family. Sylphium albiflorum was in full bloom; this plant presents considerable difficulty in its propagation; so far it has been found impossible to raise it from cuttings or from seed, and, being one of the rarest flowering plants, this is to be regretted. The plant itself is rather coarse with big, rough leaves and large whitish flowers. Achillea Philippii is a delightful grey-foliaged plant, brought from the district whence it takes its name by ex-King Ferdinand of Bulgaria. Anemonopsis macrophylla was not in bloom, but was very strongly recommended by M. Correvon. It grows two or three feet high, and develops its purple and mauve blossoms in July. Euonymus latifolius, a handsome shrub with large coral-red fruits, is a very great improvement on E. europaeus. Galium purpureum is also a very fine plant. Anagallis linifolia, a hardy perennial with brilliant blue flowers, is much to be desired; whether it can be obtained or not is another matter.

Satureia diffusa is a charming plant for the rock garden. The flowers are pure white and unlike those of any of the varieties offered in most English catalogues; the foliage and scent strongly resembles Thyme.

Carlina acanthifolia, a handsome Thistle, was growing in great vigour not far from Vitex Agnus castus, which, at Floraire, is a shrub of 10 feet high, covered with mauve flowers somewhat like a Spiraea. *Alice Martineau.*

FLOWERING PLANTS FOR WINTER DECORATION.

There are many plants requiring only ordinary attention that are eminently suitable for brightening the warm greenhouse or conservatory during the dull winter months.

One of the best is Coleus thyrsoideus, a robust, free-growing species introduced from southern Central Africa. It forms a rather tall, much branched plant, 2 to 3 ft. high, the branches terminating in erect spikes of bright blue flowers, each with a short throat compressed laterally, and a two-lipped mouth. These flowers are produced from November to March, consequently the plant is invaluable for winter flowering. C. thyrsoideus grows freely in an intermediate temperature and requires very much the same kind of treatment accorded varieties which are cultivated for their foliage alone. Cuttings inserted in March and April, and the plants pinched back once or twice in the season, produce six to nine branches, and when in flower yield a fine effect. Plants raised from cuttings inserted in May and June, and grown in 5-inch pots, will give one or two inflorescences, each 6 inches to 9 inches long.

Moschosma riparium is another useful soft-wooded greenhouse plant most suitable for the winter decoration of the conservatory; it hails from British Central Africa. The foliage is pleasantly musk-scented. The flowers are small, white, slightly tinged with pink, and borne in panicles at the ends of branches; they bear a superficial resemblance to those of Spiraea japonica. The plant is easily grown, and cuttings struck during March and April will produce freely branched plants from 1½ ft. to 2½ ft. high if pinched back. Later struck cuttings will flower in small pots, forming useful decorative plants 9 in. to 12 in. high.

Fig. 137.—Erlangea tomentosa.
A useful white-flowered plant for the decoration of the greenhouse in winter.

Erlangea tomentosa (see Fig. 137) is a strikingly beautiful warm greenhouse plant, producing pale, mauve flowers in great abundance for two to three months during the winter. The foliage is delightfully fragrant. It makes an excellent pot plant, and is particularly useful for the supply of cut flowers. Cuttings root readily during April and May and make good, bushy flowering plants by the following winter. The species was introduced from British East Africa.

Lindenbergia grandiflora is a free-flowering greenhouse shrub, introduced from the Himalayan regions. It continues in flower from November to February, and is thus of great value for the winter decoration of the conservatory or greenhouse. The leaves are ovate and have serrated margins. The flowers are bright yellow, Mimulus-like, and produced in great abundance; they hang most gracefully from the slender shoots, so that a flowering specimen has a light appearance and is most effective. Cuttings root freely during the spring and summer months. *John Heal, V.M.H.*

THE ADVANTAGES OF GRAVEL.

I fancy it is the habit of every garden lover to declare and believe that his soil, if it can be called soil, is the worst that ever man was plagued with. Here we all inveigh against the uselessness of trying to garden where there is nothing but gravel between us and the Thames, a hundred feet below us. Yet I venture to say there are some compensating advantages, for what can be more splendid in August than a large clump of Zauschneria californica splendens, or more beautiful than Oenothera speciosa, both of which, unless severely curbed, would overrun the whole rockery. Then is there a prettier sight than a mass of Convolvulus althaeoides, terrible weed as it is? No less pretty and far less aggressive are Malvastrum coccineum and M. lateritium—the latter affording a combination of colours as attractive as it is rare. Homeria collina is the nearest approach to it that occurs to me. Equally happy is Oxalis lobata—the flowers are yellow, spotted with red, and on any sunny October day spread wide open, each as big as a shilling. In September, beneath some nut bushes which overhang the path here, there, and everywhere, are Crocus speciosus and C. pulchellus, their beauty wonderfully enhanced by the shade in which they are growing. How they got there is a mystery, and still more puzzling is the immunity which they enjoy from the mice which swarm in their neighbourhood. On the sunnier paths, Linaria alpina was happy for many years, but has now disappeared. Lapeyrousia cruenta too finds itself at home among the pebbles, while the dwarf alpine Pinks seem to fancy that the paths were made for their special delectation, and a Violet, which in the neighbouring borders grows two feet high and is quite unattractive, proves, in the poor and stony soil, a priceless wee mauve delight not three inches high. *A. C. Bartholomew, Reading.*

VEGETABLES.

SEEDLING POTATOS.

I was unable to attend the conference on Potatos at Ormskirk, and Mr. Chittenden's remarks on p. 264 are specially interesting to me, as my observations confirm the views of those who maintain that seedlings may appear, resembling in every respect—so far as the naked eye characters are concerned— existing varieties. The following instances have occurred in seedlings raised by me:—Flourball selfed (1915) produced two plants identical with Leinster Wonder and the following year I had a seedling from the same stock that resembled Lochar in every respect save one, it was not immune. In 1909 I raised a seedling, which was immune, from Snowdrop crossed with Pride of Tonbridge. In 1915 I pollinated this seedling with Myatt's Ashleaf, and among the plants obtained was a most distinct, dwarf-topped variety, now called Salopian, tested at Ormskirk this year, and said to be identical with "Broad-leaved Ashleaf." Like Mr. Cuthbertson I have seedlings from Myatt's resembling Duke of York and Snowdrop in all characters as well as one plant exactly like Sharpe's Express. The latter part of Mr. Chittenden's letter, referring to deterioration as being "probably more the result of cultivation in ungenial circumstances than to any tendency towards deterioration" is of the utmost importance. *G. T. Malthouse, Shrewsbury.*

FRUIT REGISTER.

APPLE ARTHUR TURNER.

THE excellent culinary Apple illustrated in Fig. 138, was given the R.H.S. Award of Merit on September 24, 1912, when it was exhibited by Mr. C. Turner, Nurseryman, Slough, under the name of Turner's Prolific. The name was subsequently changed to Arthur Turner, and the same firm exhibited a remarkable fine dish of this Apple at the R.H.S. meeting on November 4, 1919. The fruits in the illustration are reproduced natural size, and it will be seen that they are of somewhat conical shape

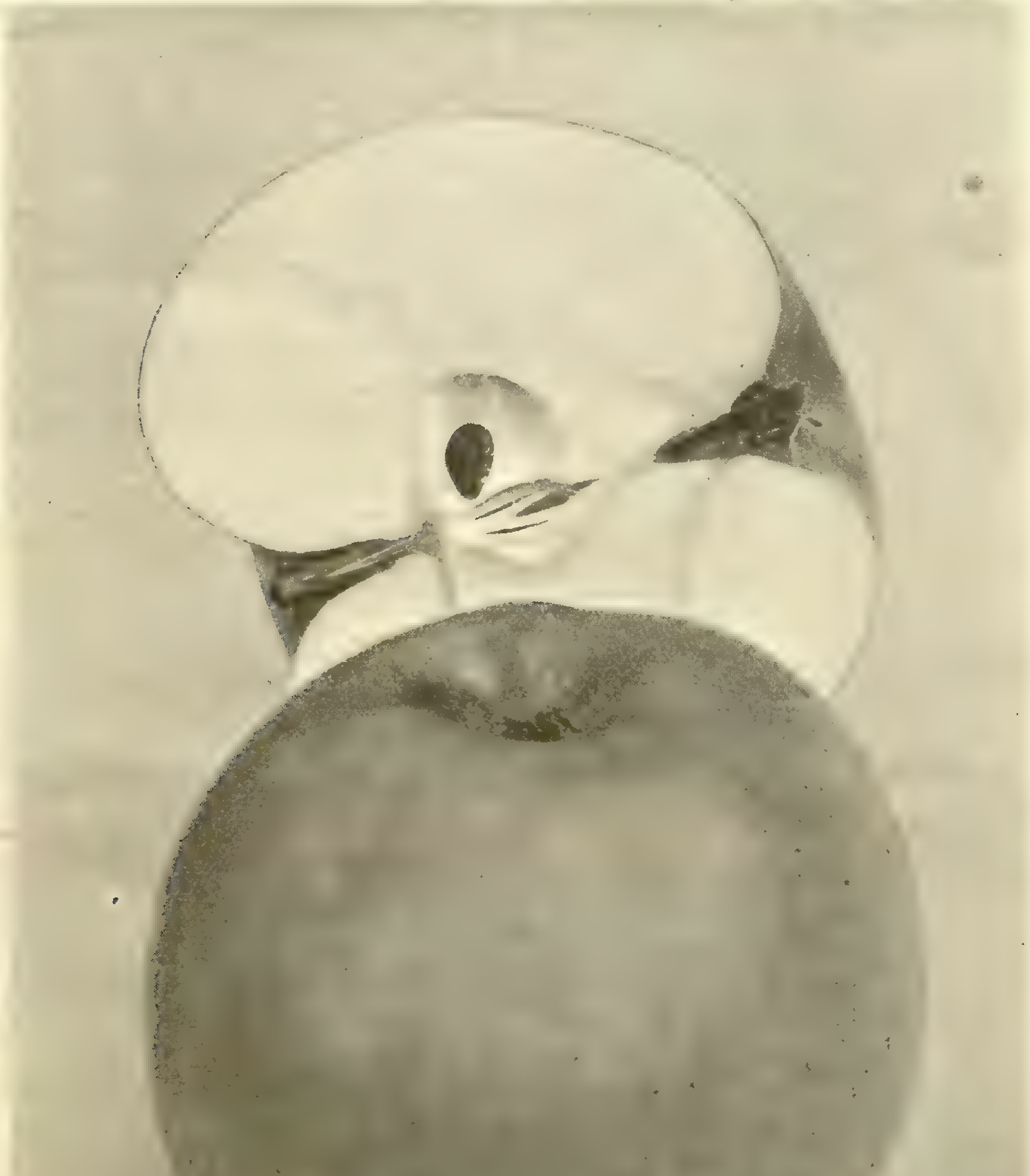

FIG. 138.—APPLE ARTHUR TURNER.

and as big as those of Lord Grosvenor. The skin is pale green flushed with orange on the side exposed to the sun. The eye is partly closed and set in a shallow, irregular basin; the flesh is very crisp, somewhat acid, but of excellent quality when cooked. Mr. Turner informs us that the tree is of robust growth and crops freely, and that its season is December—January. During the past few years many excellent varieties of Apples, both culinary and dessert, have been raised in this country, and Arthur Turner is one of the best of the newer late cooking sorts. The cultivation of hardy fruits has received a great stimulus owing to the failure of the fruit crops last season and the scarcity of imported fruits, and doubtless many of these fine novelties are being planted during the present season.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Fruit Problems.—I have not seen that anyone has replied to the views expressed by *Magister Palae*, which appeared in your issue of October 25 last, which I consider quite misleading to the general public, and so ask to be allowed to correct them. In regard to "Apple Stock," your correspondent says: "Why not graft a pale-skinned Apple on to the stem of a highly coloured variety?" and further on states "one excellent intermediary is the John Downie Crab, a good agent to assist colour and crop." This looks very well on paper, but does not answer in practice; no doubt many people with an imperfect knowledge of the physiology of plant life will believe this effect can be produced in the way described, but, unfortunately, it cannot, for the stock has no influence of this kind on the graft, because the chemical elements in selection pass through the stock unchanged into the graft, and it is there, by the action of sunlight through the chlorophyl in the leaves that these chemical changes takes place and the proper sap, peculiar to the variety of the graft, is produced. Thus the graft will produce leaves purple or silvery, flowers white or pink, fruit large or small, early or late, exactly resembling the variety from which it was taken; this is manifest when we graft several varieties on one tree, and it is a good thing it is so, for are not growers recommended to graft inferior varieties with a good sort; and what use would this be if the inferior variety exercised its influence on the new graft? I am writing from experience, having grafted hundreds of trees and seen thousands grafted, but I never saw any alteration in the scion put on. The Peach and Apricot are grafted on the Plum, the Apple on the Crabs, the Thorns on Mountain Ash, the Rose on the Brier, etc., etc., and yet the graft or bud retains its character without being influenced by the stock, except as to vigour or the reverse. *F. Boyes, Beverley.*

Apple Queen Caroline.—I should be glad if any correspondent could give me any information respecting the parentage and origin of this Apple, and also whether variations in the character of the soil in which it is planted have any effect on its flavour and general qualities. In these gardens we have two medium-sized pyramid trees of this variety, which, even in a most unfavourable fruit season, never fail to produce a large crop; the fruit is invariably large and of excellent colour and texture, but the flavour leaves much to be desired. One might almost say, in fact, that it has no flavour at all, though from any other culinary standpoint Queen Caroline is a splendid variety. I have sometimes wondered if anyone has ever tried to cross it with any other variety with a view to producing an Apple of its size and shape, but with a more pronounced flavour, and if so, I should be much interested to hear the result. *J. E. Palmer, Tarporley.*

The Late M. Maxime de la Rocheterie.—Referring to the short paragraph on p. 232 recording the death of this well-known French horticulturist, I should like to supplement it with a few details within my personal knowledge, especially as they are seasonable at this period of the year. There seems to be a little slip in the length of the terms of office he is said to have held in La Société Française des Chrysanthémistes, for although it is a fact that he held the presidency of it from the outset, he never fulfilled the duties of secretary. It is a matter of history that the Society did not, nor did any other French Chrysanthemum Society, exist prior to the year 1895. For some years before that date I, on this side of the Channel, and M. Fatzer and others in France, were doing all we could in the Press and by other means to persuade the French Chrysanthemum growers to organise themselves into a body on lines similar to those of our own National Chrysanthemum Society. In the autumn of that year a deputation of leading Lyons nurserymen visited England and were entertained to dinner by the Société Française d'Horticulture de Londres. The president, the late George Schneider, and I discussed the question very fully with our visitors, and as a result a meeting of the secretary and others took place after the opening of the Lyons show in the following November. The gathering was presided over by the late M. Ed. André, and the foundation stone of the first French Chrysanthemum Society was laid. The name was originally "La Société Nationale des Chrysanthémistes," but the Minister of Agriculture declined to sanction so comprehensive a title on the ground that the Society was only local in origin. The Presidency, not the Honorary Presidency, was offered to M. Maxime de la Rocheterie, and he accepted it, M. Viger somewhat later being nominated the Honorary President. It is easy, therefore, to calculate the total length of M. de la Rocheterie's term of office as President; from November, 1895, to the date of his death on December 8, 1918, is practically 23 years, and not 40. As to the secretaryship, at the very beginning of the Society my friend, M. Philippe Rivoire was elected secretary. M. Brossy was his assistant for a time, others followed. M. de la Rocheterie, living at Orleans far away from the Society's headquarters at Lyons, could not and never did have anything to do with the secretaryship. The Society, owing to the war, has slumbered from 1814 to 1919, and has just now awakened with M. Philippe Rivoire still at his old post, so that his unbroken term of office as Secrétaire Général is precisely 24 years. *C. Harman Payne.*

SOCIETIES.

ROYAL HORTICULTURAL.

December 2.—For the last meeting of the year, the one held on Tuesday was a great success. Often the December meeting is sparsely attended and the exhibition a poor one, but on this occasion there was a good display of flowers, especially Chrysanthemums, Orchids and Carnations.

Floral Committee.

Present: Messrs. Henry B. May (in the chair), W. J. Bean, W. G. Baker, John Green, S. Morris, E. A. Bowles, H. Cowley, Jas. Hudson, John Heal, G. Reuthe, C. R. Fielder, J. F. McLeod, W. Howe, Thos. Stevenson, A. Ireland, Chas. E. Pearson, Arthur Turner, C. Dixon, John Dickson, Chas. E. Shea, J. T. Bennett Poë, H. R. Darlington, E. F. Hazelton, W. P. Thomson, E. H. Jenkins and R. C. Notcutt.

Awards of Merit.

Chrysanthemum Sunshine.—This is a delightfully bright decorative variety of medium, reflexing Japanese type. The flowers are very firm in texture and should carry well, and therefore be useful for marketing. They come well disbudded and as sprays. The colour is orange-amber. Messrs. H. J. Jones will distribute this new variety. Shown by Mr. J. Carpenter, West Hall Gardens, Byfleet.

Chrysanthemum Mrs. H. E. Dixon.—A handsome broad-petalled Japanese variety; bronze and yellow. Shown by Messrs. K. Luxford and Co.

Chrysanthemum Lady Astor, M.P.—A handsome, large-flowered, crimson, single variety of great beauty. Shown by Messrs. Godfrey and Son.

Bouvardia Pink Perfection.—This charming rich rose-pink Bouvardia is said to have appeared as a sport from President Cleveland; not as a bud or branch sport, however, but as a root sport, and yet we have always considered root cuttings to be true even though a branch cutting may show variation. Shown by Mr. E. Hazelton, North Mymms Park Gardens, Hatfield.

Groups.

The President, Lord Lambourne (gr. H. Cunningham), Bishop's Hall, Romford, exhibited a large number of bush Chrysanthemums grown in 48 sized pots. In most instances the plants carried a dozen flowers each. The varieties were Kathleen Thomson, Caprice du Printemps, H. W. Thorpe and Butler's Caprice (Silver Flora Medal).

Messrs. H. J. Jones filled the end of the hall with a most effective group of Chrysanthemums staged in large stands and also in small vases. A few of the outstanding varieties were Miss D. Adams, Lizzie Robertson (single), Christmas White, Tom Tinsey, Percy A. Dove, Mary Morris (single), H. E. Converse, Salonica and General Petain (Silver-gilt Flora Medal).

Messrs. K. Luxford and Co. had a bright group of Chrysanthemums in which the single varieties Portia, Mensa, Mrs. Laurie Frere, Mrs. Loo Thompson, Mrs. R. Buckingham, E. Mason and Miranda (Silver Flora Medal).

An elegant mauve tinted Chrysanthemum of the Rayonnante type was shown by Mr. W. F. Gullick and had many admirers; it was named Mrs. Lawson.

The boldest group in the hall was a very fine one of Chrysanthemums arranged by Messrs. W. Wells and Co., facing the entrance. The central feature consisted of about three dozen big blooms of the yellow Wm. Rigby, with Gen. Donald, May Morris and other singles in the foreground. The sides of the group contained capital blooms of Mrs. G. Drabble, Viscountess Chinda, Louisa Pockett, Princess Mary and December Gold (Silver-gilt Flora Medal).—Messrs. G. G. Whitelegge and Co. exhibited the new white Chrysanthemum Barbara Field, described in our issue of November 22, p. 267; and also a pink sport from it.

Some wonderfully fine blooms of Japanese Chrysanthemums were shown in quantity by Mr. H. Woolman. He had immense blooms of W. Rigby, Charlotte E. Soer, Mrs. C. Edwards. His Majesty, Princess Mary, Mrs. A. Davis and Thos. Lunt (Silver-gilt Banksian Medal).—Messrs. W. J. Godfrey and Son showed a handsome lot of single Chrysanthemums, their series consisting of Lady Astor, M.P., Audrey, Molly Godfrey, Bronze Molly, Reginald Godfrey, Mrs. W. J. Godfrey and the golden yellow Phyllis Cooper (Silver Banksian Medal).

Messrs. Blackmore and Langdon's exhibit of Cyclamens was greatly admired; the varieties were Salmon Pink, Giant White, Giant Crimson, and the flowers were of fine size (Bronze Flora Medal).—Messrs. H. B. May and Sons also showed Cyclamens, with ferns and Solanums (Silver Banksian Medal).

Messrs. J. Piper and Son's interesting group of plants included examples of Corokea variabilis, Berberis Coryi, B. Wilsonii and glaucus Junipers.—Mr. G. Reuthe showed Nerines in variety, large-leaved Rhododendrons and a big plant of Galax aphylla.—Mr. J. J. Kettle brought up some beautiful Violets which attracted attention by reason of their fragrance; the variety was Mrs. David Lloyd George (Bronze Banksian Medal).

Mr. C. Engelmann was a large exhibitor of Carnations and made a fine display with White Wonder, Saffron, Lady Northcliffe, Destiny, Peerless, Delice, Circe and other varieties (Silver Banksian Medal).—Messrs. Allwood Brothers had some delightful Carnation blooms of such notable varieties as May Day, Triumph, Enchantress, Supreme and Wivelsfield Claret.—Carnations were exhibited by Messrs. Stuart Low and Co., who had good flowers of Baroness de Brienen, British Triumph and Snowstorm (Bronze Flora Medal).

Orchid Committee.

Present: Sir Jeremiah Colman, Bart. (in the chair), Sir Harry J. Veitch, Jas. O'Brien (hon. secretary), William Bolton, R. Brooman-White, C. J. Lucas, H. G. Alexander, Fred K. Sander, J. E. Shill, W. H. Hatcher, S. W. Flory, Chas. H. Curtis, J. Cypher, A. McBean, Pantia Ralli, W. J. Kaye, Stuart Low, R. A. Rolfe and Frederick J. Hanbury.

Awards.

First-class Certificate.

Laelio-Cattleya bellatrix (*C. Fabia alba* × *L.-C. bella alba*), from Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill). A handsome and distinct hybrid with flowers of large size and good substance. The sepals and petals are white, the lip deep claret-purple, with gold markings at the base.

Awards of Merit.

Brasso-Cattleya Benvenuto (*C. Maggie Raphael alba* × *B.-C. Hene*), from Baron Bruno Schröder. The sepals and petals are white, the lip pale lilac with yellow lines from the base. In shape the flower approaches the Cattleya parent.

Odontoglossum Asion (*Solon* × *Aquitania*), from W. R. Fasey, Esq., The Oaks, Holly Bush Hill, Snaresbrook (Orchid grower Mr. E. J. Seymour). A fine hybrid with large flowers of perfect form, the inner two-thirds coloured dark claret red, the outer portions and margins white.

Other Exhibits.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), staged a small but effective group of blue-tinted Cattleyas, composed of forms of C. Ariel (Gaskeliana coerulea × Bowringiana violacea), arranged with the white Calanthe Harrisii and white Odontoglossums. Blue-tinted forms of most of the sections of the C. labiata group and the lesser Laelias are a speciality at Gatton. A Silver Flora Medal was awarded for the group.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an attractive group of showy Odontoglossums, Odontiodas and Cattleyas. Specially noteworthy were the new Cypripedium Thias (Desdemona × Beeckmanni), the best of a selection of hybrids flowering for the first time, and Odontoglossum Carola (Harryano-triumphans × Scottianum), a very large yellow flower of fine form, heavily blotched with chocolate-purple.

Messrs. J. and A. McBean, Cooksbridge, were awarded a Silver Flora Medal for a pretty group with a selection of hybrid Cymbidiums at the back, the best of which was C. Doris majestica, with seventeen flowers on the spike.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for an excellent group of the best Cypripediums of the season including C. Goliath, C. Verdun, C. King of the Belgians, C. Shogun, C. Madame Fevrier, and C. Winnifred Hollington.

A Silver-gilt Flora Medal was awarded to Miss M. Walters Anson, Blyth Villa, Parkstone Avenue, Parkstone, Dorset, for a collection of beautiful and faithfully executed drawings of rare and certificated Orchids in the collections of Sir George L. Holford and Pantia Ralli, Esq.

Messrs. Sanders, St. Albans, were awarded a Silver Banksian Medal for a group of hybrids, including several new hybrid Cypripediums and good Odontoglossums, the best of which was the new Odm. Colombia (Magali Sander × splendidum), a fine flower having the inner two-thirds of the segments white, heavily blotched with dark claret, the outer parts being blush white. Rare species in the group were Vanda Luzonica, Arachnanthe Clarkei and Coelogyne barbata.

The Duke of Marlborough, Blenheim Palace, Woodstock (Orchid grower Mr. Barker), sent Brasso-Cattleya speciosa var. The Hon. Mary Cadogan (B.-C. Digbyano-Mendelii Fortuna × C. Schröderae alba), a large and perfectly-formed white flower with yellow disc to the lip and purple rays at the base.

Messrs. Stuart Low and Co., Jarvisbrook, showed Cypripedium Tracyanum Purity, a light form, in which the greater part of the dorsal sepal is white.

Fruit and Vegetable Committee.

Present: Messrs. C. G. A. Nix (chairman), G. Berry, E. A. Bunyard, Geo. F. Tinley, F. Jordan, P. A. Tuckett, Ed. Harriss, G. Reynolds, W. H. Divers and W. Bates.

There was but very little business before this Committee. Several seedling Apples were submitted but no award was made. The Committee expressed a wish to see the variety Oratava again in May. This Apple resembles a highly coloured Bramley's Seedling.

NATIONAL CHRYSANTHEMUM.

December 1.—The Floral Committee held its last meeting of the season at Essex Hall, and about half-a-dozen novelties were placed before it. Awards were made as follows:—

First-class Certificate.

Mrs. H. E. Dixon.—This is a big Japanese variety of large exhibition size. It has very large florets, some measuring 1¼ inch in breadth, but the flower is by no means coarse, indeed a big bloom is graceful and the colour, bronze shading over rich yellow, is very attractive. Shown by K. Luxford and Co., Sheering Nursery, Harlow.

Lady Astor, M.P.—This is a very fine large-flowered single variety, with three or four rows of rich crimson coloured florets of regular form. Shown by Messrs. Godfrey and Son.

Bronze Molly.—A beautiful large-flowered single variety of graceful form. It is a sport from Molly Godfrey and the colour is bright apricot, with amber base to the florets. Shown by Messrs. Godfrey and Son.

Reginald Godfrey, a bright chestnut single the Committee desired to see again, and they also asked to see again the bright rose pink single variety named Mrs. G. S. Streeter. Shown by Mr. F. Ward, The Graperies, Bishops Stortford.

The Executive Committee met during the evening at 35, Wellington Street, and made further arrangements for the 1920 show, which unfortunately will be only of one day duration (November 2), but will remain open until 8 p.m. The Committee gratefully accepted the offer of a Silver Challenge Cup from Mr. Geo. Monro, Jun., for a prize for single-flowering Chrysanthemums. The finances were reported to be in a sound condition. The recent death of Mr. J. McKerchar, for many years a member of the Committee, cast a gloom over the proceedings. A letter of sympathy and condolence was ordered to be forwarded to the bereaved family, and arrangements were made for representing the Society at the funeral and for sending a wreath.

TRADE NOTE.

CHAMBER OF HORTICULTURE.

At the last meeting of the Council the following matters received full consideration :—A resolution urging the exclusion of agriculture from the Hours of Employment Bill No. 2, drawn up by a special Committee appointed for the purpose, was ordered to be sent forward. In connection with this Bill the Chamber is collecting, at the request of Government Departments, statistics showing what is done by growers to keep labour in employment all the year round.

It was decided to act in co-operation with the Horticultural Trades Association and the Agricultural Seed Trade Association in reference to the Seeds Bill and other matters affecting the seed trade at the present time. It was reported that the Chamber had been represented at a conference convened by the Ministry of Food on the subject of selling food and vegetables at guaranteed net weights on the market. The views of the Chamber's delegates had been favourably received by the Chairman at that conference.

It was also mentioned that the Chamber had, at the request of the Food Manufacturers' Federation, sent delegates to the deputation to the Royal Sugar Commission, and matters presented by the deputation were now in course of consideration. A report of the various conferences which had been held on the regulation of imports and transport was considered, and it was stated that various resolutions had been drafted which it was hoped shortly to place at the disposal of the Council. It was felt that much good had resulted from the several round-table talks which had taken place between all sections of the trade, and it was the intention of the Chamber to arrange as far as possible for their continuance.

Meetings of the Press and Propaganda Committee and the Technical Committee having an important bearing on the work and policy of the Chamber were also held during the past week, that of the Technical Committee being likely to tend to great benefit to the horticultural trade generally. The new Horticultural Technical Association formed by Mr. Mosley, of University College, Reading, and Mr. Hatton, of East Malling, is now affiliated to the Chamber. The Executive Committee of this Association consists of Professor Barker (Bristol University), A. Roebuck, Esq. (Harper Adams Agricultural College), H. Maxwell-Lefroy, Esq., and V. H. Blackman, Esq. (Imperial College of Science and Technology), and Dr. L. Hamilton (Studley). This Committee has been constituted a subsection of the Technical Committee of the Chamber, and will act in an advisory capacity as regards diseases and research. At the first meeting of the Joint Committee a definite policy was laid down for recommendation to the Council of the Chamber, three pressing matters concerning pests being mentioned as requiring the immediate attention of the newly-formed body.

Obituary.

John McKerchar.—It is with the deepest regret that we announce the death, on Friday, the 28th ult., of Mr. John McKerchar, nurseryman and seedsman, of 35, Giesbach Road, Upper Holloway. Mr. McKerchar was a well-known personality in the horticultural world and took a great interest in all matters connected with gardening. Possessed of a genial nature and striking personality, he was a favourite with all, and his commanding figure will especially be missed at horticultural meetings, for he was one of the most regular attendants at gardening functions of all kinds in the metropolis and frequently in the provinces. He was born in Acharn, Kenmore, Perthshire, seventy years ago, and early in life was apprenticed to the firm of Messrs. Dickson and Co., seedsmen, Edinburgh. On completion of his apprenticeship he was employed by Messrs. Alex. Dickson and Co., Chester. About forty years ago he entered the services of Messrs. B. S. Williams, of Upper Holloway, and remained with them until the business was dissolved. At that stage of his career he entered business on his own account as a nurseryman and seedsman in Giesbach Road, Upper Holloway. Mr. McKerchar was a member of the committee of the Royal Gardeners' Orphan Fund; he was also a warm supporter of the Gardeners' Royal Benevolent Institution, and those who attended the annual meetings, festival dinners and other functions of these horticultural charities were sure to find Mr. McKerchar one of the company. His remains were interred on December 4 at Highgate Cemetery, following the service at Caledonian Church, Holloway, amid very many tokens of regard and esteem from his numerous friends and the societies with which he was associated. Among the floral tributes there was a large wreath of Chrysanthemums from the officers and members of the National Chrysanthemum Society.

W. D. Prior.—It is with deep regret we announce the death, on the 27th ult., under sad circumstances of Mr. William David Prior, Rose grower, Colchester. His body was found by his foreman hanging from a cord in a bulb shed adjoining his office. His sad end is attributed to business anxiety, resulting from labour troubles, he having received more orders than he could execute. His last published price-list was headed—quite justifiably—" Our Victory Year," and it contains details of his successes in various shows throughout the

THE LATE JOHN MCKERCHAR.

United Kingdom, his prizes including 13 challenge trophies and cups, seven silver medals for premier blooms, one gold medal, 47 first prizes, seven second, and three third prizes. Mr. Prior was a member of the Council of the National Rose Society.

ANSWERS TO CORRESPONDENTS.

ARISTOLOCHIA SIPHO : *P.* This climber may be increased by cuttings of half-ripened wood inserted during August in gentle bottom-heat, or by layering.

BOOK ON PROPAGATION : *H. H.* " The Nursery Book," by L. H. Bailey, published by Messrs. Macmillan and Co., London, price 6s. 6d., is a useful work on propagation. It deals with general propagation and the cultivation of young plants. It would be wise to purchase grafting wax from a seedsman rather than attempt to make it.

NAMES OF PLANTS : *A. C. B.* 1, Nerine (garden hybrid); 2, N. elegans alba; 3, N. sarniensis var. Garden hybrids are numerous. The specimens were poor and difficult to determine. —*A. G.* 1, Probably Aster Novae-Angliae (too far withered to identify); 2, Erica vagans; 3, Acaena Novae-Zelandiae; 4. Potentilla fruticosa.—*Sussex.* 1, Choisya ternata; 2, Nandina domestica; 3, Elaeagnus macrophylla; 4, Lomatia ferruginea; 5, Photinia japonica; 6, Caryopteris Mastacanthus; 7, send in flower; 8, Crinodendron Hookerianum; 9, Cornus capitata; 10, Cassinia fulvida; 11, Eucryphia pinnatifolia; 12, Olearia macrodonta.—*J. Watts.* 1, Elaeagnus pungens var. variegata; the type is a native of China and Japan; the variety originated under cultivation; the Japanese name for E. pungens is Natsu Gumi; 2, Thuya occidentalis; 3, T. occidentalis var. aurea; 4, Picea pungens var. glauca; 5, Cupressus pisifera var. plumosa.—*J. E. R. N.* 1, Azara microphylla; 2, Griselinia littoralis; 3, Piptanthus nepalensis; 4, Hymenanthera crassifolia; 5, Rubus australis; 6, Jasminum Primulinum; 7, Forsythia suspensa; 8, Akebia quinata; 9, Lespedeza bicolor.

REMOVING OLD TREE STUMPS : *A. J. S.* Gelignite, cheddite and black gunpowder may all be used to clear ground of tree butts. A pamphlet dealing with this subject and the use of explosives in horticulture and agriculture is published by Messrs. Curtis and Harvey, Ltd., Cannon Street House, London, E.C.4. price 6d. It would be advisable to procure this work and determine which of the methods described is most suitable for your purpose.

RHODODENDRON EXIMIUM LEAVES INJURED : *J. E. R. N.* There is no trace of any disease or injury by insect pests on the leaves sent, the distortion of which is simply due to climatic causes. The young growths of Himalayan Rhododendrons are very susceptible to changes of temperature, and are also easily injured by draught. The lateness of the plant in starting into growth this year was probably caused by the buds being injured by frost last winter, the injury being sufficient to disfigure the leaves, but not to kill the bud outright.

ROSE BUSHES ON THEIR OWN ROOTS : *H. M.* The following varieties are suitable for your purpose. They will all succeed in beds and furnish a plentiful supply of cut blooms for decorative purposes : — Richmond (H.T.), Prince de Bulgarie (H.T.), Madame Abel Chatenay (H.T.), Caroline Testout (H.T.), Joseph Hill (H.T.), Ulrich Brunner (H.P.), La Tosca (H.T.), Mrs. John Laing (H.P.), General McArthur (H.T.), Frau Karl Druschki (H.P.), Madame Léon Pain (H.T.), and Hugh Dickson (H.P.).

SOWING ALDER SEEDS : *A. P.* Propagating Alder seeds should be sown on a prepared bed out of doors in March, and be lightly covered with fine soil. Shade the bed during bright weather, and keep the soil fairly moist. If only a small quantity is required, the seed may be sown in boxes and germinated in a cold frame. The seedlings will appear during the first year.

WIRING WALLS FOR FRUIT TREES : *K. C. H.* Galvanised wire, strained tightly along the walls, is the best system of supporting wall fruit trees. The use of wire entails a saving of much labour and time compared with the old system of nailing; the method also does not injure the walls, necessitating repairs, and does not harbour insects. Changes of temperature in the wires will not injure the trees unless they consist of Peaches, Nectarines or Apricots. The branches of these fruits should be loosened from the wires for the winter as soon as the leaves fall, tied in bundles with stout string, and fixed firmly against the wall without touching the wires. For fan trained trees the wires should run horizontally at 6 inches apart, with guiding eyes 3 feet between and a raidisseur at one end for tightening the wire occasionally. Extra strong eyes are required at each end. For horizontal trained trees and oblique cordons, the distance between the wires should be 12 inches; upright cordons may have upright wires—one for each cordon—with raidisseurs at the bottom end; in all cases the wires should be within half-an-inch of the wall. No. 12 best galvanised wire should be used. Any local ironmonger or the horticultural builders advertising in our columns would give you estimates of cost.

A NEW TOMATO OF REAL COMMERCIAL VALUE TO THE MARKET NURSERYMAN.

MANX MARVEL PLANTED OUT. SHOWING HABIT OF GROWTH.

OF PROVED MERIT.

MANX MARVEL

What Growers say about the New Tomato :—

GREEBA CASTLE, ISLE OF MAN,
Mr. S. S. ADAM, 29th July, 1919.

SIR,—Your "Manx Marvel" is rightly named; in all my fifteen years of experience I have never seen its equal. From a commercial point of view it is extra. "Manx Marvel" is at least a fortnight earlier than other varieties grown on this Island. On the 24th of this month I saw these Tomatoes, and each plant had 4 or 5 trusses on it, which were nearly all ripe, each truss bearing 16-20Tomatoes, all a good colour, shape, and uniform in size. I do not doubt for a moment that trade growers will find this Tomato of great interest.

Yours truly, WM. LONG,
Head Gardener to Sir HALL CAINE.

ST. TRINIANS, CROSBY, I.O.M. *1st Sept.*, 1919.

On 26th July, 1919, I inspected a crop of "Manx Marvel" Tomatoes, and consider their name is easily justified. The first truss just clear of the ground, and four within three feet. Each truss exceptionally large—three to 5 lbs.—and perfectly set.

Individual fruits of good size, uniform in shape, round and excellent colour; not a wrinkle or split in the whole crop.

A New Tomato of exceptional merit, and of especial interest to trade growers. Yours faithfully, ARTHUR R. ATHEY,
Late of London Gardeners' Guild, R.H.S., Wisley.
Gardener to Lt.-Col. Wood, D.S.O., The Towers, Marown, I.O.M.

PEEL ROAD NURSERY, DOUGLAS, I.O.M. *9th Sept.*, 1919.

I have visited Mr. Adam's Nursery several times during this summer, and have seen "Manx Marvel" growing. I consider it the best Habit and Cropping Tomato I have ever seen, many of the trusses having 20 to 30 fruit, all of best market size; it is sure to become a popular variety.

JAMES INGLIS,
President I.O.M. Nursery and Market Garden Association.

Manx Marvel Tomato Seeds are selected from only the first four or five trusses, and the Stock is therefore limited—first come first served. £2 per 1,000 seeds. Below 1,000 seeds, 6s. per 100. Cash with Order to

S. STANLEY ADAM, Greeba Nursery, CROSBY, ISLE-OF-MAN.

W. WELLS, Junr.,

Hardy Plant Nursery,

MERSTHAM, SURREY.

Asters or Michaelmas Daisies.

ANTWERP, beautiful rose pink single flowers, good habit, producing long sprays, which make it one of the best varieties for cutting, 3½ ft., 5/-

BRIGHTEST & BEST, A.M., R.H.S., the flowers of this Michaelmas Daisy are of a deep purple rose, are very bright and distinct for a variety of the Novi-Belgi section. The flowers are very freely produced in pyramidal panicles, most crowded near the top of the plant. They are semi-double, it is really a marked advance in this big group, 4ft., 2/6.

BRUSSELS, pale lavender enormous single flowers, loosely arranged on graceful sprays, good habit, vigorous constitution, 4ft., 3/6.

KING OF THE BELGIANS, A.M., R.H.S., lavender blue, semi-double flowers, larger than Climax, this is the largest Michaelmas Daisy, 5ft., 2/6.

MONS, A.M., R.H.S., bright deep rose, large single flowers, good habit, most useful for cutting, 3 to 4 ft. 3/6.

NAMUR, soft pink, pretty single flowers, good habit, forms neat bushes the same as St. Egwin, 2½ to 3ft., 3/-.

ROBINSON, V.C., A.M., R.H.S., bluish mauve flowers, the best double up-to-date, long sprays, making it useful for cutting, good habit, 3½ to 4ft., 5/-.

WELLS' WHITE (new), undoubtedly the best white Aster yet raised, flowers being pure white, perfectly round and flat; they do not go pink with age, as is the fault with many of the white varieties. Mid-Sept., 5ft., 2/6

AMELLUS Beauty of Ronsdorf, distinct novelty, with large flowers, 2½ inch, of a beautiful lilac-pink colour, 1½ ft., 1/-.

AMELLUS "King George," A.M., R.H.S., the largest and best of this section, bearing large trusses of bluish violet flowers; each flower is 3in. in diameter, the florets are one-eighth of an inch wide, and the disc bright golden yellow, 3/-.

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If you want to produce Good Grapes why not try it?

cwt. **25/-**, ½ cwt. **13/6**, 28 lbs. **7/6**, 5 cwt. lots **£6.** Carriage Paid.

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No Stable Manure Required.

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1 cwt. **15/-**, ½ cwt. **8/-**, 28 lbs. **5/-**, **£14** per ton. Carriage Paid.

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MARKETS.

COVENT GARDEN, December 3rd.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)		Bananas, singles	20 0–25 0
—Allington Pippin	5 0– 6 0	Chestnuts	
—King of the Pippins per ½ bus.	6 0– 8 0	—French	27 0–30 0
—Cox's Orange Pippin per ½ bus. best	8 0–11 0	—Naples	50 0–60 0
—Blenheim Pippin per bus. ..	10 0–14 0	French Figs, 12's 15's per box	1 3– 2 6
—Newton Wonder	6 0–10 0	Grapes Alicante	1 3– 1 6
—Lord Derby	5 0– 7 0	—Special per lb.	2 0– 3 0
—Warner's King, per bus. ..	6 0– 7 0	—Gros Colmar ..	1 6– 2 0
—Lane's Prince Albert, per bus.	6 0– 8 0	—Special ..	2 6– 4 0
—Bramley's Seedling per bus. ..	6 0– 8 0	—Canon Hall ..	2 6– 7 0
—Brit. Columbian—		—Muscat, per lb.	2 6– 6 0
Cox's Orange Pippin, Jonathan, Grime's Golden, Nonesuch, McIntosh Red	40 lb, boxes 20s. 10d. control.	Special	7 0– 8 0
		—Almeria per barrel	20 0–25 0
		Lemons 300's	23 0–30 0
		Oranges 504 714etc.	30 0–40 0
		Nuts—Brazils(new) per cwt.	125 0–130 0
		Cob Nuts, per lb.	1 4– 1 5
		Walnuts, English singles	0 9– 1 0
		doubles	1 6– 2 0
		Walnuts 25 kilo.	55 0–60 0
		Pears, English selected per doz.	4 0–18 0
—Nova Scotian—Blenheim Pippin Nos. 1 and 2 ..	25 0–35 0	—Californian—Winter Nelis case	33 0–40 0
—Ribston Pippin	25 0–35 0	Pineapples each ..	2 6– 6 6

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans' Guernsey, per lb.	3 0– 3 6	Parsnips, per bag	6 0–12 0
Beets, per bag ..	10 0–11 0	Parsley, per doz. bunches ..	3 0– 4 0
Cabbage, per doz.	2 0– 3 0	Potatos, per cwt.	12 0–14 0
Carrots, per bag	9 0–10 0	Radishes, per doz. bunches ..	1 6– 2 0
Cauliflower, per doz.	3 0– 4 0	Spanish Onions 5 tier	22 0–23 0
Celery, per fan, (12 heads) ..	3 6– 4 6	Spring Onions, per doz. bunches ..	4 0– —
Cucumbers, per doz	10 0–16 0	Sprouts, per bag 28 lb.	7 6– 8 0
Garlic, per lb. ..	1 6– —	Tomatos, English, per doz. lbs. ..	3 0– 7 0
French Luttuce per doz.	3 6– 4 0	—Teneriffe, Best, per bundle	16 0–18 0
Herbs, per doz. bun.	4 0– 6 0	ord ,, ,,	10 0–12 0
Mint, per doz bun.	9 0–12 0	Turnips, per bag	7 0– 8 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Watercress, per doz	0 9– —
Mushrooms, per lb.	3 0– 4 6		
Onions, per cwt.	12 0–14 0		

Remarks.—Business remains fairly satisfactory, and, in response to a moderate demand, prices for most subjects have remained unchanged. Hot-house Grapes have maintained the increased value of last week. English dessert Apples are shorter in supply, but there are ample Cooking Apples available. Consignments of American and colonial Apples are sufficient to meet all requirements for coloured dessert fruit and there is little change in their prices. English Tomatos are finishing, but large quantities of Teneriffe Tomatos are on offer at comparatively low prices. Brazils, Chestnuts, Cobs and kiln-dried Walnuts are all available in quantity for the Christmas trade. Prices for Guernsey Beans are steady, but green vegetables have an easier tendency. There is nothing fresh to record in the Potato trade.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.) 60's	9 0–12 0
Asparagus plumosus	12 0–15 0	72's	7 0– 9 0
—Sprengeri ..	12 0–18 0	Erica hyemalis—48's per doz ..	24 0–36 0
Aspidistra green	48 0–72 0	Erica nivalis—48's	24 0–42 0
Cacti per tray 12's, 15's ..	5 0– 6 0	60's	15 0–18 0
		72's	5 0–10 0
Chrysanthemums 48's per doz. ..	18 0–24 0	Marguerites white	18 0–24 0
		Palms Kentia ..	24 0–36 0
Cyclamen 48's per doz.	24 0–30 0	—— 60's	15 0–18 0
		— Cocos	24 0–36 0
Erica gracilis—48's per doz. ..	15 0–30 0	Solanums, 48's per doz.	15 0–21 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis, in variety, 48's	12 0–18 0
		— 32's	24 0–36 0
— elegans ..	15 0–18 0	Pteris, in variety 48's	12 0–21 0
Asplenium 48's per doz.	12 0–18 0	— large 60's ..	5 0– 6 0
— 32's	24 0–30 0	— small 60's ..	4 0– 4–6
— nidus 48's ..	12 0–15 0	— 72's per tray of 15's	3 6– 4 0
Cyrtomium 48's	10 0–15 0		

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea white, per doz. bun. ...	15 0–18 0	Heather, white per doz. bun.	10 0–12 0
Carnations per doz. blooms, best American var.	6 0– 8 0	Lapagerias, per doz. blooms ..	5 0– 6 0
Chrysanthemums—— White, per doz. blooms ..	4 0–12 0	Lilium longiflorum, per bunch ..	18 0–20 0
— Yellow ,, ..	4 0–10 0	Lilium speciosum album per bunch	6 0– 8 0
—Pink ..	6 0–12 0	– rubrum per bun	7 0– 8 0
—Bronze ,, ...	8 0–10 0	Orchids per doz.: – Cattleyas ..	24 0–30 0
—Spray White per doz. bun.	24 0–36 0	—Cypripediums per doz. ..	6 0– 9 0
— Coloured per doz. bun.	18 0–36 0	Pelargonium, double scarlet, per doz. bun. ..	12 0–18 0
—Single Varieties per doz. bun.	3 0– 6 0	Richardia (Arums), per doz. blms.	12 0–18 0
French Flowers——Lilac white per doz. spray	6 0– 8 0	Roses per dozen blooms—— Liberty ..	8 0–12 0
		— Melody ..	6 0–10 0
—Marguerites yellow per doz. bun.	3 6– 4 0	— Mme. Abel Chatenay ..	6 0– 9 0
—Mimosa, per pad	18 0–20 0	— Ophelia ..	9 0–12 0
—Narcissus, Paper White per pad	35 0–40 0	— Richmond ..	6 0–10 0
		— Sunburst ..	8 0– 9 0
Soleil d'Or, per doz. bun. ...	8 0–10 0	— White Crawford	6 0– 8 0
		Roman Hyacinth per doz. spikes	2 6– 3 0
—Violets, Parma, per bun	7 0– 9 0	Violets Single large per doz. bun.	10 0–15 0
Gardenias, per box special ..	12 0–		
ordinary ..	5 0– 6 0	— Ordinary ..	6 0– 9 0

Remarks.—The market was well supplied with bunch white Chrysanthemums and disbudded blooms during last week. Good coloured bunch flowers were not so plentiful. Small quantities of bunch Wilcox (bronze) are arriving in good condition; this is a fine variety for market, and generally finds a ready sale. For spray White Valet is the most plentiful and the best line offered at the present time. Spray pink remains very scarce, yellow being better supplied The consignments of Carnations were more than sufficient for the demand during last week, but this morning supplies were shorter. The principal sorts offered are: Beacon and Britannia (scarlet), Enchantress, Mayday, Mrs. Ward, Winsor (pink). White Perfection and Triumph (crimson). Also two seedlings offered by Messrs. Hemus. Camellias are still offered in limited quantities, but Gardenias, Lily-of-the-Valley, Lapagerias and Stephanotis are mostly unobtainable; but Roman Hyacinth is offered in fine condition, and much lower in price. French flowers.—Although the arrivals are very irregular the supplies are increasing, which consists of yellow Marguerites, Mimosa (Acacia), Narcissus Paper White also a few baskets of Narcissus Soleil d'Or (yellow), and Parma Violets. Single are also arriving in larger quantities, but the quality will improve later. The important new lines received last week were Dutch white Lilac, and Druschki Roses from France.

CATALOGUES RECEIVED.

Allwood Bros., Hayward's Heath.—Carnations.

Hurst & Sons, 152, Houndsditch, London, E.1.—Flower Seed Novelties and Specialities for 1920 (wholesale).

Dickson & Robinson, Cathedral Street, Manchester.—Seed Potatos.

H. J. Jones, Lewisham.—Chrysanthemums, Phloxes, Michaelmas Daisies.

Foreign.

Haage & Schmidt, Erfurt (Germany).—Novelties of Seeds for 1920.

Leon Chenault et Fils, Orleans, France.—Trees, Shrubs, Climbers, Roses and Paeonies.

Sluis and Groots, Enkhuizen, Holland.—Vegetable, Flower and Agricultural Seeds

GARDENING APPOINTMENTS.

Mr. James Allison, for the past 13½ years Head Gardener to Col. M. J. C. Longfield, Castle Mary, near Cloyne, Co. Cork, as Gardener to Capt. W. L. Naper, Lougherew, Oldcastle, Co. Meath.

Mr. C. W. Capp, for three years and three months with H.M. Forces, and previously Gardener at Wetherby Grange, Yorkshire, as Gardener to Captain E. A. Harbord, Nun Monkton Priory, near York.

Mr. A. F. Jenner, recently with His Majesty's Forces and previously Gardener for five years to Stanley Boulter, Esq., Highwood, Roehampton, as Gardener to Percy Laming, Esq., Alresford Place, Alresford, Hampshire.

Mr. Thomas Prentice, late Gardener to Edward Powell, Esq., Oakbank, Chester, as Gardener to Arthur Taylor, Esq., Formby Hall, Formby, Lancashire.

Mr. E. A. Ashfield, previously Gardener to B. E. Strong, Esq., Crofton Hall, Orpington, Kent, and for the past three and a half years with H.M. Forces in the East, as Gardener to B. E. Strong, Esq., Limpsfield Grange, Limpsfield, Surrey. (Thanks for 2s. 6d. for R.G.O.F. box.—Eds.).

Mr. R. Ellis, for the past six years Gardener to Mrs. Oscar Lewisohn, Cranbourne Court, Windsor Forest, as Manager to L. B. Green, Esq., Commercial Gardens, Priory Farm, Harrow Weald, Middlesex.

Mr. F. J. Hunt, for the past three and a half years with His Majesty's Forces, has resumed his duties as Gardener to the Rev. A. Napier, Old Rectory, West Coker, Yeovil, Somerset.

Books on Gardening.

(The prices given below include postage.)

Primula, Handbook of the Hardy. By H. M. Paul. An Illustrated Work on the Culture, Mode of Growth and Utility of Primulas. 1s. 1½d.

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4.—**Lilies.**—By A. Grove. With Preface by H. J. Elwes, F.R.S.

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Climbing Plants. By W. Watson, A.L.S. With Introduction by W. Robinson, author of "The English Flower Garden." 4s.

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PRIVATE.

STAFFORDSHIRE EDUCATION COMMITTEE.

APPOINTMENT OF ASSISTANT LECTURER IN HORTICULTURE

APPLICATIONS are invited for the above post. Candidates should possess a sound theoretical and practical knowledge of Horticulture, and must be able to give lectures and demonstrations. Initial salary, £225 or more, according to qualifications and experience.

Further particulars and application forms can be obtained from the Director of Education, County Education Offices, Stafford.

Application Forms must be returned not later than December 10, 1919.

GRAHAM BALFOUR,
Director of Education.

County Education Offices, Stafford.
November, 1919.

GLAMORGAN COUNTY COUNCIL.
HORTICULTURAL DEMONSTRATOR.

THE GLAMORGAN COUNTY COUNCIL invites applications for the appointment of one Horticultural Demonstrator for assisting the Occupiers of Cottage Gardens, Allotments and Small Holdings, in such area as will from year to year be selected within the Administrative County of Glamorgan.

Applicants must have served as apprentices to Gardeners, and have held situations in which they were in charge of and responsible as Foremen or Head Gardeners for Flowers, Fruit, Vegetables, and hot-house work.

Experience as Journeymen in Vegetable or Market Gardens will be deemed an additional qualification.

Preference will be given to applicants who possess an Examination Certificate of the Royal Horticultural Society.

Applicants must provide and be able to ride a bicycle.

Salary 85s. per week, with an allowance at the rate of £5 per annum in addition, for the upkeep of a bicycle.

The appointment will be for one year, subject to one month's notice on either side, and will be renewable annually.

The person appointed will be required to give his whole time to the service of the County, and to reside where from time to time directed.

Applications, stating previous experience and age, with copies of three recent testimonials, must be received by the Chief Education Official, Glamorgan County Hall, Cardiff, on or before 10 a.m. on Saturday, the 13th day of December, 1919.

Canvassing, whether personal or written, will be a disqualification of any candidate.

T. MANSEL FRANKLEN.
Clerk of the County Council.

Glamorgan County Hall, Cardiff.
26th November, 1919.

WEST LONDON DISTRICT SCHOOLS, Ashford, Middlesex.—Required, a CHIEF ASSISTANT GARDENER (non-resident); wages 30s. per week and bonus of 30s. per week, payable for the period of the War (subject to small superannuation deduction). Applicants must be qualified Gardeners, capable of being responsible under the Head Gardener for the control of the Garden Staff. Applications on forms, which will be sent by the undersigned, on receipt of stamped addressed foolscap envelope, and accompanied by copies of recent testimonials, must be sent in not later than 6 p.m. on Thursday the 11th Dec., next, to F. G. BEECHING, Clerk to the Managers, The Schools.

GARDENER (HEAD), accustomed to Glass, Lawns and Bedding. Vegetables, etc.; wages £2 10s per week and cottage at Bettws-y-Coed, North Wales.—Apply, Mr. BYRD, Stork Hotel, Liverpool.

WANTED, a good all-round Man as SINGLE-HANDED GARDENER; experienced in all branches.—Apply, The Hollies, Elphinstone Road. Hastings.

WANTED, UNDER-GARDENER, single, chiefly outside work.—Apply, THE GARDENER, Park House Gardens, Potters Bar, Middlesex.

FOREMAN (INSIDE) wanted; thorough knowledge of Orchids, Carnations, Fruit, etc., and first-class testimonials absolutely essential. Also good JOURNEYMAN wanted; good wages, bothy.—Apply, stating full particulars, HEAD GARDENER, Bookham Grove, Great Bookham, Surrey.

FIRST JOURNEYMAN required, for Inside work. Wife to help in Head Gardener's house two or three hours each day.—Please state wages with house, vegetables, some light and firing to, MISS TICE, Easthampstead Park Gardens, Wokingham.

WANTED, JOURNEYMAN for Kitchen Garden and Pleasure Grounds; Wages 35s. per week and bothy.—Apply, J. MACDIARMID, The Rookery Gardens, Tattenhall, Cheshire.

WANTED, JOURNEYMAN, chiefly for pleasure grounds; age about 28; wages 32s. per week, with bothy, etc.—H. COOK, The Gardens, Foxwarren Park, Cobham, Surrey.

WANTED, a thoroughly qualified OUTSIDE JOURNEYMAN; wages 37s. 6d., bothy, etc.—Apply, enclosing particulars of experience, to H. WHEELER, Wenvoe Castle Gardens, near Cardiff.

WANTED, good SECOND JOURNEYMAN for Plant Houses; age 21 to 23; wages 37s. 6d. per week; 9s. Sunday duty; half-day Saturdays; bothy, milk and vegetables.—W. H. ALLEN, Minley Manor Gardens, Farnborough, Hants.

WANTED, MAN with experience in good Gardens; Vegetables and Fruit, chiefly; single. —Particulars, HEAD GARDENER, Parkfield Gardens, Fitzroy Park, Highgate, N.6.

WANTED, MARRIED MAN, chiefly for Pleasure Grounds; must be energetic and good worker; good reference; cottage and light found.—State wages expected, to HEAD GARDENER, Acryse Park, near Folkestone.

WANTED.—Can any gardener recommend energetic single man for lead Inside; experienced in Fruit, Chrysanthemums, Carnations, and Tomatos, in quantity; £2 per week, bothy, etc. Also single man for Kitchen Garden; experienced; 35s. per week, and bothy; able to use scythe, and take duty in turn.—H. WENMAN, Temple Newsam Gardens, Leeds.

WANTED, SINGLE MAN about 25 fo general garden work; alternative duty, 1 o'clock Sats.; wages £2 inclusive, no bothy.—Apply with refs., GARDENER, Harrow Weald House, Middlesex.

WANTED, SINGLE MAN, 24 to 30 years of age, to assist in these gardens, both Inside and Out; must be fairly well up in his work; good reference.—B. GODFREY, The Gardens, Woodstock Park, Sittingbourne, Kent.

WANTED, strong, active YOUNG MAN for General Garden work; chiefly outside; wages 27s. per week, bothy, etc.; duty.—Apply, HEAD GARDENER, Ellisfield Manor, Basingstoke, Hants.

WANTED, MARRIED MAN, experienced in Pleasure Ground work, etc.; one used to horse mower, and could take turn of duty if required; Wages 33s.; cottage, light, garden.—Apply, full particulars, with references, to, A. ADLAM, The Gardens, Selsdon Park, Croydon.

WANTED, MAN to look after small electric plant; (Hornsby 9 H.P. engine) and to help in garden; Wages 35s.; bothy.—SIMS, "The Grove," Stanmore, Middlesex.

WANTED, SINGLE MAN for Lawns, Herbaceous Borders, Roses; help Inside occasionally; room provided.—Apply with full particulars, wages required to, F. HEATH, The Lodge, Leydens House, Edenbridge, Kent.

TRADE

PRIVATE GARDENERS awaiting situations can have temporary employment and good wages by applying to JOHN RUSSELL, Devonshire Nurseries, Haverstock Hill. N.W.5.

WANTED, Gardener capable of taking charge of large Orchard.—Apply, stating experience, whether married or single, wages, and full particulars, to MANAGER, Greenhill Works, Gunnislake.

WANTED at once, two single, active MEN with a thorough knowledge of Cucumber and Tomato growing for market for Nurseries in Bedfordshire; first-class references required; constant work for the right men. Please state wages required, when at liberty, and age.—Address, H. S., Box 25, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, expert CARNATION PROPAGATOR and GROWER, to take charge of Carnation part of large nursery. State age, wages, and references.—HORTUS, Box 8, 41, Wellington Street, Covent Garden, W.C.2.

WANTED at once, a practical, middle-aged Man for Outdoor Nursery, as KNIFESMAN and Outdoor PROPAGATOR, Budding and Grafting, etc. Permanent situation with good wages for a reliable hard-working man.—Apply, with copies of references, stating age, wages required, etc. (abstainer preferred), to JAS. HOLDER & SON, Crown Nurseries, Reading.

WANTED, FOREMAN for Rock Construction.—Apply, stating wages required, etc., JOHN WATERER, SONS & CRISP, LTD., The Nurseries, Twyford, Berks.

FOREMAN wanted for the Hardy Plant, Tree, and Shrub departments.—Apply, with copies of references, stating age, experience and wages required, CURATOR, Botanical Gardens, Edgbaston, Birmingham.

WANTED, UNDER FRUIT FOREMAN—Apply, stating wages required, etc., JOHN WATERER, SONS & CRISP, LTD., The Nurseries, Twyford, Berks.

WANTED, SUB-FOREMAN; must be used to lifting Shrubs; single.—State qualifications and wages required, JOHN WATERER, SONS & CRISP, LTD., Bagshot, Surrey.

WANTED, a respectable, energetic YOUNG MAN, to work in the Nursery, chiefly in the Houses; one who has been accustomed to the growing of Cucumbers, Tomatos and Plants; a good opportunity to learn the choice seed growing business.—State wages required, S. MORTIMER, Swiss Nursery, Boundstone, Farnham.

WANTED, SINGLE MAN for Cucumbers; well up to his work; able to take charge 500 or 600 ft. State age, wages, references, to W. RIX, Clifton Fruit Growers, York.

WANTED, Young Man, single, Inside and Out; Chrysanthemums, Carnations, Tomatos, Bedding stuff, etc.; state wages and experience.—W. F. GULLICK, Nurseryman, Salisbury.

SEED TRADE.—Wanted, a thoroughly capable and energetic Man, with at least 10 to 15 years' experience, as SECOND SHOPMAN, well up in Garden, Flower and Farm Seeds, Bulbs, Sundries, etc., and able to take orders for our Nursery Department; a good Window Dresser and accustomed to a good counter trade.—Apply, stating age, experience and salary required, etc., to THOMAS PERKINS & SONS, Ltd., Seedsmen and Nurserymen, 34, Drapery, Northampton.

WANTED, a JUNIOR SHOPMAN for general Retail Seed Nursery and Floral business. —State age, wages, and experience, to LAXTON BROS., High Street, Bedford.

WANTED, experienced SHOPMAN for Garden Seed Warehouse, Lancashire; references required; good wages for suitable man.—O. G., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, DESPATCH CLERK and to help in office; young, single; state qualifications and wages required.—JOHN WATERER, SONS & CRISP, LTD, Bagshot, Surrey.

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PRIVATE.

MR. YOUNG, Agent to Lord Kensington, D.S.O., highly recommends his General Foreman as HEAD GARDENER to any Lady or Gentleman requiring a good man; life experience in all branches; age 29; married when suited.—E. RAYNER, The Gardens, St. Bride's, Little Haven, S.O., South Wales.

THE EARL of DONOUGHMORE wishes to very highly recommend his present HEAD GARDENER, who has had considerable experience in all branches, including land, stock, and estate; he has given complete satisfaction, and leaves for no fault.—THURSTON, The Gardens, Chelwood Beacon, Uckfield.

MRS. McCALMONT wishes to recommend her HEAD GARDENER; thoroughly experienced in all branches of profession; management of men, land and stock; estate sold.—ROBERT HALE, Bushey House, Bushey, Herts.

HEAD GARDENER, life practical experience, references qualifying same; would take large place to work for market; reasonable wages and commission; highest references for capabilities and character; age 40; married; abstainer.—STEDMAN, Dwygyfylchi, Penmaenmawr, Carnarvonshire.

GARDENER (HEAD); life experience in all branches; highest references, including Waddesdon Manor, Chatsworth, Elvaston Castle, Bretby Park; demobilised; age 36.—R. S., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD of two or good SINGLE-HANDED) seeks situation; well up in all branches, Inside and Out; leaving through no fault; good references; married (one child); age 46; South preferred.—G. SNOW, Cholsey, Berks.

GARDENER (demobilised) seeks situation as Head; 16 years' experience in all branches; highly recommended by previous employers; age 31; married (no family).—A. ALDRIDGE, 47, Fifth Avenue, Queen's Park, London, W.10.

HEAD GARDENER, recently demobilised, life experience in first-class establishments; late Head, Powis Castle Gardens, Welshpool, six years; previous Fruit Foreman, Eaton Hall Gardens, Chester, 8½ years; also three years Elvaston Castle Gardens, and other good estates; can be highly recommended as above.—GEORGE JOHN BARNES, 42, Ladysmith Road, Heavitree, Exeter.

GARDENER (HEAD) seeks re-engagement; 20 years' practical allround experience gained in good establishments, including Orchids; married (no family); highest references; over 2½ years service.—F. PERKINS, 101, Flax Road, Leicester.

MR. A. J. KERRY, Springfield, Cotham Road, Bristol, recommends demobilised Sergeant as HEAD WORKING GARDENER; life experience in all branches; keen, energetic and skilful cultivator; married; age 31; of proved ability and integrity of character.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, Inside and Outside, marketing produce; abstainer; age 46.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

HEAD WORKING GARDENER. — Mr. Burfoot, late Head of Ditton Hill Gardens 18½ years, seeks re-engagement with Lady or Gentleman requiring a thorough practical, life experienced man, all branches, Inside and Outside; keen, energetic; age 46; married; very highly recommended.—28, King's Road, Ditton Hill, Surbiton.

GARDENER (HEAD WORKING); practical experience in all branches; good references; demobilised; married (no children). State terms.—SOLLEY, St. Clare, Four Marks, nr. Alton, Hants.

GARDENER (HEAD WORKING); life experience, all branches; energetic and skilful cultivator; highest class references; married; age 31; discharged sergeant. — BOOTH, 20, Sion Hill, Clifton, Bristol.

GARDENER (HEAD WORKING) seeks situation, two or three under; life experience; manage electric light and stock if required; 9 and 8½ years' excellent references; married; age 45.—C. O., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING); life experience; good all round, Fruit, Flowers, Vegetables; excellent references; married (no family); age 42.—FLETCHER, 34, Wellington Square, Chelsea, S.W.3.

GARDENER (HEAD WORKING), where two or more are kept; life experience Inside and Out; excellent references; age 42; married (one child).—E. KELLY, Petersfinger, Salisbury.

GARDENER (HEAD WORKING), life experience (Orchids excepted); five as above; exceptional references; abstainer, non-smoker; age 39; married (one child).—GILBERT, Newfield Gardens, Lymm, near Warrington, Cheshire.

GARDENER (HEAD WORKING), seeks situation; practical life experience in all branches; highly recommended; demobilised; age 32; married (no family).—T. REED, 14, Tudor Road, Reading.

GARDENER (HEAD WORKING), two or three under, life experience, seeks situation; manage electric light and stock if required; 9 and 8½ years' excellent references; married; age 45.—C. O., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; thorough practical life experience all branches; several years' Head in good families; thoroughly reliable and highly recommended; married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING) seeks situation, with cottage; life experience all branches; good references; age 34; married (one child); demobilised.—F. HALES, 15, Bridge Street, Congleton, Cheshire.

GARDENER (HEAD WORKING) thoroughly experienced under Glass and Outside; methodical and trustworthy; married; age 36; wife domesticated. State wages. Disengaged.—GARDENER, Box 27, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING).— Gentleman, giving up his estate, wishes to thoroughly recommend the above; 30 years' experience in all branches of Horticulture; gold medallist for both Fruit and Vegetable culture; 17 years as Head; age 43; married.—HAGUE, Westhaugh, Pontefract.

GARDENER (HEAD WORKING); first-class experience in Fruit, Flowers and Vegetables; Inside and Out; Orchids and Carnations; 16 years Head; highly recommended; age 48; married (no family).—HEATH, North Lodge, Mark Hall, Harlow, Essex.

GARDENER (HEAD WORKING), where two or more are kept; 20 years' practical experience, Inside and Out; 7½ years last situation as Head; excellent references; age 36; married (no family); demobilised.—W. LAWSON, Castle Hill, Marshbrook, nr. Church Stretton, Shropshire.

HEAD GARDENER (WORKING) seeks situation where two or three are kept; 17 years' experience; good references; age 30; married (one child).—B. LANE, Shobrooke, Crediton, Devon.

GARDENER (HEAD WORKING); thorough practical experience in all branches, both Inside and Out; Roses, Herbaceous Borders, Vegetables, etc.; age 36; good testimonials.—W. KING, The Gardens, Woodcote Grove House, Coulsdon, Surrey.

GARDENER (HEAD WORKING); experienced all branches; Fruit a speciality; land and stock, poultry, etc.; wife could manage small Devonshire Dairy if required.—GARDENER, Indio, Bovey Tracey, Devon.

GARDENER (HEAD WORKING); life experience; good references; age 38; married (no family).—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

GARDENER (HEAD WORKING or good SECOND); thorough knowledge of Gardening in all branches, gained in first-class establishments; recently demobilised; can be highly recommended by previous employer; age 35; total abstainer; married when suited.—A. MORTIMORE, 2, Jarvis Cottages, Steyning, Sussex.

GARDENER (SINGLE-HANDED or otherwise); married no family); good references; life experience, Inside and Outside; age 29.—DINNAGE, 20, Blakesley Avenue, Ealing, W.5.

GARDENER (SINGLE-HANDED) or good SECOND; married (no family); age 30; demobbed.; 11 years' experience Inside and Out; good reference.—FRANKLIN, Rose Tree Cottage, Ashbury, Shrivenham, Berks.

GARDENER (SINGLE-HANDED); good references; Demobilised; age 35; single; South preferred.—W. WHITE, Yew Tree Cottage, Droxford, Hants.

GARDENER (SINGLE-HANDED or good SECOND); life experience, Inside and Out; age 29; married (no children); disengaged; good references.—BISHOP, 27, Belgrave Street, Eccles, Maidstone, Kent.

GARDENER (SINGLE-HANDED); good reference age 29; married (no family); good experience, Inside and Out; near Cambridge preferred.—Apply, G. WEBB, Swaffham Prior, nr. Cambridge.

GARDENER (SINGLE-HANDED) seeks situation married (no children); age 27; life experience; good references; Surrey preferred; just demobilised.—Address, W. CHITTY, Stourvale, Barrack Road, Christchurch, Hants.

GARDENER (married), age 27, requires situation on gentleman's estate; seven years' experience in Herbaceous and Alpine work; first-class references, just demobilised; has had two years' commissioned service; wounded three times.—Apply giving full particulars, to R. B., Box 20, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER seeks situation, chiefly Kitchen Garden; age 32; married (one child); good references; just demobilised.—HARDY, Bachelor's House, Grey Court, Henley-on-Thames, Oxon.

GARDENER seeks situation, Kitchen Garden and Pleasure Grounds; Good Spade and Scythe hand. 11 years last situation; excellent reference; age 38; married (no family). State wages.—T. H., 20, Kilravock Street, Queen's Park, London, W.

GARDENER seeks situation; good Outside Fruit and Vegetable Grower, and Flowers; age 44; state wages, with cottage; good refs.—W. PARKER, 63, Hurley Road, Kennington, S.E.

GARDENER (SINGLE), Inside and Out; years' experience; age 26; just demobilised; excellent references; bothy preferred.—S. GOSTLING, Chapel Terrace, Colteshall, Norwich.

UNDER-GARDENER seeks situation, Inside, in good establishment; previous experience; bothy; age 26; Midlands preferred.—A. FARMER, Upper Bentley, Redditch, Worcestershire.

FOREMAN (Inside or Inside and Out); age 29; 14 years' experience, Vines, Peaches, Carnations, Pleasure Grounds, Kitchen Gardens; London preferred.—G. H., Box 8, 41, Wellington Street, Covent Garden, W.C.2

JOURNEYMAN seeks situation as FIRST, Inside; 8 years experience gained in good establishment; excellent reference.—F. FORREST, Willesley, Ashby de la Zouch.

DEMOBILISED SAILOR (21) seeks situation as JOURNEYMAN, Inside, or Inside and Out; four years' previous experience; good ref.; at liberty —Please state wages, with bothy, B. DUNSTER, Victoria Terrace, Woodchurch, Ashford, Kent.

THE GARDENER, Osney Lodge, South Godstone, Surrey, recommends GEORGE COX age 17, as SECOND JOURNEYMAN or General Garden Lad; three years' previous experience; bothy preferred.

IMPROVER, age 17, requires situation, Inside; 4½ years' experience, chiefly Inside.—Apply, stating full particulars, M. G., Box 21, 41, Wellington Street, Covent Garden, W.C.2.

MR. JAQUES, Bryanston Gardens, Blandford, will be pleased to recommend an experienced Young Woman, D. SADLER, as Under-Gardener; Inside and Out; leaving owing to reductions through death.

TWO LADY GARDENERS desire post together; six and three years' experience, Inside and Outside work; good refs.; hard working; F.R.H.S.—M. R., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

LADY GARDENER, trained 1916, experienced Glass and Outdoor work; at liberty now.—A. B. S., The Poplars, Brackley, near Newmarket.

TWO YOUNG LADY GARDENERS, strong, healthy, good references and thoroughly experienced, wish work after Christmas; would go separately; prefer near London or Sidcup.—D. S., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

ESTATE ELECTRICIAN, thorough knowledge electric plants, water pumping and filtering, central heating, oil and petrol engines; married; state wages, etc.—C. A., Box 14, 41, Wellington Street, Covent Garden, W.C.2.

ELECTRICAL ENGINEER, at present in supply station, requires charge of estate or private plant; any repairs.—W. O., Box 16, 41, Wellington Street, Covent Garden, W.C.2.

TRADE.

MANAGER (WORKING); keen, energetic, good Salesman; life experience general nursery routine, growing, landscape and floral work; some knowledge of Seeds; excellent testimonials; abstainer; married; age 43.—State wages offered to A. B. C., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

MARRIED MAN desires post as MANAGER or FOREMAN, for Orchard or Nursery; thoroughly experienced in up-to-date methods, at home and colonial; 16 years' experience; S. Africa or Canada preferred.—Apply, M. S., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER-FOREMAN, active, middle-aged, married; 25 years' experience; growing in mass production, Grapes, Cucumbers, Tomatos, Mushrooms, Chrysanthemums; good references.—H. S., 8, Barrowell Terrace, Kenilworth.

GARDENER (HEAD); first-class experience in large establishments; Fruit, Decorative Plants, Roses, Carnations, Alpines, Herbaceous Plants, Ornamental Trees and Shrubs; expert Rockwork Builder and Landscape Gardener; highest references.—T. BENNETT, 16, Constantine Road, Hampstead, London, N.W.

LANDSCAPE or GENERAL FOREMAN; capable of managing good-sized Nursery, Inside and Out; estimates and interviews; London and provincial experience.—State terms.—PETCH, Egglescliffe Village, Co. Durham.

NURSERY FOREMAN; life experience in the management of large quantities of Glass, producing for up-to-date Nurseries, Markets, Shops.—LONDON, Box 25, 41, Wellington Street, Covent Garden, W.C.2.

MARKET GROWER requires situation CHARGE HAND; life experience with Cucumbers, Tomatos, Carnations, Chrysanthemums, general market produce; excellent references; age 35; married. —WHITE, Mackerals Cottage, Newick, Lewes, Sussex.

PROPAGATOR and GROWER (38) seeks re-engagement as FOREMAN; life experience; thorough general knowledge of the Nursery Trade; highest testimonials.—STRANGE, 2, Whitchurch Road, Pangbourne, Berks.

DEMOBILISED OFFICER; expert Carnation Grower, life-long experience, seeks situation; would take entire charge; good controller of men; married; age 27; excellent refs.—H. F., Box 17, 41, Wellington Street, Covent Garden, W.C.2.

YOUNG MAN, age 20, with market garden experience, desires employment as Working Pupil, where knowledge of Fruit growing can be obtained, preferred.—B. S., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

SEED TRADE.—Advertiser requires situation in wholesale Vegetable or Flower Seed Dept.; 14 years' experience.—W. P., Box 9, 41, Wellington Street, W.C.2.

SEEDSMEN and NURSERYMEN.—Competent Book-keeper and/or Order Clerk, with seventeen years' London and prior provincial experience, requires situation; country preferred. Army discharge, disengaged.—A. C. V. LONG, 14, Rosedale Road, Forest Gate, London, E.7.

FLORIST (female) desires post as assistant; has been Gardener five years; some experience in wreath and bouquet work, London, etc.—Write, WATT, 18, Sheffield Terrace, Kensington.

H. HARRIS, Horticultural Carpenter and Joiner. Greenhouses and sheds of all description erected; painting, glazing and hot water fitting done. Labour only.—38, Ridley Road, Baker Street, Enfield, Middlesex.

The Gardeners' Chronicle

FOR ADVERTISEMENTS TO BE INSERTED ON AND AFTER JANUARY 3, 1920, THE SCALE OF CHARGES WILL BE AS BELOW.

Advertisements intended for insertion in the next issue MUST reach THE PUBLISHER not later than **TUESDAY, 5 p.m**

	Ordinary Positions.	Facing matter or back cover.
Page	£12 0 0	£15 0 0
½-Page	6 0 0	7 10 0
¼-Page	3 0 0	3 15 0
Column	4 0 0	5 0 0
½-Column	2 0 0	2 10 0

Small Advertisements, ordinary positions :—

First 3 lines (not exceeding 20 words...	4 0
Per line (8 words), after	1 0
Per inch, single column	8 0
Per inch, across 2 columns	16 0
Per inch, across 3 columns	£1 4 0

Front page (no display allowed), 2/- per line space (headline counted as two lines).

SITUATIONS WANTED.

First 3 lines (not exceeding 20 words), 2/-, and 6d. for every additional 8 words or portion thereof.

(Advertisements at this Special rate are only accepted direct from Gardeners, &c.)

DISCOUNTS

On front page advertisements no discounts are allowed. On all other advertisements they are allowed as follows: For three insertions, 5%; thirteen, 10%; twenty-six, 15%; fifty-two, 20%.

All Advertisements should be addressed GARDENERS' CHRONICLE, Ltd., and must reach the office before 5 p.m. on TUESDAY for inclusion in the issue of the same week.

All series must be arranged to attain completion within twelve months.

Advertisers may have replies to their advertisements addressed to the GARDENERS' CHRONICLE Office A box fee of 1s. is charged for this service.

Cheques and Postal Orders are to be made payable to GARDENERS' CHRONICLE, LTD., and crossed "& Co."

41, Wellington Street, Covent Garden, W.C.2.

Telegrams, "Gardchron, Rand, London." Telephone: Gerrard 1543.

KING'S ACRE FRUIT TREES have produced some of the finest and most remarkable Apples and Pears on record. Extra strong 6 years old Fruiting Trees, Vines and Bush Fruits. Particulars promptly given on application to—

KING'S ACRE NURSERIES Ltd.
HEREFORD.

KING'S ACRE ROSES. Alphabetically arranged. Catalogue free on application.

KING'S ACRE NURSERIES Ltd.
HEREFORD.

KING'S ACRE BORDER AND CLIMBING PLANTS. List free on request.

KING'S ACRE NURSERIES Ltd.
HEREFORD.

GROW MORE FERNS!!

EVERYONE can grow Ferns successfully in this country, even in conditions which are totally unsuitable for other plants. If your garden is shaded with trees, and you find it difficult to get anything to flourish,

TRY FERNS!

You can learn all about their cultivation in the little book

FERNS AND FERN CULTURE,

which is to be obtained (price 1/3 post free) from

GARDENERS' CHRONICLE, Ltd.,
41, Wellington Street, London, W.C.2.

ROOT AND STEM VEGETABLES

By the late

ALEXANDER DEAN, V.M.H.

Beautifully illustrated in colour by the well-known artist, Mr. T. Ernest Waltham, F.R.H.S.

This is a book which should be on the shelves of everyone who cultivates the more ordinary vegetables. It tells you how to get the best value out of the land at your disposal, and how to produce fine, healthy tubers and roots with the least expenditure of trouble.

Price 3/- post free from

GARDENERS' CHRONICLE Ltd.,
41, WELLINGTON STREET,
LONDON, W.C.2

W. RICHARDSON & CO., DARLINGTON.

Erected at CHISWICK, LONDON.

HORTICULTURAL BUILDERS and HEATING ENGINEERS.

PLANS and ESTIMATES prepared free of cost.

REPRESENTATIVES sent to any part of the Kingdom to advise and take particulars.

LARGE CATALOGUE of photographic views of Horticultural Buildings free on application.

GARDEN FRAMES, GARDEN SEATS, &c., supplied from stock.

LONDON OFFICE: ALBERT MANSIONS, 92, VICTORIA STREET, S.W.1.

WM. DUNCAN TUCKER & SONS, LTD.

HORTICULTURAL BUILDERS & HOT-WATER ENGINEERS,

LAWRENCE ROAD, SOUTH TOTTENHAM, N.15.

AWARDED LARGE GOLD MEDAL AND DIPLOMA OF HONOUR AT THE ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION, CHELSEA, LONDON, 1912.

Highest Award for
CONSERVATORY, ORCHID HOUSE, PLANT HOUSE,
GARDEN FRAMES, GARDEN SEAT.

PORTABLE BUILDINGS, **BUNGALOWS,** LODGES, GARDENERS' BOTHIES, Etc.

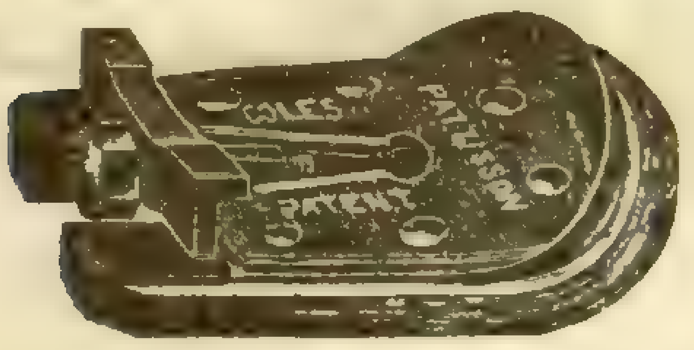

Fig. 1.

Once Tried, Always Used.

The "PATTISSON" HORSE BOOTS

SIMPLEST! STRONGEST! MOST ECONOMICAL!

SOLES of best English Sole Leather (Waterproofed), with Motor Tyre Rubber, Studs, or of Solid Rubber. Fig. 1 can be Refitted repeatedly, equal to New Boots. Rubber Soles Strongly Recommended.

USED FOR MANY YEARS IN THE ROYAL AND IN THOUSANDS OF THE PRINCIPAL GARDENS.

The "PATTISSON" BOOTS are the most durable on the market, outlasting several sets of ordinary boots, and when worn out can be many times refitted and are then *equal to new ones*, but this can only be satisfactorily done by us, the makers.

SILVER MEDALS. Royal Horticultural Soc., 1904 & 1914. Royal International Exhibition, 1912.

Hundreds of Testimonials. The "Field" says:—"As good as anything that could be devised."

Illustrated Price Lists, from the Makers.

H. PATTISSON & CO.,
4-6, Greyhound Lane, STREATHAM, S.W.
CONTRACTORS TO H.M. GOVERNMENT.

Fig. 2. A Quality.

Fig. 2. A or B Quality.

JOHN KLINKERT, F.R.H.S.,
ROYAL KEW NURSERIES, RICHMOND, LONDON, S.W.

Hardy Plant and Topiary Specialist.

LISTS ON APPLICATION.

CRETS
The Pots that Drain

PETER BAILEY & SONS, Ltd., Heaton Mersey Pottery, Nr. Manchester.

MESSENGER & Co., Ltd., LOUGHBOROUGH

Horticultural Builders and Heating Engineers.

MAKERS OF GLASS STRUCTURES OF ALL KINDS FROM A WINTER GARDEN TO A FRAME

Catalogues, Plans, and Estimates Free.
Interviews by appointment in any part of the Country.

THE "QUORN" AND "LOUGHBOROUGH" BOILERS ARE MANUFACTURED BY US.

LONDON OFFICE: 122, VICTORIA STREET, WESTMINSTER.

TELEGRAMS: "HEATING, LOUGHBORO." "NONPLUSSED—SOUWEST, LONDON."

Printed for the Gardeners' Chronicle, Limited, by ODHAMS LIMITED, 83-95, Long Acre, London, W.C.2, and published weekly by the Gardeners' Chronicle, Ltd., 41, Wellington Street, Covent Garden, City of Westminster, Saturday, December 6, 1919. Agent for Manchester, JOHN HEYWOOD

THE GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 4120.

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Postal Address—41, Wellington Street, Covent Garden, W.C.2. Telegraphic Address—"Gardchron, Rand, London." Telephone—Gerrard 1543.

☛ For CONTENTS see page 295.

THE CELEBRATED XL ALL SPECIALITIES. BEEN ON TOP FOR 25 YEARS AND STILL THERE!—XL ALL CAUSTIC WINTER WASH (in powder). 1-lb. tin makes 8 to 12 gallons. It thoroughly cleanses Fruit Trees and Bushes, both buds and bark. Can be used any time before the buds begin to swell in the spring. XL ALL NICOTINE LIQUID INSECTICIDE. The gardeners' favourite Wash for the absolute destruction of Thrip, Scale, Mealy Bug, &c. If this wash is used occasionally, a total absence of insects, both on Fruit Trees and Plants, can be secured in any garden. XL ALL NICOTINE SHREDS. The most potent, safe and effectual Fumigant. Used without any apparatus; simply burn on the floor of the Greenhouse. XL NICOTINE FUMIGATING COMPOUND. Both in liquid and cake, these old favourites are still as popular as ever. Many other XL ALL Preparations are indispensable in the garden. Get a complete list from your N.S. or Florist, or send to me for one and name address of your nearest Agent.—G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E.1.

GREENHOUSE PAINTING AND GLAZING. We can now supply "Vitrolite," the best Paint, 25s. per gallon, cans extra. "PLASTINE," the imperishable Putty, 44s. per cwt., kegs extra; 7 lb. tins, 3s. 9d.; 14 lb. tins, 7s. each.—W. CARSON AND SONS, Grove Works, Battersea, S.W.11.

WM. DUNCAN TUCKER & SONS, LTD., Lawrence Road, South Tottenham, N.15. Conservatories, Winter Gardens, Vineries, Peach-houses, Portable Buildings, etc.

LAXTON'S FRUIT TREES, Strawberries and small Fruits. New List for 1919, containing our new Plum, "Early Laxton," A.M., R.H.S., and other new fruits. Post free. Cultural hints with full details how to plant and prune, for 1½d. postage.
LAXTON BROS, BEDFORD.

VEGETABLE SEEDS are our great speciality. Selected stocks are available to the Trade.
HARRISON & SONS,
Seed Growers, Leicester.

ROSES. — ALLEN'S GOLD MEDAL NORWICH ROSES.—Our new descriptive price list, with Hints on How to Grow Roses, now ready, post free. Write to-day.—A. J. and C. ALLEN, Rose Growers, Norwich (for over 50 years).

WATERER'S new list of AZALEAS, embracing all the elite and popular shades and varieties; now ready; post free.—JOHN WATERER, SONS & CRISP, Ltd., The Nurseries, Twyford, Berks.

J. GRAY, LTD., Builder of Conservatories, Greenhouses, &c., and Heating Engineers, Danvers Street, Chelsea, London, S.W.3. Wire, 201, Western, London. Telephone: 201, Western.

McDOUGALL'S WINTER WASH for Fruit Trees.—To clean Fruit Trees from Moss, Lichen, to destroy Fungoid Spores, Scab, Hibernating Insects, and to check the growth and spread of Canker. For use only while trees are dormant. One gallon drums to make 80 gallons wash, 10s. each; 1 quart tins, 3s. 8d.; 1 pint tins, 2s. From Nurserymen, Seedsmen, and Ironmongers.—McDOUGALL BROS., LTD., Port Street, Manchester.

FIDLER'S NEW ILLUSTRATED CATALOGUE OF FOOD PRODUCT SEEDS is NOW READY, and a copy will be sent post free to any address on receipt of postcard.
Write at once to
FIDLER & SONS,
Royal Berkshire Seed Stores, READING.

THE COLLECTION OF VEGETABLES

JUDGED BY LONDON CHEF at the Royal Hort. Society's Vegetable Show in London in September, and awarded the FIRST PRIZE, was the produce of

DICKSON & ROBINSON'S SEEDS.

The Vegetables were best representative of the size and quality of those most acceptable in the Kitchen for cooking and table use.

NEW SEED CATALOGUE ready in a few days. Posted free.

DICKSON & ROBINSON, MANCHESTER.
The King's Seedsmen.

H. J. JONES' GOLD MEDAL CHRYSANTHEMUMS. Catalogues now ready, post free 1d. stamp. This contains list of all the best varieties and much useful information; also list of best Phlox, Michaelmas Daisies, etc.—Ryecroft Nurseries, Lewisham S.E.13.

GOLD MEDAL PHLOX.—12 finest varieties in cultivation 10s.; 12 extra fine 7s. 6d. MICHAELMAS DAISIES—12 very finest varieties 10s.; 12 very fine 7s. 6d. All free for cash with order.—H. J. JONES, Ryecroft Nurseries, Lewisham, S.E.13.

WELLS' CATALOGUE of Chrysanthemums, now ready, post free on application.—W. WELLS and Co., Merstham, Surrey.

NOW IS THE TIME TO PLANT.

KELWAY AND SON, the Royal Horticulturists, Langport, Somerset, are now booking orders for their choice Hardy Perennial plants. Plant a COLOUR BORDER, and you will be able to enjoy its exquisite beauty for many years without any additional expense or trouble.
Send measurements of your border.
Paeonies, Delphiniums, Phloxes and other beautiful flowers included in their Colour Schemes, which provide blooms from early spring to late autumn.
Write NOW to the Retail Plant Department.

McDOUGALL'S "FUMERS" and Insecticide "Sheets" for greenhouse fumigation. Safe, effectual, economical. Sold by all Seedsmen and Nurserymen.—McDOUGALL BROS., LTD., Port Street, Manchester.

GISHURST COMPOUND. — Insecticide and Fungicide.—Over 50 years' reputation; highly commended, R.H.S. Scientifically controlled. Trials at Wisley, 1914-15. Sold by dealers in Garden Sundries. Free sample and particulars from PRICE'S PATENT CANDLE CO., LTD., Battersea, London, S.W.11.

RIVERS' FRUIT TREES, Roses, Vines, Figs, Oranges and Orchard House trees are of first-class quality, and a large and select stock is always on view. Inspection invited. Price list post free on application.—THOS. RIVERS & SONS, The Nurseries, Sawbridgeworth, Herts.

SANDERS, ORCHID GROWERS, St. Albans.

DOBBIE'S AUTUMN LIST OF BULBS, Roses, Sweet Peas, Vegetable Seeds and Plants, post free; also list of Potatoes.—DOBBIE & CO., Royal Florists, Edinburgh.

MISSOURI BOTANICAL GARDEN RECEIVED DEC 30 19

- SUTTON'S -

Guide and Catalogue

of Vegetables and Flower Seeds, etc., for 1920 will be published shortly.

ALL LOVERS of their garden should secure a copy. Contains over 250 coloured and black-and-white illustrations of the best varieties of Flowers and Vegetables.

SUTTON & SONS, The King's Seedsmen,

- READING. -

HIGHEST HONOURS IN 1919 FOR

WEBBS' VEGETABLES AND FLOWERS.

GOLD MEDAL. R.H.S., Chelsea.
GOLD MEDAL. National Potato Society.
GOLD MEDAL. St. Dunstan's Show, Chelsea.
SILVER TROPHY. St. Dunstan's Show, Chelsea.
GOLD MEDAL. Royal Caledonian Society.
GOLD MEDAL. Birmingham Hort. Society.
GOLD MEDAL. Wolverhampton Floral Fête.
and other Important Awards.

WEBBS' GARDEN CATALOGUE for 1920 (ready January 1st), post free.
Send name and full address, so that a copy may be posted to you.

WEBB & SONS, LTD., The King's Seedsmen,
STOURBRIDGE

BARR'S CASH CLEARANCE SALE of Winter and Spring-flowering Bulbs, including Roman and Italian Hyacinths, Daffodils, Tulips, etc., for pots and outdoors. All selected bulbs in fine condition. List on application.—BARR AND SONS, King Street, Covent Garden, W.C.2.

BARR'S HARDY PLANT CATALOGUE for the best Hardy Perennials, Rock plants, Alpines and Aquatics; sent free on application.—BARR AND SONS, King Street, Covent Garden, W.C.2.

WATERER'S RHODODENDRONS, Azaleas, Alpines and Herbaceous Plants, Roses, Fruit Trees and Bulbs in the best and most popular varieties. —JOHN WATERER, SONS & CRISP, The Nurseries, Bagshot, Surrey, and Twyford, Berks.

BEST Surrey-grown RHODODENDRONS, choicest sorts, for forcing and planting; Azalea mollis (seedlings), finely budded, for forcing and Planting; Kalmia latifolia and K. l. grandiflora (splendid pink var.).—T. LEWIS, 45, Uxbridge Road, Hanwell, W.7.

SALES BY AUCTION.

SALES NEXT WEEK

WEDNESDAY, DECEMBER 17, AT 11 O'CLOCK.

Large quantities of English and Dutch Bulbs in lots to suit private buyers; also in sacks and cases for the Trade. Azalea Indica and Mollis, Rhododendrons, Aspidistras, and other plants from Belgium. 200 lots of ENGLISH ROSES, standards, bushes and climbers. 150 lots of DUTCH-GROWN ROSES in variety. Rhododendrons, Box and Shrubs. Cases of Lily of the Valley (Dutch-grown).

FRIDAY, AT 12 O'CLOCK.

ENGLISH AND DUTCH BULBS IN GREAT VARIETY.

MESSRS. PROTHEROE & MORRIS will sell by Auction as above, at their Central Sale Rooms, 67 and 68 Cheapside, London, E.C. On view mornings of sale. Catalogues had.

CROCKENHILL, SWANLEY, KENT.

IMPORTANT SALE OF FRUIT TREES.

5,000 Standard, Half-Standard Apples, 1,000 3-year Cox's Orange Pippin.
Splendid Bush Trees on Paradise.
Also a quantity of Fruiting Trees, Bramleys, Worcesters, Lord Derby, and other Varieties.
1,000 Standard, Half-Standard and Bush, Victoria Plums.
15,000 Boskoop and Seabrook, Baldwin and Edina Black Currants.
Wilson's Long Branch Red Currants.
Warrington Gooseberries.
5,000 Strawberry Plants, &c.

MESSRS. PROTHEROE & MORRIS will sell the above by Auction on the premises, near Swanley Junction, by Order of Messrs. CALEB LEE & SONS and Mr. A. T. MILLER, on

WEDNESDAY, DECEMBER 17, AT 12.30 O'CLOCK.

Auction and Estate Offices: 67 and 68, Cheapside, London, E.C.

BUSINESSES FOR SALE.

AUBREY & CO., Nurserymen's and Florists' Agents, 28, Watling Street, London, E.C.4, offer profitable Nursery, Florist's and Fruiterer's business, centrally situated in good Midland town, comprising about 3 acres and 1,200 ft. Glass; Fruit and Floral Shop near by; turnover about £5,000; possession arranged with £1,000; splendid opportunity.

BUSINESSES WANTED.

AUBREY & CO., Nurserymen's Agents, 28, Watling Street, London, E.C.4, require small Nurseries and Market Gardens, all parts.—Send particulars or Telephone City 1097.

PROPERTY WANTED.

WANTED to purchase, MARKET GARDEN, large glasshouses, land (1 acre), with 6-room dwelling-house, in touch Leeds, Harrogate.—H. T., Box 15, 41, Wellington Street, Covent Garden, W.C.2.

PROPERTY TO LET.

TO BE LET.—Well-stocked and productive Kitchen Garden; three acres in extent; Vinery, Peach House, two other Glasshouses; Gardener's cottage and outhouses; town of 2,000 inhabitants 1½ miles.—Apply, PROPRIETOR, Rydal Hall, Ambleside.

PARTNERSHIPS.

WANTED a PARTNER willing to invest £5,000, which will carry interest at the rate of 7½ per cent. per annum, viz., £375; also if capable of managing a Florist, Fruit and Vegetable branch shop will receive as remuneration £390 per year. This means an assured income of over £14 10s. per week.—Apply, C. S., Box 14, 41, Wellington Street, Covent Garden, W.C.2. (Principals only to apply, no agents entertained.)

DEATH.

PEARSON.—On December 6, in a nursing home at Stoke-on-Trent, Mrs. Pearson, mother of the late Robt. Hooper Pearson, in her 90th year.

NOTICES.

CHAMBER OF HORTICULTURE.

OBJECTS: To be a channel of communication between Government and the Trade; to link up all sections and harmonise separate interests, and generally to promote Trade organisation and reform.
Offices: 11, Adam Street, Strand, London, W.C.2.
Secretary, R. WYNNE.

PLANTS, &c., FOR SALE.

FERNS! FERNS!!—Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns, Hardy Garden Ferns; catalogues free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

100,000 LARGE GARDEN FERNS, 24s. 100; Palms, Begonias, Crotons, Dracaenas, Roses, Ericas, Gloxinias, Lilies, Hydrangeas, etc.; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.9.

ALPINES, 100,000 to offer; sample dozen 3s., 50 10s. 6d., named; carriage paid. Catalogues free.—TAYLOR'S NURSERIES, New Eltham, S.E.9.

"ROCK GARDEN PLANTS, Where and in What Soils to Plant Them," a useful guide to garden lovers, with catalogue, 48 pages, post free. —G. R. PHIPPS, Alpine Nursery, Barnham, Bognor.

PEDIGREE SEED, reliable quality, reasonable prices; Government germination guaranteed. Scottish Seed Potatos a speciality; Begonias, Gloxinias, Gladioli, Japanese Liliums, Tools. Lily-of-the-Valley, 10s. 6d. 100. Catalogue free.—ELLISON'S, West Bromwich. Established 1890.

SHALLOTS, guaranteed all sound, 12 lbs., 5s. 6d., 40s. cwt., carriage paid. Garlic, 2s., Onion Sets 1s. 6d. lb. 44 page Catalogue post free.—ELLISON'S, West Bromwich. Raffia 1s. 6d. lb.

ENGLISH YEWS. — The cleanest and healthiest lot in England; every plant a perfect specimen, and splendidly rooted; 3½ ft. to 4 ft., 36/- doz.; 4 ft. to 4½ ft., 48/- doz.; 5 ft. 60/- doz.; 6 ft. 80/- doz.—HINTON BROS., LTD., The Warwick Nurseries, Warwick.

NOTICE TO ADVERTISERS.

Advertisements intended for insertion in the issue of December 27 MUST reach us not later than the first post on MONDAY MORNING, the 22nd inst. All advertisements received after that post will be held over until the following week. Gardeners' Chronicle, Ltd., 41, Wellington Street, W.C.2.

PRIVET, large oval leaf, 2½ to 3 ft. 10s., per 100; 3 to 4 ft. 15/- per 100.—HINTON BROS., Warwick Nurseries, Warwick.

BAY TREES, established in tubs, magnificent selection, Pyramids and Standards, for sale, in all sizes.—Sizes and prices on application.—ROBERT GREEN (1911), Ltd., 28, Crawford St., London, W.

ROYAL SOVEREIGN STRAWBERRY Plants, 6s. per 100 carriage paid.—H. KNIGHT, Fruit Grower, College Road, Ash Vale.

POTATOS. — KERR'S SEED POTATOS EXCEL. Grow Kerr's pink; order early; write for Potato list.—KERR AND CO., Seedsman, 63, Queen Street, Glasgow.

GREEN BOX, beautiful plants, well rooted, and grand colour; 3 feet, 30/- doz.; 4 feet, 36/- doz.—HINTON BROS., Nurserymen, Warwick.

OAK LEAVES FOR SALE, fresh gathered. —State quantities and price per cwt., ROBINSON, The Gardens, Bettisfield Park, Whitchurch, Salop.

ABOUT 3,000 APPLE TREES, Acton Ville Seedling, Windsor Castle, King Pippin, Orange Pippin, Ribstone Pearmain, Cox's Orange, and Frogmore Prolific.—HUMPHREY, Hampton Hill, Middlesex.

CALCEOLARIAS and PRIMULA OBCONICA, chiefly 5-inch pots; Sutton's strain; also two tubs Agapanthus.—CLARKE, Plas Gardens, Cilybebyll, Pontardawe, Glam.

PERPETUAL CARNATIONS and SINGLE CHRYSANTHEMUMS. Please send for list. PRICE & FYFE, Birch Grove, East Grinstead.

JAPANESE LILIUMS.

MORLE & CO. have the pleasure to announce the first arrival of large quantities of Lilium Longiflorum, Giganteum, Speciosum, Rubrum, Melpomene, Album and Henryi, prices 12s. to 30s. doz., according to size.—150-156, Finchley Road, N.W.

PEAR NOVELTY (described page 228 *Gardeners' Chronicle*, Nov. 1); unsurpassed quality; Fruit now maturing; sample on demand. What offer for crop of scions?—H. H. RASCHEN, Birkdale, Southport.

FOR SALE, several tons of good, clean SWEDE TURNIPS. — Apply, Mr. HOLIDAY, Fauras, Blencow, Penrith.

FIGS.

The finest stock in Britain.

Extra fine trees in large Pots and Tubs, Brown, Turkey, Brunswick, Negro Largo, Pingo de Mel, St. Johns. Violette Sepor, White Ischia, White Marseilles

Prices and full particulars from—

WOOD & INGRAM,
The Old Nurseries,
HUNTINGDON.

PLANTS, &c., WANTED.

WANTED, 1,000 large ASPIDISTRAS, old plants, suitable for stock; cash or exchange. See other advertisements; catalogues free.—SMITH, London Fern Nursery, Loughborough Junction, London, S.W.9.

WANTED, GOOSEBERRY CUTTINGS, Leveller, Lancer, and other sorts, also mixed, and Black Currant Cuttings, Loganberries.—WILLIAM DAY, Fruit Grower, Crowborough.

WANTED, large Kentia Forsteriana Palms, from 5ft. to 25 ft. in height; large, well-coloured Dracaenas and Crotons; for cash or exchange.—ROBERT GREEN (1911), LTD., 28, Crawford Street, W.

WANTED, 1,200 plants PRIVET, and 200 Euonymus. — Send samples with price, J. M. MADDERS, Homestead, Westgate-on-Sea.

MISCELLANEOUS.

HEATING APPARATUS for Greenhouses, Vineries, etc., supplied, with various arrangements of pipes; Vanguard, Conical Sectional, Saddle, and Coil Boilers; Pipes, Fittings, etc. Illustrated list free.—THOS. JEAVONS, Silver Street Works, Brierley Hill, Staffordshire.

WEEDS! WEEDS! WEEDS!

NOW is the time to destroy them, before casting their seeds. If your paths are cleaned now they will remain clean for the best part of next year. Our Weed Killer is safe to handle, non-poisonous, will not harm birds or animals, is a powder, only requires sprinkling on the weeds.
1 cwt., including sack, 21s., free on rail London.
CLEVELAND & CO., 89, ALDERSGATE STREET, E.C.

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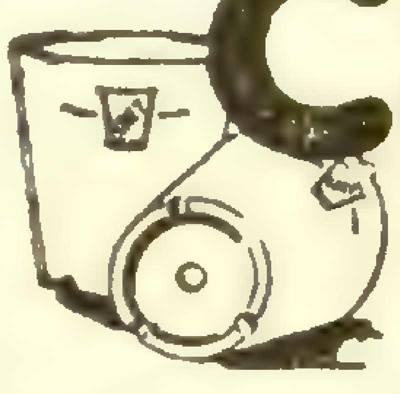

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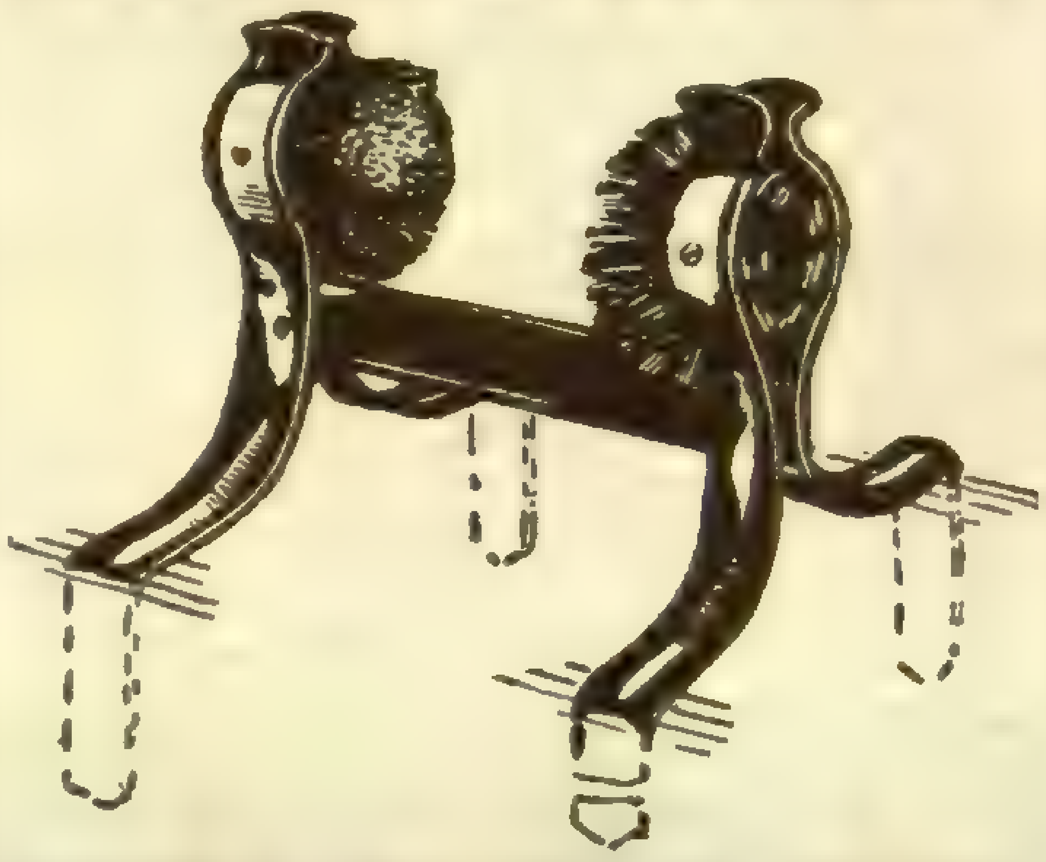

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THE

Gardeners' Chronicle

No. 1720—*SATURDAY, DEC* 13, 1919.

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Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 40.1°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, December 10, 10 a.m.: Bar. 29.8; temp. 41°. Weather—Bright.

The Chelsea Conference on Fruit Growing. The report of the Conference on Fruit Growing convened by the Royal Horticultural Society and the Chamber of Horticulture and held during the spring meeting of the Society on May 21 of this year, has been published in the October number of the *R.H.S. Journal*. The report which covers much ground should be studied attentively by all interested in fruit and the growing or distribution thereof.

The all-important subject of distribution was dealt with by Mr. Lobjoit, whose experience, both of growing and marketing, enables him to speak with authority upon it. Mr. Lobjoit is undoubtedly right when he advises growers in the large fruit-growing districts to adopt a distinctive grade or mark for their produce. This practice has, of course, already been adopted by growers in some districts, and is, we understand, in course of adoption in others. It helps greatly to ensure a uniform standard and thereby aids in securing remunerative sale of the produce of the district, and it has the further advantage of impressing the minds of consumers with the fact that supplies of British-grown fruit, equal to any imported from abroad, are at their disposal.

As Mr. Lobjoit points out, the installation of a grading and packing station close to the forwarding station on the railway can be established here in the same way that similar stations have been established in America. If in course of the organisation of grading and packing greater uniformity could be secured with respect to packages, a further means of enabling British fruit to compete successfully with imported fruit would have been found. The variability and multiplicity of fruit packages are well known to growers and salesmen and are deplored alike by both. It is, we confess, easy to point out the anomalies of the present system: that, for example, packages bearing the same name vary within considerable limits with respect to their actual capacity; but it is not so easy to prescribe a remedy, for the weight of such fruit as Apples is also variable in the sense that the weight of a bushel or other measure of volume differs according to season and variety. The present cost of packages is an added difficulty in the way of reform; nevertheless, we trust that growers and salesmen who are fully alive to the need for standardisation will not be discouraged from continuing to work for the improvement of packages as well as of packing.

Further insistence on grading, with cogent examples of the advantages which are derived therefrom, is contained in Mr. Udale's paper, which insists that grading has the additional advantage of widening the market so that, although the price realised by first-grade fruit may not be greatly above that obtained for lower grades, yet an advantage to the grower remains in that had all his fruit been ungraded the price obtained for all would probably have received been not the average of what he actually received but a figure nearer to the price for his third grade.

Care in picking, which has such an important bearing on the keeping qualities of fruit, should also receive more attention, for, as is well known, a small and scarcely perceptible bruise is fatal to keeping quality. In present circumstances it is probably more difficult than it was before the war for growers to pay attention to such niceties as this; nevertheless, it is a factor which must be considered if British growers are to make the most of their produce and to convince the public that it has only to ask for British fruit to receive it—at all events throughout a fairly long period of the year.

After considering the distribution of fruit the Conference turned its attention to problems of growing and the choice of varieties. Mr. F. Smith's recommendations with respect to Apples are: for cooking: Early Victoria, Grenadier, Stirling Castle, Lane's Prince Albert, Norfolk Beauty, Bramley's Seedling and Newton Wonder. As the list shows, the choice, which could, of course, be widened, is a large one. In the case of dessert Apples for commercial purposes, there is room for improved varieties as Mr. Smith points out, with respect to late sorts which will keep from December to the end of March. There is also, we are inclined to think, room for new early varieties.

Mr. Smith's selection of dessert Apples for market includes Gladstone, which does best on the Paradise stock; Beauty of Bath (on Paradise stock), Worcester Pearmain, Rival, Allington Pippin and James Grieve. For Mr. Smith's lists of other fruit recommended to commercial growers, the report itself (pp. 65-66) should be consulted.

Professor Salmon dealt with the growing of "clean fruit," a subject which, as shown by an inspection of retail shop windows, is no less important to-day than it was in former times. The breeding of disease-resistant trees and the methods of orchard sanitation were discussed and a point of special interest was made, namely, that for certain diseases—Silver Leaf of Plum, Apple canker and Brown Rot canker—spraying is useless, and plant-surgery alone is efficacious to eradicate them. In the case of the Brown Rot fungus (Monilia cinerea), which has been shown by Mr. Wormald, of Wye College, to be responsible for blossom wilt and canker in the variety Lord Derby and certain other Apples, the effective surgery consists in cutting out the cankers *before the tree flowers* and the blossom spurs as soon as they wilt. Young trees may be saved by these means, but, of course, they cannot be practised on old trees, which should be top-grafted.

Other points of interest in Prof. Salmon's valuable contribution to the Conference lay in his reference to the superiority of the results obtained in the control of Apple scab by the use of Bordeaux mixture containing an excess of lime; to the use of ammonium polysulphide as a wash for Gooseberries attacked by American Gooseberry Mildew, and to the effect of the addition of a small quantity of saponin to lime-sulphur when used as a summer spray, in causing it to adhere to the sprayed parts as a continuous film, instead of in blotches.

One subject not touched on at the Conference which appears to us of importance is the education of the consumer. All are agreed as to the wholesomeness of fruit, but few yet realise how important are both jam and fresh fruit to the health of the community, and there is little doubt but that a persistent and well-directed propaganda would presently result in larger consumption. Those engaged in horticulture are apt to forget that the greater number of the inhabitants of Great Britain know little, either of the value of fruit as a health-food, or of the industry of fruit-growing. For the moment production cannot probably meet the demand, but in coming years it will be necessary to extend the home market by encouraging a large increase in the consumption of fruit.

R. H. S. Meetings.—There will be no further meetings of the R.H.S. Committees during 1919 The next fortnightly meeting is fixed for January 13, 1920. The full list of fixtures for 1920 is as follows:—Fortnightly meetings will be held on January 13, 27; February 10, 24; March 9 (forced bulb show) 23; April 13, 27; May 11; June 15, 29; July 13, 27; August 10, 24 (dry bulb show); September 7, 21; October 19; November 2, 16, 30; December 14. A summer exhibition will be held in the Royal Hospital gardens, Chelsea, on June 1, 2, 3, and a provincial show at Cardiff, the provisional dates for which are July 6, 7, 8. A competitive vegetable show will be held on September 21, and the show of British grown fruits on October 5.

Retirement of Mr. S. Cruden.—Mr. Cruden, who has had a long and honourable career as gardener at Lochinch Castle and Castle Kennedy Gardens, in Wigtownshire, is retiring from the position as gardener to the Earl of Stair, on the 22nd inst. He has been gardener there for the past 36 years; and has served four generations of the family of Stair during that long period. Before his appointment at Castle Kennedy, he served in several important gardens, including Broxmouth Park, the property of the Dowager Duchess of Roxburgh; at Kinnaird Castle (Earl of Southesk); and the Earl of Dalhousie's fine gardens at Panmure. He succeeded the late Mr. Fowler at Castle Kennedy. Through the kindness of the Earl of Stair, Mr. Cruden retires on a pension. He received quite recently, from his friends in the Castle Kennedy district, a presentation of considerably over £200. Mr. R. Findlay, has been appointed successor to Mr. Cruden.

Botany Chair, Aberdeen University.—The appointment to the Chair of Botany in the University of Aberdeen, rendered vacant by the death of Dr. James W. H. Trail, is in the patronage of the Crown. The applicants for the post include Mrs. Gwynne Vaughan, who recently received the title of Dame, and is LL.D., Glasgow University. There are two Aberdeen graduates in the list, namely, Mr. W. G. Craib, M.A., 1907, who was for some time engaged at Kew, and is now an assistant at the Royal Botanic Gardens, Edinburgh; and Dr. Macregor Skene, B.Sc., 1909 and D.Sc., a native of Aberdeen. Dr. Skene has done a considerable amount of research work as chief assistant to the late Professor Trail. Professor

Sutherland, of Southampton, is also a candidate, and the list of applicants includes the name of Professor W. H. Lang, who holds the Barker Chair of Cryptogamic Botany, Manchester.

Re-stocking of Woodlands.—There are few localities in which the woodland areas do not show the effects of the pressing need for home-grown timber which the war created. Timber of all kinds was required on an unprecedented scale, and it had to be supplied without any regard to the conservation of our woodlands. In some directions it was not an unmixed evil, for the demand for low-grade timber, particularly for small Coniferous timber for the mining industry, enabled many badly planted areas to be cleared out which would never have found a market under normal conditions. What is now an urgent problem is the re-stocking of these areas, and how to take fullest advantage of all the best information available, so as to avoid the mistakes of the past, both as to selection of species and also as to methods of planting and subsequent management. The publication by the Royal Agricultural Society of a pamphlet by Professor W. Somerville, entitled *Some Problems of Re-afforestation*,* is therefore timely, and deserves the careful attention of all landowners and their advisers. Professor Somerville has treated his subject from an eminently practical standpoint, and his notes on some of the newer species of Conifers and their adaptability to British soil and climatic conditions are particularly helpful. He gives some strong but much needed criticism of the old, irrational mixtures so commonly met with (mixtures of species with widely differing requirements and habits which could never grow into good timber), and the pamphlet deals also with the dangers to which young trees planted on old woodland areas are exposed by reason of insect and fungous pests, and the methods to be adopted to meet them.

The Columbine Suggested as the National Flower of America.—We learn that the Syracuse Colony of the Society of New England has voted unanimously in favour of the Columbine as the national flower. Some of the arguments in favour of this plant presented to her sister members of the colony by Mrs. William Paige Hitchcock are stated as follows: "The Columbine grows in every State in the Union, and its habitat is from Florida to the Rockies. Its blooms are red, white and blue on separate plants, of course, and its petals resemble horns of plenty filled with honey, which is emblematic of the United States. Inverted, these petals resemble the claws of the American eagle, emblematic of being ready to protect its prosperity. The blossoms intact show a five-pointed star and the leaves of the plant are thirteen lobed, indicative of the original thirteen states. It adapts itself to beautiful floral landscaping as well as to artistic design and painting. Unlike the Golden Rod, it is not a weed, but a hardy plant, which year after year brings forth its beauty."

* *Some Problems of Re-afforestation*. London Royal Agricultural Society, 16, Bedford Square. Price 6d.

Nitrate of Soda.—There is now much better prospect of obtaining nitrate of soda than there has been for many months. Arrangements have been made whereby some 50,000 tons of nitrate of soda will be available for British farmers during the coming season at a price of £20 to £22 per ton according to locality, this price comparing favourably with that at which sulphate of ammonia can be obtained. In addition to the natural nitrate there is now the likelihood of obtaining artificial nitrate of soda of 96 to 97½ per cent. purity from Norway.

Incorporation of the Chamber of Horticulture.—The Board of Trade having granted the necessary licence, the Chamber of Horticulture has become duly incorporated. A leaflet giving particulars of the work of the Organising Committee for the past period will be issued by the Council before Christmas, and it will indicate the amount of useful work already accomplished by the Chamber.

FIG. 139.—A GOLD MEDAL EXHIBIT OF CHRYSANTHEMUMS.

Heavy Yields of Potatos.—Three varieties of Potatos, viz., Kerr's Pink, Majestic, and Bishop, grown by Mr. W. Nicholls, West Villa, Hayle, Cornwall, have given remarkable single-root yields. In each case 1 oz. sets were planted. Kerr's Pink, 46½ lbs.; Majestic, 22½ lbs.; The Bishop, 12½ lbs. Kerr's Pink produced 90 tubers and without a trace of disease, the haulm being 9 ft. 3 in. high and 11 ft. 6 in. across. This root was exhibited at the National Potato Show, and created a great deal of interest. The crop was lifted in the presence of one or two independent witnesses. Mr. Nicholls' method of cultivation was only such as would be followed by any gardener of average ability.

Surbiton Horticultural Society.—It was decided at a local meeting on the 2nd inst., to hold a summer show of flowers, fruit and vegetables at Surbiton during the latter part of July next year, the precise date to be fixed at a future meeting. Mr. W. Stephens, 13, Worthington Road, Tolworth, was elected Hon. Secretary, and a working committee, composed mostly of old members, was appointed.

Newcastle Flower Show, 1920.—The Botanical and Horticultural Society of Durham, Northumberland and Newcastle-upon-Tyne, will hold a flower show on Tues., Wed. and Thurs., Aug. 31st., Sept. 1st and 2nd, 1920.

Trial of Dwarf Beans.—The Royal Horticultural Society will undertake a trial of Dwarf Beans for forcing, in the Wisley Gardens, during the ensuing months. Varieties for trial (¼ pint of each) should be sent to the Director, R.H.S. Gardens, Wisley, Ripley, Surrey, before the 30th inst.

Home-Grown Sugar.—At the Annual Meeting of the British Sugar Beet Growers' Society it was decided to form a new company to be known as "Home-Grown Sugar, Ltd.," and to transfer the assets of the Society to the new company. The Chairman, Sir Beville Stanier, M.P., said, at the meeting, that as a result of careful cultivation the Kelham Estate was well suited for growing Sugar Beet for the factory which would be built before the autumn of 1921. It is considered possible to grow at Kelham as good Sugar Beet as in any other part of the world. At the meeting it was announced that £50,000 had already been promised towards the £250,000 which must be publicly subscribed in order to meet the promised Treasury capital of the same amount.

Gold Medal Exhibit of Chrysanthemums.—Some remarkable groups of Chrysanthemums have been exhibited this season at the Royal Horticultural Hall, Westminster, by the leading traders who specialise in these flowers. Different styles of arrangement have been adopted, thus adding considerably to the interest of the exhibitions. Messrs. H. J. Jones, Ltd., were responsible for an extensive display on November 4 (see Fig. 139), on the occasion of the National Chrysanthemum Society's meeting. It was a noble effort and as notable for the bold and pleasing effect produced as for the high quality of the exhibition blooms of modern varieties wherewith it was so largely composed.

An Impostor.—It has been brought to our notice that a man representing himself to be a member of the firm of Charles Turner, Slough, has defrauded several persons by selling them worthless seedling Carnations as named varieties and puny plants of Veronica Traversii as Japanese Myrtles. He recently operated in the Bermondsey district, and the same man has visited Ealing, selling worthless Carnations and Roses there. One of his methods is to get in touch with those in charge of school and church gardens and offer plants to the unsuspecting at a cheap rate.

Supremacy of the British Oak as Timber.—At a meeting of the British Timber Trade convened by the English Forestry Association at the Surveyors' Institute, Westminster, on the 9th inst., the Chairman, Lord Selborne, stated that there was no Oak in the world more capable of bearing strain than home-grown Oak, but that none was more beautiful in the grain when cut properly. British Oak had been largely supplanted by Austrian or Memel Oak, the explanation usually given being that foreign Oaks were easier to work. He instanced a case of a shipbuilder paying twice as much for Austrian Oak, rather than use British, the only reason being, he believed, prejudice, because the work of cutting was easier.

German Wart Disease Experiments.—It appears that the Plant Protection Department of the German Agricultural Academy has carried out a series of experiments to determine the best methods of controlling Wart disease of Potatos. The experiments dealt with soil disinfectants, immunity trials, and the vitality of the arrested spores in the soil. The results confirm the investigations which have already been made in this country, and the only practical advantage obtained has been the demonstration that several varieties of German Potatos are immune to Wart disease.

Correction.—In the article on Floraire by Mrs. Martineau, p. 290, M. Kesselrine should be M. Kesselring and Solanum, Sinclairi should be S. Sainclairi

THE ALPINE GARDEN.

MERTENSIA.

The Mertensias belong to the Borage family and comprise about twenty species or more, which are widely spread over the continents of North America, Northern Europe and Temperate Asia. They vary much in habit, from the charming little M. primuloides, a native of the Himalayas, only a few inches high, to the better known M. pulmonarioides (Virginian Cowslip), which is an excellent border plant, growing to a height of two feet or more. Until a few years ago the members of the genus grown in our gardens were mostly of American origin, but since then three or four species have been introduced from the Himalayas. These are all of dwarf habit and excellent subjects for the rock garden, being good perennials easily increased by means of division or seed. The following list includes the best species in cultivation :—

M. echioides. — This species forms a plant of dwarf habit, but good constitution, forming tufts of dark-green foliage and bearing, during the spring, long, nodding racemes of blue flowers on stems about six inches high. The species is a native of the Himalayas.

Fig. 140.—Mertensia maritima; flowers pink, changing to light blue.

M. elongata.—Also from the Himalayas, this species is slightly taller in growth and has larger flowers of a Gentian-blue colour. M. elongata and M. echioides both thrive in half-shady situations in rich, well drained soil. With M. primuloides these two species were introduced at the end of the last century.

M. lanceolata (M. alpina).—This is a graceful little plant from the Rocky Mountains of North-western America. The stems are from six to ten inches high, clothed with bluish-green leaves, and they bear drooping, terminal clusters of rich blue flowers in spring and early summer.

M. maritima (Oyster Plant).—This beautiful Mertensia is illustrated in Fig. 140. It is a native plant, usually found growing on the seashore, from Wales to the North of Scotland, and more sparingly on the eastern coasts. It is probably one of the most widely distributed species, being found over the North of Europe, Northern Asia, as well as Arctic North America. The rootstock is fleshy, dark brown, and stoloniferous, producing many prostrate stems from one foot to two feet long. These are clothed with fleshy, glaucous leaves and bear, on the terminal branches, long, dichotomous cymes of flowers in July. The blossoms open pink and change to a beautiful light blue with age. The plant should be grown in deep, gravelly soil in a shady position on the north side of a stone. Slugs are very fond of this plant, and many failures to establish it are due to these pests.

M. oblongifolia.—This is a dwarf species from North America, with stems about six inches high and producing clusters of bright blue flowers in June and July.

M. primuloides.—A choice little plant forming dense tufts of small, elliptic leaves on long petioles and spreading by means of creeping, underground stems. The flowers are borne in dense racemes on leafy stems about four inches high, their colour on opening being rich magenta purple gradually changing to dark blue. They last throughout the months of April and May. This Himalayan species needs a cool, moist, half-shady spot with plenty of broken stones amongst which the underground stems may ramble. A plant now known as M. speciosa, introduced from Chitral some years ago, is closely allied. It has larger leaves and similar flowers but is not such a free grower.

M. pulmonarioides.—The Virginian Cowslip, also known as M. virginica, produces drooping clusters of purple-blue flowers on stems two feet high. The plant is a native of North America.

M. sibirica.—The flowers of this species range in colour from purple-blue to rosy-pink and white. It is found both in Siberia and North America. *W. I.*

POTENTILLA NITIDA.

A charming alpine which frequently disappoints the cultivator because of its shy-flowering is P. nitida, a true gem for the rockery or rock garden, and a dainty plant in every respect. It forms a close-growing carpet of small, pleasingly cut leaves of a silvery-grey colour and soft to the touch. Over this are borne, at a height of some two to three inches above the soil, small but attractive flowers, which are either delicate rose, red or white, as the case may be.

Any one of these varietal forms may be procured with the certainty that it will afford pleasure, even if it should fail to flower—which is too often the case.

To induce Potentilla nitida to flower—and to flower well—is, or should be, the ambition of the grower of alpine plants, and the cultivator may generally be satisfied if it is remembered that it is a lime-loving plant, and that the addition of lime to the soil or top-dressing the plants with some old broken mortar or limestone chips will ordinarily result in the production of the charming flowers. The calcareous material may be applied in autumn or in early spring. The situation for planting should be carefully selected, a sunny one being the best.

BRYANTHUS ERECTUS.

I have never had this lovely little dwarf shrub so fine as it was this year. In a little work, whence I cull the information regarding its parentage, it is stated that the plant flowers in June, but my specimens were in full bloom in the fourth week of May. It is a Heath-like shrub, growing from six inches to almost a foot high. The dark stems are clad with Heath-like foliage and surmounted by lovely clusters of pink, Kalmia-like flowers, which almost cover the plant. It is figured in Paxton's *Flower Garden*, Vol. I., plate 19; the Kew *Handlist* states that it is of garden origin and is derived from Bryanthus empetriformis × Rhodothamnus Chamaecistus. However, in his *Handy Book of Ornamental Conifers, Rhododendrons and Herbaceous Plants*, published in Edinburgh in 1875, Mr. Hugh Fraser makes the definite statement that it is a hybrid raised by the late Mr. James Cunningham, of the Comely Bank Nurseries, Edinburgh, the parents being Menziesia coerulea and Rhododendron Chamaecistus. Menziesia coerulea is now called Bryanthus taxifolius and, as is well known, Rhododendron Chamaecistus and Rhodothamnus Chameacistus are synonymous. Mr. Fraser adds "the impropriety of referring it to that genus (Bryanthus) is therefore obvious, its true place being among the Menziesias to which it is so nearly allied, and with which it has so many characters in common." I do not think the resemblance to the now recognised Menziesias or Daboecias is so apparent as Mr. Fraser considered.

Although peat is recommended for this Bryanthus, it is not necessary, and with me it thrives in a friable, rather light loam, in a half-shady situation in a low bed at the north base of my rock garden.

CAMPANULA ALLIONII.

Dwarf Bellflowers are indispensable in the rock garden, and it is hardly possible to have too many of them there. The species are, as a rule, less aggressive in their ways than a goodly number of other alpines. Happily there is an ample choice of easy growers, so that even the inexperienced amateur can delight himself with the possession of at least a few of these charming flowers without the fear of losing them except through carelessness or misfortune. One can hardly, however, class Campanula Allionii among the less fastidious of the race. It is a lovely plant, but rarely seen even in extensive collections. The plants dislike of lime is not sufficiently well known and a calcareous rooting medium is probably responsible for many failures. Another cause of failure is excessively rich soil. C. Allionii is at home on a cliff or stony bank, and in my garden it is planted in a moraine which has no calcareous matter in it, when it succeeds. I recently received a letter from a friend in which he stated that seedlings of C. Allionii had come up in his rock garden, where they were thriving in the moraine. This will be news to many who have had a difficulty in cultivating the plant and who have never raised seedlings without considerable trouble. It is not easy to overpraise Campanula Allionii. From the little plant, with its narrow silky grey foliage, are produced upright bells of violet-blue of wonderful size for such a plant. *S. Arnott.*

The Week's Work.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Cauliflowers.—Cauliflowers that have been headed over as advised in a previous calendar and had some of their leaves broken over the curds will have received but little harm from the frequent frosts of late. After this date I would advise that the plants be dug up with balls of earth, and some plunged in deep pits, others in frames, or close to a shed or wall facing south, where protecting material may be used during times of severe frost. The ground they vacate may be prepared for a future crop forthwith, as long exposure to wintry weather will bring it into good condition by spring. Broccoli that are forming curds should be treated similarly to the above, to maintain a constant supply of heads.

Tomatos.—Plants with ripening fruit need great care in watering. By the regulation of the temperature and of ventilation keep the soil on the dry side, and use only a small amount of tepid water when moisture is needed at the roots. The temperature should not fall below 60° if fruits of fine colour and finish are required. Admit air for an hour only at midday during fine weather. Remove all side growths.

Forcing.—Such roots as Seakale, Rhubarb and Chicory should be introduced in the forcing shed as required. It will be found that the crowns will respond more readily to forcing as the season advances. Maintain a steady warmth, grow the crowns in total darkness, and use only sufficient moisture to induce growth.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire

Most Useful Orchids.—The most generally useful of all Orchids are those that, in addition to having flowers which last a long time on the plants or as cut blooms, are sufficiently plentiful, moderate in cost, and easy of cultivation to admit of their being grown in quantity. Cypripediums belonging to the cooler section form one of the chief attractions of the Orchid houses at this season, and are foremost amongst the kinds that have the excellent qualities stated; moreover, they are little injured by fogs that affect all other flowers. The species and numerous hybrids derived from them are equally showy, and, when grouped apart from other flowering Orchids, make a bold display. When these Cypripediums have their flowers fully developed, less water is needed at the roots than hitherto, until, after flowering, the plants show signs of increasing activity in the new year. A moist atmosphere is necessary always, but somewhat drier conditions, especially during the night, should be maintained in the flowering season in order to preserve the blooms.

Cymbidiums.—Cymbidiums comprise another useful family of Orchids. The earliest commence to bloom during the closing days of the year. Although only a few species are cultivated, varieties and beautiful hybrids are numerous, and a fair stock of plants will provide a succession of blooms throughout the winter into early spring. Plants of the later-flowering kinds have mostly completed their season's growth and many flower spikes are developing. From now, onwards, the amount of root moisture needed will not be nearly so much as hitherto, but, as the developing spikes need material for their growth, water should be given whenever it is found that the compost is approaching a state of dryness. Plants passing out of flower should be induced to rest by affording water sparingly, but, at the same time, drying of the soil to an extent that would cause the roots and foliage to suffer injury should be guarded against. Cymbidium flowers continue in full beauty for a long period, but it is not wise to allow the spikes to remain on the plants for too great a length of time.

Coelogyne cristata.—When there is a sufficient stock of this Orchid, and cut flowers are required during winter, a few plants, introduced in a warm house at intervals, will provide a succession of flowers for a considerable period. This Orchid should never be allowed to become dry at the roots until after the flowering stage is past; at this time of the year it is best to water the plants with a spouted can to prevent water lodging about the bloom spikes, which are liable to damp off if moisture accumulates around them.

Lycaste Skinneri.—From this useful species a long succession of blooms may be obtained, from even a moderate batch of plants, if a few specimens are placed where they will be a little warmer than the rest. At the present season the plants require to be kept moderately dry at the roots, but it is not wise to allow them to suffer from the effects of drought for any appreciable period.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Cherries.—If early Cherries are required the trees should be pruned and cleaned and the house prepared for starting the trees during the present month. Provided the trees have had the necessary attention during their season of active growth, very little further pruning will be required. Cherries resent the knife, and are liable to show the ill-effects of hard pruning. If the trees are planted in borders the area for the roots should be limited, particularly in the case of cordons. The soil should not be excessively rich, for very fertile ground will result in very vigorous growth, and that would necessitate severe pruning. The soil should consist of old loam, old plaster or mortar rubble, and wood ash or burnt material from the rubbish heap, and it should be rammed firm. Similar compost, with a six-inch potful of bone-flour added to each barrow load, will be suitable for use as top-dressings or for potting purposes. Cherries do well in pots, and where pot trees are grown the house may be made use of for other purposes when the trees are placed out of doors. In forcing the Cherry it should be borne in mind that it is particularly impatient of much fire-heat and will not succeed in a stagnant atmosphere; moreover, the fruits will not set freely in such conditions, but drop at the stoning period. For the first fortnight merely close the house, admit air when the temperature from sun-heat reaches 50° and close the ventilators when it is 45°, as the sun's power is waning. Use only a moderate amount of fire-heat, merely sufficient to maintain a night temperature of 40° and 45° by day, when a rise of 10° from sun-heat may be allowed, after the house has had free ventilation. Watering requires to be done with care, and a moderate amount of atmospheric moisture must be maintained. Spray the trees with tepid water when the weather is favourable.

Figs.—Fig trees planted in borders should be pruned. When pruning, it is advisable, wherever possible, to entirely remove a whole branch if it is not required. Worthless shoots should be cut out, and those studded with small fruits maintained. After the work of pruning is completed tie the branches in bundles. The glass, woodwork, walls, etc., should then be thoroughly cleansed. If the trees are infested with white scale, scrub the branches with strong soapy water containing paraffin at the rate of a large wineglassful to three gallons of the soapy water. Stir the mixture when using it, and employ a moderately stiff brush for scrubbing the branches, using a piece of sponge for the extremities of the young shoots. In training the branches, allow ample space between the young growths. Fig trees that make rank growth are rarely fruitful and should be root-pruned. The rooting area should be limited, for in a large amount of rich soil the plants would grow rank and prove unfruitful. If root action is satisfactory, merely remove an inch or two of the surface soil of the border and replace it with fresh loam, wood ash, and old plaster or mortar rubble. It is not necessary to water the borders until the trees have started growing.

Cucumbers.—Fruiting Cucumber plants must not be overcropped at this season. They will grow well in a house having a temperature of 70° to 75° during the day and a minimum of 65° by night, with a bottom-heat of 75° to 80°. Promote a moist atmosphere by damping the bare spaces. Afford light surface dressings to the beds as required; the material for this purpose should be rich, light and porous. Remove spent foliage and keep the trellis furnished with young growths.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Fruit Trees on Walls.—All walls, whether high or low, may be used for training fruit trees, provided they are not shaded too much by forest trees. Walls absorb the sun's heat and radiate warmth slowly to the fruit trees. The higher the wall the better it is for fruit growing. One often sees sunny ends of houses and sides of barns quite bare of plants, yet they might well be used for training fruit trees, and especially those facing south. South walls should be planted with Apricots, Peaches, Figs, Cherries, Pears or Grape vines. West walls are suitable for Pears, east walls for Plums and Pears, and north walls for Morello Cherries. Fruit trees planted against buildings often fail to fruit satisfactorily, and this is generally due to neglect in preparing the soil for the roots. A fruit border should be at least 4 feet wide and 2 feet deep, and the soil suitably drained. The hole in which the roots are inserted should be filled with good, loamy soil. Drought at the roots is another cause of failure with fruit trees against buildings; it causes the fruit to drop at an early stage. Trees making gross growth should be root-pruned; in the case of large trees it is best to prune only half the roots in the one season.

Damsons.—Trees of these fruits are very hardy, and especially valuable for planting on the windy side of orchards, as they form good shelter for other fruit trees. The Damson thrives well in most districts, is very prolific, and requires but little pruning. The best varieties are Farleigh's Prolific, Prune and Langley Bullace. The last is a prolific cropper, and, being extremely late, the fruits are available at a time when other fruits are scarce.

General Remarks.—Fruit trees are very scarce in nurseries; therefore, it is necessary for the gardener to propagate as many as possible. Cuttings of Gooseberries and Currants should be inserted, as recommended in a previous issue, whenever the weather is favourable. Endeavour to finish the planting of all kinds of fruit trees. Winter spraying should be done whenever the trees are dry, selecting a calm day for the work. Leaves which have blown into heaps in the orchard should be gathered and put in a leaf pit. Decayed leaves make excellent manure. A simple method of getting rid of fallen tree leaves is to dig holes and bury them; in this way they will not be wasted.

PLANTS UNDER GLASS.

By James Whytock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Cyclamen.—Well-grown plants of the florists' Cyclamen are most serviceable for the decoration of the greenhouse, conservatory, or dwelling-room during the winter. They should be grown in a light, airy house, near the roof-glass, on material that can be kept moist. Let the minimum temperature be 55°, rising in day-time with sun-heat to over 60°, opening the ventilators when the weather is favourable. In watering the roots, care should be taken not to pour the

water into the centre of the plants: a weak solution of a plant fertiliser should be given the roots on frequent occasions. Remove faded flowers and foliage for this attention will help to prolong the period of flowering.

Schizanthus.—Plants of Schizanthus of the large flowering hybrids, raised from seeds sown in August, for flowering in the greenhouse in spring, should now be growing in 5 or 6-in. pots. Place the plants on a stage or shelf in a cool house near the roof-glass. They will not require fire-heat, except to keep out frost. A light, sandy soil is most suitable for these plants, and they may be given a light top-dressing of concentrated fertiliser at a later stage.

Pot Roses.—Roses that were potted or repotted, pruned, and plunged in a bed of leaves in a cold frame in October and are now commencing to grow, may be placed in a house on staging not very far from the roof-glass. Employ only a little fire-heat in the early stages of forcing, increasing the amount afterwards. Cold draughts are very harmful to the plants and this must be remembered when ventilating, or mildew may attack the foliage. A further preventive of mildew is to syringe the foliage in the mornings with weak soapy water. As the plants advance in growth, give the roots liquid stimulant, made either from cow manure or sulphate of ammonia.

Humea elegans.—Plants of Humea elegans established in large pots will succeed best in winter on a shelf or stage near the roof-glass, in a cold plant or fruit house. Use fire-heat only to keep out frost, and exercise great care in watering, giving the roots moisture only when it is absolutely necessary. To attempt to hasten the growth of Humeas by forcing, would end in failure.

Luculia gratissima.—If this sweetly-scented Rubiaceaeous species is planted against the back wall of a cool greenhouse, and the roots restricted in a narrow, well-drained border, in soil consisting of a mixture of loam and peat, with lime rubble to keep it open, it will flower well in early winter. The roots require an abundance of water and frequent applications of liquid manure. When flowering is over the plant should be pruned somewhat severely, removing the old flowering wood. Keep the roots much drier than hitherto, and grow the plants in a cool house, but protect them from frost.

THE FLOWER GARDEN.

By H. MARKHAM, Gardener to the Earl of STRAFFORD, Wrotham Park, Barnet, Hertfordshire.

Rhododendrons.—Although these may be planted till late in spring, it is advisable to push on with the work if the plants are at hand. For the more choice kinds, prepare the sites thoroughly, providing ample drainage and a good, friable compost. The ponticum type usually planted in woods or for the purpose of providing shelter, will thrive in almost any kind of soil of a porous character and should be largely planted in positions where many other plants will not thrive. Thinning out crowded plants and trimming back straggling shoots on established specimens need attention.

Dahlias.—Tubers stored in sheds will need ample protection in frosty weather. If plenty of leaf-mould is worked amongst them and some dry leaves or litter is placed over them, little or no harm will follow, no matter how severe the weather may be.

Carnations.—Examine the beds, and if frost has raised the roots, make them firm by treading around them and top-dress with short manure or leaf-mould. Any neglect in this respect will prove detrimental to the plants.

Rose Cuttings.—Cuttings inserted in the open should receive prompt attention as a few degrees of frost will sometimes loosen them. Make them firm again or they will fail to root satisfactorily. There is still time to prepare and plant more cuttings if required, and if a cold frame is available, add plenty of grit to the soil therein and make it firm before inserting the cuttings. Keep the lights closed, more or less, according to the state of the weather.

CHRYSANTHEMUMS.

CHRYSANTHEMUM LADY ASTOR, M.P.

THIS very beautiful Chrysanthemum created quite a little stir among lovers of finely-formed varieties of the single-flowered group when it was exhibited before the National Chrysanthemum Society and the Royal Horticultural Society on the 1st and 2nd inst. respectively. Although many lovers of the beautiful find pleasure in single flowers of more or less irregular or loose form, the majority of Chrysanthemum growers prefer a regular flower of the Mensa type. Lady Astor, M.P., is a variety which pleases by reason of its good form, its deep and rich crimson colouring, its substance, and its stems, the latter being sufficiently provided with elegant leafage.

FIG. 141.—CHRYSANTHEMUM LADY ASTOR, M.P.

It is of interest to note how quickly a popular and topical name was appropriated for this new Chrysanthemum by Messrs. Godfrey and Son; the variety gained the F.C.C. of the National Chrysanthemum Society just about the time Lady Astor was taking her seat in the House of Commons.

CHRYSANTHEMUM GOLDEN GOACHER.

PROBABLY my execrable caligraphy was responsible for the error in date (see p. 285) when referring to the above-named variety. The commendation was given on November 20 and not on November 30; writing from memory I suggested the variety was raised by Mr. Luxford, but Mr. A. S. Dunton, Wolverhampton, is responsible for it; he was the exhibitor and he holds the entire stock of Golden Goacher. *C.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM GATTON PRINCESS.

IN *Gard. Chron.*, July 20, 1918, when referring to hybrid Odontoglossums raised in the gardens of Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. Collier), particulars of six forms of this beautiful cross between O. Queen of Gatton (triumphans × percultum) and O. eximium (ardentissimum × crispum), taken from a batch of twenty-five, all varying in some degree, were noted; and in the same issue, at p. 22, two extreme forms were illustrated in Fig. 8. Sir Jeremiah Colman now sends a flower of a still more remarkable form, which ranks with the best of his hybrids. The flower, which is three and a half inches across, is of fine substance and good shape. The petals are one and a half inch wide, and the sepals nearly as broad. The greater part of the surface, front and back is heavily blotched with clearet-red.

CYPRIPEDIUM GOLDEN FLEECE.

THIS large yellow and white hybrid between C. insigne Sanderae and C. Antinous was well shown by Messrs. J. Cypher and Sons at the R.H.S. meeting on the 2nd inst. It has larger flowers than C. insigne Sanderae, and is rather darker in colour, but the general features are the same. It has also been called C. Golden Gem, but the name Golden Fleece, under which Sir George Holford first showed it, takes priority.

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NATIONAL ROSE GARDEN.

IF ever we have a National Rose Garden, what sort of a Rose garden is it to be?

It is interesting to find that somewhat different views are held as to the objects of such a garden, some of which are set forth here to provoke discussion.

As to the position of the garden, there is a fairly general agreement that it should be within easy access of London, so that the members of the N.R.S. might visit it, when so disposed, with little trouble, also that a site should be selected on tolerably good Rose soil, easily capable of being sufficiently drained, and with a south slope if possible.

It is when we come to consider the objects to be aimed at in such a garden, and the uses to be made of it, that difference of opinion emerges. All agree that such a garden is to be a trial ground—but what is it to try, and how are the tests to be carried out? Three different views seem to prevail, and there is a fourth that might possibly appeal to some interested in the subject.

First, there are those who look chiefly to the awards of Gold Medals for new Roses, and to the conditions, that seem to them unsatisfactory, on which these awards are made. Gold Medals are at present awarded to new Roses on their merit as exhibited at the National Rose Society's shows. A plant of the new variety must accompany the exhibit, from which some sort of knowledge may be gleaned as to the character of the growth, but the judges are necessarily chiefly guided by the quality of the blooms displayed, and objection is taken to the large number of varieties which have received the premier award, and yet have already disappeared from our gardens and even from the Rose catalogues. Nurserymen are thus placed in some difficulty, for their customers may consider that they ought to be able to obtain from them Roses which have secured this award, yet it is a hardship on nurserymen to be obliged to grow varieties which are unpopular and seldom asked for. Those who take this view would desire that before a Rose becomes eligible for the Gold Medal award, plants should be sent to the National Rose Garden before this variety is sent into commerce, and the award made or withheld according to the plant's behaviour in the test garden.

One can see at once how much care would have to be exercised in the conduct of a garden devoted to Roses not yet in commerce; how carefully access to it by strangers would have to be restricted in order to prevent undesirable persons gaining admittance, who might obtain and unlawfully propagate buds or cuttings wrongfully abstracted from the garden. This scheme somewhat resembles the plan adopted at Bagatelle, but it would be well to be certain before adopting it that the Bagatelle scheme has proved wholly successful. I fear that the position of Curator of such a garden would not altogether be an enviable one. Moreover, it may be a question whether it might not take from the raiser the onus of testing his own seedlings and discarding the worthless, and throw this on to the shoulders of the National Rose Society or its officers.

A second view is that Roses not yet in commerce should not be admitted into the test garden, but that a selection should be made from those of recent introduction, and trials carried out to ascertain the habit of the plants and their value for the garden or exhibition. This scheme would be less troublesome in some respects as the Society, having bought the plants, could do with them as it liked, and if buds were stolen, the Society alone would lose and recrimination from the raiser would be avoided.

The opponents of this scheme, however, question the utility of the trouble involved in it. They say that when Roses once get into commerce, the public soon find out which are satisfactory and which poor varieties, and seeing that Roses behave very differently in different places, even if the plants of some special varieties proved unsatisfactory in the test gardens yet in other soils and positions—possibly quite near to the garden where they had been tried—they might prove quite satisfactory.

Moreover, in order to secure equality in treatment of the different varieties, the positions in which a variety is placed while being tested ought to be as nearly similar as possible in all respects to those of their rivals. This would tend to reduce the test garden to the dead level of a nursery in which only the expert could learn anything, and such a garden might prove of little interest to the general body of the members.

This brings us to the third group of opinions as to the object of a National Rose Garden, wherein a beautiful garden is regarded as the chief object to be aimed at.

Those who express this view would not exclude the use of part of the garden for trials of Roses of recent introduction, but would regard this work as of quite secondary importance, considering that the national garden ought to attempt to show the best that the Rose is capable of, whether for landscape work, or in more restricted areas such as would be suggested by conveniently designed beds forming a set Rose garden, or more extensive borders merging perhaps into comparatively wild portions of the garden. Here various Rose species might be employed and perhaps a collection of British Roses or the wild Roses of a few selected countries grouped together in different parts.

Such a garden would naturally attract members of the National Rose Society and visitors from among the general public in a way that neither the first nor the second scheme would be able to do. In the first scheme, as has been shown, unknown visitors would be considered suspect and undesirable, while in the second scheme, only experts would probably take any very great interest.

It is probably true that for the third or "beautiful garden" scheme a larger area of land might be required; and there might be a slightly greater danger of it degenerating from a national garden to a mere appanage of the locality, as has happened before now to public gardens formed originally for specific purposes.

A National Rose Garden, however, if it is to bear that name, should undoubtedly be worthy of its name, and the last thing it should cater for should be some particular section of the nation, even though the restricted class be that of exhibitors at Rose shows.

There is yet a fourth object which might either be the main purpose of the National Rose Garden or combined with some of the other three objects. This would be the Historical Rose garden. In such a garden the chief object would be something like that which the late M. Graveraux set before himself at L'Hay, namely, to form a collection as complete as possible of all the Roses not only of to-day but of the past.

An historical Rose garden of this character would certainly be of great interest, not only to Rose growers, but to raisers of new Roses, and students of genetics.

The formation of such a collection would of necessity be a work of time; it could not spring like Athene fully equipped from the brain of Jove, but if the design could be accomplished, it would at once be different from anything else in the country, and if combined with the third scheme, "the garden beautiful," would have immense possibility and conceivably a great future before it.

The varieties of garden Roses whose names have been preserved may perhaps amount to 12,000 and upwards. It is believed M. Graveraux had collected some 7,000 of these. Consideration of space would prevent more than a very few examples of each variety being preserved, but some effort would have to be made to grow the plants in such a manner as to permit adequate comparison of the Roses of the past with those of the present day.

Whatever be the scheme adopted, the question of ways and means must be of primary importance. For the efficient carrying on of such a garden a competent and trustworthy staff would be essential. This would involve at the head of affairs a Curator on whose energy and discretion the success or failure of the scheme would ultimately rest. Under him two foremen would be necessary, one in charge of propagation, budding and the like, and the other controlling the general garden management and routine work. Under these men ordinary gardener assistants at the rate of rather more than one to the acre would be required. Such would be the staff, and it is obvious that while the rate of wages remains at or near the present figure the annual outlay will be considerable.

No such garden could be expected to be self-supporting, and save for the additional prestige and advertisement which the possession of such a garden might be expected to bring to the National Rose or other society undertaking the work, I doubt if any actual revenue could be expected or ought to be aimed at.

Labour and salaries alone might easily cost from £1,000 to £1,200 yearly, and accumulated funds or an endowment sufficient to provide for the greater part of this annual outlay should be in hand. To expect the N.R.S. or any similar Society to provide for more than a small part of this outlay from its annual income would be to hang a millstone round its neck that might easily prove disastrous.

Still, once the true objects of the national garden were settled and popularly approved, the raising of the funds required to insure its success should offer no insuperable difficulties.

White Rose.

TREES AND SHRUBS.

ELAEAGNUS MULTIFLORA.

ELAEAGNUS MULTIFLORA is often cultivated under the name of E. longipes. The species is a native of Japan, China and probably Corea, and the date of its introduction is given as 1862. The illustration in Fig. 142 shows branches, much reduced, bearing large numbers of the deep-orange coloured fruits which are about half-an-inch long. The plant is very ornamental in late summer when covered with its attractive berries; it is said to be extensively cultivated in Japan as a berry-bearing plant. The species forms a deciduous or semi-evergreen shrub, and large specimens attain a height of some ten feet. The leaves are very ornamental, having a silvery under-surface which is densely covered with tiny scales intermingled with larger ones of a reddish-brown tint. The flowers appear in April and May and they are fragrant. The species is illustrated in *Bot. Mag.*, tab. 7341, and in the accompanying text by Sir Joseph Hooker it is stated that Asa Gray's name of longipes is an unfortunate one "because the pedicels are long only in one form of the plant, on which account, and in deference to the priority of Thunberg's name, I have reverted to the name of multiflora."

He also states that the beautiful fruits are, though very austere, greedily sought by birds. According to Bean in *Trees and Shrubs Hardy in the British Isles*, there is a form with shorter stalk, smaller fruits and more lanceolate leaves, called E. longipes var. crispa.

PSEUDOLARIX FORTUNEI.

The following interesting article under the title of "Pseudolarix amabilis in the United States," from the *Bulletin of Popular Information* (Arnold Arboretum, New Series, Vol. X.) refers to the conifer more generally known in this country as Pseudolarix Fortunei, *Mayr*. which is the oldest specific available name given in association with the true genus. The tree has, as synonyms, P. Kaempferi, *Gordon*; and P. amabilis, *Rehder* :—

For the northern United States and for general cultivation the most valuable of the monotypic Asiatic Conifers certainly is the Chinese Golden Larch, Pseudolarix amabilis, a tree with the deciduous leaves of the Larch and large cones erect on the branches with scales which fall when mature from the axis of the cone like those of Fir-trees and the Cedar of Lebanon. As a wild tree not much is yet known of the distribution, size and economic value of Pseudolarix. Robert Fortune, who was sent to China by the Royal Horticultural Society in 1843 as a botanical collector, first made known this tree to Europeans. He found it originally in temple gardens growing in pots and much stunted; and it was not until 1854 in a journey in the province of Chekiang that Fortune found Pseudolarix growing in the open ground at the monastery of Tsan-tsin. "They were growing," he writes, "in the vicinity of a Buddhist monastery in the western part of the Province of Chekiang at an elevation of 1,000 or 1,500 feet above the level of the sea. Their stems, which measured fully five feet in circumference two feet from the ground, carried this size, with a slight diminution, to a height of fifty feet, this being the height of the lower branches. The total height I estimated about 120 or 130 feet. The stems were perfectly straight throughout, the branches symmetrical, slightly inclined to a horizontal form, and having the appearance of something between the Cedar and the Larch."

Fortune found these trees, which had probably been planted, covered with cones, and sent seeds home to England. Unfortunately only a small percentage of them germinated. The following autumn, in the hope of securing another supply of seeds, Fortune explored a higher range in the western part of Chekiang on which he had heard that the Pseudolarix was more abundant. Here he found at altitudes just below 4,000 feet a larger number of both large and small trees which he thought had also been planted. The largest tree which Fortune saw at this high altitude he estimated to be one hundred and thirty feet high; the trunk was eight feet in circumference, and the lower branches nearly touched the ground. There were no cones on these trees and Fortune was told by the monks that cones were only produced in alternate years. He dug up a few plants which finally reached England, and it is probable that the largest trees now growing in Europe and the United States were of this sending.

After Fortune's visit to the Chekiang Mountains in 1855, Pseudolarix was not seen again in China until 1878 when Charles Maries, a botanical traveller for Messrs. Jas. Veitch and Sons, of London, found it at the Temple of Teen Cha on the Lushan Range in Kiangsi and sent seeds to England. The last botanist to see the Pseudolarix in China, E. H. Wilson, met with it in August, 1907, at an altitude of about 4,000 feet on the Lushan Range near Kuling, which is the most western station where this tree has been seen in China by foreigners. The larger trees near Kuling had been planted, but Wilson saw small trees on the mountain side which were evidently wild, and it is probable, therefore, that these small trees are the only self-sown trees of Pseudolarix seen by European botanical travellers, unless the "forests of the Larch-fir" on the mountains south of Poyang Lake in Kiangsi which were mentioned by Barrow in his *Travels in China*, published in 1804, and which, as Wilson has pointed out, must have been Pseudolarix, were wild trees.

In spite of all of Fortune's efforts to introduce this tree into Europe it has not become common. The largest specimen in Europe is in the Rovelli nursery at Pallanza on Lake Maggiore in Italy. In 1907 this tree was sixty-four feet high with a trunk six feet ten inches in girth. It has produced seeds at different times for several years, and these germinate freely where they fall under the tree. There are a few of the original trees in France, Germany and Belgium, the largest probably being the tree which is in the nursery of the Horticultural Society at Calmpthout, near Antwerp, which in 1910 was said to be forty-six feet tall with a trunk three feet in girth. There are several of these original trees growing in Great Britain, but they are smaller than the large specimen on the Continent, for apparently

FIG. 142. FRUITING BRANCHES OF ELAEAGNUS MULTIFLORA.

Pseudolarix needs a hot summer and autumn sun for its rapid growth.

Two and perhaps three of the plants sent by Fortune to England in 1854 are growing in different parts of the United States. The largest of these was imported by S. B. Parsons in 1859, and planted in his nursery at Flushing, Long Island. In 1895 this tree was fifty-five feet high with a trunk two feet in diameter. This tree is still in perfect health, and is now fully eighty feet high (estimated) with a tall, straight trunk two feet ten inches in diameter, free of branches for from twenty to twenty-five feet and carrying a broad, symmetrical, pyramidal head. The bark, unlike that of the Larches, is thick, divided into broad, rounded ridges and is dark brown. For many years this tree has produced large crops of seeds, usually only in alternate seasons. It is certainly one of the most interesting exotic trees in eastern North America and well worth a visit. Another of Fortune's original trees is growing in Mr. Hunnewell's Pinetum at Wellesley, Massachusetts. The date of the importation of this plant is not known, but it was probably before 1865. This is rather a flat-topped tree and has retained its wide spreading lower branches. In 1905 this tree was thirty-five feet high with a trunk four feet in circumference and a spread of branches of twenty-seven feet. This tree produced fertile seeds previous to 1896. In that year the late Mr. Probasco stated that the Pseudolarix which he had planted in the neighbourhood of Cincinnati was rather larger than the Wellesley tree. It is fair to assume, therefore, that this was also one of the original Fortune plants. The two fine specimens planted by Mr. C. A. Dana at Dosoris, Long Island, were probably raised from the seeds sent to England by Maries in 1878.

Pseudolarix is planted in the Arnold Arboretum on the left-hand side of the Bussey Hill Road close to the Walter Street entrance. The two larger trees were imported from England in 1871; the smaller trees were raised from seed produced by the Wellesley tree and sown in January, 1906.

Pseudolarix is a tree of extraordinary botanical interest; as a timber tree it may prove valuable; for the decoration of lawns and parks it deserves the attention of all lovers of handsome trees. It is perfectly hardy, at least as far north as Massachusetts; the leaves, which are longer and broader than those of the Larches, are light green when they first appear in early spring, dark green during the summer and until they begin to change colour early in October when they generally become the colour of old gold, some of the leaves remaining green after others have assumed their deepest autumn tints. The leaves of the Pseudolarix have not been attacked yet by the insects which too often destroy in early summer the beauty of Larch trees. Planted as a specimen on a lawn as the Wellesley tree was planted Pseudolarix may be expected to retain its lower branches for many years; planted closely together in groves it will grow taller and form a tall Larch-like trunk. As Pseudolarix seeds are produced in quantity by at least two trees in the United States, and probably by several trees in Europe, there is no reason why this tree should not be taken up by nurserymen and brought within reach of the lovers of handsome and interesting trees.

THE MARKET FRUIT GARDEN.

November was a wet, cold, and unpleasant month. It is true that the total rainfall was only 2.92 in. at my station, which is not very much above the average, but rain fell on sixteen days, and the temperature was low at the same time. There was sleet at the beginning of the month and quite an appreciable fall of snow on the 12th, when the thermometer registered 10 deg. of frost, which is sharper than we expect in November so far south. The close of the month was rather warmer, but only five of the last fifteen days were free from rain, so that little progress could be made with work in the open.

Late Gathering of Apples.

I have never before had Apples still on the trees in November, but this year they were not all picked until the 10th. This is accounted for partly by the plentiful yield, but more by the interruption caused by the harvesting of a large field of Potatos, a crop which does not work well with fruit. Apart from the anxiety to the grower of having fruit exposed to possible gales and frost, no harm resulted from the late gathering, except that there were rather numerous windfalls. I think the Apples are keeping all the better for being gathered late. There is no doubt that late varieties are often picked too early. They need to be thoroughly mature for successful storing, and some of them do not develop their full flavour unless they hang on the trees as long as possible. Allington is a case in point. I used to consider this a poor-flavoured Apple, but now it is left till last of all on the trees, with the result that it acquires a flavour second only to that of Cox's Orange Pippin amongst the recognised market varieties. Fortunately it hangs well and is not easily blown down, a good habit which is shared by Newton Wonder and Chelmsford Wonder amongst the late varieties. It is a pity that many growers market Allington too early, because this prevents it from gaining such a good name as it deserves. If sold whilst green-looking, hard, and wanting in flavour, low returns must be expected. This year good, well-coloured Allington made 6s. gross per half-bushel, whilst green samples were realising only 3s. Colour is, of course, largely a matter of soil, but in the case of this variety it needs encouragement by severe thinning of the growths and late hanging of the fruit.

Apples and Fruit.

In spite of what I have written in favour of late gathering, I shall endeavour to harvest all my Apples by October in future. There is too great a risk of interruption from bad weather in November. Two nights after the work was completed 10 deg. of frost were registered 4 ft. from the ground. Would this have injured the Apples if they had been still exposed on the trees? I should have expected it to do so, but now I am doubtful, as I have left a few Apples on some trees in my private garden, and they are none the worse at the beginning of December, though there have been several frosts. We take precautions to make our fruit rooms frost-proof, but perhaps this is unnecessary, though thick walls are desirable to maintain a fairly even temperature. I have known 3 deg. of frost in a fruit room without injury. On the other hand, I have found Apples in the grass under the trees in January, quite sound but almost devoid of flavour, presumably the result of having been frozen repeatedly. The fruit is, of course, frequently put into cold storage in America, but I believe the temperature is merely kept low, and not allowed to sink below freezing point.

Sooty Blotch of Apples.

In a season which has been remarkably free from fungous diseases it is rather surprising to find sooty blotch (Leptothyrium Pomi) on several late varieties of Apples. One seldom sees any reference to this disease, from which fact I conclude that it is more prevalent with me than in most districts. The proximity of marshland no doubt produces a moist atmosphere which favours this and other diseases. This autumn the only variety seriously disfigured is Blenheim Pippin, which is always the worst sufferer, probably because it has a rough skin. The sooty blotches are entirely on the surface, and do not injure the fruit in any way except by giving it a dirty appearance and depreciating its market value. From a smooth-skinned variety the blotches can generally be rubbed off, but not in the case of Blenheim. The disease is said to be easily controlled by spraying, but this would presumably have to be done later in the season than is usually required for other diseases. Sooty blotch is one of the troubles that spreads in the store.

Shoddy as Manure.

Last winter I applied shoddy to both Apple and Plum orchards, and the results have been most satisfactory. Even the farm hands, who distrust everything that is new to them, and were very sceptical about the shoddy, have had to acknowledge that both Apples and Plums were larger wherever it was applied. No doubt it gave its maximum result in such a dry season, as it would assist the moisture-holding powers of the soil. I consider it far more worth buying than London stable dung. Farmyard manure obtained locally is, of course, much cheaper than either, but supplies are limited, and it is always necessary to supplement them. Unfortunately, shoddy is very scarce and dear—dearer even than last year—and the demand is heavy, probably because many growers have wisely concluded that their orchards need feeding after this season's heavy crop. A strong point in favour of shoddy is the light carting involved. A dressing of 2 tons per acre of good shoddy is considered equal to about 20 tons of farmyard manure, but it is almost impossible to distribute as little as 2 tons unless it is very dry and short, as it should be. In favour of farmyard manure it must be admitted that it is a complete fertiliser, whereas shoddy supplies only nitrogen and organic matter. For this reason I am now applying basic slag wherever shoddy was given last year, and shall follow this with a potash salt when this becomes available at a more reasonable price.

Silver Leaf.

On p. 212, *Magister Palae*, referring to a note of mine on Silver Leaf in Plums, describes his success in curing affected trees by spraying with a proprietary fungicide after the fall of the leaf and again in the spring shortly before the new leaves are visible. He does not mention whether any control trees were left unsprayed. This is important, as without it conclusions cannot safely be drawn. Cases of apparently silvered trees recovering without any treatment are known to most gardeners. There have also been instances of trees recovering after the application to the soil of sulphate of iron, heavy dressings of fertilisers, etc.; but such treatment has always failed on further test. An experienced gardener recently assured me that he had cured many silvered Peach and other fruit trees by half girdling the stem—cutting off a strip of bark half way round, and keeping the wound clean for a season. In fact, there have been many reputed cures. Unfortunately, it is only too probable that all these were cases of mistaken diagnosis, and not true Silver Leaf. Mr. J. Bintner (*Kew Bulletin*, Nos. 6 and 7, 1919, states that there is a sham Silver Leaf, due to unfavourable cultural conditions, which exhibits the leaf symptoms without the presence of the fungus Stereum purpureum. In true Silver Leaf the silvering of the leaves is, of course, quite a late symptom, and does not appear under the fungus has made much progress in the heart of the wood. It is difficult to understand, therefore, how spraying can reach the seat of the trouble. However, an ounce of practice is worth a ton of theory; so if *Magister Palae* left the necessary control trees when carrying out his experiments, his treatment is well worth further trial. In addition to spraying, he mentions the banding of the trees with a fungicidal paste. This appears to be quite an original idea, and one would like to have further information. Is the paste intended to penetrate the wood and so reach the fungus, or does it act only on the surface? If the latter, how can it prevent infection, which may occur through wounds in any part of the tree?

Dusting *versus* Spraying.

At the recent commercial fruit shows there could be no doubt about the interest displayed by growers on the subject of dusting instead of liquid spraying against insect pests. A good many growers are trying this method, and they express themselves as well satisfied with the results obtained. The chief bar to progress at present is the lack of efficient apparatus to apply the powders. Most of the smaller machines are very poor. A distinct advance was, however, marked by a big machine which, I believe, gained awards at both Maidstone and Cambridge. This useful apparatus is horse-drawn, and the distributing mechanism is driven by an oil engine. This was demonstrated to a keenly-interested company at Maidstone, and certainly produced a capital jet of powder. That there are growers ready to spend £100 or so on such apparatus speaks well for their faith in dusting, and for the future of this system of combating insect pests. *Market Grower.*

BUSH PEARS IN THE OPEN.

THAT the flavour of Pears grown on trees in the open bears no comparison to the flavour of fruits grown on wall trees, few will dispute.

I am not alluding to the few sorts that are somewhat tender in the English climate and in places where the soil is so cold that a wall is needed to complete the ripening of the fruits, but I have in mind the ordinary hardy sorts that are popular in the market as well as in private gardens, and such varieties as the amateur, with his small plot of ground, grows to furnish himself with desirable fruit during September, October, November, and on till February. Some six years ago I planted stout, bush trees, three years old, four feet apart, in stiff cold soil, hoping for success, but I was not at all sanguine. The ground was trenched two feet deep, the subsoil broken up, and farmyard manure added liberally to the upper soil. The trees were closely pruned to induce vigorous growth to develop from the start. The main branches were kept fairly thin, summer pruning was done carefully, to allow light and air to enter the trees, as I am strongly of the opinion that maturity of growth has much to do with the future and present success of the trees. The result has been most encouraging, as in nearly every year I have had crops of large, fully-developed fruit, all varieties possessing much solidity of flesh and superior flavour to fruit of the same sorts from wall trees.

So much has this experiment of close planting proved a success, that I contemplate planting more trees of the same varieties and other approved sorts.

There is not so much scope in growing really good Pears as in Apples, for many varieties are only second-rate in quality and not well adapted to open culture. The sorts I originally planted were Williams' Bon Chrétien, Louise Bonne of Jersey, Beurre Superfin, Beurre Hardy, Doyenné du Comice and Josephine de Malines. *E. M.*

FRUIT REGISTER.

PEACHES, CRIMSON GALANDE AND GOLDEN EAGLE.

THE beautiful appearance and exquisite flavour of Crimson Galande Peach, should be sufficient recommendation for its general cultivation; an old variety, it is seldom met with, yet it is of vigorous growth, a free cropper and makes a clean, healthy tree. The fruits are medium to large, almost the whole surface being coloured deep crimson, intensified to Plum colour on the side exposed to the sun. It is a magnificent fruit for dessert and should prove of great value to the exhibitor. This fine Peach, grown in an unheated "case," ripens its fruits during late August or early in September; it is also a great success in the open, when planted in a southern aspect.

Unless grown in a heated house, the generality of English seasons are not favourable to the ripening of the fruits of Golden Eagle variety, but the past autumn, with its maximum amount of sunshine, saw this exquisite fruit at its best. In colour, it is quite distinct from any other variety, well coloured examples rivalling the Orange in appearance, and certainly surpassing any other variety of Peach; the fruits are very large, and are, in all respects, ideal for the show bench.

The flavour of this Peach is first-class, provided the autumn is sufficiently sunny for its development; in a heated case, it would doubtless be invariably very fine. We have had fruits in good condition at the end of November, a fact which materially increases its value.

The tree is a good "doer," and of clean growth. *Ralph E. Arnold, Cirencester Park, Cirencester.*

APPLE HISTON CROPPER.

APPLE Histon Cropper (see Fig. 143) was exhibited by Messrs. Chivers at the meeting of the Royal Horticultural Society on November 18 last. The members of the Fruit and Vegetable Committee were impressed with its merits as a culinary variety, and expressed a wish to see fruits again later in the season. The illustration shows this Apple natural size; it will be seen that the shape is somewhat conical and that the eye is set in a shallow irregular basin, the segments being closed. The stalk is set in a deep cavity and is only about half an inch long. The skin is green and has a heavy flush on the side next to the sun. We understand that this relatively new Apple is cultivated in the Histon neighbourhood as a market sort.

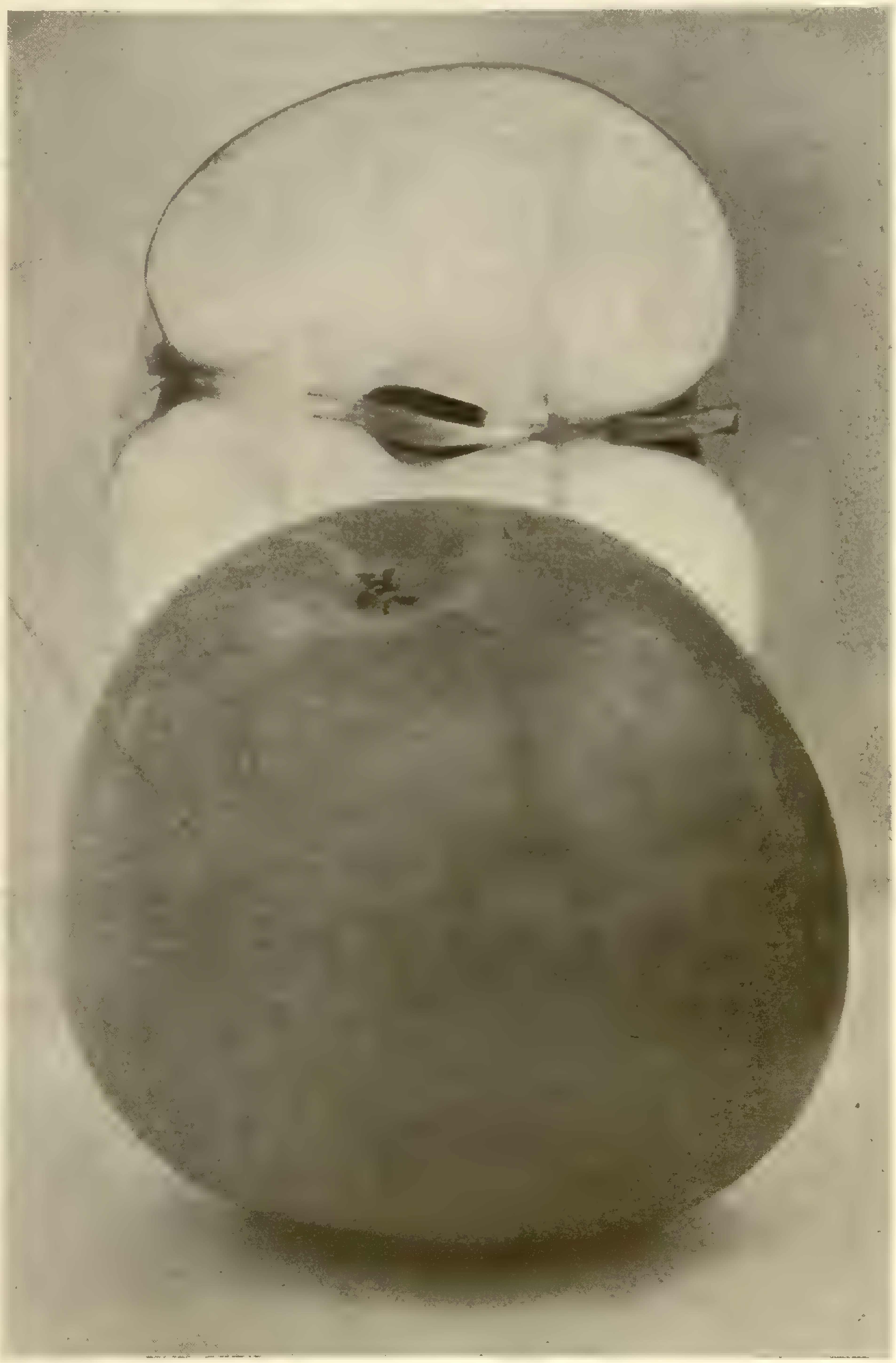

FIG. 143.—APPLE HISTON CROPPER.

THE ART OF TOP-DRESSING.

TOP-DRESSING is an item of garden work not now practised to the extent it might be for the benefit of quick-growing plants, and for the purpose of economising labour. It is generally known to be beneficial to Cucumbers, which when planted in a small quantity of suitable soil, quickly spread a net-work of roots on the surface. When these feeding roots appear the clever cultivator applies a top-dressing, *i.e.*, he covers them at once with a light dressing of rich soil. A thick covering does not produce such good results, especially if the soil is at all heavy.

In order to obtain sturdy, fruitful and not over-luxuriant growths in Tomatos, the plants are placed in a small quantity of soil which is fairly heavy and of close texture, without any addition of nitrogenous matter, but with a fair amount of phosphates, such as steamed bone flour and superphosphates afford, and potash, which may be in the form of wood ash. By the time the first flowers are set, supposing the position to be fully exposed to the sun—and Tomatos do not like shade—a certain amount of flagging occurs in bright weather, even while the house is fully ventilated. In such a case water is often applied and perhaps the plants are syringed overhead. There is a temporary revival, but the plants flag again on the next hot day. If the surface of the soil is examined a network of roots may be found, not like those of the Cucumber, but too small for the ordinary observer to see with the naked eye, and some of them will be withered up. A handful of dry soil placed over the roots of each plant produces a magical change, and if the dressing is repeated each week or ten days, after watering, the crop will be doubled and the quality of the fruits very much improved, while the necessity for watering and the consequent washing out of some of the soil constituents will be much lessened.

Taking advantage of the knowledge thus gained a grower may resolve in future to place the plants in positions where they may be easily and frequently top-dressed. Perhaps plants in 10-in. pots, if well attended to, produce the best results, but not all can afford the

necessary pots or the time to keep them sufficiently supplied with water if so grown. If pots are used the best plan is to half fill them with suitable material in order to allow for frequent additions of rich compost. It should be remembered that the more water is supplied the more quickly will all feeding material be washed from the soil, consequently by the time the first flowers are set on pot plants it will be necessary to apply a fertiliser to prevent a check to development. Animal manure is objectionable because it occupies too much room; nothing is better than an occasional weak application of liquid manure, and whenever the roots can be seen on the surface soil a quantity of heavy, dry soil should be placed thereon immediately after watering. I recommend dry soil for top-dressing because it checks evaporation and prevents the ammonia from the liquid manure escaping into the atmosphere. Many growers succeed with Tomatos in small boxes, and treat them in the same way as recommended for plants in pots. It is, indeed, astonishing what a small quantity of soil, given good attention and a favourable position, will enable the plants to produce a large quantity of fruits. I have calculated that the weight of the crop is sometimes double or even treble the weight of the soil in which the plants grow.

Failing pots or boxes, Tomato plants should be placed in trenches and the roots made very firm in the soil to encourage the development of numerous small rootlets and consequent sturdy top growth. There is no advantage to be derived from placing the plants closely together; a larger quantity of fruit of good quality will be produced by plants 2 ft. by 15 in. apart than by those which have less room. I am not satisfied unless I obtain 1 lb. of fruit for every foot of stem. It frequently happens that after two or three trusses of fruit are half developed swelling apparently ceases owing to the development of the seeds, which causes a great strain on the plants; the succeeding flowers set less frequently, and the growing points of the plants are less vigorous. This state of affairs should be anticipated. Although excessively rich soil should not be used in the earlier stages it is plain that two or three trusses of fruits with their many hundreds of seeds cannot be developed without considerable effort and strain. A shortage of phosphates is particularly to be prevented. Although both superphosphate and bone flour may have been given when the plants were planted the former may be exhausted by the time of fruiting, and the bone flour may not act sufficiently quickly, therefore, a fresh application of superphosphate is advisable, and a slight dressing of sulphate of ammonia may be given once a month.

Dealing with outdoor crops, to come into use just when Broccoli are finished and before Peas and caterpillars become plentiful, early Cauliflowers form one of the most important crops that can be grown. Some years ago my crop was a partial failure owing to drought and a light soil, for when light soil becomes really dry it is almost impossible to give sufficient water to Cauliflowers planted on the flat. Although the weather may be wet at the time of planting, I always now prepare for drought, and it frequently occurs, but my Cauliflowers succeed. Trenches are made 6 in. deep and 30 in. apart and some half-decayed manure is dug in with super-phosphate and wood ash. The plants are turned out of the pots, and later ones out of boxes, and planted with the aid of a trowel 15 in. apart in the trenches, the sides of which form a partial protection from cold winds. As growth proceeds and the stems lengthen some of the pulverised soil is pulled over the roots, and this operation is repeated several times, so that the stems are never exposed. The amount of water Cauliflowers absorb is astonishing; I frequently flood the trenches three or four times a week. A stunted spring Cauliflower is of no use at all. From the moment of planting to the time the curd is ready to cut, the plants should be kept growing steadily by the application of plenty of water, and, as soon as they are growing freely, frequent slight applications of a stimulant should be given. Where plenty of liquid manure can be obtained little else will be required, but even then an occasional small application of sulphate of ammonia or nitrate of soda will be found to hasten growth considerably. I find it necessary to remind the cook, who may have had Broccoli to deal with, that freshly cut Cauliflowers grown in the way described require only 10 to 12 minutes boiling.

Spring Cabbages are frequently planted close to paths or firmly trodden alleys, and even when planted in beds they are very generally placed 18 in. apart each way. It requires just about the same number to furnish any given plot if the plants are 24 × 12 in. apart, and then there is a chance of drawing some earth up to the stems, which the plants highly appreciate. These Cabbages are best planted in shallow drills with a liberal amount of stable manure. Quickly grown Spring Cabbages command the cook's blessing, for they only take 20 minutes to boil and retain their green colour without the use of soda in the water, and, as we have recently learned, the greater portion of the vitamines are retained when soda is not used or the boiling prolonged. *Wm. Taylor.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Ultra-Violet Rays.—Your leading article of your issue of the 6th inst. brings to my mind an experiment tried some years ago by my employer (at the time). He had, so far as I can remember, obtained the idea, not from his gardening knowledge, but in reading up some scientific work in regard to the sun's rays. He took up Orchids in a small way and wanted to test what he had in mind, so instructed me to shade the glass with whiting, coloured with red ochre; this was done, but whether it was the result of the coloured shading or not, it was a fact that Denbrobiums, with which the house was principally filled, made extra long growths, and the foliage became very thick in substance and of an unusual dark green colour, and they ripened up and flowered beautifully. The impression I got was when the sun was shining fiercely the plants were well shaded from heat, yet still had the same colouration as the sun's rays; again, when it was cloudy, there was still the same coloured light, and I felt at the time, had I a greenhouse of my own, I should certainly use this colour in preference to white. Unfortunately my employer gave up the place and the experiment was not carried on long enough for me to speak with any certainty on the subject. *A. I. Elgar, Birmingham.*

Autumnal Glories.—The puzzle which *Novice* states in his last letter, as to the utility to the tree of its colour, the glory of autumn foliage, is difficult and probably impossible to solve on the lines he is working. Is it, however, necessary to bring everything down to a utilitarian basis? May I suggest, if it is not out of place in a scientific journal, that in the creative mind, "glory and beauty" may rank equally with utility; and also remind him of Browning's lines,

"and every common bush afire with God,
But only he who sees takes off his shoes."

Chas. E. Pearson, F.L.S.

Bouvardia Sports from Root Cuttings.—In the report of the meeting of the Royal Horticultural Society, p. 293, reference is made to Bouvardia Pink Perfection, which obtained an Award of Merit. It is therein stated "to have appeared as a sport from President Cleveland; not as a bud or branch sport, however, but as a root sport, and yet we have always considered root cuttings to be true, even though a branch cutting may show variation." My experience of the matter is that plants obtained from root cuttings, if the variety originated as a sport, are liable to revert to the typical kind when propagated in this way. I do not mean to imply that cases of reversion have been frequent, but that it may at any time happen. This was brought home in an unpleasant manner to me many years ago. In the early eighties of the last century, when the double white variety Alfred Neuner came to us from across the Atlantic, I happened to have charge of one of the first plants, and set about propagating them as rapidly as possible, for there was a great demand for the plants and at a highly remunerative price. Both top and root propagation was carried out, and that successfully, so far as the production of young plants was concerned. When the flowering period came around, however, it was found that a good many plants from root cuttings reverted to the single-flowered form (Davidsonii), from which the double variety had originally sprung. The majority, even of the root cuttings proved to be true, but as there was a doubt in the matter, it was necessary to flower every one before they could be distributed. Those from cuttings of the shoots all proved to be quite true. Since then I have tried others with the same results. *W. T.*

Boxes *versus* Sieves for Marketing Apples.—*West Middlesex* (p. 265) asks me what is the life of a bushel basket or sieve. At the beginning of the war, when baskets became scarce, the salesmen agreed that the average life was only six journeys, though many of the baskets look as if they had been about for as many years. It was, of course, the high percentage of losses that brought down the average. Now that most salesmen keep strict account of empties and charge for any not returned, the life is probably longer. I am asked also why the salesman should be expected to provide baskets for growers? Probably the custom arose through the salesman liking to have uniform packages with his name on them in which to supply fruit to the retailers. Do not corn merchants supply sacks in the same way? In any case the question is hardly one to trouble the growers, so long as the salesmen are willing to continue to supply empties. They do not do it for love. Some make a special charge for use of empties, whilst in other cases the commission is high enough to cover the expense. So far as cleanliness is concerned, there can be no question that a new box is cleaner than an old basket; but this is not of great importance in the case of Apples, as nothing but clean wood-wool and paper comes in contact with the fruit, and purchasers can always peel it. For soft fruit such as Plums and Currants, dirty baskets are certainly objectionable, as they are used without any lining. Paper cannot be employed, as it would become soaked with juice; moreover, the air which gets through the basket is considered desirable to prevent heating. Yet no one suggests that we should do away with half-sieves for soft fruits. To my mind, the question of boxes *versus* baskets for Apples, so far as the market grower is concerned, is entirely a matter of which pays best. Before the war, when both were on the market, I never could see that the price realised for Apples in boxes was sufficiently higher to pay for the box and the increased labour in packing. I can quite see the value of boxing for special purposes, such as export trade, but not for general trade in near-by markets. If every grower boxed all Apples prices would be no higher than at present, and there would be no compensation for the outlay on boxes. Nor am I satisfied that boxing is best for the fruit. Even at the shows, where most of the exhibits have had short journeys, much of the fruit is badly bruised. The "bulge," which is a vital point in good boxing, can hardly fail to bruise, particularly if the boxes are carelessly handled. We see it in nearly all imported Apples; but most of these are of a drier substance than our Apples, and seem to flatten under pressure without discolouration. Finally, in the case of choice dessert Apples, I object to grading entirely by size, as is necessary for boxing. Colour and shape are even more important. Let growers take more trouble over grading and packing in the baskets at present in use, and I do not think they will be dissatisfied. *Market Grower.*

Crinum Powellii.—I was much interested in the article on Crinum Powellii on p. 273. The hybrid was raised by my father, the late C. B. Powell, of the Old Hall, Southborough, Tunbridge Wells. In the year 1875 he crossed the rosy and white forms of Crinum capense (Amaryllis longifolia) with pollen of Crinum Mooreanum, and the result was about 100 seedlings of the plant now known as Crinum Powellii. A full description of the plant, with coloured plate, was given in *The Garden*, January 25, 1890. *Cecil Powell, Calverton House, Stony Stratford, Bucks.*

SOCIETIES.

ROYAL HORTICULTURAL.

SCIENTIFIC COMMITTEE.

DECEMBER 2.—*Present:* Mr. E. A. Bowles, (in the chair), Dr. A. B. Rendle, Dr. W. Bateson, Messrs. J. Fraser, W. Hales, W. Fawcett, F. J. Chittenden (hon. sec.); Messrs. Langley, Smith and Crane (visitors).

White-seeded Beans.—Dr. RENDLE showed, on behalf of Mr. Spencer, of Chobham, a series of Runner Beans. A white-seeded form and several varieties between that and the ordinary black and purple form had appeared some years ago and Mr. Spencer had selected each year the white form until now almost all the plants gave white seeds only. The original culture had probably contained a heterozygous plant and possibly also crossing had occurred to a greater or lesser extent each season with a purplish form.

Hybrid Pelargoniums.—Mr. LANGLEY SMITH, of Catford, showed a series of hybrid Pelargonium species with the object of illustrating inheritance of leaf-cutting, purple-veining, variegation, etc., and a number of Antirrhinum seedlings to illustrate the means of rogueing, well known to many growers, in the seedling state, where the colours of the under epidermis are a guide as to the white, coloured or streaked nature of the flowers.

He sent the following notes with them :—

VARIEGATION AS A HERITABLE CHARACTER.

(1) Further notes on the inheritance of Variegation in Pelargoniums.

(A) P. denticulatum × P. filicifolium (sets A., B. and C., 5-1-16). Variegation has, in this instance, developed in the course of experiments in hybridisation, and has definitely proved itself to be a heritable character.

Of the sample sets A., B. and C., exhibited on 5-1-16 to the R.H.S. Scientific Committee, the report says: "The variegation was, as a rule, but poorly marked and in many took the form of a very narrow whitish line round the margin of the leaf."

SEEDLINGS F_1 GENERATION.

F2	Breeding Number.	Variegated.	Not variegated.
(Set A)	14	5	6
(Set C)	15	4	3
(Set B)	16	1	6
(Set A)	17	7	1
(Set B)	18	5	3

Doubt has been thrown on the hardiness of these variegated seedlings as compared with the non-variegated.

During the spring of 1919 very severe weather was experienced and on three successive nights 6 degrees of frost were registered in the greenhouse in which the plants were. This proved fatal to many Zonales, all the P. tomentosum section, many of the P. citriodora section, as well as P. Diadematum, P. Vandesii, P. Blandfordianum, P. capitatum, P. radula, P. × "Clorinda," M. Nonin, and all the "Show" and "Fancy" varieties.

Of the section exhibited, however, the following survived the ordeal :—

Breeding number.	Variegated.	Not variegated.
14	4	2
15	2	3
16	1	5
17	5	1
18	3	1

(B) Inheritance of Dark Veining.

F_1; P. Cataract (P. radula × P. denticulatum). No dark veining.

F_1; P. Cataract A (P. × Cataract × P. denticulatum seedling 2). Dark veins.

F_2; 2 seedlings (P. × Cataract A. × P. denticulatum seedling 2). One dark veins, one not.

(C) Inheritance of dark foliage.

P. zonale "Black Vesuvius" selfed; 7 seedlings, 6 dark foliage, 1 green foliage; 2 dark seedlings = "Black Vesuvius"; 1 dark seedling—Salmon flower; green leaf seedling, dark red flower.

(2) Variegation in Antirrhinums.

The seeds were saved from 9 capsules of seed of an Antirrhinum with "striped" flowers. The seeds were thoroughly mixed together before sowing.

Seven hundred and fifty-three seedlings were raised with the following results :—White-flowered, 490; red-flowered, 198; striped, 65. These were judged by the appearance of the cotyledons and the first two or three pairs of true leaves.

The back of the cotyledons and leaves in the case of white varieties was green, in the case of red varieties was more or less red in colour, and in the case of striped varieties was green, marked with reddish stripes and dots.

The number of striped varieties may be slightly larger as some of the blooms of white varieties were only slightly speckled with red and the marking on the leaves was indistinguishable. Further investigation shows that the stems of the older plants of "striped" varieties are "striped" with red colour; the sepals and seed capsules are spotted with reddish marks, but, as a rule, the leaves do not retain their early distinctiveness.

Some of the "red" varieties have self-red blooms, while others have a white tube to the corolla. The proportion of plain reds to red and white has not been determined. It is probable that the original plant was cross fertilised by insects with white, red, and red and white Antirrhinums growing near.

Further experiments with regard to the inheritance of variegation of this kind in Antirrhinums has been tried with segregated plants this summer.

(3) Variegation in Sweet Peas.

This occurs occasionally and is inherited. A plant raised from an old variety, Duchess of Westminster, had yellow leaves. This was very delicate and only produced one pod of three seeds. All the plants from these seeds were also yellow-leaved, but still more delicate than the F_1 generation. Only one plant flowered and seven seeds were saved, of which four germinated. Three of the resulting plants had yellow leaves and the fourth had variegated leaves, as shown in the photographic print. All died without producing seed.

PELARGONIUMS—LEAF VARIATION UNDER HYBRIDISATION.

(1) P. Cataract (P. radula × P. denticulatum) F_1; leaf resembles P. radula; P. Cataract × P. denticulatum F_2; leaves intermediate, but nearer P. radula; (P. Cataract × P. denticulatum) × P. denticulatum F_3, one resembles P. radula, one resembles P. denticulatum; P. denticulatum × P. filicifolium F_1 leaves resembled P. denticulatum. Do. selfed F_2 three sections A. B. C.

A. resembled P. denticulatum. B. were intermediate. C. resembled P. filicifolium.

F_3, Set A, resemble P. denticulatum, some even coarser cut. Set B, all intermediate, but nearer P. denticulatum. Set C., seven nearer P. filicifolium; one resembles P. denticulatum.

An unanimous vote of thanks was accorded to Mr. Smith for his exhibit.

Seedlings of Victoria Plum.—Mr. M. B. CRANE, on behalf of the John Innes Horticultural Institution, showed coloured drawings of a long series of fruits of seedlings raised from selfed flowers of the Plum Victoria. The variation in the size, colour and form of the fruit was extraordinary, some being as small as Bullace and deep purple and others yellow and as large almost as Victorias. The variation in the form of the foliage was equally great. In some seedlings the bark was smooth and in others much split. Some of the seedlings are self-fertile, others self-sterile. The Plum Victoria is thus apparently heterozygous for almost all characters. The Committee, to mark their appreciation of the excellence of the illustrative pictures, unanimously recommended the award of a Certificate of Appreciation to Mr. C. H. OSTERSTOCK, Enderley, Watery Lane, Merton Park, S.W.

SMITHFIELD CLUB SHOW.

DECEMBER 8.—After an interval of two years the Smithfield Club resumed its exhibition of fat cattle, roots, and agricultural implements at the Royal Agricultural Hall, Islington, during the present week. The exhibition opened on the 8th inst., and continued until the evening of the 12th. It was visited on the opening day by His Majesty the King, who was accompanied by the principal members of the Club and other notabilities. As an exhibition of fat stock, the show was not nearly so extensive as in previous years, but it must be remembered that the notification to hold the show did not appear until nine months ago. All things considered, the exhibition was a very fine one and contained wonderful pedigree animals among the Highland, Angus, Devon, Hereford and other well-known breeds of cattle. There was also a very large number of pens of sheep and pigs. Agricultural machinery was very much in evidence and included many types of engines suitable for haulage purposes, threshing machines, ploughs in abundance, and several tractors.

A number of the leading seedsmen made excellent displays of agricultural and horticultural produce in the galleries. Messrs. SUTTON AND SONS put up a very large and tastefully arranged exhibit, in which were splendid roots of their Prize-winner Mangold and giant specimens of Crimson King Swede. This firm also showed capital dishes of Winter Beauty, Princess of Wales, and Early Market Tomatos, the Sutton Flourball and Majestic Potatos, and several bunches of Tobacco leaves grown in the gardens of Trevor Williams, Esq., at Clock House, Byfleet. Messrs. JAMES CARTER AND CO. displayed large and even samples of Dreadnought, Red Chief and Red Windsor Mangolds, and also a large assortment of Potatos, Leeks, Parsnips, Carrots, and other garden crops representing their well known varieties.

Messrs. E. W. KING AND CO. displayed exceptionally large roots of Anglian and Essex Marvel Mangolds and Fine Top Kohl Rabi, but of especial interest on their stand were the roots of Intermediate Beet — a capital variety for garden cultivation where the soil is somewhat shallow. In form and colour these specimens were first class. Messrs. TOOGOODS were extensive exhibitors of their specialities in Mangolds and cattle Turnips, but they also showed garden roots in variety and of high quality. The outstanding feature of Messrs. KENT AND BRYDON'S exhibit was a large mound of this firm's Darlington Mangold.

Messrs. WEBB AND SONS contributed an attractive exhibit, in which notable items were their New Buffalo Swede, Smithfield Yellow Globe Mangold, and excellent specimens of their special varieties of Potatos, Parsnips, and other garden root crops. Messrs. FIDLER AND SONS displayed a large collection of Potatos, their selection including clean and shapely tubers of Lochar, King Edward VII., The Ally, Edzell Blue, Majestic, Arran Chief, and other useful varieties. Messrs. GARTON'S exhibited farm and garden root crops in variety, and also a series of their pedigree Wheats and Oats with examples of the parents of each variety to indicate the improvement made.

Messrs. ISAAC POAD AND SONS, Mr. R. NORRIS, Mr. T. SCARLET, Mr. W. J. REID, Mr. J. GRAY, Messrs. ALEX BLACHFORD AND CO., Messrs. CANNELL AND SONS (Lodden), Messrs. HARRISON AND SONS, and Messrs. R. AND S. PATON all exhibited seed Potatos in variety, and made special features of varieties immune to Wart disease. Messrs. LITTLE AND BALLANTINE had a large exhibit of Mangolds, varieties of Wheat and Oats, and a selection of Potatos which included fine examples of Majestic and King George. Messrs. J. K. KING AND SONS, always large exhibitors at the Smithfield Club Shows, were responsible for an extensive and attractive exhibit, in which their Prizewinner and Commonwealth Mangolds, John Bull Swede, and Improved Green Globe Turnip were the more prominent features, but varieties of Wheat and Oats were also exhibited, together with Potatos, Parsnips, Carrots and other garden roots.

IPSWICH AND EAST OF ENGLAND HORTICULTURAL.

THE annual meeting of this society was held in the Town Hall, Ipswich, on Monday, the 24th ult. The President, Mr. E. C. Ransome, occupied the chair. The annual report of the Committee was read by the secretary, Mr. H. Hanson. The report stated that the summer exhibition was a great success, and that Roses were the outstanding feature of the show. Mr. Darlington, President of the National Rose Society, acted as Judge, and gave an address on "The Culture of Roses." By permission of the Speaker, the Rt. Hon. J. W. Lowther, M.P., about forty members of the Society visited the grounds and gardens of the High House, Campsea Ashe, on the occasion of the summer outing. The Committee consider that more attention should be paid to the educational aspect, and recommend that the Executive should be enlarged and include representatives of the local allotment associations. The Mayor, Alderman F. E. Rands, J.P., was elected President for the ensuing year, and Mr. G. St. Cobold, Hon. Treasurer.

Obituary.

Mrs. Hannah Wall Oliver.—We regret to record the death, in her 85th year, of Mrs. Hannah Wall Oliver, widow of Prof. Daniel Oliver, F.R.S., keeper of the Kew Herbarium from 1864 to 1890. Mrs. Oliver did much philanthropic work in the district, and was for many years hon. secretary of the Society for Rescue and Preventive Work in Richmond. The interment took place at the Friends' Burial Ground, Isleworth, on Friday, December 5th, the chief mourners being her daughters, the Misses Winifred and Ethel Oliver, Professor F. Oliver (son), and Miss C. Stuart Morris.

TRADE NOTE.

HORTICULTURAL TRADES ASSOCIATION.

A MEETING of nurserymen and seed merchants was held on the 25th ult., at Worcester, to consider the question of forming a District Committee of this Association. Mr. Herbert J. Speed, Bengeworth, Evesham, who had called the meeting, opened the proceedings, and asked the meeting to appoint a chairman, and Mr. Hy. Cartwright was elected. Captain du Cann, of the parent Association, gave an address, which was followed with interest. It was resolved unanimously that a District Committee should be formed with Mr. E. J. Parsons, Chairman; Mr. G. W. Foss, Vice-Chairman; and Mr. Herbert J. Speed, Bengeworth, Evesham (to whom communications should be addressed), Honorary Secretary.

CROPS AND STOCK ON THE HOME FARM.

WHERE a definite system of four- or six-course cropping is strictly adhered to, as in some counties, the rotation of crops almost arrange themselves in sequence year after year. Where, however, no definite method is adopted the circumstances vary, especially on a home farm of several hundred acres, where cattle of various kinds are kept for different purposes. Such a farm supplying a large private establishment with milk, butter, poultry, pigs and sheep, with the necessary vehicles to convey servants' luggage, wood, coal, and general provisions to and from railway stations, requires much more thought and management than is called for by ordinary tenant farmers. Where forestry and orchards come under the same management the farming difficulties are increased, because it often happens when sowing is arranged for a certain date, the horses are required for coal carting or some such duty.

The dairy requires thought in maintaining a full supply of milk, cream and butter. In that case the best type of a pure-bred cow such as Jersey or Guernsey, is an advantage. Shorthorn cows give large quantities of milk and are more valuable for the butcher when their dairying days are past, but they are inferior to the breeds mentioned for the production of cream and butter. The best type of pigs should be kept.

The management of the dairy is one of the most important items on the estate. Some persons are apt to think if they build an up-to-date dairy, fitted with the best of separators, churns, and other utensils, they cannot fail to have the best results. Such, however, is not always the case, for without a strict adherence to temperatures in the building to ripen the cream, a close observance of the necessary heat of the water, cream, and the churn itself, good butter cannot be assured. An experienced dairymaid is necessary to manage the dairy. During summer, the shade temperature may be 90°, and in winter the temperature in the dairy may be as low as 20°, and special knowledge is required to enable such inequalities to be overcome.

In the ordinary cropping of a farm, be it on home lines or as a tenant farm where no rigid system of four or six courses is adopted, a simple rotation of crops may be undertaken as follows:—Land that has grown a full Wheat crop after sheep-fed roots, Clover, Rape or Kale, and is followed by a dressing of farmyard manure or basic slag and sulphate of ammonia will be suitable for Oats, with a minimum of labour. The ground should be once ploughed in the autumn to bury weeds before sowing the Oats in February or early in March, according to the condition of the seed bed. This system is known as sowing on a stale fallow. If, however, the Wheat crop was badly infested with Couch, the field should be summer-fallowed instead of sowing the Oats.

In that case the land should be thoroughly cleaned, sown with Rape and Turnips, and sheep-fed; or Mustard may be grown and ploughed in as green manure.

If the soil is suitable, light and warm, Barley may succeed the Wheat crop. A field having grown Oats or Barley after Wheat, should be used for Cabbages, Mangold, Swedes, Turnips, or Potatos the following year. In that case early autumn ploughing is advisable—especially during dry weather, where the soil is heavy and retentive of moisture. Such land, if ploughed when wet, would be almost unmanageable the following spring. *E. Molyneux.*

ANSWERS TO CORRESPONDENTS.

LETTUCES INJURED BY INSECTS: *H. S.* The insect attacking the roots of your Lettuces is probably the aphid Pemphigus lactucarius and the "grey fungus-like matter" was the natural mealyness of the aphid. No doubt the dry season accentuated the damage done, as the aphid itself is by no means uncommon. There is no well-known remedy, and the trouble is made more difficult by the fact that by the time the pest has been found the plant has probably been ruined from the commercial point of view. Probably the only way to deal with the pest, if found early, would be to lift the plants, wash the roots in a solution of 2 per cent. soap and 15 per cent. nicotine and replace in fresh ground. The pest is not likely to prove troublesome in ordinary seasons.

NAMES OF FRUITS: *A. M.*—1, Beauty of Kent; 2, Warner's King; 3, Duke of Devonshire; 4, Bismarck; 5, Melon Apple.—*A. D.* Reinette de Caux; 2, Pott's Seedling; 3, Colonel Vaughan; 4, Ashmead's Kernel Improved; 5 and 6, Lemon Pippin; 7, Lord Derby; 8, King of the Pippins; 9, Domino; 10, Beauty of Kent; 11, Lane's Prince Albert; 12, not recognised.—*J. D. C.* Wyken Pippin; 2, Herefordshire Pearmain; 3, Ben's Red; 4, Kerry Pippin; 5, Beauty of Kent; 6, Fearn's Pippin; 7, Newton Wonder.—*J. E.* Not recognised—a local variety.—*J. D.* Calville St. Sauvier; 2, Striped Beefing; 3, Tom Putt; 4, Franklin's Golden Pippin; 5, Yorkshire Beauty; 6, Decayed; 7, Passe Colmar; 8, decayed.—*J. B. S.* Newton Wonder; 2, Gloria Mundi; 3, Sandringham; 4, Queen Caroline, 5, Kerry Pippin; 6, decayed; 7, Winter Hawthornden; 8, King of the Pippins, 9, American Mother; 10, Ribston Pippin; 11, Radford Beauty; 12, Allington Pippin; 13, decayed; 14, Alfriston; 15, Maréchal de Coeur; 16, Beurré d'Amanlis; 17, Glou Morceau; 18, Chaumontel; 19, Winter Nelis.—*D. W.* 1, Lewis's Incomparable; 2, Keswick Codlin; 3, Golden Harvey; 4, Orange Goff; 5, Waltham Abbey Seedling; 6, not recognised (local); 7, Northern Spy; 8, Lodgemore Nonpareil; 9, Ashmead's Kernel; 10, Belle de Pontoise; 11, Beurré d'Amanlis; 12, Scarlet Golden Pippin.—*J. S.* 1, Withington Fillbasket; 2, Beauty of Kent; 3, Waltham Abbey Seedling; 4, Gascoyne's Scarlet; 5, decayed; 6, Louise Bonne of Jersey; 7, Gloria Mundi; 8, decayed; 9, Pitmaston Duchess; 10, decayed.—*W. B.* 1, De Neige; 2, Scarlet Nonpareil; 3, Mank's Codlin; 4, Orange Goff; 5, Belle de Pontoise; 6, Api Rose; 7, Warner's King; 8, Allington Pippin.—*H. E. G.* Glory of England.—*Nedos.* Fondante de Malines.—*W. J. M.* 1, Cox's Pomona; 2, Grange's Pearmain; 3, Small's Admirable; 4, Nonsuch; 5, Rosemary Russet; 6, St. Edmund's Pippin.—*H. C.* 1 and 7, decayed; 2, Pitmaston Duchess; 3, Baronne de Mello; 4, Marie Louise; 5, Beurré d'Amanlis; 6, Pitmaston Duchess.—*D. T. and Co.* 1, Gansel's Bergamotte; 2, Beurré Diel; 3, Autumn Bergamotte; 4, Beauty of Kent; 5, Calebasse.—*C. P. and Co.* Winter Greening.—*A. D.* 2, White Doyenné; 4, Bergamotte Bufo; 5, 10 and 11, Beurre Clairgeau; 7 and 9, decayed; 8, Zépherin Grégoire; 11, Doyenné du Comice.—*H. W.* Pears—2, Beurré de Avalon; 3, Baronne de Mello; 4, Beurre Bachelier; Apples—1, Norfolk Stone Pippin; 2, Small's Admirable.—*E. H. H. V.* 1, Sturmer Pippin; 2, Margil; 3, Tom Putt; 4, local variety; 5, Domino; 6, Josephine des Malines; 7, Court of Wick; 8, Zépherin Grégoire; 9, Orange Pippin; 10, decayed; 11, Beurré Hardy.—*C. S.* 1, 2, 3, 7 and 10, decayed; 4, Bergamotte d'Esperen; 5, Forelle; 6, Hacon's Incomparable; 8, Durondeau; 9, Marie Louise; 11, Beurré Hardy; 12, Catillac; 13, Court-Pendu-Plat.—*J. S. W.* Beauty of Kent.—*K. C. H.* 1, Vicar of Winkfield; 2, Marie Louise; 3, Aston Town; 4, Nec Plus Meuris; 5, Fondante d'Automne; 6, Ashmead's Kernel; 7, Mabbot's Pearmain; 8, Yorkshire Beauty; 9, D'Arcy Spice; 10, Impériale; 11, Golden Harvey; 12, decayed.

NAMES OF PLANTS: *A. P.* 1, Abutilon vitifolium; 2, Sparmannia africana; 3, Abutilon sp., cannot name, without flowers; 4, Aspidium angulare; 5, Aloe distans; 6, Gasteria verrucosa; 7, Aloe frutescens.

POTATO FOR NAMING: *H. H. B.* From the shape of tuber and your description of the habit of growth, season, and colour of flower, the variety is probably Duchess of Cornwall, one of the members of the Up-to-Date type.

SEED BUSINESS IN LONDON: *J. W.*—There is no book, so far as we are aware, on the subject of opening and running a seed business, but a small book on *Seed Growing in Britain*, by A. J. Macself, price 2s. 6d., may be of service to you. A capital of £400 is only sufficient for a modest start, and while it would suffice for a practical and experienced man who could manage his own business, it is not an adequate sum to finance a concern where a paid staff has to be provided for. The rent of a shop in the City would be almost equal to your capital, whilst to open and build up a connection you should be in a position to conduct the business for twelve months before taking any of the profits. It would be infinitely better policy for you to seek to purchase a small established business in a provincial town, where all expenses would be much lighter than in London, and where a turnover would be immediate.

Communications Received.—C. M. K.—W. P.—S. L.—J. Q. R.—C. A.—J. W. G.—G. H. C.—E. F.—F. T.—K. E. S.—V. C. A. F. G.—R. McO.—H. M.—J. F.—H. P—J. P.—G. W.—E. A. C.—W. T.—J. E.—A. J. C.—R. W.—C. T.—A. H. L.—D. V. C.—H. A. J.—S. A

Typical Truss of Manx Marvel.

A NEW TOMATO OF REAL COMMERCIAL VALUE TO THE MARKET NURSERYMAN.

OF PROVED MERIT.

MANX MARVEL

MANX MARVEL

A Marvellous Cropper.—Early.—Firm Fleshed.—An Excellent Carrier.

What Growers say about the New Tomato :—

Greeba Castle, Isle of Man,
29th July, 1919.

Mr. S. S. Adam,

Sir,—Your "Manx Marvel" is rightly named ; in all my fifteen years of experience I have never seen its equal. From a commercial point of view it is extra. "Manx Marvel" is at least a fortnight earlier than other varieties grown on this island. On the 24th of this month I saw these Tomatoes, and each plant had four or five trusses on it, which were nearly all ripe, each truss bearing 16-20 Tomatoes, all a good colour, shape, and uniform in size. I do not doubt for a moment that trade growers will find this Tomato of great interest.

Yours truly, WM. LONG,
Head Gardener to Sir Hall Caine.

Peel Road Nursery, Douglas, I.O.M. *9th Sept.*, 1919.

I have visited Mr. Adam's Nursery several times during this summer, and have seen "Manx Marvel" growing. I consider it the best Habit and Cropping Tomato I have ever seen, many of the trusses having 20 to 30 fruit, all of best market size ; it is sure to become a popular variety.

JAMES INGLIS,
President I.O.M. Nursery and Market Garden Association.

St. Trinians, Crosby, I.O.M.
1st Sept., 1919.

On 26th July, 1919, I inspected a crop of "Manx Marvel" Tomatoes, and consider their name is easily justified. The first truss just clear of the ground, and four within three feet. Each truss exceptionally large—3 to 5 lbs.—and perfectly set. Individual fruits of good size, uniform in shape, round and excellent colour ; not a wrinkle or split in the whole crop. A New Tomato of exceptional merit ; and of especial interest to trade growers.

Yours faithfully,
ARTHUR R. ATHEY,
Late of London Gardeners' Guild, R.H.S., Wisley.
Gardener to Lt.-Col. Wood, D.S.O., The Towers, Marown, I.O.M.

Manx Marvel Tomato Seeds are selected from only the first four or five trusses, and the Stock is therefore limited—first come first served. £2 per 1,000 seeds. Below 1,000 seeds, 6s. per 100. Cash with Order to—

S. STANLEY ADAM, Greeba Nursery. CROSBY, ISLE-OF-MAN.

SCANDINAVIAN SEED COMPANY & R. WIBOLTT, LTD.,

Wholesale Seed Growers,

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CLAY'S LONDON FERTILIZER TRADE MARK

Sold everywhere for Horticultural purposes in Packets at 1od. & 1/6 and in BRANDED and SEALED BAGS: 7 lbs., 3/9; 14 lbs., 6/6; 28 lbs., 11/6; 56 lbs., 20/-; 112 lbs., 37/-. Or direct from the works Carriage Paid in the United Kingdom for Cash with Order (except packets).

CLAY & SON, Manure Manufacturers and Bone Crushers, STRATFORD, LONDON, E.

IT IS THE STANDARD FOOD FOR PLANTS.

MARKETS.

COVENT GARDEN, December 10th.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Apples (English)		Bananas, singles	20 0–25 0
—Allington Pippin	5 0– 6 0	Chestnuts	
—King of the Pippins per ½ bus.	6 0– 8 0	—French	17 0–25 0
		—Naples	40 0–45 0
—Cox's Orange Pippin per ½bus. best	8 0–10 6	French Figs, 12's 15's per box	1 3– 2 6
		Grapes Alicante	1 3– 1 6
		—Special per lb.	2 0– 3 0
—Blenheim Pippin per bus. ..	10 0-14 0	—Gros Colmar ..	1 6– 2 0
		—Special ..	2 6– 4 0
—Newton Wonder	5 0– 9 0	—Canon Hall ..	2 6– 7 0
—Lord Derby	5 0– 7 0	—Muscat, per lb.	2 6– 6 0
—Lane's Prince Albert, per bus.	6 0– 7 6	Special	7 0– 8 0
		—Almeria per barrel	15 0–35 0
—Bramley's Seedling per bus. ..	5 0– 7 6	Lemons 300's	18 0–25 0
		Oranges 504 714etc.	20 0–45 0
—Brit. Columbian— Cox's Orange Pippin	20 10– —	Nuts—Brazils(new) per cwt.	125 0–130 0
Jonathan	20 10– —	Cob Nuts, per lb.	1 2– 1 3
Grime's Golden Nonesuch	19 0–20 0	Walnuts. English doubles	1 6– 2 0
		Walnuts 25 kilo.	55 0– —
McIntosh Red	18 6– —	Pears, English Comice selected per doz.	6 0–18 0
—Nova Scotian— Blenheim Pippin Nos. 1 and 2 ..	25 0–35 0	—Californian— Winter Nelis case	35 0–42 0
—Ribston Pippin	25 0–35 0	Pineapples each ..	2 6– 6 6

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans Guernsey, per lb.	3 6– 4 0	Parsnips, per bag	6 0–12 0
Beets, per bag ..	10 0–11 0	Parsley, per doz. bunches ..	3 0– 4 0
Cabbage, per doz.	2 0– 3 0	Potatos, per cwt.	12 0–14 0
Carrots, per bag	9 0–10 0	Radishes, per doz. bunches ..	1 6– 2 0
Cauliflower, per doz.	2 6– 3 6	Spanish Onions 5 tier	22 0–23 0
Celery, per fan, (12 heads) ..	3 6– 4 6	Spring Onions, per doz. bunches ..	4 0– —
Cucumbers, per doz	10 0–16 0		
Garlic, per lb. ..	1 6– —	Sprouts, per bag 28 lb.	7 6– 8 0
French Luttuce per doz.	3 6– 4 0	Tomatos, English, per doz. lbs. ..	3 0– 7 0
Herbs, per doz. bun.	4 0– 6 0		
Mint, per doz bun.	9 0–12 0	—Teneriffe, Best, per bundle	14 0–16 0
Mustard and Cress, per doz. punnets	1 3– 1 6	ordinary ,,	10 0–12 0
Mushrooms, per lb.	3 0– 4 0	Turnips, per bag	7 0– 8 0
Onions, per cwt.	12 0–14 0	Watercress, per doz	0 9– —

REMARKS.—Business has improved all round. English Apples show signs of hardening in price, although the large quantities available will prevent much variation in their value. Hothouse Grapes are still in demand, and the prices realised for these fruits are satisfactory. Consignments of British Columbian Apples to hand are meeting with satisfactory demand, which is mainly due to the shortage of home-grown, well-coloured dessert varieties. English Tomatos are practically finished, although considerable quantities of inferior fruits, difficult to sell at any price, are still coming to hand. Teneriffe Tomatos are plentiful and cheap, and are meeting with a better demand. Brazil Nuts, Chestnuts, Cob Nuts, and kiln-dried Walnuts are all in good demand. Guernsey Beans are dearer, but prices will probably be influenced by the first consignment, for three or four years, of Beans which is expected to arrive this week from Madeira. Green Vegetables are fairly plentiful, and their prices are comparatively low. The trade in Potatos remains steady, with little change in prices.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.) 60's	9 0–12 0
		72's	7 0– 9 0
Asparagus plumosus	12 0–15 0	Ericra hyemalis— 48's per doz ..	24 0–36 0
—Sprengeri ..	12 0–18 0		
Aspidistra green	48 0–72 0	Erica nivalis— 48's	36 0–48 0
Begonia Gloire de Lorraine 48's per doz.	24 0–36 0	60's	15 0–18 0
		72's	7 0–10 0
		Marguerites white	18 0–24 0
Cacti per tray 12's, 15's ..	5 0– 6 0	Palms Kentia ..	24 0–36 0
		—— 60's	15 0–18 0
		— Cocos	24 0–36 0
Chrysanthemums 48's per doz. ..	18 0–24 0	Poinsettia 48's per doz.	24 0–30 0
Cyclamen 48's per doz.	24 0–30 0	Roman Hyacinths on bulbs, 48's	6 0– —
Erica gracilis— 48's per doz. ..	15 0–30 0	Solanums, 48's per doz. ..	15 0–18 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis. in variety. 48's	12 0–18 0
		— 32's	24 0–36 0
— elegans ..	15 0–18 0	Pteris. in variety 48's	12 0–21 0
Asplenium 48's per doz.	12 0–18 0	— large 60's ..	5 0– 6 0
— 32's	24 0–30 0	— small 60's ..	4 0– 4–6
— nidus 48's ..	12 0–15 0	— 72's per tray of 15's	3 6– 4 0
Cyrtomium 48's	10 0–15 0		

REMARKS.—Business is now greatly improved in this department, and large numbers of plants are being despatched to the provinces for the Christmas trade. The leading lines are: Erica nivalis, gracilis, hyemalis; and its variety alba, Begonias, are offered in 48's and 32's; also some small decorative plants in 60's. The limited numbers of Cyclamen are soon bought up; also Chrysanthemums. A few Pointsettias are offered in 48's. All Palms and Ferns of numerous sizes are selling freely.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea white, per doz. bun. ...	15 0–18	Heather, white per doz. bun.	10 0–12 0
Camellias per doz.	6 0– 7 0	Lapagerias, per doz. blooms ..	5 0– 6 0
Carnations per doz. blooms. best American var.	6 0– 9 0	Lilium longiflorum, per bunch ..	18 0–20 0
Chrysanthemums— — White. per doz. blooms ..	4 0–12 0	Lilium speciosum album per bunch	6 0– 8 0
		— rubrum per bun	7 0– 8 0
— Yellow ,, ..	4 0–10 0	Orchids per doz.:	
—Pink ..	6 0–12 0	— Cattleyas ..	24 0–30 0
—Bronze ,, ...	8 0–10 0	—Cypripediums per doz. ..	6 0– 9 0
—Spray White per doz. bun.	30 0–48 0	Pelargonium, double scarlet, per doz. bun. ..	12 0–18 0
— Coloured per doz. bun.	24 0–36 0		
—Single Varieties per doz. bun.	3 0– 6 0	Richardia (Arums). per doz. blms.	12 0–18 0
French Flowers— —Lilac white per doz. spray	6 0– 8 0	Roses per dozen blooms— — Liberty ..	9 0–12 0
—Marguerites yellow per doz. bun.	3 6– 4 0	— Melody ..	8 0–12 0
—Mimosa, per pad	18 0–20 0	— Mme. Abel Chatenay ..	8 0–10 0
—Narcissus, Paper White per pad	35 0–40 0	— Ophelia ..	9 0–15 0
		— Richmond ..	8 0–12 0
Soleil d'Or, per doz. bun. ...	8 0 10 0	— White Crawford	6 0– 8 0
—Violets, Parma, per bun	7 0– 9 0	Roman Hyacinth per doz. spikes	3 0– 3 6
Gardenias, per box special ..	12 0–	Violets Single large per doz. bun.	10 0–15 0
ordinary ..	5 0– 6 0	—Ordinary ..	6 0– 9 0

REMARKS.—Supplies of flowers from home growers showed a slight reduction in quantity on Saturday and again this morning. The reduction was most noticeable amongst Chrysanthemums, Carnations and Roses. Prices for Chrysanthemums appear to be hardening, and those for Carnations show a slight advance on last week's figures. Madam Abel Chatenay is the most plentiful variety in Roses. All other sorts are a very limited supply. Liliums are scarce. The number of Richardias (Arums) have been sufficient for the demand during the past week. The first Poinsettias of the season were offered for sale last week. Cut Roman Hyacinth is in excellent condition and selling freely. There is also a better demand for Camellias. Single Violets have been better supplied, and are arriving in fine condition. Although the consignments are very irregular, supplies are gradually increasing, and consist of Narcissus Paper White, N. Soleil d'Or, Mimosa (Acacia), Marguerites, Saffron Roses, single and Parma Violets, and a few baskets of Carnations and Roses. There is a good supply of white Lilac from Holland.

THE WEATHER.

THE WEATHER IN SCOTLAND.

The weather for November was of exceptional severity, snow falling frequently, while the air temperature reached the low level of 11°. The month was a wet one, rain or snow falling on 22 days to a total of 4.75 inches; of this 0.82 inch fell on the 23rd, the wettest day. With a mean of 29.76 inches the barometer fluctuated from 30.57 inches on the 1st, to 29.17 inches on the 25th. For the month the mean temperature was 34.5°, with a mean maximum of 40°, and a mean minimum of 29°. The highest maximum was 54° on the 23rd, and the lowest minimum 11° on the 14th, giving an absolute range of 43°; the lowest maximum recorded was 30° on the 14th, and the highest minimum 37° on the 5th. On 19 nights the temperature fell below the freezing point. For the dry bulb thermometer the mean was 33.8°, and for the wet bulb 32.3°, giving a relative humidity of 87 per cent. On the grass the mean minimum was 24°, with a lowest of 2° on the 14th; there were 24 nights of ground frost. At one foot deep the soil temperature fell from 41° to 35°. Snow fell on 5 days, and lay continuously for 6 days. The prevailing winds were northerly.—*James Malloch, Director of Studies, Training College Gardens, Kirkton-of-Mains, near Dundee.*

GARDENING APPOINTMENTS.

Mr. J. T. Rushton, for the past 15 years Gardener to Mrs. HINCKS, Barons Down, Dulverton, as Gardener to the same lady at Easterlands, Wellington, Somersetshire. (Thanks for 1s. for R.G.O.F. box.—EDS.).

Mr. H. Crane, as Gardener to R. WALEY COHEN, Esq., Caen Wood Tower, Highgate, N.

Mr. J. W. Williams, as Gardener to Capt. C. PERRINS, High Park, near Droitwich.

Mr. T. S. Nevin, for more than three years with His Majesty's Forces, and previously for three years Gardener to Major W. H. ALLEN, Evenley Hall, Brackley, Northants, as Gardener to Lieut.-Colonel LESTER REID, Thorpe-Mandeville Manor, Banbury.

Mr. F. W. Costin, for eight years in the Horticultural Department, University College, Reading, as Horticultural Instructor for West Sussex.

Mr. Alfred J. Deighton, as Gardener to E. N. HOLDEN, Esq., Norton Priory, Selsey, Chichester, Sussex.

Mr. W. H. Bailey, late of Burwood House, Cobham, Surrey, as Gardener to H. S. GOODHART RENDEL, Esq., Hatchlands, Guildford, Surrey.

CATALOGUES RECEIVED.

GODFREY & SON, Exmouth, Devon.—Chrysanthemums.

K. LUXFORD & Co., Sheering Nurseries, Harlow, Essex.—Chrysanthemums and Perpetual Flowering Carnations.

H. J. JONES, LTD., Ryecroft Nurseries, Lewisham.—Chrysanthemums, Phloxes, and Michaelmas Daisies.

H. WOOLMAN, Shirley, Birmingham.—Chrysanthemums.

BOWELL & SKARRATT, Cemetery Road, Cheltenham.—Alpines, Hardy Perennials, and Shrubs.

FOREIGN.

D. VAN DER VIS & SONS, Boskoop, Holland.—Hardy Nursery Stock.

BOOKS ON GARDENING.

(The prices given below include postage.)

Manuring of Market Garden Crops, The. By Bernard Dyer and F. W. L. Shrivell. New Edition. 1s. 3d.

Modern Fruit Growing. By W. P. Seabrook. Second Edition. 5s.

Mushroom Culture for Amateurs. By W. J. May. New Edition. Thoroughly revised. Illustrated. 1s. 8d.

Mushrooms, and How to Grow Them. By John F. Barter. An excellent Treatise. Illustrated. 1s. 2d.

Orchids for Amateurs. By O. A. Harrison, F.R.H.S. Edited by T. W. Sanders. Illustrated. 4s.

Pears and Plums, The Book of. By the Rev. E. Bartrum, D.D. Illustrated 3s.

Popular Hardy Perennials. By T. W. Sanders. 400 Pages. Well Illustrated. 7s.

Profitable Fruit Growing. T. Wright, F.R.H.S. 1s. 3d.

Primula, Handbook of the Hardy. By H. M. Paul. An Illustrated Work on the Culture,

PRESENT-DAY GARDENING. Edited by R. Hooper Pearson. Managing Editor of the GARDENERS' CHRONICLE. Each of the seventeen volumes contains 8 full-page Coloured Plates. 3s. each.

Pruning, Grafting and Budding. The Handy Book on, Third Edition. By James Udale. Illustrated. 1s. 9d.

Rock and Alpine Gardening. By. H. Hemsley, rockwork expert. A practical guide to the making of Rock, Alpine, Wall and Water Gardens. Profusely Illustrated. 1s. 3d.

Rock Gardens and Alpine Plants. By T. W. Sanders. Illustrated. 6 Plates in Colour. For large and small gardens. 5s. 6d.

Root and Stem Vegetables. By the late Alexander Dean. Contains 8 full-page Coloured Plates. 3s.

Roses and Their Cultivation. By T. W. Sanders. Eleventh Edition. 220 Pages. 8 coloured Plates and many other illustrations. 5s. 6d.

(The above prices include postage.)

To be obtained from—

THE PUBLISHERS,

41, Wellington Street, Covent Garden, W.C.2.

The Gardeners' Chronicle

FOR ADVERTISEMENTS TO BE INSERTED ON AND AFTER JANUARY 3, 1920, THE SCALE OF CHARGES WILL BE AS BELOW.

Advertisements intended for insertion in the next issue MUST reach THE PUBLISHER not later than

TUESDAY, 5 p.m

	Ordinary Positions.	Facing matter or back cover.
Page	£12 0 0	£15 0 0
½-Page	6 0 0	7 10 0
¼ Page	3 0 0	3 15 0
Column	4 0 0	5 0 0
½ Column	2 0 0	2 10 0

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Per line (8 words), after	1 0
Per inch, single column	8 0
Per inch, across 2 columns	16 0
Per inch, across 3 columns	£1 4 0

Front page (no display allowed), 2/- per line space (headline counted as two lines).

SITUATIONS WANTED.

First 3 lines (not exceeding 20 words), 2/-, and 6d. for every additional 8 words or portion thereof.

(Advertisements at this Special rate are only accepted direct from Gardeners, &c.)

DISCOUNTS

On front page advertisements no discounts are allowed. On all other advertisements they are allowed as follows: For three insertions, 5%; thirteen, 10%; twenty-six, 15%; fifty-two, 20%.

All Advertisements should be addressed GARDENERS' CHRONICLE, Ltd., and must reach the office before 5 p.m. on TUESDAY for inclusion in the issue of the same week.

All series must be arranged to attain completion within twelve months.

Advertisers may have replies to their advertisements addressed to the GARDENERS' CHRONICLE Office. A box fee of 1s. is charged for this service.

Cheques and Postal Orders are to be made payable to GARDENERS' CHRONICLE, LTD., and crossed "& Co."

41, Wellington Street, Covent Garden, W.C.2.

Telegrams, "Gardchron, Rand, London." Telephone: Gerrard 1543.

ROOT AND STEM VEGETABLES

By the late

ALEXANDER DEAN, V.M.H.

Beautifully illustrated in colour by the well-known artist, Mr. T. Ernest Waltham, F.R.H.S.

This is a book which should be on the shelves of everyone who cultivates the more ordinary vegetables. It tells you how to get the best value out of the land at your disposal, and how to produce fine, healthy tubers and roots with the least expenditure of trouble.

Price 3/- post free from

GARDENERS' CHRONICLE Ltd.,
41, WELLINGTON STREET, LONDON, W.C.2

ROYAL GARDENERS' ORPHAN FUND

B. WYNNE, Sec.,
19, Bedford Chambers, Covent Garden, London, W.C.

SITUATIONS VACANT.

Twenty words (or three lines including headline), **3s.** *and* **6d.** *for every succeeding eight words (or line or portion thereof). Fee for having replies addressed to this office,* **6d.**

After the end of 1919.—*Twenty words* **4s.**, *and* **1s.** *for every succeeding eight words. Fee for replies to this office,* **1s.**

Gardeners desiring their Advertisements repeated must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.

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PRIVATE.

SOMERSET AGRICULTURAL EXECUTIVE COMMITTEE.

REQUIRED, a capable HEAD WORKING GARDENER, to take charge of a Training Centre for Disabled Soldiers at Cannington, near Bridgewater; must be competent to give a thorough practical training in Market Gardening, Fruit Growing, Poultry and Pig-keeping; experienced in the management, discipline, and catering for a number of men essential; preference given to an ex-N.C.O. of the requisite knowledge.—Write, stating age, salary required, together with two recent testimonials, to CHIEF EXECUTIVE OFFICER, Billet Street Chambers, Taunton.

WANTED, HEAD GARDENER (WORKING).—Apply, stating capabilities, wages, etc., to T. JESSOP, West Ashby Grove, Horncastle, Lincolnshire.

WANTED, married couple to live in, man as Single-Handed Gardener, generally useful; wife as cook; another maid kept.—Apply, R. J. PARSONS, Herons Court, Heronsgate, Chorley Wood, Herts.

WANTED, MAN to take WORKING LEAD in extensive Ornamental Grounds; experienced in lifting and replanting shrubs, etc.; married man, whose wife would undertake management of bothy, 4 or 5 young men; good cottage, and 42s. per week, extra for bothy. Also good GARDEN LABOURER, 36s. 6d. per week, and small cottage.—Particulars of experience, age, etc., to GEO. GURNEY, Bodnant Gardens, Taly-Cafn.

WANTED, KITCHEN GARDENER (experienced); 41s. per week, with cottage, if married; overtime and duty extra.—LOASBY, Manor Gardens, Ashby-de-la-Zouch.

KITCHEN GARDENER wanted (single); good, capable man required.—State wages, etc., to BATH, Pennington House Gardens, Lymington, Hants.

WANTED IMMEDIATELY, for Paris, a young Gardener for Outside work; must speak French and English.—Apply in first instance, to G. B., Box 20, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, SECOND GARDENER; one able to take charge of Vinery and Peach houses, and Outside work; age about 28; also a third man with some experience, and Glass and Outside; cottages provided; state experience, and wages required, also send references.—R. LUCKING, Glastonbury, Bletchley, Bucks.

GARDENER (JOURNEYMAN) wanted, with good experience, both Inside and Outside; married; age about 30; wages 36s. per week, with cottage and garden.—Write full particulars to A. SMITH, Stoodleigh Court Gardens, near Tiverton, Devon.

WANTED, for Fruit and Plant Houses, two equal JOURNEYMEN; 36s. 6d. per week with bothy and vegetables; duty each third week 6s. extra.—W. LLOYD, Rushton Hall Gardens, Kettering.

WANTED, JOURNEYMAN, Outside; Gloucestershire; Scytheman an advantage; wages 31s. per week; bothy, and duty paid; one o'clock Saturdays.—Particulars, D. J., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, good JOURNEYMAN for Fruit charge; must be thoroughly recommended; wages 35s. per week, bothy, milk, and vegetables; 1 o'clock Sat.—F. CAPP, Nostell Priory Gardens, Wakefield.

WANTED, experienced JOURNEYMAN for Pleasure Ground work; wages 35s. and bothy.—Apply, HEAD GARDENER, Coombe Court, Kingston-on-Thames.

JOURNEYMEN (Inside) wanted; please state age and experience, with wages required; bothy, milk and vegetables.—C. GARRATT, Canwell Hall Gardens, Sutton Coldfield.

WANTED, MAN with experience, for Inside and Out; wages 32s. per week; 6s. duty, bothy and vegetables.—W. MILES, Caversham Park Gardens, Reading.

STRONG YOUTH wanted for Inside; state age, wages required with bothy, milk and vegetables.—C. GARRATT, Canwell Hall Gardens, Sutton Coldfield.

WANTED, YOUTH, age 17 or 18 years, to assist Gardener, Inside and Out; wages 28s. to 30s.; no bothy.—Mrs. CADISCH, Hazlewood, Haslewood Lane, Palmers Green, N.

WANTED, for Reedens School of Gardening, Newick, Sussex; Lady to work under Principal; one who can lecture on Elementary Botany preferred; must be a keen worker, and able to handle students.—Apply, PRINCIPAL.

TRADE.

WANTED, after Christmas, for small Nursery near London; Working Foreman, experienced in Tomatoes, Cucumbers, Chrysanthemums; dwelling house on Nursery; good wage to suitable man.—Apply by letter, enclosing references, to C. B., 22, Trafalgar Square, Chelsea, S.W.3.

LANDSCAPE FOREMEN (WORKING) wanted; must be well up in Trees, Shrubs, and Herbaceous Plants.—Particulars as to experience, wages, to CLIBRANS, Altrincham.

WANTED, SUB-FOREMAN; must be used to lifting Shrubs; single.—State qualifications and wages required, JOHN WATERER, SONS & CRISP, LTD., Bagshot, Surrey.

WANTED, well-experienced PROPAGATOR of general Soft-wooded Stuff, and especially Dahlias, for Nursery near London.—Full particulars to CARTER PAGE & CO., LTD., 53, London Wall, London, E.C.

WANTED, first-class man for landscape work; must have expert knowledge of Rock Gardening.—Apply, stating salary required, to WHITELEGG & CO., Nurseries, Chislehurst.

WANTED, energetic YOUNG MAN; must be successful propagator of Hardy Trees, Shrubs, American and Climbing Plants.—Apply, with particulars of experience and wages expected, to G. C., Dicksons Nurseries, Chester.

WANTED, smart young GROWER (single) as SECOND; must be experienced in Tomatos, Cucumbers, etc., and with a good general knowledge of Inside work.—State age, experience, wages required, and copies of testimonials, WRIGHT, Nurseries, Pangbourne, Berks.

WANTED, SINGLE MAN for Cucumbers; well up to his work; able to take charge 500 or 600 ft.—State age, wages, references, to W. RIX, Clifton Fruit Growers, York.

WANTED, YOUNG MAN for Propagating department, Alpines and Herbaceous; good wages to energetic man with experience.—WHITELEGG & CO., Nurseries, Chislehurst.

WANTED AT ONCE, two single, active YOUNG MEN for Outside, principally Roses.—State experience and wages required, THOS. ROBINSON, Porchester Nurseries, Nottingham.

WANTED AT ONCE, two single, active YOUNG MEN with knowledge of Pot Stuff, Bulb Forcing, etc.—State wages required and experience, to THOS. ROBINSON, Porchester Nurseries, Nottingham.

SEED TRADE.—Wanted, experienced SHOPman, to take charge of Branch Establishment; house found; state age, wages, and experience.—Apply, A. McMULLEN AND CO. LTD., The Wash, Hertford.

WANTED, Invoice Clerk to assist also in other work of Nursery Office.—State age, references, and wages required, to WM. PAUL AND SON (Waltham Cross), Ltd., Royal Nurseries, Waltham Cross, Herts.

SAMUEL FINNEY & CO., LTD., Newcastle-on-Tyne, require smart Invoice Clerk; preference given to man with knowledge of Farm and Garden Seeds; permanent and progressive situation.—Write stating experience, age, and salary required, to above.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

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PRIVATE.

THE EARL of DONOUGHMORE wishes to very highly recommend his present HEAD GARDENER, who has had considerable experience in all branches, including land, stock, and estate; he has given complete satisfaction, and leaves for no fault.—THURSTON, The Gardens, Chelwood Beacon, Uckfield.

E. ARMITAGE, Esq., Downfield House, Stroud, Glos., highly recommends HEAD GARDENER; just demobilised; three years' previous as Head; life experience; age 36; married (one child, age six).—A. BUCK, Berriman, Lypiatt, Stroud, Glos.

MRS. McCALMONT wishes to recommend her HEAD GARDENER; thoroughly experienced in all branches of profession; management of men, land and stock; estate sold.—ROBERT HALE, Bushey House, Bushey, Herts.

MR. CONWAY highly recommends his Gardener as HEAD where two or three are kept; life experience in all branches; age 35; married.—FOSTER, High Beech, Hollington, St. Leonard's-on-Sea.

GENTLEMAN recommends GARDENER, Head or Single; competent and obliging; age 32; single.—Apply, to E. GRAHAM, Esq., J.P., Forston House, near Dorchester, Dorset.

GARDENER (HEAD); life experience in all branches; highest references, including Waddesdon Manor, Chatsworth, Elvaston Castle, Bretby Park; demobilised; age 36.—R. S., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

HEAD GARDENER, recently demobilised, life experience in first-class establishments; late Head, Powis Castle Gardens, Welshpool, six years; previous Fruit Foreman, Eaton Hall Gardens, Chester, 8½ years; also three years Elvaston Castle Gardens, and other good estates; can be highly recommended as above.—GEORGE JOHN BARNES, 42, Ladysmith Road, Heavitree, Exeter.

HEAD GARDENER. — Hard-working, conscientious, middle-aged man wants employment where devoted service and good results will be appreciated.—R., c.o. T. Lewis, 45, Uxbridge Road, Hanwell, W.7.

HEAD GARDENER, recently demobilised, life experience; seven years as Head, Trelissick, Truro; three years Head, Montreal Park, Sevenoaks, Kent; excellent references; age 38; married (two children).—R. C. DAY, Mill Street, Mattishall, near East Dereham, Norfolk.

GARDENER (HEAD); first-class experience in large establishment; Fruit, Decorative Plants, Roses, Carnations, Alpines, Herbaceous Plants, Ornamental Trees and Shrubs; expert Rockwork Builder and Landscape Gardener; highest references.—T. BENNETT, 16, Constantine Road, Hampstead, London, N.W.

GARDENER (HEAD or good SINGLE-HANDED); 28 years' experience, 11½ years as Head; good references.—REYNOLDS, Wyedene, Tintern, Chepstow, Mon.

NOTICE TO ADVERTISERS.

Advertisements intended for insertion in the issue of December 27 MUST reach us not later than the first post on MONDAY MORNING, the 22nd inst. All advertisements received after that post will be held over until the following week. Gardeners' Chronicle, Ltd., 41, Wellington Street, W.C.2.

MR. A. J. KERRY, Springfield, Cotham Road, Bristol, recommends demobilised Sergeant as HEAD WORKING GARDENER; life experience in all branches; keen, energetic and skilful cultivator; married; age 31; of proved ability and integrity of character.

MAJOR THURLOW highly recommends his late HEAD WORKING GARDENER; capable manager of large gardens; life experience in all branches, Inside and Outside, marketing produce; abstainer; age 46.—SNELGROVE, Buckham Hill, Uckfield, Sussex.

HEAD WORKING GARDENER; thorough practical life experience, gained in first-class establishments, in all branches, Inside and Out; excellent references; highly recommended; age 35; R.H.S. Certificates. — ROOSE, Beeley, Rowsley, Derbyshire.

GARDENER (HEAD WORKING), where two or more are kept; life experience Inside and Out; highly recommended; age 32; married (no family).—REED, 14, Tudor Road, Reading.

GARDENER (HEAD WORKING); first-class experience in Fruit, Flowers and Vegetables; Inside and Out; Orchids and Carnations; 16 years Head; highly recommended; age 48; married (no family).—HEATH, North Lodge, Mark Hall, Harlow, Essex.

HEAD GARDENER (WORKING) seeks situation where two or three are kept; 17 years' experience; good references; age 30; married (one child). B. LANE, Shobrooke, Crediton, Devon.

GARDENER (HEAD WORKING), where two or more are kept; 20 years' practical experience, Inside and Out; 7½ years last situation as Head; excellent references; age 36; married (no family); demobilised.—W. LAWSON, Castle Hill, Marshbrook, nr. Church Stretton, Shropshire.

GARDENER (HEAD WORKING) seeks situation, with cottage; life experience all branches; good references; age 34; married (one child); demobilised.—F. HALES, 15, Bridge Street, Congleton, Cheshire

HEAD WORKING GARDENER.—Gentleman giving up his estate, wishes to thoroughly recommend the above; 30 years' experience in all branches of Horticulture; Gold Medalist for both Fruit and Vegetable Culture; 17 years' as Head; age 43.—HAGUE, Westhaugh, Pontefract.

GARDENER (HEAD WORKING) seeks situation, two or three under; life experience; manage electric light and stock if required; 9 and 8½ years' excellent references; married; age 45.—C. O., Box 8, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD WORKING); practical experience in all branches; good references; demobilised; married (no children). State terms.—SOLLEY, St. Clare, Four Marks, nr. Alton, Hants.

GARDENER (HEAD WORKING) or GARDENER-BAILIFF; thorough practical life experience all branches; several years Head in good families; thoroughly reliable and highly recommended; married (family out).—W. F., Box 22, 41, Wellington Street, Covent Garden, W.C.2.

HEAD WORKING GARDENER where several are kept; practical knowledge, Inside and Out, Fruit, Flowers, and Vegetables; life experience in good establishments; excellent references from previous employers; age 35; demobilised.—F. FISHER, The Bowers, Yattendon, Newbury, Berks.

GARDENER (HEAD WORKING), life experience; good references; age 38; married (no family).—G. RAPLEY, 17, Esmond Road, Kilburn, N.W.6.

GARDENER (HEAD WORKING), where one or two kept; life experience; five years' Head, previous to joining Army; excellent credentials from good situations; married; aged 38.—HALL, Highlands Cottage, Hassocks, Sussex.

GARDENER (SINGLE-HANDED or with help); married (no family); age 35; experienced Inside and Out; good references; just demobilised.—L. TANDY, Toddington, near Winchcombe, Glos.

A GENTLEMAN recommends his SINGLE-HANDED Gardener, leaving owing to lack of cottage accommodation; free now.—Apply, FOX, "Wayside," Chipstead, Surrey.

GARDENER (SINGLE-HANDED); good references; age 29; married (no family); good experience, Inside and Out; near Cambridge preferred.—Apply, G. WEBB, Swaffham Prior, near Cambridge.

GARDENER (SINGLE-HANDED, with help); life experience, Inside and Out; discharged soldier; single; age 26; abstainer; good references.—Please state wages, F. ASKEW, Dedham, Essex.

GARDENER (28), married, seeks situation, SINGLE-HANDED or otherwise; well up in Kitchen Garden, Herbaceous and Pleasure Grounds; well recommended. State wages given.—SMALL, Hill House Hill, Bramshott, Liphook, Hants.

GARDENER (SINGLE-HANDED) seeks situation married (no children); age 27; life experience; good references; Surrey preferred; just demobilised.—Address, W. CHITTY, Stourvale, Barrack Road, Christchurch, Hants.

LADY wishes to thoroughly recommend her late GARDENER, in her employ five years, where two or more are kept; life experience in all branches; excellent references; age 35; married (one child); estate sold.—F. WHITE, The Lodge, Dellfield, Cowley, Middlesex.

ADVERTISER desires engagement with Lady or Gentleman, to run Gardens on commercial lines or otherwise; 12 years' experience, all branches, gained in up-to-date Nurseries; used to large quantities of Glass; held position as Nursery Foreman previous to war; demobilised; age 31; married (one child); wife good cook; services if required; cottage essential.—H. DUNNING, Bradley Green, Feckenham, Redditch.

GARDENER (demobilised) seeks situation as HEAD; 16 years' experience in all branches; highly recommended by previous employers; age 31; married (no family).—A. ALDRIDGE, 47, Fifth Avenue, Queen's Park, London, W.10.

EX-SERVICE MAN seeks situation as KITCHEN GARDENER or Pleasure Groundsman; age 31; married (one child); good references. L. D., Box 11, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (good SECOND); eleven years' general experience; age 28; married (no family); disengaged January 1.—W. WALKER, The Stables, Alderbourne Manor, Gerrard's Cross, Bucks.

UNDER-GARDENER seeks situation; experienced Inside and Out; good reference; age 24; demobilised.—W. BUTCHER, The Cottage, Wickhamford, nr. Evesham.

FOREMAN (INSIDE) in good establishment).—Mr. Weston, Eastwell Park Gardens, Ashford, highly recommends A. J. COTTERELL as above; age 30; single.—Address, Shopwyke House Gardens, Chichester.

FOREMAN (INSIDE); life experience in Fruit, Plants, and Decorations; highest references; single; age 30; demobilised Staff-Sergeant; disengaged.—GUNNINGHAM, Probus, Cornwall.

FOREMAN seeks re-engagement; 11 years' practical experience gained in good establishments; two years' Inside Foreman, Tredegar Park; previously Foreman Bicton, Devon; abstainer; disengaged early in January.—BERTRAM J. HEDGER, Tredegar Park Gardens, Newport, Mon.

FOREMAN (INSIDE).—James S. Kelly, The Gardens, Claremont, Esher, confidently recommends his FOREMAN, F. G. HUXFORD, to any Gardener requiring a thoroughly practical man; first-class experience in Fruit and Plant Houses, including House and Table Decoration; age 28.

FOREMAN (INSIDE), age 30; I can thoroughly recommend good Man as above.—F. J. FOSTER, Grimsthorpe Castle Gardens, Bourne, Lincs.

FOREMAN or good SECOND, Inside or Inside and Out; 14 years' experience; good references; age 32; disengaged.—CROFT, Newton Valence, Alton, Hants.

MR. ANDREW PATTINSON, Head Gardener, Springfield, Oakham, Rutland, wishes to recommend BADEN BARBER as Journeyman; Inside and Out; age 20; bothy preferred.

JOURNEYMAN seeks situation as FIRST, Inside; eight years' experience in Vines, Peaches and Plants; excellent reference.—F. FOREST, Willesby, Ashby de la Zouch, Leicestershire.

IMPROVER, age 19, requires situation, chiefly Outside; three years' previous experience; bothy preferred.—ALLAN MILES, Liscombe Park, Leighton Buzzard, Bucks.

YOUNG MAN, 24, single, seeks progressive situation; 7 years' good practical experience, Inside and Out, including 3 years Oldlands Hall, and 2 years present, as Foreman; Army discharge; excellent refs.; disengaged Jan. 3.—WM. BRYAN, The Gardens, Belsize Court, Hampstead, N.W.3.

TO GARDENERS and Nurserymen.—Situation required (Inside preferred), for boy 14½ years; well advanced in Outside garden work; useful and reliable; bothy.—Write, D. TWYNNING, The Limes, Upper Stratton, Swindon, Wilts.

LADY GARDENER, trained 1916, experienced Glass and Outdoor work; at liberty now.—A. B. S., The Poplars, Brackley, near Newmarket.

LADY, 15 years' Gardening experience, desires post; good refs.; or would undertake Poultry, Rabbits, Goats and Bees; thorough knowledge and practical experience.—E. L. KING, 24, Abbot Street, Craigie, Perth, Scotland.

TWO LADY GARDENERS desire post together, under good Head, or as Head and Under Gardener respectively; former has Swanley Diploma, and five years' subsequent experience; South of England preferred.—T., Camorta, Leonards Road, Eastbourne.

WOMAN GARDENER seeks post; over four years' experience under Glass, in Fruit and Plants; excellent refs.; Midland counties preferred.—Apply, B. B., Box 1, 41, Wellington Street, Covent Garden, W.C.2.

TRADE.

MANAGER (WORKING); thorough practical experience in management of all branches of General Nursery, Seed, Sundries, Bulb and Floral Business; good organiser; energetic; highest references.—MANAGER, Box 10, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER (WORKING); life experience Cucumbers, Tomatos, Chrysanthemums, Orchard and general Market Produce; Inside and Out; married; disengaged January.—W. W. Box 12, 41, Wellington Street, Covent Garden, W.C.2.

MANAGER or WORKING FOREMAN requires situation in Market Nursery; life experience in Tomatos, Cucumbers, Chrysanthemums, general market produce; good references.—WISBEY, Wick Cottage, Bulphan, Romford, Essex.

MANAGER or FOREMAN (34) seeks situation in Trade or Market Nursery; well up in all branches.—MANAGER, 21, Wide Bargate, Boston.

MANAGER-FOREMAN (WORKING); active, middle-age; married; 25 years' experience growing extensive production, Grapes, Tomatos, Cucumbers, Mushrooms, Chrysanthemums; good references.—H. S., 8, Barrowell Ferry, Kenilworth.

PROPAGATOR and GROWER (38) seeks re-engagement as FOREMAN; life experience; thorough general knowledge of the Nursery Trade; highest testimonials.—STRANGE, 2, Whitchurch Road, Pangbourne Berks.

GROWER of Ferns and Foliage Plants for Market; single.—G. SELLER, 9, Blenheim Road, Reading.

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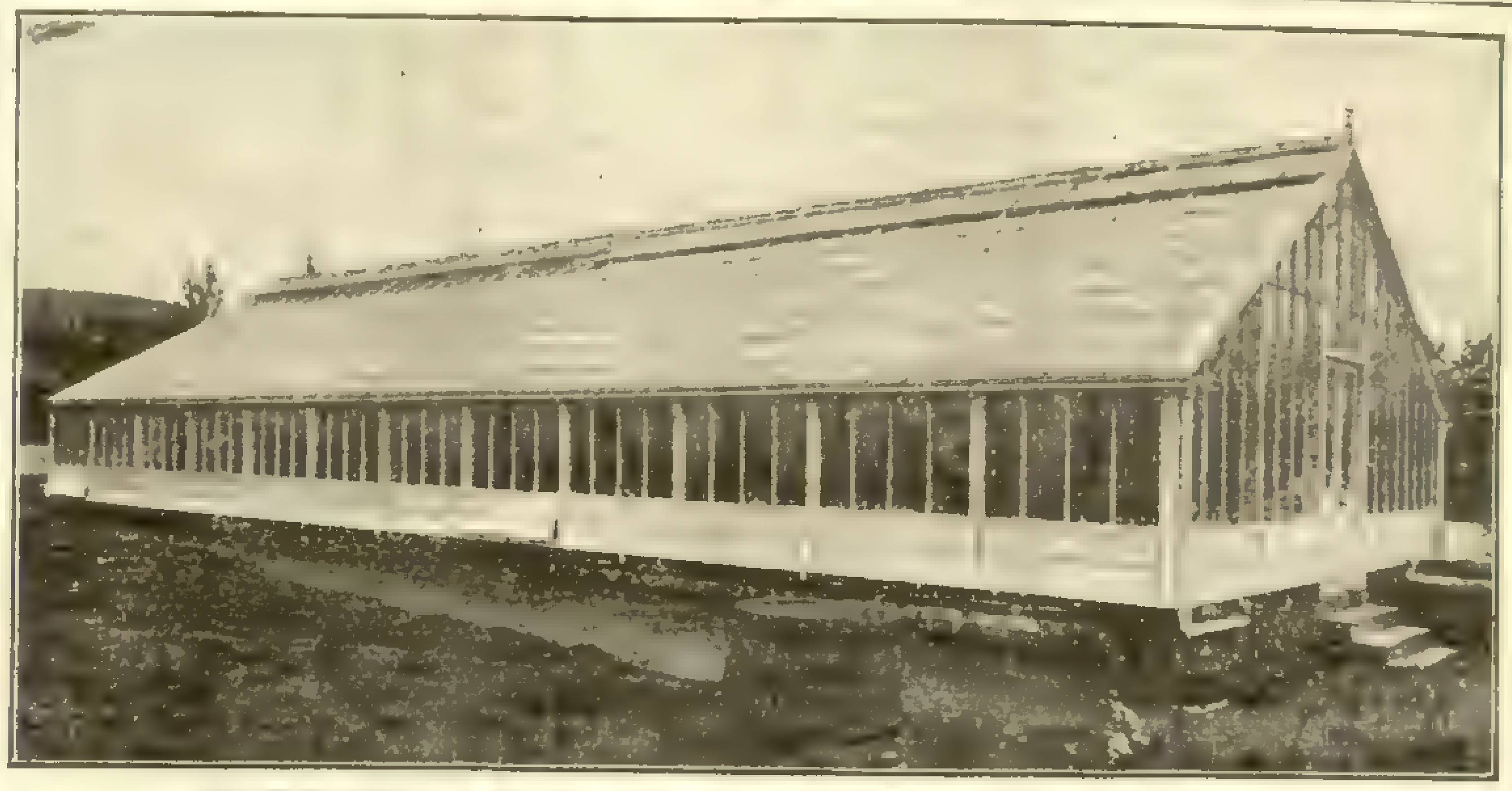

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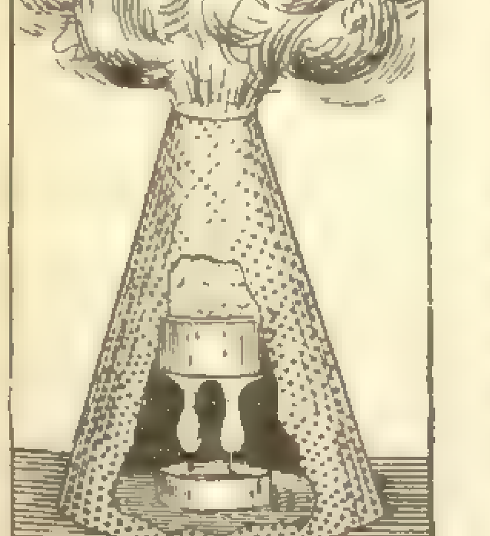

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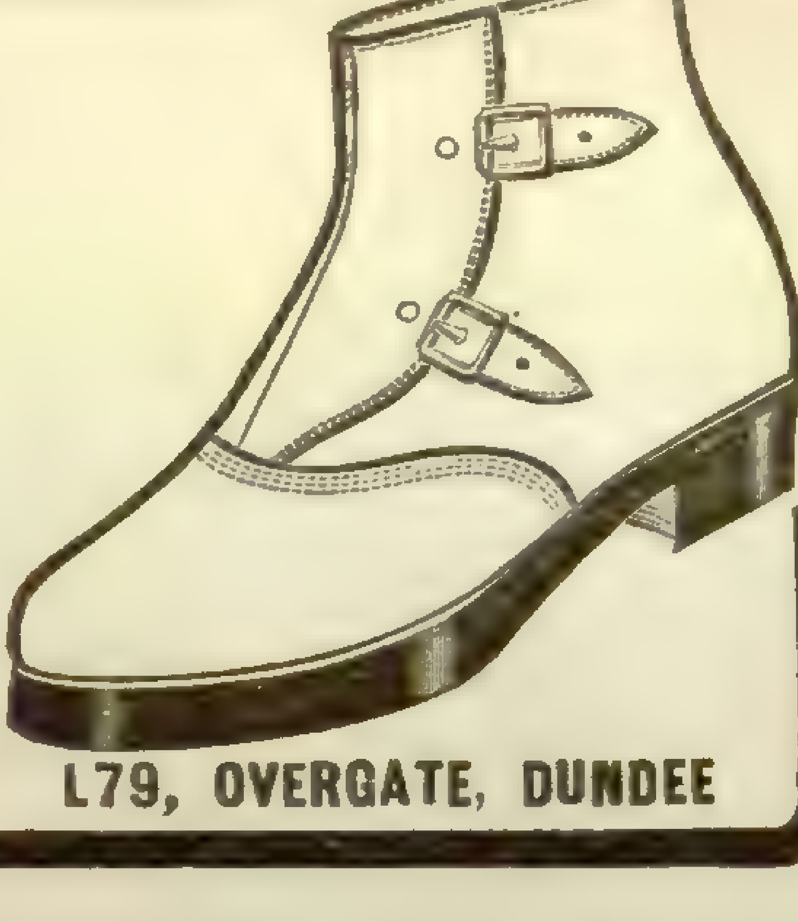

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Gardeners' Chronicle

No. 1721.—*SATURDAY, DEC.* 20, 1919.

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Average Mean Temperature for the ensuing week deduced from observations during the last fifty years at Greenwich, 38.4°.

Actual Temperature:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Wednesday*, December 17, 10 a.m.: Bar. 30.0; temp. 42°. Weather—Foggy.

*** **OUR ALMANAC.** | According to our usual practice, we shall shortly issue a *Gardeners' Chronicle* Almanac for the year 1920. *In order to make it as useful as possible for reference, we shall be obliged if Secretaries of Horticultural, Botanical and Allied Societies, or any of our correspondents, will send us* IMMEDIATE INTIMATION *of all fixtures for the coming year.*

Economic Biology. The meeting of the Association of Economic Biologists, held on the 10th and 11th inst., was interesting, not only by reason of the technical subjects which were discussed, but also because of the evidence which was forthcoming that the organisation of research in biological problems relating to agriculture, horticulture and forestry is proceeding apace. Having regard to the importance of such investigations—even from the financial point of view—it is essential that there should be a sufficient number of workers to cover the wide fields of investigation. At present there are not, and even with the inducements which are now being held out to students to engage in research in economic biology it must be some years before the numbers of investigators are sufficient. Nevertheless, there is good ground for hoping that the provision for investigation will be on a less inadequate scale in the future than it has been in the past. Sir Daniel Hall, in opening the conference, which constituted the proceedings of the meeting on the second day, gave an admirable survey of the organisation which is being set up by the Board of Agriculture in co-operation with the research institutions in different parts of the country. He explained that the policy of the Board was, in the first place, to provide financial assistance to these institutions and thereby to enable them to increase and pay more adequately their staffs of investigators. In the second place, the Board proposes to appoint a sufficient number of mycologists and entomologists to act as advisors in their several districts. Though all investigators engaged in economic reseach in biology must be in touch with practical growers, the advisory staffs of the institutes must keep in the closest touch possible with practice. It is their duty to discover and help to solve problems of local economic importance; just as it is the duty of the research staff proper to study the more profound and long-distance problems which affect cultivators generally. Beside the staffs of the Research Institutions—at Rothamsted, Cambridge, Long Ashton, Wye, and elsewhere—there has been recently established at Rothamsted a Research Institute in Plant Pathology, which will be the headquarters of the technical staff of the Board. Although generally research is best left to independent institutions and not undertaken by Government departments, yet since the ultimate responsibility for controlling outbreaks of diseases rests with the Board it is necessary that the authorities should have the means of conducting specific investigations demanding immediate study, and that they should be able to organise at any moment a field laboratory which could be transferred to the sphere of action of a given pest with the object of studying it on the spot and devising means of checking or destroying it.

So far then as organisation goes there is good ground for believing that entomologists and mycologists will have more ample and adequate means for assisting cultivators than have previously existed. To ensure that the researches themselves produce beneficent results it is necessary to recruit men of high ability and sound training, and having recruited them to ensure them a career. This also the Board of Agriculture hopes to do, and although it is not possible to make the profession of research attractive financially it will, we hope, prove possible to ensure that a research worker shall be able to count upon a salary which will keep him from actual want. Yet another aspect of the organisation which deserves commendation is the association of practical growers with the governance of Research Institutions. Nothing but good can come from such an association. The researcher is kept in contact with the grower, and the latter learns something of the intricacy and difficulty of scientific investigation. In the past the harvest of pests has been plentiful and the labourers few; now, with the brighter prospect of increasing the latter, we may look to see in the future a welcome failure of the former.

Retirement of the King's Gardener at Balmoral Castle.—After twenty-eight years' honourable service under three British Sovereigns as gardener at Balmoral Castle, Mr. John M. Troup has retired from active service and will make his home in a cosy cottage on the Royal demesne overlooking the River Dee, the pine-clad Craig-na-Ban, and the dark, frowning glories of steep Lochnagar. Born in the city of Aberdeen in the late '40's, Mr. Troup has entered upon his 71st year. He served his apprenticeship with Messrs. Ben. Reid and Company, and was for 24½ years with that firm. For the greater part of that period Mr. Troup was in charge of the floral department, and on the death of Mr. Paterson, Troup was appointed his successor at Balmoral. Mr. Paterson was gardener at the Castle when it was purchased by Queen Victoria, and he served Her Majesty for 47½ years. Thus there have been only two head gardeners at Balmoral during the past 75 years. Balmoral is situated some 1,000 ft. above sea-level, and with climatic conditions which can be better realised when it is stated that in the neighbourhood and in the early days of last month 42 degrees of frost and 22 inches depth of snow were registered. Mr. Troup made many alterations in the gardens, and especially provided for a beautiful display of bright flowers during the Court's autumn stay at Balmoral. The late King Edward was a great lover of Roses, his special favourite being the beautiful, free-flowering, cluster, Chinese variety, Hermosa. Mr. Troup was quick to anticipate the King's wishes, and soon had a capital display of this Rose in the gardens. Mr. Troup has been often complimented on the magnificent display in the herbaceous borders, situated to the south and south-east of the Castle in the autumn when the Court is in residence. The display included brilliantly coloured Phloxes, exquisite clumps of the beautiful Lythrum roseum superbum, various shades of blue Aconitums, sweet-scented Roses, the fine "Golden Glow" double Rudbeckia, finely-coloured Antirrhinums, border Carnations, Delphiniums, Geums, Epilobiums, Eryngiums, Gaillardias, Lupinus, Monarda, Lychnis, Heuchera, Potentilla, Montbretia, Pentstemons, Polemoniums, Veronica, Spiraea, Helianthus, Galega, Scabiosa, and Lysimachia. Mr. Troup is a typical Scot, hame-ower, if somewhat brusque in manner, and always speaks his mind, whether addressing prince or peasant. He retires with the best wishes of a host of friends, and is succeeded by his son-in-law, Mr. Robert F. Chalmers.

The Berberis Dell at Kew.—The introduction from China of many new Barberries during recent years has at least doubled the number of species in cultivation in gardens. To accommodate these in the Kew collection it has been found necessary to re-arrange the plants on the mound in the centre of the Berberis Dell. The removal of an Atlas Cedar and several large specimens of Berberis vulgaris varieties has provided the opportunity to make a grass walk over the centre of the mound. Visitors will now have a much better opportunity of examining individual plants. Among the newer Berberis, both deciduous and evergreen, there are numerous distinct and highly ornamental species.

Presentation to a Gardener.—The estate of Troqueerholm, Kirkcudbrightshire, having been sold, the neighbours and friends of Mr. James Davidson, the gardener and farm manager, made him a presentation as a token of their high esteem. The presentation took the form of a gold hunter watch, and was made by the Rev. J. Wilson, minister of the parish.

Trees and Shrubs with Ornamental Fruits.—While the berries of the Holly receive most attention during the Christmas season, the fruits of a few other trees and shrubs are prominently conspicuous in the shrubbery borders and pleasure grounds. Cut for decorative use indoors, in association with Holly, these add considerably to the general effect. On several large trees of the Siberian Crab (Pyrus baccata) at Kew, the bright red fruits still hang so thickly as to weigh down the branches. The orange and yellow fruits of Crataegus Carrieri are conspicuously ornamental in mid-winter, and the wide-spreading bushes of Cotoneaster rotundifolia are brilliant with sealing-wax red fruits. On Berberis Stapfiana and B. subcaulialata there is an abundance of salmon-red fruits, whilst on a wall Pyracantha angustifolia is noticeable for its clusters of golden fruits.

The Potato Crops.—According to the monthly Agricultural report of the Board of Agriculture Potatos have practically all been lifted under very favourable conditions; the crop is (except in the extreme south-western counties, where disease is reported to be rather prevalent) sound, and unusually free from disease. The tubers are, however, small; and the total production in England and Wales, from an area of 475,000 acres, amounts to 2,732,000 tons, being at the rate of 5.7 tons per acre, or three-fifths of a ton below the average.

Botanical Magazine.—This valuable botanical work is still issued in tri-monthly parts. The publication of the October-November-December issue is still delayed, owing to a difficulty in obtaining suitable paper, and the same trouble was responsible for a belated issue of the July-August-September parts. The following plants have been illustrated and described in Nos. 169—177, comprising the parts from January to September, 1919, being tabs. 8786 to 8818:—Rhododendron auriculatum, Isabelia virginalis, Ipomoea dasysperma, Rhododendron callimorphum, Aloe concinna, Primula chasmophila, Bulbophyllum robustum, Protea longifolia, Govenia lagenophora, Deutzia compacta, Primula tibetica, Liparis macrantha, Malus rivularis, Wittia panamensis, Lonicera similis, var. Delavayi, Primula bellidifolia, Rhododendron oleifolium, Calanthe tricarinata, Lonicera chaetocarpa, Desmodium cinerascens, Ipomoea Pes-tigridis, var. longibracteata, Disporum pullum, var. brunnea, Kochia scoparia, forma trichophila, Odontoglossum cristatum, Abelia longituba, Wistaria venusta, Iris Reichenbachii, Delphinium Pylzowii, Mesembryanthemum nobile, Rhododendron dichroanthum, Primula chionantha, Brachystelma foetidum, and Crataegus Wattiana. The more promising of the new plants for gardens are Rhododendron auriculatum, tab. 8786, a Chinese species with large flowers varying from white to red, and produced in the latter part of July; the plant may prove the progenitor of a race of hardy, late-flowering hybrids; R. callimorphum, tab. 8789, bearing some outward resemblance to R. campylocarpum and with strikingly handsome flowers of rosy-red; Primula chasmophila, tab. 8791, collected in Bhutan by Mr. Cooper, the plant grows about three inches high, h[e] radical, stalked leaves 1—1¼ inch long, and deep violet-coloured flowers, generally in a head of three, on a peduncle 2½—3 inches long; Deutzia compacta, tab. 8795, which forms a bush about 4 feet high and is one of the latest Deutzias to flower, the inflorescence forming a globose corymb of pinky-white blossoms; Wittia panamensis, tab. 8799, a member of the Cactaceae, with stems resembling those of Epiphyllum and producing tubular, deep purple flowers at the bases of the crenations; Lonicera similis, var. Delavayi, tab. 8800, a hardy, evergreen climber, flowering in August; the long, narrow corolla is yellow; Lonicera chaetocarpa, tab. 8804, a shrub, about 5 feet high, stated to be one of the best of the newer Honeysuckles; the flowers develop in axilliary clusters in June and are Primrose yellow; Abelia longituba, tab. 8810, a dwarf, floriferous shrub, with clusters of pinkish flowers; Delphinium Pylzowii, tab. 8813, gathered by Przewalski at elevations of 9,000—11,000 feet on the Kansu border; the plant is a hardy perennial with showy, dark azure-violet blossoms; Rhododendron dichroanthum, tab. 8815, a purplish-red flowered species from Western Yunnan, and Primula chionantha, tab. 8816, a noble plant with large white flowers developed in more than one whorl.

Award of the Veitch Memorial Medals.—At a meeting of the Veitch Memorial Trustees, held recently at the Royal Horticultural Hall, Westminster, the Veitch Memorial Gold Medal was awarded to the Rev. W. Wilks, V.M.H., on his retiring from the Secretaryship of the Royal Horticultural Society, in recognition of his great services to horticulture during his very successful tenure of that position for 32 years. A similar medal was also awarded to Mr. William Crump, V.M.H., on his retiring from the position of gardener at Madresfield Court, Malvern, which he had held for about 40 years, "during which time by his energy, skill and practical knowledge in every branch of his profession, the gardens became amongst the most celebrated in Great Britain." It was decided to offer two large silver medals to the Royal Horticultural Society to be awarded at their provincial exhibition at Cardiff in July next, one to the finest exhibit of plants by an amateur and the other to the finest exhibit of fruit by an amateur.

Horticultural Instructor at University College, Reading.—Mr. A. J. Cobb, whose appointment as Superintendent of the parks and pleasure gardens of Bournemouth was announced in the issue for August 16, 1919, p. 94, has been appointed to succeed Mr. E. R. Janes as lecturer and instructor in practical horticulture at the University College, Reading. Mr. Cobb will commence his new duties on January 1, 1920.

Royal Donation to a Gardening Charity.—The Secretary of the Gardeners' Royal Benevolent Institution has received from the Treasurer to H.M. Queen Mary, a cheque for £10 as a Christmas donation from the Queen to the funds of the Institution.

Supplies of Potash.—The almost complete absence of potash during the war showed how completely dependent we were on Germany for this fertiliser. Patriotic efforts to supply the

FIG. 144.—IRIS AFTERGLOW, A TYPICAL PALLIDA, BUT WITH YELLOW THROUGH THE CENTRE OF THE FALLS AND STANDARDS. (See p. 309.)

deficiency resulted in the formation of the British Potash Company, which, under the aegis of the Potash Production Branch of the Board of Trade, was successful in maintaining a steady output. Unfortunately the quantity which can be produced falls far short of the requirements of the United Kingdom. It is therefore necessary to return to the old sources of supply, but under very different conditions. The return of Alsace-Lorraine to France has broken the monopoly of the Kali-Syndikat, and in future German potash from Magdeburg will be brought into competition with Alsatian potash from Mulhouse. Supplies are already available for British cultivators from both sources, the Alsatian having been imported privately, and the German as payment for food supplied by the British Government in the spring of this year. The Board of Trade was primarily responsible for arranging the distribution of this German potash; but as the majority of the supplies will be absorbed by agriculture, the Boards of Agriculture for England and Scotland and the Department of Agriculture for Ireland were at once associated with it. The Germans were under contract to deliver f.a.s. at Rotterdam and Hamburg. The Board of Agriculture was anxious for the potash to be so distributed that one maximum price for each grade of salts could be applied to the whole country on the basis of free delivery to the purchaser's nearest station. It was not easy to reconcile all the conflicting interests involved in the complicated negotiations that led to the final arrangement, and uncertainty of the costs of freight and labour made it all the more difficult for the scheme to be financed. The representatives of the Government Departments concerned, however, spared no pains to overcome these difficulties, with the result that, while the farmer can be sure that he is not paying more than the fair price for potash, the merchant and dealer receive just sufficient remuneration to make it worth their while to undertake the risks and work of distribution. The original arrangements announced in the Food Production Leaflet 494/S.1. have had to be modified in two important respects. In the first place, the maximum prices were found to be insufficient to cover the cost of distribution and have been raised by 5s. per ton as from December 1, 1919. Secondly, merchants, mixers, dealers and co-operative societies will send their orders in future not to the British Potash Company, but to the Fertiliser Manufacturers' Association, Limited, at 155, Fenchurch Street, London. Growers may be assured that their interests are fully protected by the existence of an official committee, on which officers of the Government departments concerned sit to exercise a general direction over the sales. All that the farmer has to do is to place his order with his usual dealer or co-operative society. Full particulars of the maximum prices and the conditions of sale of potash are contained in Food Production Leaflet 501/S.1., copies of which may be obtained on application to the Board of Agriculture and Fisheries, 72, Victoria Street, S.W.1.

Silver Leaf Disease Order.—The Silver Leaf Order has now become law, to the great advantage of all fruit growers, and particularly to the growers of the "Victoria" Plum which is so very susceptible to the disease. Large acreages of the Victoria variety have been already destroyed in fruit-growing districts. Practical growers will find nothing new in the Order, save that it makes compulsory the removal and destruction of dead wood from Plum trees, which they have carried out voluntarily for years past. The real value of the Order to those who have cultivated their fruit trees carefully is that it will prevent carelessness on the part of neighbours, and it will compel those who have been content hitherto merely with cutting out the dead wood, to destroy it as well. There is reason to believe that many people still require to be taught that dead wood on the ground serves as well as the dead wood on the tree as a medium for the development of the spores of Silver Leaf disease. It should be remembered, too, that it is not only on dead wood of Plum trees that this development takes place, but on the dead wood of many other kinds. This is why the new Order enables an inspector to require the destruction by fire of any dead wood on which there are visible fruiting bodies of the disease. Some growers may wonder why the Order does not render compulsory the covering of wounds left by pruning. In point of fact, the difficulties of administering such a regulation would be so great that it must be left to the good sense of growers to attend to this matter. In cutting away affected wood they should see that it is removed well below the typical brown stain in the tissues, and excision should be followed by a good coating of Stockholm tar. While the occupier of any premises on which Plum trees are growing should cut off and burn all dead wood without further notice, the work may be done any time before April 1 in each year, save in those cases where a special notice is served by an inspector.

NOTES ON IRISES.

COLOUR IN SEEDLINGS.

In our batches of Bearded Iris seedlings there has been a noticeable similarity in the progeny of certain crosses that give an effective flower colour, viz., pallida × aurea and Bluet × Empire. In the first generation there is a perfect blending of the lavender and yellow of the parents, self in effect, but of varying intensities. Anyone familiar with Iris and who realises the usualness of the parents, would expect that this delightful blending would be found among the old varieties and the long and well-established occupants of our gardens; as a matter of fact, however, it is quite the contrary, and among some hundreds of named varieties with which I am acquainted only three show this perfection of combination. Mady Carriere is of rather a silvery blue tone with a warmth through the centre. Afterglow (see Fig. 144) shows a buff or pink-grey shading to the yellow of the haft, or beard, and Palaurea is the darkest shade, in effect Lobelia violet with a suspicion of yellow. Of these, Mady Carriere is of French production, and the others have received awards from the Massachusetts Horticultural Society. All are about three feet high and may create drifts of colour unique in the garden picture. Among the seedlings there occurs an almost perfect gradation from light to dark, and in three consecutive years there have been such similar results that 75 per cent. blended selfs and 25 per cent. pale lavenders might be counted on. Theoretically one pale yellow would develop, but it was in F_2, in an outcross, that Shekinah was produced, a pale lemon yellow of typical pallida height and habit.

In the other cross mentioned, the parents are also clear blue-lavender and yellow self seedlings (on one side at least) of pallida and aurea respectively, and again we had flowers of very similar shape and colouring, though of less height. When we consider the uncertainty of result in practically all Iris hybridisation, this coincidence, if I may term it such, is worth noting; it suggests that could we develop a sufficiently pure pink both in colour and heredity, such an Iris might vie with the soft blends of a Tea Rose.

At present the variety Wild Rose approaches within a hue of our American wild Rose and has much of its texture or surface, points of importance in any colour comparison. Unfortunately the variety does not seed easily, and quite likely the purity lies only in the colour. However, much of the fascination for the breeder in the horticultural field lies in anticipation. *Robert Swan Sturtevant, Wellesey Farms, Massachusetts.*

DIALYSIS OF FOXGLOVE.

In August last I was favoured with a peculiar specimen of the common Foxglove (Digitalis purpurea) by E. A. Bowles, M.A., who had it from Mr. T. O. Walker, Annas Bank, Carnforth. He collected it at Rosthwaite, near Keswick. Seven of the lower flowers of the raceme had undergone more or less complete dialysis of the corolla, and above this they resumed their normal form. Where the corolla had become divided to the base, the parts were practically narrow petals with a widened lamina, suddenly narrowed into a long, claw. The first gamopetalous corolla above the divided ones had a narrow, almost straight tube, so that the earlier stages of the evolving flower may have possessed claws or a narrow tube. The sudden widening of the corolla above the calyx was no doubt due to the action of the large insect visitors which effected fertilisation. It had to widen to admit them after the tube attained some length. At the present day humble bees are the most persistent visitors of the Foxglove, whether in the wild state or the garden. Four species of Bombus, at least, are recorded as visiting the flowers, though a number of smaller bees are also recorded, as unbidden guests. *J. F.*

TREES AND SHRUBS.

BERBERIS AQUIFOLIUM VAR. WILLMOTTIAE.

The common Mahonia is a very variable shrub as one sees it in gardens. Very marked differences are to be noticed in the surface of the leaves as well as in the shape and size of the leaflets. Some are of a brilliant shining green, others quite dull. It seems very probable that there are several hybrids in this pinnate-leaved section of the genus and the dull-leaved plants commonly regarded as forms of Berberis Aquifolium may be, in reality, hybrids with B. repens. Possibly also it may have hybridised with B. pinnata.

One of the most distinct forms is growing in Miss Willmott's garden at Warley (see Fig. 145). It is a shrub of close, tufted habit, growing 18 ins. to 2 ft. high. The stems are erect and densely branched, and flowers are produced very freely in the leaf axils as well as at the ends of the branches. It is, however, in the leaflets that the plant shows its great distinctness. There are usually seven of these to a leaf, and they are of a deep glossy green above, very glaucous

Fig. 145.—Berberis aquifolium var. willmottiae.

beneath, and the majority are only $\frac{3}{4}$ to $1\frac{1}{2}$ inch long; the margins are spiny, toothed and conspicuously recurved, especially towards the base. The leaves, therefore, are unusually small. At Aldenham there is a form which has been named Vicari, with leaves of about the same dimensions as in Miss Willmott's variety, but they differ in being much more conspicuously toothed, ovate (those of Willmottiae being more oval) and not decurved at the apex.

We are informed by Miss Willmott that it is now some twenty years since first she noticed the distinctness of this plant. It was then growing in a border amongst herbaceous plants, but was afterwards moved into a better position. The plant has maintained its characters ever since quite unchanged, and is now a most pleasing feature at Warley and one which always attracts attention.

BOLLE'S POPLAR.

Although this tree grows rapidly it is seldom that one meets specimens of it tall enough to emphasise its strikingly pyramidal habit. This may be partly due to the fact that it was not introduced to Western Europe till somewhere between 1875 and 1878. It is the Populus alba var. pyramidalis, Bunge, or P. Bolleana, Carrière, being simply a pyramidal variety of the White Poplar. The branches are slightly more spreading than those of the Lombardy, and the tree would prove equally conspicuous in the landscape if planted where it could be allowed to attain its natural dimensions without lopping or pruning. It could even be planted as a street tree in roomy situations. There is a shapely specimen, 50-55 ft. high, on a triangular area at the east end of Mill Street, Maidstone, and looks not only appropriate there, but handsome. It has the clean-looking, grey bark, characteristic of the White Poplar, and quite noticeable even in winter. The tree is most striking, however, during breezy days in summer, when the white under-surface of the leaves is exposed to the eye. No pruning is required, and this might be borne in mind when trees are being planted in wide streets. *J. F.*

AMORPHA CANESCENS.

This Lead Plant from Missouri has been a little disappointing, for although the species is generally hardy in Scotland, it has been lost in certain seasons. The flowers are produced in autumn at a time when they are specially welcome. In contrast to the pinnate foliage, with its white, hoary down, the panicles of bluish-purple flowers with their orange anthers are pleasing, though not showy. I have never succeeded in growing my plant three feet tall, its normal height, as it was often badly cut to the ground when it did survive the winters. *S. Arnott.*

TILIA PETIOLARIS.

With reference to the remark by your correspondent *J. F.*, on p. 287, on the pendant Silver Lime, I quite agree that a good specimen is certainly one of the most attractive of trees. The specimen here in the Botanic Garden, Cambridge, is considered a good example, its large branches drooping down on all sides to the ground.

In 1913 the tree was 65 ft. high. There are several fine trees recorded, but the finest I believe is one on the lawn at Burton, Suffolk, which was 83 ft. high in 1908. The origin of Tilia petiolaris is somewhat doubtful; Elwes and Henry consider it to be a sport of Tilia tomentosa; the branchlets, buds, and flowers are identical with those of that species, the petioles, however, are longer. *F. G. Preston, Cambridge.*

The Week's Work.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Surface Dressing Under Fruit Trees.—This work should be done whenever the weather permits. First remove any sour soil and all rubbish from the surface where roots extend, and add fibrous loam mixed with burnt refuse, bone meal and well-rotted manure, but the latter should only be added where the trees are weak in growth. Night soil mixed with lime is also a good fertiliser for fruit trees.

Winter Pruning.—Push forward this work whenever the weather permits. Where summer pruning was practised little pruning will be needed beyond thinning out spurs and dead wood, and cutting back side growths and all weak shoots. Where summer pruning was not done the trees will need thinning out and cutting back; and quite one-third of the wood should be removed from young trees to enable light to reach all parts. Excessive pruning is worse than none at all, as it induces over-strong growth; therefore experience is required to enable the operator to know exactly what and how much to remove. The earlier winter pruning is done the better, except in the case of young and newly planted trees, which are best left and cut back hard in spring, when the sap is beginning to rise. Weakly trees should be cut hard back to encourage stronger growth. Where spurs are close and well set with buds they should be severely thinned, as too much blossom is bad; by taking half the spurs away the flowers set much more freely and also produce much finer fruit.

Orchard Trees.—In large orchards, where there is plenty of room for extension, the leading shoots of trees should not be shortened very much as it does not matter if they do hang down a little. Cuts on side branches should be made at outward pointing buds and not inward pointing ones.

Nailing and Tying Fruit Trees.—Whenever the weather is mild push on with the work of nailing and tying. Where insect pests are found remove all the old clips and ties, and cleanse the trees. Old hose-pipe is very useful material for placing round the stems under the ties.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Cucumbers.—To procure strong plants for late January planting, seeds should be sown without delay. Use small, clean pots and sow the seeds singly, using a light compost of equal parts loam and leaf-soil. Plunge the pots over a brisk hotbed. Place a sheet of glass over them, turning and drying the glass each day to prevent undue moistening of the soil. Give diluted liquid manure to the roots when watering Cucumbers in bearing. A slight top-dressing with warm, light, rich soil will keep the roots active. Maintain an atmospheric temperature of 70° at night, and a rise to 80°, or more, with sun-heat. Only the slightest admission of air will be needed during a sunny mid-day hour.

Tomatos.—The October-sown seedlings should now be ready for potting into 5-inch or 6-inch pots. Root action is not so strong at this dull season, hence a light compost must be provided of fibrous loam, leaf-soil, and a little old Mushroom-bed manure, with coarse grit to keep the whole open. The plants should not be potted so firmly as usual. Keep the plants near the clean roof glass. Afford a general temperature of 60° and allow a rise or fall according to external conditions. Water the roots very sparingly during the next month, and encourage the development of sturdy growth.

Onions.—For obtaining large and ripe bulbs next August, an early start is necessary. Prepare shallow boxes; use ample crocks for drainage, and a compost of two parts sifted loam, one of leaf-soil, and sand. Fill the boxes with soil firmly to within a half-inch of the top; sow the seed thinly, then cover it with half an inch of finely-sifted soil and give water through a fine-rosed can. Place the boxes in a temperature of 50° in a light position. Water must only be applied when really needed, or the soil will become cold and sour.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Tea and Hybrid Tea Roses.—Although plants with well ripened shoots will withstand several degrees of frost without being injured, it is always best to be on the safe side and to protect Tea and H.T. Roses from frost. Bracken, long strawy litter, or leaves, placed over the ground amongst the plants will serve as a good protection, and in the absence of such material, small branches of Laurel may be placed amongst the plants and rather thickly along the outside of the beds, especially on the north and east sides, to form a screen. Roses trained on poles in exposed positions should have the main stems protected by fastening branches of either Laurel or Spruce among them, and the roots should be mulched with manure or long litter.

Bedding Plants.—Give attention to all kinds of bedding plants intended for the supply of cuttings next year. Keep the stock plants near the glass and sufficiently warm to ensure good health. Do not over-water the roots now they are so inactive, but as soon as the plants commence to make new growth, more water should be afforded. Pinch out the points of the shoots to cause several breaks before potting the plants in the New Year. Remove decayed foliage from Ivy-leaved Pelargoniums and see that the roots do not get excessively dry in boxes or small pots standing near the hot water pipes.

Box Edging.—Where Box edging has become exhausted or unsightly, relay the edging in suitable weather. Although Box is mostly replanted in spring, the work may be done whenever the time will permit. In some cases the old soil will have become thoroughly exhausted, and to encourage healthy growth, fresh soil should be introduced. Do not plant too thickly, but see that the lines are correct and the soil firmly trodden. Keep the tops of the plants as nearly level as possible. Where Box edging is used rather extensively, it should be kept small and neatly trimmed.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners, Woolverstone Park Gardens, Ipswich.

Early Peach House.—The night temperature of the early Peach house should range from 40° to 45°, and the day temperature 45° to 50°, allowing a rise of 10° with sun heat. Air should be admitted freely when the weather is favourable, but cold draughts must not be permitted. The trees should be lightly syringed on fine days, until the flowers begin to show colour; syringing should then be discontinued until the fruits have set. During the time the trees are in flower the atmosphere of the house should be kept on the dry side, and a slightly higher temperature provided to ensure a free distribution of the pollen. Commence to disbud the branches very sparingly at first, removing shoots that grow from the upper and lower parts of the branches. If green or black fly attack the plants fumigate the house immediately.

Melons.—Where ripe Melons are required by the end of April, sow the seed now. The house devoted to the cultivation of early Melons should be well heated, and so constructed that the plants will receive the full benefit of the few hours' sunshine that occur during the early days of the year. The plants must receive no check of any kind and sufficient top and bottom heat should be available to maintain the required temperature without overheating the pipes. Most growers give preference to some special variety for early use, but to those in doubt I would recommend Hero of Lockinge. We sow two seeds in a medium 60-sized pot. The soil should be moderately light and not pressed on the seeds; a sharp tap on the potting bench will be all that is needed. Place the pots in brisk warmth, and, provided the soil is moist at the time the seeds are sown, water will not be needed until the plants are through the soil, when they should be removed to a position near the roof-glass to favour the development of sturdy growth. I usually leave the two plants in each pot until after planting, when the weaker one is removed. The plants should be secured to small stakes to keep them erect. Fermenting material should be prepared and a hot-bed made in the house some days previous to planting. The soil should be brought into the house to allow of its being well warmed before the time of planting. To encourage free root action it is advisable to use a lighter mixture than is employed for later plants grown under more favourable conditions. The temperature should not fall below 60° at night, and it should be 5° to 10° higher by day, with a further rise by sun heat. Very little ventilation will be required until the flowering period.

Ripe Grapes.—Where a suitable Grape-room is available the Grapes may be cut and the stems placed in bottles. A fine day should be selected for cutting the bunches, which should be cut with as much wood as can be spared to ensure the stem passing well down into the water. Each bunch should be carefully examined and have faulty berries removed; it is also necessary to examine the bunches at frequent intervals after they are placed in the Grape-room. Keep the bottles filled with water, and place a piece of charcoal in each. If it is necessary to leave the Grapes on the vines, maintain a dry atmosphere in the vinery, which will necessitate the use of a small amount of fire heat and sufficient ventilation to keep the air circulating.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

The Resting Period.—There are few matters more often misunderstood, and concerning which novices are more liable to make mistakes, than the treatment of Orchids when at rest. Rest is not, perhaps, the exact term to use, for the reason that what is required is a gradual and natural cessation of growth so far as outward appearances go, for a longer or shorter period, according to the habit of the plant. To reduce activity to a minimum in such Orchids as naturally "rest" during winter, it is not only necessary to lower the temperature, but also to withhold moisture to a considerable extent from the atmosphere, and likewise to keep the plants more or less dry at the roots, for independent of the necessity (in the case of many species) for this treatment to ensure flowering, it is also required to maintain the proper period of growth. Plants of the Cattleya family are sometimes greatly weakened by insufficient supplies of moisture during winter, as may be seen at potting time by loss of roots, and subsequently by weakly growth. Enough water should in all cases be given, although more than will prevent the pseudo-bulbs and leaves from shrivelling is injurious at this season. The same remarks apply to the evergreen section of Dendrobiums, to Oncidiums and similar genera. Deciduous Orchids, such as Catasetum, Chysis, Cycnoches, some of the species of Dendrobium, and many others belonging to this class, if their bulbs are thoroughly ripened, seldom require water after the foliage has fallen, but should any plants appear to be shrivelling unduly, a good watering should be given and no more, because if kept moist at the roots the flowers are never so freely produced. The evergreen, distichous-leaved Orchids, such as Vanda, Saccolabium, Aërides and Phalaenopsis, require more moisture during

winter than the pseudo-bulbous kinds. Very little water is, however, needed by these during the dull season. If the Sphagnum-moss about them is fresh, it will usually absorb nearly sufficient moisture from the atmosphere for the needs of the plants. Vanda teres will rarely flower well when treated like the other members of the family. This species likes a decided and long period of rest, and if kept for many weeks totally without water, and so as to cause its leaves to shrivel, no more injury to foliage will occur than the loss of a few of the lowest and older leaves. An intermediate house will suit this species whilst at rest better than the warmest division.

Cool House.—At this time of year this house contains a large number of plants that are growing, and many Odontoglossums will be throwing up their flower-spikes. For all those which have finished their growth, the rooting material should be kept in a slightly moist condition, for though many growers keep them wet, even in the dormant season, it is difficult to say what is gained by it. The plants require only enough to keep them from shrivelling and to support the rising flower-spikes. Further than this, an excess of moisture I believe to be the cause of the spotted state the leaves are sometimes seen in. Masdevallias will require less water now than at any other season. These and other plants that need more frequent watering during winter should be staged on some medium that will allow water to pass freely through and get away from the pots, and not on a material that holds moisture, and from which the pots absorb it until the material within them is almost in a state of saturation.

Insect Pests of Orchids.—Opportunity should be taken, whilst the plants are at rest, to give special attention to the eradication of insect pests. The leaves of the majority of Orchids are fully matured, and the cuticles comparatively tough, therefore the cleansing operations may be undertaken with little risk of injury. One of the worst insect pests of Orchids is a soft, white scale that conceals itself under the outer sheaths of the bulbs of Cattleyas and similar plants. In cases of bad infestation the sheathing should be stripped off and, after using an insecticide, the scales removed by means of a small, pointed stick. The removal of this pest may be the more easily accomplished with the aid of Phytophiline, a safe specific that is very effective in the destruction of white and brown scale, as well as thrips and green flies. When a number of plants requires cleansing the plan adopted in these gardens is to prepare sufficient of the insecticide in a tub, or other convenient utensil, to form a bath, and immerse each plant head downward in the insecticide, well wetting the leaves and pseudo-bulbs to ensure the destruction of every insect. After withdrawing the plant, hold it over the tub to drain for a few seconds, and place the pot on its side to drain dry. Following this bathing process each plant should be examined carefully and sponged.

PLANTS UNDER GLASS.

By JAMES WEYTOCK, Gardener to the Duke of BUCCLEUCH, Dalkeith Palace, Midlothian.

The Flowering House or Conservatory.—Chrysanthemums will for the present form the brightest and most important subjects, and with due attention to harmonising the colours they are suitable for association with other flowering plants available at the present time. The whole may be made very effective. The difficulty in these long, cold, damp nights is the inability to obtain sufficient fire-heat necessary to maintain a dry atmosphere in the house. Admit air on all favourable occasions and use care in watering.

Salvia splendens.—This is an effective flowering plant at present. Plants that have their pots filled with roots should be freely fed with liquid manure and kept in a dry, warm atmosphere. If this Salvia is given a free circulation of air the flowering period will be prolonged.

Lily of the Valley.—Only retarded crowns should be chosen for forcing. Place the crowns in pots or pans and, to keep them sufficiently moist, plunge them over bottom heat, and keep them dark until the flower spikes have extended 4 inches, when they may be removed and placed near the light.

Forcing Plants.—Where quantities of cut flowers are required during the winter months timely arrangements should be made. Early potted bulbs of Roman Hyacinths and early white Narcissi, the growths of which are sufficiently advanced to be exposed fully to the light, should be placed in a cool house near the glass. If early blooms are required place them in a forcing house and support the flower spikes with stakes as they develop. Duc Van Thol and some other early varieties of Tulips will form a succession, but unless these are required specially early, they should not be submitted to hard forcing.

Freesia.—If placed in a temperature of 55° and frequently supplied at the roots with weak liquid manure Freesias provide an early supply of flowers. Later batches intended for successional blooming should be grown in a cool greenhouse and carefully watered.

Winter Flowering Begonias.—Late plants and varieties that will continue to flower for some time to come should be carefully preserved from damage by attacks of mite and thrips, by either dipping the foliage in a suitably prepared solution of nicotine or fumigating the house occasionally. Continue to feed the roots with a weak solution of plant fertiliser. When the plants pass out of flower, place them in a warm house, and whilst resting them for a short period, care must be taken not to let them become too dry at the roots. The shoots should then be shortened to encourage growths from the base of the plants to provide cuttings.

Plumbago rosea.—Specimens of this desirable plant are most serviceable in winter for supplying flowers of bright colour. The most suitable structure for their culture is a pit or house with low roof, where the shoots of the plants can be kept near the roof glass, at the same time giving them sufficient space for development. Moderate heat will suit them best at this stage, and to maintain their vigour an occasional stimulant of liquid plant fertiliser should be given the roots.

THE ALPINE GARDEN.

GENTIANA CRINITA.

G. CRINITA, the Jagged-Flowered Gentian, is one of a set of three closely-allied species of similar habit bearing fringed flowers and found scattered over the north temperate regions of Europe, Asia and North America. They are all of biennial habit, which is a great defect from a garden point of view, as it entails raising them annually from seeds in order to have plants in flower each season. They are such beautiful plants, however, that it is well worth the trouble of raising them in this way. Two of the three species are found in Europe, one, G. ciliata, being a native of the mountains of Central Europe. This plant grows from six inches to nine inches high, and bears bright blue, deeply fringed flowers in August and September. The plant figured under this name in the *Botanical Magazine*, tab. 639, is G. barbata, the other European species which has a more northerly

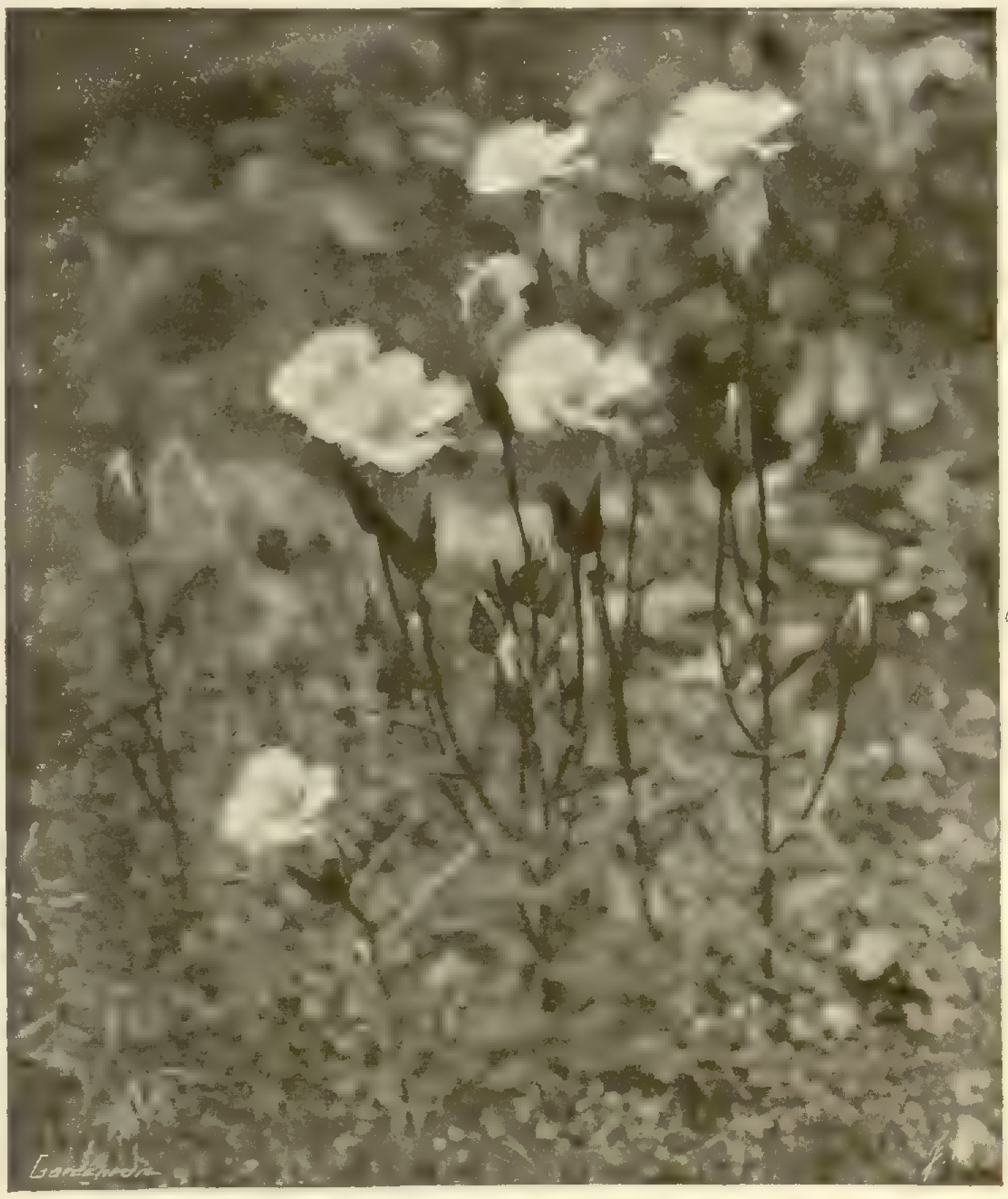

FIG. 146.—GENTIANA CRINITA: FLOWERS BRIGHT BLUE.

habitat in Norway and Russia also extending throughout Siberia and North America. With such a wide distribution, it follows that it is a somewhat variable species to which several names have been applied, among others G. detonsa and G. serrata. G. barbata grows about one foot high, has branching stems, narrow leaves, and long peduncles, each bearing large, violet-blue flowers that are buff-coloured on the under side of the petals. G. barbata var. grandiflora (*Bot. Mag.*, tab. 8,609) is a strong growing, large-flowered form with flowers up to three inches in diameter. G. crinita (G. fimbriata), illustrated in Fig. 146, is a North American plant which was introduced into cultivation in the year 1804. The plant is figured in *Bot. Mag.*, tab. 2,031, and wrongly described as a perennial. It grows a foot or more high, with many branching stems, each terminating, in August and September, in solitary, bright-blue flowers about 2 inches across. The petals are deeply fringed and closed in dull weather, but expand fully with sunshine. Specimens planted in moist, peaty soil flowered well this year at Kew, and ripened plenty of seeds. *W. I.*

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THE LOGANBERRY AND SIMILAR FRUITS.

THE clambering, berry-bearing plants of the Loganberry type are indispensable in even the smallest of gardens. Probably the Loganberry is grown by amateurs more than any other similar fruit. It will thrive on almost any available wall space, and in any aspect. I have seen it at its very best this past summer, trained upon a fence with a southern aspect; in this position the berries ripen early, being fit to pick by the end of June. By planting it in various aspects it is possible to obtain a supply of fruits for quite six weeks. For dessert uses the Loganberry is excellent, whilst for any form of cooking it is well-nigh indispensable

When the Loganberry is planted against a low fence a space of 10 ft. from plant to plant should be allowed. Plants from pots are to be preferred to those lifted from the open ground; these may not be quite so strong as the open-ground plants, but they will more speedily establish themselves. Plants are easily propagated by pegging down the points of the shoots into small pots, or in the open, in firm soil. If grown in the open, a wired fence is preferable to any other form of support; if stakes are depended upon, there is a possibility of decay at an inconvenient period. Grown upon a fence from 7 feet to 8 feet in height, a distance of 6 feet from plant to plant may be allowed.

The growth of the current season needs to be well cared for and weak shoots thinned out to allow those remaining to be trained on the fence nine inches apart. As soon as the crop of fruit is gathered the old shoots should all be cut away and the new ones trained up in their place. In this way less ground will be occupied and the wood will become thoroughly matured.

Another excellent way of training the Loganberry is over arches or on pergolas.

The Newberry and the Phenomenalberry are almost, if not quite, identical. I have grown plants under the first name, and I find the Newberry stronger in growth than the Loganberry and its first fruits much finer. If given a sheltered nook or a wall, this Rubus will produce fine and early fruits fit for dessert. It may also with distinct advantage be given space, sufficient for one plant, in a cold orchard house, and thereby ripe fruit may be obtained some weeks earlier than from plants in the open.

The Lowberry is quite distinct from the preceding, being both later in ripening and even more vigorous in growth. I experimented with it upon the west end of a span-roof house, where it thrived well and broke the sun's rays with advantage. It is really more of a Blackberry than any of those above mentioned, and makes a good succession also. Certain people consider it to be identical with the Californian Mammoth Blackberry. I can recommend its culture in the way I have indicated.

A later variety is the Himalayaberry, which ripens about the same time as our common Blackberry, but it is much stronger in growth and may be considered the most vigorous of all the Brambles. It is quite hardy, and might with advantage be grown in what are termed "wild" gardens. It has fruited finely at Wisley, where seedlings have been raised from it.

The Parsley-leaved Bramble (Rubus laciniatus) has been grown for many years in gardens. I have found it most useful where room can be given it and where the soil is not too light. It continues in bearing quite late in the season, and is suitable for both dessert and cooking purposes. The fruits are delightful in combination with windfall Apples for making tarts. Like the preceding, it may be grown in wild fashion, or tied to stout poles. It is about the best Bramble to withstand late summer rains.

I have not cultivated the so-called American berries, such as Kittatinny, Wilson Junior and Newman's Thornless; the first two, however, are of good repute as early varieties.

The Japanese Wineberry is, in my opinion, useful only as a decorative subject. Birds are fond of its fruits and might be allowed to have them. The Whitewash Bramble (Rubus leucodermis) is quite a decorative subject and should be grown where the space at command is sufficient. There are also other types of berry-bearing Rubi, of later introduction, thriving at Wisley, near the river.

The cultivation of all the above is similar to that for the Raspberry, but a liberal mulching of farmyard manure should be given early in the growing season. *James Hudson.*

A SOLDIER'S EDUCATION IN GARDENING.

SINCE the influx of civilians into that old-established institution, the British Army, the notion—that even yet seems to hold among a certain type of regular officer—that an educated soldier must needs be a bad one, has received a rude shock. Now, as at no other time, "Tommy" has every chance of becoming a really educated citizen. As a recruit he has a sound general education and later he may qualify for civil life in almost any trade or profession he desires.

Often during these last five years we have all come into contact with the man who, before, was quite content to lead an indoor life and has now made up his mind never to return to any work that entails spending the greater part of his time inside four walls. Others, who left their trade in August, 1914, have often entirely lost most of what they knew.

To meet the demands of both these types the Sixth Division School, among others, started, last April, a class in horticulture at Moor Park, Kilworth, co. Cork. Moor Park, at one time the home of the Mount-Cashel family, had then, the writer understands, quite a famous garden, but all trace of this has long since disappeared except for a very few neglected fruit trees and ornamental shrubs.

The class started practical work on a very small area (under ½ acre). Lectures are given daily; covering as far as possible, in the all too short time allotted, every phase of the subject:—Soils, manures, tools, cultivation, vegetables and fruits, pests and diseases, buying and selling, glass and other buildings, propagation, packing, florist's work, decorating, landscape work and book-keeping, the whole course being arranged with the object of helping a man to manage a small-holding on business lines. Practical work is also done so far as possible in every subject.

Students are also given practical and theoretical instruction in carpentry, glazing and rough plumbing. The whole of the area at present under cultivation has been fenced, huts, etc., built, and the whole of the original area irrigated by an overflow system of tubs, started by the students of the first class and added to by each succeeding one. Each course lasts about three months and the popularity of the class may be gauged by the fact that it was necessary during the second course to increase the area under cultivation to over four acres and to add two instructors.

At present the course is conducted on the lines of a small-holding. One acre is cultivated intensively and half an acre is being planted as a specimen orchard. Forty fowls, two pigs and a hive of bees have been added, and a small area has also been set aside for the propagation of hardy trees and shrubs. The students receive instruction in just the kind of work they desire to follow.

There are two frames and before next spring there will be added a heated glass-house, which will still further increase the scope of the instruction given. Almost all types of "tradesmen" have been instructed, from the veriest amateur to the small farmer or head gardener of 10-20 years' standing. Since the commencement of the course over 130 students have been instructed and over 100 of these have passed really stiff, written examinations.

The whole of the produce is sold to the officers' and men's messes, and despite the fact that there is a big outlay on tools and educational outfit and that the produce is sold at (usually) well under market prices, the scheme really does prove the value of properly managed small-holdings of this type to the community. *C. E. Cooke.*

QUALITY OF BASIC SLAG.*

THERE are three distinct types of slag, which must on no account be confused:—

1. Bessemer slag containing phosphoric acid equivalent to 40 per cent. or more of tricalcic phosphate, largely soluble in 2 per cent. citric acid; usually 80 per cent. of the total is guaranteed soluble.
2. Basic "open-hearth" slag containing less phosphoric acid, equivalent to 15 to 31 per cent. of tricalcic phosphate, largely soluble (80 per cent.) in 2 per cent. citric acid, the first pourings being richer than the last.
3. Basic "open-hearth" slag made by the use of lime and fluorspar, containing as much phosphate as the poorer grades of the preceding class, but only slightly soluble (20 per cent. or less) in 2 per cent. citric acid.

The first of these types, the Bessemer slag, is the material which for many years was well known to agriculturists as one of the most effective of fertilisers for pasture land. The second and third types have come into prominence in recent years, and especially during the war, as the result of changes in the method of making steel. At first sight they are not very promising agriculturally, but field experiments have shown that they possess distinct value. They have been tested in Northumberland by Gilchrist, in Essex by Scott-Robertson, in Devon by Dutton, and at Saxmundham by Oldershaw. The second class have proved substantially equal in fertiliser value to the old Bessemer slags when

* *Notes on Manures for December.* From the Rothamsted Experimental Station, Harpenden, Herts.

compared on equal phosphate content. Those of the third class have proved more effective than was at first assumed from their low solubility in citric acid. Where the growing season has been sufficiently long these slags are approximately as useful as the others, in spite of their low solubility. Where the growing season is shorter or an early start more necessary the high soluble slags have proved more effective.

The question has recently been raised whether a 40 per cent. slag is worth a high price in comparison with a 20 per cent. slag. It is sometimes claimed that the 20 per cent. slag is as good as the other in nine cases out of ten, and that there is, therefore, no point in paying an excessive price for slag which may be no better. This assumes that the value of the slag lies not in its phosphates, as is usually supposed, but in some other constituents. There is insufficient evidence to say whether other constituents do or do not help the growing crop, and it is always possible that they may do so. There is no doubt a good deal to be learned about these new slags, and investigators have not yet had the necessary time to test them as thoroughly as is desirable. On present knowledge, however, it is safest to adopt the old plan of judging the new slags, like the old, on their phosphatic content, and buying them on their value according to the unit system, insisting on the proper degree of fineness of grinding. On this basis, a 40 per cent. slag is worth twice as much as a 20 per cent. slag, together with such sum as will pay for the difference in cost of handling a small as compared with a large bulk of material. Having allowed for this, however, there is probably no justification for paying more for the 40 per cent. slag, and certainly not for paying any fancy price.

PLANT NOTES.

COSTUS IGNEUS.

This Costus, a member of the Gingerwort family (Zingiberaceae), is not cultivated nearly so extensively as it was a generation ago. The reason of this neglect is difficult to understand, as the plant is by no means fastidious in its requirements, and the brilliantly coloured blossoms are produced during the winter. Costus igneus forms a dense, leafy clump, the main shoots of which attain to a height of eighteen inches or more. The blossoms, which are borne in cone like heads on the points of the shoots, are fully a couple of inches in diameter, and of an intense deep orange colour. They are thin in texture and individually do not last long, but a succession is maintained from one head for a considerable time. During the half-light of a dull November day the flowers are particularly remarkable for their intense, glowing tint, so unlike any other occupant of the stove. As I have already stated the cultural requirements are not at all exacting. A suitable compost is composed of loam and leaf-mould, with a good sprinkling of silver sand, dried cow manure, and pounded charcoal. During the growing season a liberal amount of water is needed at the roots; as stagnant moisture is harmful, effective drainage must be provided. The plant may be readily increased by division, in fact it is necessary to do this every year or two. If not the stems become so crowded that they do not flower in so satisfactory a manner as when judicious division is carried out in the spring. This Costus is a native of Bahia and was introduced by M. Linden in 1882. *W. T.*

LIBONIA FLORIBUNDA.

Of all the winter-flowering plants used for the decoration of conservatories or dwelling-rooms, Libonia floribunda is perhaps the gayest, covered as it is with fire-coloured blossoms on every spray.

It is not, however, so often seen as it should be, for it is often classed as a stove plant, though it is almost hardy, and will survive the winter in a greenhouse without fire-heat, although it enjoys plenty of warmth, and blossoms the earlier for it.

There are special points in the culture of Libonias which are sometimes overlooked with disastrous results, the first of which is that they need a large supply of water, and will not flower without it. If allowed to droop, the leaves fall off, leaving a collection of dying twigs, necessitating cutting the plant severely.

As a rule, the knife should never be used to prune them, except where the plant is unshapely.

The natural form of L. floribunda is neat and bushy; and if a plant is cut back after flowering it will not blossom the next year, for it requires the whole season to harden the new growths before they flower. It requires a constant supply of fresh food.

Directly after flowering, the plants should be repotted, shaking away about half of the old soil, and then dipping the roots in tepid water. Plant in soil containing well-decayed old hot-bed material, and place the specimens in the same sized pots as before, shifting such as require larger receptacles in August.

Special precautions must be taken to prevent the foliage drooping for a few weeks after potting, and the plants should be placed in the shade on a moist floor, and syringed daily, as well as supplied with water at the roots.

After May the new growths should be hardened in the open, the best aspect for the plant then being south-east, with the pot sunk in a bed of ashes. The roots should be watered copiously daily, even in rainy weather.

Soot water in a clear, weak state may be given the roots once a week, increasing the strength as the plants grow. After potting in the early autumn, the same precautions against the leaves drooping will be necessary.

Taken into the greenhouse in October, the whole plant should be set with flower-buds; and it depends upon the temperature there, whether they open before Christmas, or in the spring.

The propagation of Libonias is not difficult. Cuttings of the new growths about 4 inches long root readily in June if kept under a bell-glass for the first few weeks, until they begin to grow.

If the plants are potted singly, and shifted into larger pots as the roots require more room, they will form neat little specimens by the following spring; but they should be placed in a cutting-box, containing a few inches of damp ashes, and covered with pieces of glass, each time that their roots are interfered with, to prevent the leaves drooping. After a week of this treatment they may receive more light and air and be treated in the same way as the older plants. *I. L. Richmond.*

Fig. 147.—The Loganberry.

NOTICES OF BOOKS.

THE ENGLISH ROCK GARDEN.

A CRITIC is perhaps inclined to do less than justice to this princely pair of tomes*, for the reason that while their merits repose modestly within their 1,094 well-printed pages, waiting to be dug out, their faults meet one repeatedly. The first thought on dipping into the book at random is what an invaluable book it might have been if only Mr Farrer could have ceased for a little while to be Mr. Farrer, and could have become instead a simple horticulturist capable of writing plain English! Then we should not have had our pleasure dimmed by extravagant and fantastic language, irrelevancies, perversities, and three words where one would suffice. With this preliminary grumble one may set about an examination of much the most elaborate and complete work which has as yet appeared in this or any other country dealing with plants which are, or might be, grown in the rock garden and its adjuncts, the bog garden and wild garden.

The objects with which the book was written appear from the introduction. Its first and main mission is to provide "guidance across the uncharted seas of catalogues," that is, to supply or supplement the descriptions of plants offered for sale, so that one may learn their characters and their value. This is exactly what all rock gardeners have longed for. Such a book might be expected to be wisely selective as regards the species dealt with; to be a sort of *Almanach de Gotha* of alpines and their kindred, and to contain under each name simple descriptive particulars sufficient to identify the plant. But as regards the first part of this programme, the work is much more ambitious; it sets out to tell us not only everything we should grow, but everything we should not; it does not confine itself to the more minute species, but pursues many genera into their larger manifestations, so that herbaceous plants a yard or more high (*e.g.*, Spiraea, Paeonia) and bulky shrubs (*e.g.*, Veronica) jostle with tiny alpines; and it purposes to deal not only with the plants which are, or have been, in cultivation, but also with those which are not. To attempt even the briefest adequate descriptive particulars, plus cultural notes and so on, for such a crowd, would be out of the question in a work of less bulk than the *Encyclopaedia Britannica*. The result is a collection of some 10,000 names, in which species in cultivation are wedged, without any distinguishing mark, among hundreds of others unknown, in these countries, save in the national herbaria at Kew or the British Museum; the most important plants of the alpine garden being adequately (sometimes very fully) treated, but crowds of others dealt with in this way on p. 137:—"*A. lilacinus*, from the base of Demavend, is all hoary with close silver, very dwarf, not more than 1 or 2 inches, with the stems of the flower-heads six or twelve." An absolutely useless entry.

All this is disappointing in view of the fact that the author claims to have taken much trouble over the description of his plants. He tells, in his Introduction, how, greatly venturing, he explored the pages of Boissier and Ledebour, those daily companions of the student of the Asiatic flora; of his discovery that botanical descriptions mean something; of the revelation that the name accompanying the earliest adequate description of a plant is the one by which it is usual to call it. But these discoveries were too overwhelming to be rapidly assimilated, and though he has "ransacked all the big authorities, old and new," and is "now come to land with a huge cargo of authentic information"; and though "this book does make a real and arduous change in the progress towards correctness of name" it must be admitted that the botanical side of the work is weak. If the author had made a serious effort to follow botanical custom in his botanical details we should not have a word to say, but perversity comes in even when reason beckons. He writes, under Kniphofia, that it is "the correct name of Tritoma," and immediately refers you to Tritoma for his list of species. He uses "ray" where he means petal, and "family" or "race" where he means genus. Are "sepal" and "petal," "genus" and "species" words beyond the grasp of those bright readers for whose assistance he spells aizoides "aeizoeides"?

Mr. Farrer very properly condemns the use of "English" names except those that are really old and native, and then proceeds to bestow upon Eritrichium nanum outrageous appellations —"the Crowned King of the Alps, the Herald of Heaven, Woolly-hair the Dwarf"! There is simply no sense in that sort of thing, coming as it does from one to whom "Bell-flower" is anathema. Instances of tiresome flippancy abound—"Helxine Soleirolii exists for other purposes than that of breaking jaws"; "Hypericum repens is so called because it has no tendency to creep (or repe)." Are these sentences examples of "the vivid and personal note" which the author has been at pains to preserve throughout the book?

Many years' experience of Mr. Farrer's horticultural writings ought to have inured us to his style, but then, what was endurable in sketches like *In a Yorkshire Garden* is out of place in a work proclaimed as "an authoritative and descriptive handbook."

To find the book at its best we turn to some of the genera, such as Meconopsis or Primula, where the descriptive work has been already and recently done by botanists such as Prof. I. B. Balfour. All available information up to the date of writing (already, unfortunately, six years ago) is gathered and condensed; the account of Primula, running to 95 pages, ought to be specially useful to growers of this charming group, and to those who fain would know of the many treasures which still remain in the highlands of China and Tibet. Of the great rock-garden genera, such as Campanula, Gentiana, Androsace, Saxifraga, Erodium, Hypericum, we find very full accounts; and when the plants unknown in cultivation and those that are worthless or unsuitable are cast out there remains a good list with correct names and useful cultural hints. But all genera are not equally well done. Take, for instance, Sedum. Mr. Farrer has frequently told us that he does not like Sedums. Also, like most people, he does not know them. If he had been wise he would have passed them by on the other side. But he could not resist the temptation of collecting here, too, a vast array of names, to the number of over 170, and of giving information concerning them. The result is appalling. *Nomina nuda* and synonyms abound and are solemnly described as distinct and separate species, though a glance at the *Index Kewensis* would have kept things right; well-marked sections are mixed up, and we are told that the well-known S. spectabile is a Rhodiola; in at least twenty-five cases even the colour of the flowers—that elementary character —is given wrongly; the finest Sedum in cultivation, S. Kirilowii var. rubrum, with its unique colouration, is evidently unknown to the author. "No, no, no!" is Mr. Farrer's introduction to some of his genera; it ought to have been the beginning and end of his essay on Sedums.

The list of species given under each genus is, as has been said, usually very full, and the critic will find it hard to point out omissions. We seem to see a tendency to a skimpy treatment of the peat-lovers as a whole, though they are one of the most delightful features of the rock garden; and here and there we miss an old friend. The only Coprosma mentioned, for instance, is C. acerosa; why leave out the tiny creeping C. Petriei, which looks so well over a flat slab? Indeed, dwarf shrubs of all sorts, so indispensable for helping in the avoidance of monotony in the rock garden as well as for shelter, seem to be weakly represented among the hordes of small herbs What of dwarf Olearias, such as the glorious O. insignis, suitable for a warm corner. And how about dwarf Junipers, either upright or creeping? Neither genus appears at all in the book.

The inclusion of numbers of plants which the author hopes to see some day introduced into our gardens renders more difficult the identification of those with which the gardener has to deal at present—and many of the groups in cultivation are difficult enough already—and greatly increases the bulk, and consequently the price of the work. Prophesying is a dangerous pastime. Most of the prospective plants of Mr. Farrer's rock garden of the future will probably long remain unknown to cultivation, and even if introduced, may prove useless in our climate, as in the case of some of the author's most lauded Chinese treasures. Sufficient unto the day are the rock plants thereof.

For the production of the book one has nothing but praise. It is excellently printed, and the clear headings to paragraphs and to pages are practical and pleasing. The type is good, and the proofs have been well read. The most satisfactory part of the book is the illustrations, in which the plants are allowed to tell their own stories, free from literary gymnastics. Over a hundred plates, mostly illustrating two plants each, adorn the work. They are half-tone and made from photographs taken largely at Kew and Edinburgh; a large number of the best are the work of Mr. R. A. Malby, but some were taken in China by Mr. W. Purdom. Though the prints are not as sharp or so brilliant as those we often see in American and Continental works they are mostly quite satisfactory and well illustrate the general appearance and habit of the plants—features which are most difficult to describe adequately in words. *P.*

* *The English Rock-Garden.* By Reginald Farrer. Vol. I.-II. Pp. 64 + 502, 8 + 524. 102 plates. 8vo. London: T. C. & E. C. Jack, Ltd. Price £3 3s. net.

ORCHID NOTES AND GLEANINGS.

THE ORCHIDS OF FIFTY YEARS AGO.

THERE has recently come into my possession a copy of the *Catalogue* of the International Horticultural Exhibition of 1866. It contains a schedule of the prizes with the names of the competitors in each class, an index to the names of exhibitors, and a list of awards.

What is especially interesting is that with very few exceptions the names of the plants shown by each exhibitor in the competitive groups are given, thus enabling one to compare the species and varieties then popular for exhibition, with those principally grown at the present day.

The list of Orchids is particularly noteworthy, as serving to show the great advance made in this class of plants within the last half-century.

Odontoglossums were very sparingly represented, Masdevallias not at all, while hybrids, which now form the bulk of modern collections, were conspicuous by their absence.

A complete list of the Orchids with the number of times they were exhibited is herewith given:—Aerides Brookei (1), A. crispum (2), A. Fieldingii (6), A. japonicum (1), A. Lindleyanum (2), A. odoratum (4), A. virens (2), A. virens superbum (1), A. Warnerii (1), Anoectochilus allosurus pictus (1), A grandis (1), A. intermedius (2), A. Lowii (2), A. marantaceus (1), A. Petola (2), A. quercelicola (1), A. setaceus (2), A. Turnerii (1), A. Veitchii (1), A. xanthophyllus (2), Angraecum citratum (1), Anguloa Clowesii (2), A. uniflora (1), Ansellia africana (1).

Brassia verrucosa major (3), Burlingtonia fragrans (2).

Calanthe veratrifolia (2), Cattleya Aclandiae (3), C. amethystina (2), C. elegans (1), C. intermedia (3), C. lobata (1), C. Mossiae and varieties (25), C. Skinnerii (6), Chysis laevis (1), C. Limminghii (1), Cypripedium barbatum (6), C. barbatum grandiflorum (1), C. barbatum nigrum (1), C. barbatum superbum (6), C. caudatum (2), C. hirsutissimum (2), C. Hookerae (5), C. laevigatum (3), C. Lowii (2), C. Stonei (1), C. superbiens (2), C. Veitchii (1), C. villosum (3).

Dendrobium clavatum (1), D. chrysotoxum (1), D. crepidatum (1), D. Dalhousieanum (1), D. Dayanum (2), D. densiflorum (3), D. densiflorum album (3), D. formosum (1), D. formosum giganteum (3), D. giganteum (1), D. macrophyllum (1), D. nobile (8), D. nobile elegans (1), D. Parishii (2), Paxtonii (2), D. pulchellum (1), D. tortile roseum (1), D. Wardianum (1).

Epidendrum crassifolium (2), E. odoratum (1), E. vitellinum majus (1), Eriopsis rutibulbon (1).

Goodyera pubescens (1).

Laelia cinnabarina (1), L. elegans Turnerii (1),

L. purpurata (12), L. Schilleriana (1), Lycaste Skinnerii (2).

Maxillaria leptosepala (1).

Odontoglossum citrosmum (2), O. cordatum (1), O. Karwinskii (1), O. naevium (2), O. naevium majus (2), O. Pescatorei (2), Oncidium altissimum (2), O. ampliatum majus (5), O. crispum grandiflorum (1), O. flexuosum (1), O. Laevei [? laeve.—Eds.] (1), O. leucochilum (1), O. Phillipsianum (3), O. sarcodes (1), O. sessile (1), O. sphacelatum (1), O. sphacelatum majus (1).

Phaius Wallichii (2), Phalaenopsis amabilis (6), P. grandiflora (12), P. grandiflora aurea (1), P. intermedia Portei (1), P. Lueddemanniana (5), P. Lueddemanniana superba (1), P. Schilleriana (3), Physurus argenteus pictus (1).

Saccolabium Blumei (1), S. curvifolium (3), S. guttatum (3), S. praemorsum (1), S. retusum (3).

Trichopilia crispa (2), T. tortilis (1).

Uropedium Lindenii (2).

Vanda insignis (5), V. suavis (6), V. teres (1), V. tricolor (2), V. tricolor superba (2). *W. T.*

ODONTOGLOSSUM ASION.

A First-class Certificate was given to this fine Odontoglossum when shown by W. R. Fasey, Esq., at the meeting of the Royal Horticultural Society on the 2nd inst., and not an Award of Merit, as stated on p. 293.

THE PAMPAS GRASS.

At all seasons Gynerium argentium (see Fig. 148) is one of the most effective plants in the pleasure ground or flower garden, and it is especially handsome when carrying a number of the silvery inflorescences or plumes which arise well above the elegantly arching leaves. A background of evergreens serves to enhance the silvery appearance of the plumes, while at the same time affording slight protection to the plants from winds; but, provided the situation is not too much exposed, the background is not essential to the plant's success. Many good clumps of this ornamental grass thrive in isolated positions on lawns. Because of its large growing tendency it is naturally a subject for big gardens—though I have noticed in this locality some capital specimens in large villa and farmhouse gardens.

The quality of the flower heads shown in the illustration was so good that I wondered whether the plant was the ordinary form of G. argentium. I could not satisfy myself as to the distinguishing features of the variety jubatum, because I do not know where to find them. Perhaps some reader will oblige with information on this point. Two other much larger clumps of Pampas Grass here do not produce such fine, rich looking plumes. Could it be that the plant photographed was a female specimen, and would this alone be sufficient to account for its superiority? *C. Turner, Ampthill Park Gardens, Ampthill.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Clematis tangutica.—I have been interested in the various appreciations, which have appeared in your journal, concerning Clematis tangutica. Some eight years since I had a plant under my charge which appears to be identical, named Clematis orientalis var. tangutica. In addition to its floriferousness a very pleasing feature of this plant was the large number of silvery-grey bunches of feathery seeds, which were very effective against a red brick wall during sunny weather in autumn. Considering the large quantity of seed, only a small percentage gave us self-sown plants. I should be pleased to know where a good plant could be purchased, having tried several firms without success. *J. E.*

Grapes in Unheated Vineries (see p. 280).—Mr. James Hudson is such a well-known grower and capable judge of fruit, that what he says needs no corroboration so far as the majority of gardeners are concerned, but as *J. R. A.* is inclined to be dubious, I may say that in the more favourable parts of the kingdom all that Mr. Hudson has affirmed can be done by a thoroughly competent practitioner. I will go a step further—Mr. Arthur Goddard, a fruiterer in Bath, lived in pre-war days at Devonshire Buildings, where he had a vinery, which I attended at intervals to manipulate the growths and thin the fruit. His chief assistant joined the army, consequently the proprietor was obliged to move nearer to his shop, and no one was left to attend to the daily requirements of the vines. I continued to do the thinning, stopping, etc., and the only difficulty was about the ventilation—firing was impossible. Prior to this, the Grapes had been timed to ripen early in July. The house, a lean-to, with southern aspect, has a hinged board running the entire length, for top ventilation. This was kept closed till the middle of April, when it was opened about two inches, and a month later, a little wider. Finally, it was opened to nearly a horizontal position, and it has remained so ever since. There are five vines, three of Black Hamburgh, one of Madresfield Court and one of Alicante. The vinery has now changed hands and the fruit was sold wholesale, 2s. per lb. for Black Hamburgh and Madresfield Court, which was the maximum market price here at the time. Alicante was rather lower. I weighed 82 lbs. of the first two varieties for sale, and estimated the Alicante at 20 lbs. The crops during the two previous years were very similar —I have seen larger berries, but with that exception, never better quality. We had one or two extra hot days at stoning time, when a few berries of Madresfield Court were scalded, but the bunches afterwards filled up very well, and there was no cracking. The house was frequently left a fortnight at a time without anyone entering it. The vines have not been dressed in any way during the past three years and there have been no insect pests. I noticed a suspicion of mildew on a few of the berry stalks of Alicante lately, and this fungus will be eradicated. It probably came from a vinery not more than three yards away and in a neighbouring garden. There are several vineries in the neighbourhood, which I attend periodically, that have not had fire-heat once during the past eight or ten years, but I did not expect such results as the above with so little attention. Where Muscats are in an unheated house with Black Hamburgh and other early varieties, it is almost impossible to have all the Grapes first-rate, because the early sorts ripen before the Muscats have finished swelling; the latter might possibly ripen, but the berries would be apt to lack the finish we expect to see in the best exhibits. Had I an unheated suitable house of Muscat of Alexandria exclusively, situated in a favourable neighbourhood, I should not be afraid of the results unless the season was exceptionally unfavourable. The bunches would be cut, the stems placed in bottles and the grapes stored in a safe place before the November fogs and frost. I think *J. R. A.*'s theory is open to question when he suggests that the skin of Madresfield Court might be toughened by using fire-heat—probably the reverse would follow—and "thereby prevent splitting." One of the causes, but not the sole one, of splitting is the expansion of the water inside the berry after the skin becomes hardened, and before it regains the elasticity of its second swelling. Therefore, great variations of temperature at this critical time should be prevented. Probably a glass bottle completely filled and tightly corked, would act in a similar manner when heated. It is difficult for a closed vessel with an interior

Fig. 148.—Pampas grass: a large-plumed form.

measurement for 8 fluid ounces to contain 8¼ ounces. The glass might expand slightly, but not so fast as the water. *Wm. Taylor.*

——My experience of the past three years without fire-heat is that the average registered amount of sunshine in the Midlands is not sufficient, no matter how it is conserved, to produce Grapes having the rich, full flavour they acquire with the use of fire-heat. Wasps have not attacked Madresfield Court and Muscat of Alexandria this exceptionally hot season, but only the Black Hamburgh variety, which in my opinion is the only Grape worth growing without fire-heat; especially when the roots of the vines are growing in outside borders. Wasps show a decided preference for Grapes produced by the use of fire-heat. *John Bates, Meaford Gardens, Stone.*

Apple Queen Caroline.—This variety was raised by Mr. T. Brown, a nurseryman of Measham, near Ashby-de-la-Zouch, and named after Caroline, the much-discussed wife of George IV. As she did not become Queen until 1820 and died a few days after the Coronation, it seems probable that the Apple was raised about this period when popular sympathy ran so strongly in her favour. It has as synonyms Brown's Queen Caroline and Spencer's Favourite. I cannot give any information as to its variation under different conditions. It fruits well at Allington, but does not keep long enough to be of great value. It is, as your correspondent says (see p. 292), an excellent cooker and makes a nice standard. *E. A. Bunyard, Royal Nurseries, Maidstone.*

——Dr. Hogg, in his fruit Manual, describes this Apple, but he does not give any information as to its origin or parentage. He says it is "a cooking Apple of no great merit in use during October and November." with which I quite agree. For many years I grew the variety, but seldom had an adequate crop. The quality is very poor indeed—soft in flesh and insipid in taste. It is shapely and of full size with an attractive yellow skin, but in these days we need more than that to warrant its inclusion in even a large collection of varieties. *E. Molyneux.*

Late Dessert Apples.—*Market Grower*, on p 250, gives the hint to raisers of new varieties that a first-class late Apple is still needed. This want will be no doubt borne in mind by such workers and in due time be satisfied. Meantime, has *Market Grower* tried Scarlet Nonpareil—a rather neglected Apple? Its fruit is very handsome, of medium size, freely produced and available until, say, the middle of February. I was rather surprised *Market Grower* wrote that Baumann's Reinette *should* keep until February; it *will* keep until the end of March. It is my firm conviction this variety has been much underrated even by acknowledged authorities, and this chiefly on account of it being used too soon. This Reinette should not be used before the middle of January at the earliest, but better still at the end of the month or the beginning of February. The sample here of Baumann's Reinette is really excellent in every way, in colour exceptionally so. In short, I do not think it too much to say that what Worcester Pearmain is to the market man among early sorts, Baumann's Reinette can be and will be, the more it is grown, among late varieties. In their respective classes the three-fold characteristics of fertility, colour and flavour are about equal. Finally, what is *Market Grower's* experience and opinion of Court-Pendû-Plat Apple? Its keeping quality is beyond all questioning, old-established trees bear regularly, and the fruits are highly coloured. *C. T., Ampthill.*

The Protection of Raisers of New Plants (see p. 278).—Though the protection of plant breeders' work by the method of patenting can take no account of the question of merit of the novelty, it is a matter of at least equal importance, and the success of any method of protection and its value to the community will depend largely on completeness with which the merit or improvement can be authoritatively determined and recognised. This will include the testing and proving of varieties, the granting of certificates of merit and the recognition of the breeders' work. To secure recognition I would suggest that the Chamber of Horticulture should make it an established rule that in the trade lists of all its members the name of the variety should be followed by the name of the raiser, in brackets. If, in default of knowledge of the raiser, it should be thought advisable to give the introducer's name, a recognised distinction should be made by using ordinary type, while the raiser's name should always be in italics. The same practice might be followed in all lists and registers. To insure accuracy, and as an essential basis for the determining and recording the merit or value of new varieties, it will be necessary to have a system of registration instituted and kept by an authoritative and competent body. The ideal body to undertake this is the Royal Horticultural Society. The collaboration and assistance of societies devoted to particular flowers and eventually, I hope, of an association of plant breeders can be confidently counted on. It is a matter of so much importance for the future of plant breeding from both the scientific and economic point of view that it deserves a Government grant in aid if necessary. The testing and proving of new varieties, so far as it was possible to undertake it, should form an integral part of this work, with the granting of certificates of merit as its final outcome. Equally, if not more, desirable would be a committee of revision to weed out all obsolete varieties, noting the improved varieties that have superseded them. The authority undertaking this registration would require to give a full and accurate description and, where possible, examine a sample of the plant or flower for identification and for testing. I am strongly of opinion that all raisers availing themselves of such registration should be required to give the pedigree and all other useful information, not necessarily for immediate publication, but as a record for the future. For, in so far as such information is collected and recorded, will the registration be of permanent value? There is often a disinclination to give the parentage, and in some cases, such as at the starting of a new race, or a variety that constitutes quite a new departure, it is perhaps justified; but from my experience, as a raiser chiefly of perennial flowers, I have come to the conclusion that in the great majority of cases (quite 80 or 90 per cent.) there is no object at all in withholding the pedigree. It could, however, be arranged that such information should be confidential, at any rate for a certain number of years. A fee could be charged for any inquiry after that date, or lists could be published giving the parentage of all plants "released" for publication for that year; such fees and the sale of the lists might go some way to cover the expenses of registration. *A. J. Bliss.*

Fruit Problems.—Whether or not there is any virtue in grafting one variety of Apple on to another with a view to obtain enhanced colour or not I cannot say, but from my experience of several years with trees of Cox's Orange Pippin and Allington Pippin grafted on to trees of Irish Peach, I must confess there is something in the suggestion. This year Apples here were richly coloured, more so perhaps than is common in other years. I noted and pointed out to others the extremely high colour of the fruit of these two varieties, especially the Cox's, as compared to fruits on ordinary trees growing within a few yards of those grafted. The colour was distinctly more ruddy, but the fruit was a trifle smaller, that was perhaps owing to the extra heavy crop these regrafted trees carried. In the same way the Allington Pippins were smaller. I have noted too the fruit of James Grieve is deeper in colour where grafted on trees of Benoni, which has with me a particularly dark crimson flush. There is no doubt that sun and moisture are the chief colouring agents, combined with good culture. *E. M.*

Apple Arthur Turner.—For some years now I have grown this Apple with satisfaction to myself and I consider it an excellent culinary variety. The growth is vigorous, yet not ungainly, and of erect habit and amply covered with large, deep green leaves. *E. Molyneux, Swanmore, Bishop's Waltham.*

SOCIETIES.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

November 5.—Committee present: R. Ashworth, Esq. (in the chair), Messrs. A. Burns, A. Coningsby, D. A. Cowan, J. Cypher, J. Evans, J. Howes, A. J. Keeling, D. McLeod, Dr. Paul, E. W. Thompson, J. Thrower, and H. Arthur (secretary).

AWARDS.

First-Class Certificates.

Laelia pumila alba Haddon House var., from P. Smith, Esq.

Dendrobium Goldei and *Oncidium bracteatum* from Cap. W. Horridge.

Awards of Merit.

Laelio-Cattleya Honoria var. The Shah, *Cattleya Mrs. Pitt var. The Pearl*, and *Dendrobium superbiens*, from Capt. W. Horridge.

Cattleya Pittii Portia var. Lady Leon, from Sir H. Leon, Bart.

Groups.

Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), were awarded a Large Silver Medal, and Capt. W. Horridge, Bury (gr. Mr. Conningsby), a Silver Medal for collections.

At the meeting held on November 20 the members of Committee present were:—Rev. J. Crombleholme (in the chair), Messrs. A. Burns, A. Coningsby, D. A. Cowan, J. C. Cowan, J. Cypher, D. McLeod, A. Keeling, Dr. F. T. Paul, E. Tack, E. W. Thompson, J. Thrower and H. Arthur (Secretary).

NEW AWARDS.

First-Class Certificates.

Cattleya Albion var. formosa (Suzanne Hye de Crom × O'Brieniana alba), *Cypripedium Samuel Gratrix* (Germain Opoix × Royal George) and *C. Royal Oak* (Dreadnought × Reginald Young), from S. Gratrix, Esq.

Lycaste Imschootiana var. Chorltonii, from Mrs. Gratrix.

Odtioda Carola (Odm, L'Empereur × Odta. Diana), from P. Smith, Esq.

Awards of Merit.

Cattleya Dragon and *C. labiata var. Enchantress*, from S. Gratrix, Esq.

Cypripedium Hestia (Cyclops × Lady Dillon), from Mrs. W. R. Lee.

Odontoglossum Persephone Haddon House var. (Adrianae × Pescatorei from P. Smith, Esq.

Cypripedium Charlesworthii Sir Cloudeslee var., from Dr. F. T. Paul.

Award of Appreciation—First Class.

Cypripedium Charmion (Rd. Ashworth × Alcibiades Illustrious), from Mrs. W. R. Lee.

BRITISH GARDENERS' ASSOCIATION.

On Wednesday, the 3rd inst., in the Trocadero Hotel, Wolverhampton, Mr. R. Greenfield, the President of the B.G.A., addressed a meeting of the Wolverhampton branch of the Association. He was supported by Mr. F. Brown (local chairman), Mr. R. Bailey (secretary), and Mr. H. Bagley (secretary of the Wolverhampton Trades Council). Mr. Greenfield referred to the need for better organisation of horticultural workers, and stated that gardeners who remained at home during the war had done invaluable work in producing food. Members of other trade unions who were doing jobbing gardening during their spare time must be stopped. The Association asked for £3 per week for all horticultural workers of 21 and over. Nearly all other unions had secured this rate for adult workers. Other points advocated included a 44-hour week, a half-day vacation every week, and a week's paid holiday annually. The Association was ready to negotiate with employers on these points.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

THE Monthly Meeting of this Society was held in the R.H.S. Hall, on Monday, the 8th inst., Mr. C. H. Curtis in the chair.

Three new members were elected. Two members were allowed to withdraw interest from their deposit account amounting to £4 14s. 4d. respectively. The death certificates of two deceased members were received, and the sum of £45 16s. 7d. was passed for payment to their respective nominees.

The sick pay for the month on the ordinary side amounted to £79 7s. 8d., and on the State side to £42 6s. 8d., and Maternity benefits to £9.

The Committee has under consideration the revival of the annual dinners, and the Secretary would be pleased to receive, as early as possible, the names of any member or gardener intending to be present.

DUMFRIES AND DISTRICT HORTICULTURAL.

The annual general meeting of this society was held in the Wesley Halls, Buccleuch Street, Dumfries, on the 6th inst. The chair was occupied by Provost S. Arnott, Maxwelltown, the retiring president. The annual report of the secretary and treasurer was received and approved. The report showed that, although the subscriptions had fallen off owing to several large subscribers being adversely affected by the war, the loss was compensated by a large increase in the membership. The credit balance amounted to about £62, an increase of about £2. Provost Arnott was re-elected president; Mr. J. L. Armstrong, Mr. J. Maxwell Gray, Mr. W. Hutchinson and Mr. A. W. M'Allister were reappointed vice-presidents, and Mr. T. Douglas secretary and treasurer. In room of those retiring by rotation, the following were appointed members of committee:—From the trade, Mr. J. W. Bogie and Mr. T. Nicholson; from the gardeners, Mr. J. Airdrie and Mr. M'Monies; from the amateurs, Mr. W. Laurie and Mr. D. Maxwell. A schedule committee was appointed with Mr. John Croall as convener. It was resolved to hold an annual show in the Drill Hall, Dumfries, on the last Saturday of August, 1920.

ABERDEEN NATURAL HISTORY AND ANTIQUARIAN.

AFTER suspending activities during the war, this society held a meeting in the Aberdeen University buildings on Friday, the 5th inst. Founded in 1899 for promoting an interest in the study of the Natural History and Antiquities of Aberdeen and the neighbouring districts, its members have accomplished much valuable work.

The meeting was a great success, and more than twenty new members were enrolled. The winter's syllabus was inaugurated by an instructive paper by Dr. Macgregor Skene (Aberdeen University) on "The Moor: A Biological Study," in the course of which he said the moors of North-Western Europe were one of those formations the influence of which on the community was indicated by the fact that they were described by a word which was a part of the language. Occupying three-quarters of the land surface of Scotland, their economic importance was immense. The problem they presented was primarily a biological one, because the conditions which gave rise to their formation were accentuated and conserved by the action of moorland plants, and because from these plants, thriving on the moor, hints as to methods of utilisation could be obtained. Moor in Scotland was roughly of two types—one wet, covered with Bog-moss and Cotton-grass; the other dry, covered with Heather. Both were formed on peat, which was the common distinguishing characteristic of all moors. The conditions for peat formation were a poor, acid, siliceous soil, and a cold, wet climate, which, by reducing the activity of the organisms of decay, allow organic matter to accumulate and peat to be laid down. The subsequent lack of forest regeneration and the invasion of moor plants fixed the resulting moor. Man's influence—that of the Roman warrior and the Scots shepherd alike—had been towards forest destruction and moor formation.

The peat deposits told their own story, which was that after the passing away of the Ice Age an arctic vegetation of low shrubs appeared to be followed, in milder times, by forests of Birch and Pine, which in turn gave place to Bog-moss and Heather. Moor utilisation could follow the exploitation of peat and its products; could extend the bee industry; and increase the cultivation of various species of Cranberry. The moorland in the vicinity of Aberdeen could produce as many Whortleberries or Cranberries—as was done in Denmark and Switzerland—especially if the larger Canadian variety were introduced—as could keep a big factory fully employed in the city. Dundee, with imported Oranges, has a big marmalade trade, and Aberdeen might do equally well from locally-grown moorland fruits. But the best prospect was for forestry, grazing and agriculture. The question could not be solved in a hurry: careful investigation of the problems of life on the moors must go hand-in-hand with practical agriculture. Here the moorland plants could help us. Despite abundance of water in the peat, bog water contained poisons, which must be neutralised before the plants could grow freely. Many moorland plants had special devices for obtaining nitrogen, and, typically, they could not stand chalk in the soil. His advice was to drain the soil, add manure, especially nitrogenous manure, and, above all, add lime.

NORTH OF ENGLAND PANSY AND VIOLA.

THE general meeting of the North of England Pansy and Viola Society was held on Saturday, the 6th inst., in the Mechanics' Institute, Bradford. There was a good attendance of members from the surrounding districts, and three delegates were present from the Sheffield section.

Dr. Whiteley, Allerton, occupied the chair.

It was decided to publish half-yearly a journal devoted to the interests of lovers of the Pansy and Viola, with a view to encourage the cultivation, improvement, and exhibition of these flowers.

The officers and committee were elected for the ensuing year, and Mr. F. E. Sutcliffe, of Upper Green, Allerton, was re-appointed secretary.

HEATHFIELD AND DISTRICT HORTICULTURAL.

THE general meeting of this Society was held in the Schoolrooms, Heathfield, on the 11th inst., Mr. Ash, the president, occupied the chair.

Great enthusiasm was shown by all present, and it was decided to do everything to encourage the development of horticulture and food production in the district by the holding of shows and monthly meetings.

It was decided to affiliate with the Royal Horticultural Society.

The President, Mr. Ash, was re-elected to the office for the ensuing year. Mr. Dinnot, Hon. Treasurer, and Mr. MacLean, Hon. Secretary, were also re-appointed.

Mr. Dinnage, the late secretary, was thanked for his past services.

HAMPTON AND DISTRICT NURSERY WORKERS' CLUB.

THE first annual dinner of the Hampton and District Nursery Workers' Club was held on the 10th inst., at the Railway Hotel, Hampton, under the chairmanship of Mr. W. H. Page. There was a goodly company present at this interesting and somewhat unique function, including Sir Philip Pilditch, Member of Parliament for the Spelthorne District, and in addition to the actual members of the Club many of the leading flower and fruit growers in the Hampton district were present.

After a capital dinner, followed by the usual loyal toasts, Sir Philip Pilditch proposed "His Majesty's Forces, Serving and Demobilised." In an admirable speech he reviewed the chief incidents of the war and pointed out that very large numbers of the men employed in the horticultural industry at Hampton had taken part in the war and, alas! several would not return again. Capt. G. R. Caulfield, who has recently taken over one of the nurseries at Hampton, responded to the toast, and instead of attempting to make a speech, he told a number of very interesting stories of his experiences at home, in France, and in Palestine, in connection with the remount department of the Royal Engineers. Capt. Caulfield received a very hearty welcome on this occasion, as he has already made many friends among both growers and employees at Hampton.

Mr. H. T. Mason proposed "The Hampton and District Nursery Workers' Club," and pointed out the advantages of such an institution for the development of the social amenities of life, its value from an educational point of view and also for athletic training. Mr. H. S. Bowell, hon. secretary, replied and observed that there were at present one hundred and thirty-one members of the Club, and they had two football teams. The Club was renting its accommodation, but the Committee proposed to build their own club house as soon as possible. They had already acquired a site and Messrs. Boulton and Paul had supplied plans for the building which they hoped to erect on the Fells Barn Estate. The probable cost of the building would be £800, towards which the Club had already £130. When the idea of forming a club arose and the rules had been drafted, Mr. W. H. Page, who is chairman of the Hampton Growers' Association, was invited to a meeting, and, when he had considered the whole question, he was so impressed with the excellence of the idea and the rules, that he at once consented to become president of the Club. Mr. Bowell stated that while the members of the Club preserved their independence, they were delighted to find that the leading employers in the district were favourable to the project, and had shown their interest in many instances by becoming honorary members and subscribers.

Mr. J. Quantrill proposed "The Honorary Members and Subscribers," to which Mr. A. J. Shorthouse responded. Mr. W. H. Simcoe, chairman of the Committee, proposed "Our Member"; the Chairman proposed "The Visitors," to which Mr. C. H. Curtis and Mr. A. J. Macself responded, and the final toast was, of course, "The President."

The members of the Club and their friends provided the musical programme for the evening and the whole function was carried through with such enthusiasm and good feeling that we hope in every district where horticulture is the chief or prominent industry the example of the workers in the Hampton district will be followed.

Obituary.

T. Taylor.—We learn with regret that Mr. T. Taylor, of 259, Sandycombe Road, Kew, died suddenly on the 29th ult., aged 82. Mr. Taylor was a fine specimen of the old-time gardener, and had held many important positions in the horticultural world, his last position being gardener to Mr. James McIntosh, at Duneevan, Oatlands Park, Weybridge. He was an expert fruit grower and a successful cultivator of Lilies and Rhododendrons. Mr. Taylor had resided in the Kew Gardens district for upwards of twenty years.

John Rochford.—It is with deep regret that we learn of the death of Mr. John Rochford, of Turkey Street, Waltham Cross, one of the family of brothers who practically founded the horticultural industry for which the Broxbourne district of Hertfordshire is now so famous. The deceased gentleman was 68 years of age, and he passed away early on the 15th inst., after a short illness which commenced on the

previous Wednesday. He is survived by a family of six sons and three daughters, and the two elder sons, who have for so long taken a prominent part in the conduct of the Turkey Street establishment, will continue to carry on the business. The funeral took place on Friday, December 19, at St. Patrick's Cemetery, Leyton.

James John Parker.—We regret to learn that Mr. J. J. Parker, of the Whetstone Nurseries, Middlesex, died on November 24 last, in his 64th year. In his earlier days he was a private gardener of repute, but transferred his energies and great cultural skill to commercial horticulture. At first he established a business at East Finchley, but some years ago transferred his activities to more commodious premises at Whetstone in the same county. He specialised in the cultivation of plants under glass and he soon became noted for excellent greenhouse Ferns and early Richardias (Arum Lilies). He also grew general nursery stock and, before the war, forced large quantities of spring-flowering bulbs. In connection with his Ferns, the vigorous, deep-green Pteris Parkeri received the R.H.S. Award of Merit on March 5, 1912. Although he had left private gardening for trade growing Mr. Parker retained the true gardener's love of uncommon plants and grew some of his stove and greenhouse favourites for his personal pleasure. He retained a wide knowledge of plants generally and was an expert cultivator. Mr. Parker was naturally a robust man and his compartively early death may be attributed to the strain and difficulties of conducting his business under adverse circumstances occasioned by the war. For the last two years or so of the war he was practically without assistance.

CROPS AND STOCK ON THE HOME FARM.

Opinions as to which are the best varieties of Potatos for the various seasons differ more than on any other farm crop. Varieties are so numerous and new sorts appear each season that, to the inexperienced, the selection of suitable sorts becomes increasingly difficult. King Edward is, perhaps, the most popular Potato in cultivation, and it sells better than any other. With me, it is not a success, as my soil is not suitable for this variety which needs a deep, heavy loam.

For early market in the south of England no Potato is so profitable as Epicure, but its cooking qualities at that period—June—are much inferior to some of the lighter cropping varieties such as May Queen or Midlothian Early. This, however, is not the fault of the variety; Epicure is treated for commercial purposes as a first early because it grows so quickly, but it is really a second early and sent out as such by the raisers, Messrs. Sutton and Sons. In August this Potato is an excellent cooker.

I tried this season two new (to me) varieties in quantity, McPherson and Pioneer, the origin of which I am not conversant with. Like all other varieties here, if I except Majestic, the tubers when lifted were small, owing to the long continued drought, but in freedom from disease and especially in cooking quality, they are excellent, in fact the former is the finest quality Potato I know, an opinion shared by many who have tested it. The tubers are pebble shaped, with shallow eyes, a rough skin, mealy, white flesh when cooked and with a very pronounced flavour. Pioneer is also an exceedingly good variety. I strongly recommend McPherson for home consumption.

Mills' Seedling is another desirable variety for both crop and quality. This was sent me by Messrs. R. Wallace and Co., Kilnfield Gardens, Colchester. *E. Molyneux.*

Mustard Seed Cultivation.

Mustard seed is perhaps one of the most speculative crops grown on a farm —at one time a great success and at another an absolute failure. For this state of affairs one of the chief causes is the little blue beetle usually known as the Mustard Beetle, which in any place and in any year may appear in such numbers on a crop as to ruin it completely. In the summer the trouble is difficult to check, but during autumn an opportunity is given of reducing it and this should never be missed. After the crop is cut the beetles must find winter quarters, and for this purpose vast numbers choose the hollow stems of the Mustard stubble. Obviously, if these can be collected and burnt, millions of beetles perish. A second refuge, apparently almost as desirable from the beetle's point of view, is found in the rough grass and vegetation of the dykes or ditches surrounding the field. It should therefore be an invariable rule after growing Mustard to trim up the dyke sides and burn the "rodings." Fewer beetles will perhaps be killed than by the stubble burning but the ultimate effect is the same, and vast numbers will perish for lack of cover. These points are probably well enough known to most Mustard growers, but they are worth a little extra attention and personal supervision. A few more beetles killed in the autumn means a few hundreds less next summer, and actually thousands less before the next autumn!

ANSWERS TO CORRESPONDENTS.

Apples Resistant to Canker: *E. G. E.* There are no Apples entirely immune to canker. Resistant varieties are:—Bramley's Seedling, Newton Wonder, Beauty of Bath, Allington Pippin, Lord Grosvenor, and Gascoigne's Scarlet. Apples vary in their resistance according to the condition in which they are grown, and therefore it is impossible to give a satisfactory list, especially as there are about 600 varieties.

Azaleas Covered with Lichen: *H. A. J.* We do not advise you to spray the Azaleas with an alkali solution, as alkali is injurious to Azaleas. Thin some of the older and weaker shoots and rub off the worst of the lichen from the growths that are left by means of an old garden-glove. The dressing of peat will be very beneficial, and a top-dressing of well-rotted cow or stable manure next May will also assist in bringing the shrubs back to normal health.

Chrysanthemums for Market: *Correspondent.* The following varieties of Chrysanthemums are suitable for producing cut flowers for market in January:—Niveus, Heston White, Mdlle. Pankoucke, White Victoria, Mme. R. Oberthur, Cheshunt White, all white varieties; Mrs. Wilcox (bronze), Winter Cheer (pink), Bronze Cheer and Allman's Yellow.

Formation of Tennis Courts: *G. P.* Each of the following methods of making a hard tennis court would be suitable for your purpose:—No. 1: Drain and level the site to the required size. Though the regulation court is 78 feet by 36 feet, for obvious reasons make the prepared area 90 feet by 48 feet if possible. Place a layer of stones evenly over the bed to a depth of 4 inches. The second layer, 2 inches in depth, may be of broken stones or gravel passed through an inch screen. The top layer should consist of 1 inch in depth of broken stones or pit gravel passed through a ½-inch screen, and mixed with a third of its bulk of broken limestone or chalk. Spread the material evenly to provide a level surface. Water, and roll with a heavy roller until the surface is quite smooth. Much depends on the binding quality of the local material in making the surface of such a court sufficiently lasting. No. 2: Prepare the court with the first and second layer as in No. 1. Then, as regards the top layer, to every ton of the material, *i.e.*, broken stones, gravel, and limestone, add 6 gallons of distilled tar, 14lbs. of pitch, and 1 gallon of pitch oil (the pitch oil only being used if the viscosity of the tar is high). Boil the tar and pitch and pour them over the stones—which should be dry—thoroughly mix by turning the material at least four times. Spread the mixture evenly, level, tamp and roll until the surface is firm and smooth. If a finer finish is desired, once the surface is set a little, apply a coating of the warm tar and pitch and dust it with dry lime. No. 3 (tar macadam): Prepare the site as in No. 1. Fix a creosoted wood border 3 inches by 1 inch round the area. Over the bottom layer of broken stones or brick, place a binding layer of ashes, gravel, or fine stone shivers, roll thoroughly with a heavy roller; one of 10 to 15 cwt. Then lay the tar macadam to a depth of 1½ inch in two layers. The first layer should be composed of stone broken to 1 inch and 1¼ inch sizes, thoroughly coated with standardised bituminous tar. Spread the material evenly and roll thoroughly. The second layer should consist of crushed limestone to pass through a ⅜ inch screen and be caught in a ¼ inch screen. The limestone should be heated and mixed with bituminous tar. Spread the mixture evenly and roll thoroughly. After the tar macadam has hardened for about a week, it is advisable to paint it with a light coating of bituminous tar, and coat it over with limestone dust. This fills in the interstices and leaves a surface which is practically impervious to water. No. 4 (limmer asphalte): Prepare the site as in No. 1. Lay a foundation of concrete 4 inches thick with an unfinished surface but thoroughly level, on which lay the asphalte to the thickness of ¾ inch in one coat. The asphalte should be tempered to withstand traffic. If permanent lines are desired fix wood screeds, say, 2 inches broad, in the concrete on the lines, and work the asphalte on either side. Then, after the asphalte has set, remove the screeds and fill the spaces with a specially made up asphalte mastic with which is incorporated fine marble chippings or other material to make the lines distinct, carefully pressing the mixture in to join with the surrounding asphalte without breaking the line edges. The surface should be made true and even by rubbing. Permanent lines may be made in all these methods by adapting the coloration of the material to suit. In all hard surfaced courts there should be a slight camber from centre to sides to throw off rain water; 1/16 to ⅛ inch to the foot will suffice. Ordinary coal tar is of no use for the purpose as it never binds, and in the heat of summer becomes a nuisance. Limestone is recommended owing to its affinity for tar. The preparation called "Rocmac" makes an excellent binding for ordinary macadam roads, and it might also suit such a surface as given in No. 1.

Galls on Apple Stock: *A. B. T.* The galls on the specimen received strongly resemble the crown gall disease, caused by Pseudomonas tumefaciens. All diseased nursery stock should be burnt at once. From the nature of the infecting organism, it is evident that no remedy will completely overcome the disease once it has attacked an orchard. Removal of the gall with the tissues adjacent thereto does not ensure recovery. When trees are only slightly diseased, the galls should be cut away, and the wounds dressed with a paste composed of 2 parts copper sulphate, 1 part iron sulphate and 3 parts of quicklime. Badly infected trees should be burnt. Quicklime should be worked into the soil in infested orchards. The disease is highly contagious and nurserymen and fruit growers should take every precaution to prevent the distribution of infected stock.

Tenancy of Market Land: *Thirty Years a Reader.* It is impossible to advise you without seeing your tenancy agreement and you should consult a solicitor. *Prima facie*, you are entitled to compensation, but the nature of your claim will depend upon whether you come under the Allotments Acts or under the Agricultural Holdings Act as a market gardener. Your solicitor will also advise you whether you can be turned out at present.

Communications Received.—A. S. (we have forwarded your communication to the Secretary of the Royal Horticultural Society—K. F.—J. E.—E. A.—E. B.—A. A.—B. B.—G. L.—A. K.—J. S. L.—A. W. M.—J. S.—T. S.—A. H. B.—V. F. G.—G. W.—R. McO.—B. N.—G. A. M.—E. P. D. & Sons—F. A. R. R. S.—Hythe—T. R. S.—D. D. & Sons—D. S.—C. S.—H. S.—J. B.—A. L.—Pom—W. & T.—E. A. S.—A. C.—T. E. P.—A. T. T.—M. T.—V. G.—S. P.—W. K.—W. H.

A NEW TOMATO OF REAL COMMERCIAL VALUE TO THE MARKET NURSERYMAN.

MANX MARVEL PLANTED OUT. SHOWING HABIT OF GROWTH.

OF PROVED MERIT.

MANX MARVEL

TRADE MARK.

What Growers say about the New Tomato :—

GREEBA CASTLE, ISLE OF MAN,
Mr. S. S. ADAM, *29th July*, 1919.

SIR,—Your "Manx Marvel" is rightly named; in all my fifteen years of experience I have never seen its equal. From a commercial point of view it is extra. "Manx Marvel" is at least a fortnight earlier than other varieties grown on this Island. On the 24th of this month I saw these Tomatoes, and each plant had 4 or 5 trusses on it, which were nearly all ripe, each truss bearing 16-20 Tomatoes, all a good colour, shape, and uniform in size. I do not doubt for a moment that trade growers will find this Tomato of great interest.

Yours truly, WM. LONG,
Head Gardener to Sir HALL CAINE.

PEEL ROAD NURSERY, DOUGLAS, I.O.M. *9th Sept.*, 1919.

I have visited Mr. Adam's Nursery several times during this summer, and have seen "Manx Marvel" growing. I consider it the best Habit and Cropping Tomato I have ever seen, many of the trusses having 20 to 30 fruit, all of best market size; it is sure to become a popular variety.

JAMES INGLIS,
President I.O.M. Nursery and Market Garden Association.

ST. TRINIANS, CROSBY, I.O.M. *1st Sept.*, 1919.

On 26th July, 1919, I inspected a crop of "Manx Marvel" Tomatoes, and consider their name is easily justified. The first truss just clear of the ground, and four within three feet. Each truss exceptionally large—three to 5 lbs.—and perfectly set.

Individual fruits of good size, uniform in shape, round and excellent colour; not a wrinkle or split in the whole crop.

A New Tomato of exceptional merit, and of especial interest to trade growers. Yours faithfully, ARTHUR R. ATHEY,
Late of London Gardeners' Guild, R.H.S., Wisley.
Gardener to Lt.-Col. Wood, D.S.O., The Towers, Marown, I.O.M.

Manx Marvel Tomato Seeds are selected from only the first four or five trusses, and the Stock is therefore limited—first come first served. £2 per 1,000 seeds. Below 1,000 seeds, 6s. per 100. Cash with Order to

S. STANLEY ADAM, Greeba Nursery, CROSBY, ISLE-OF-MAN.

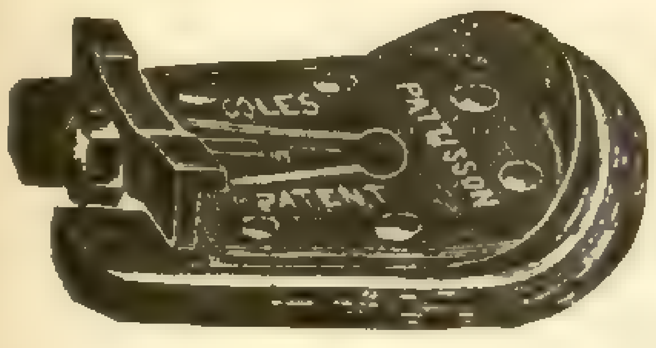

Fig. 1.

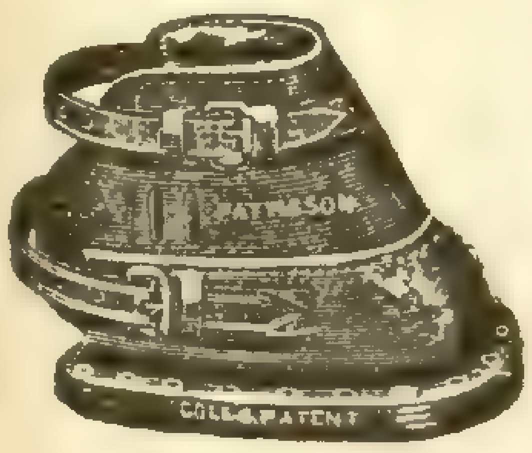

Fig. 2, A Quality.

Fig. 2, A or B Quality.

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SIMPLEST! STRONGEST! MOST ECONOMICAL!

SOLES of best English Sole Leather (Waterproofed), with Motor Tyre Rubber, Studs, or of Solid Rubber. Fig. 1 can be Refitted repeatedly, equal to New Boots. Rubber Soles Strongly Recommended.

USED FOR MANY YEARS IN THE ROYAL AND IN THOUSANDS OF THE PRINCIPAL GARDENS.

The "PATTISSON" BOOTS are the most durable on the market, outlasting several sets of ordinary boots, and when worn out can be many times refitted and are then *equal to new ones*, but this can only be satisfactorily done by us, the makers.

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Hundreds of Testimonials. The "Field" says:—"As good as anything that could be devised."

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MRS. GEO. MONRO, JUNR., an extremely handsome flower of large size. Long drooping florets of a rich velvety crimson with sheen of purple. Much the finest dark Chrysanthemum yet raised.

MAJESTIC.—An immense flower of perfect form and solid build. Colour golden amber, a sensational variety.

Both the above have received First-Class Certificates, and are of undoubted merit. For fuller particulars see list, post free on application.

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MARKETS.

COVENT GARDEN, December 17th.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d
Apples (English)		Bananas, singles	20 0–25 0
—Allington Pippin	3 0– 4 6	Chestnuts	
—King of the Pippins per ½ bus.	3 6– 4 6	—French	17 0–25 0
—Cox's Orange Pippin per ½bus. best	5 0–10 0	—Naples	40 0–45 0
—Blenheim Pippin per bus. ..	3 0–10 0	French Figs, 12's 15's per box	1 8– 2 6
—Newton Wonder	6 0– 8 0	Grapes Alicante	1 3– 1 6
—Lord Derby	5 0– 6 0	—Special per lb.	2 6– 3 6
—Lane's Prince Albert, per bus.	6 0– 7 0	—Gros Colmar ..	1 9– 2 6
—Bramley's Seedling per bus. ..	5 0– 7 6	—Special ..	3 0– 4 0
—Brit. Columbian— Cox's Orange Pippin	20 10– —	—Canon Hall ..	4 0– 7 0
Jonathan	20 10– —	—Muscat, per lb.	4 0– 8 0
Grime's Golden Nonesuch	19 0–20 0	—Almeria per barrel	15 0–35 0
McIntosh Red	18 6– —	Lemons 300's	18 0–25 0
—Nova Scotian— Blenheim Pippin Nos. 1 and 2 ..	25 0–35 0	Oranges 504,714etc.	20 0–45 0
—Ribston Pippin	25 0–35 0	Nuts—Brazils(new) per cwt.	125 0–130 0
		Cob Nuts, per lb.	1 2– 1 3
		Walnuts. English doubles	1 6– 2 0
		Walnuts 25 kilo.	55 0– —
		Pears, English Comice selected per doz.	6 0–18 0
		—Californian— Winter Nelis case	35 0–42 0
		Pineapples each ..	3 6–10 6

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans Guernsey, per lb.	5 0– 6 0	Parsnips, per bag	6 0– 8 0
Beets, per bag ..	10 0–11 0	Parsley, per doz. bunches ..	3 0– 4 0
Cabbage, per doz.	1 6– 2 0	Potatos, per cwt.	11 6–13 0
Carrots, per bag	7 0– 8 0	Radishes, per doz. bunches ..	1 6– 2 0
Cauliflower, per doz.	2 6– 3 6	Spanish Onions 5 tier	15 0–20 0
Celery, per fan, (12 heads) ..	3 0– 5 0	Spring Onions, per doz. bunches ..	4 0– —
Cucumbers, perdoz	24 0–36 0	Sprouts, per bag 28 lb.	3 0– —
Garlic, per lb. ..	1 6– —	Tomatos, English, per doz. lbs. ..	3 0– 7 0
French Luttuce per doz.	3 6– 4 0	—Teneriffe, Best, per bundle	22 0–24 0
Herbs, per doz. bun.	4 0– 6 0	ordinary ,,	16 0–18 0
Mint, per doz bun.	9 0–12 0	Turnips, per bag	7 0– 8 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Watercress, per doz	0 9– —
Mushrooms, per lb.	3 0– 3 6		
Onions, per cwt.	12 0–14 0		

REMARKS.—The volume of business is satisfactory in most sections of the market. English cooking Apples continue in heavy supply, but trade is slow, due, no doubt, to the shortage of sugar, which is a very important factor and materially affects the demand for cooking fruits. British Columbian Apples remain in good demand, the reliability of the packing and excellent appearance being much in their favour. Hothouse Grapes are good and prices show a slight advance. Pinapples in excellent condition are offered, but are more expensive than usual. Oranges are fairly plentiful and in good demand. Shipments of Canary Tomatos are now arriving regularly, and prices are reasonable. Brazils, Cobs, Chestnuts, and kiln-dried Walnuts are in good demand. Guernsey Beans are available and firmer in price. English hothouse Asparagus is now commencing to arrive. Green Vegetables are still plentiful and cheap, and the Potato trade remains steady

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.) 60's	9 0–12 0
Asparagus plumosus	12 0–15 0	72's	7 0– 9 0
—Sprengeri ..	12 0–18 0	Ericra hyemalis— 48's per doz ..	24 0–36 0
Aspidistra, green	48 0–72 0	Erica nivalis— 48's	36 0–48 0
Begonia Gloire de Lorraine 48's per doz.	24 0–36 0	60's	15 0–18 0
Cacti per tray 12's. 15's ..	5 0– 6 0	72's	7 0–10 0
Chrysanthemums 48's per doz. ..	24 0–30 0	Marguerites white	18 0–24 0
Cyclamen 48's per doz.	24 0–30 0	Palms Kentia ..	24 0–36 0
Erica gracilis— 48's per doz. ..	18 0–30 0	—— 60's	15 0–18 0
		— Cocos	24 0–36 0
		Poinsettia 48's per doz.	24 0–30 0
		Roman Hyacintns on bulbs,	7 0– 8 0
		Solanums, 48's per doz.	15 0–18 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis. in variety. 48's	12 0–18 0
— elegans ..	15 0–18 0	— 32's	24 0–36 0
Asplenium 48's per doz.	12 0–18 0	Pteris. in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ..	5 0– 6 0
— nidus 48's ..	12 0–15 0	— small 60's ..	4 0– 4–6
Cyrtomium 48's	10 0–15 0	— 72's per tray of 15's	3 6– 4 0

REMARKS.—Business is very brisk in this department. All Ericas are selling freely, also Cyclamens, Begonias, Hyacinths and other bulbs. There is a good demand for all foliage plants, and large quantities are being dispatched to the provinces.

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea white, per doz. bun. ...	15 0–18	Heather, white per doz. bun.	10 0–12 0
Camellias per doz.	6 0– 7 0	Lapagerias, perdoz. blooms ..	5 0– 6 0
Carnations per doz. blooms. best American var.	6 0– 9 0	Lilium longiflorum, per bunch ..	18 0–20 0
Chrysanthemums— — White. per doz. blooms ..	6 0–12 0	Lilium speciosum album per bunch	6 0– 8 0
— Yellow ,, ..	5 0–10 0	– rubrum per bun	7 0– 8 0
—Pink ..	6 0–12 0	Lily of the Valley per bunch ...	6 0– 8 0
—Bronze ,, ...	8 0–10 0	Orchids per doz.: – Cattleyas ..	24 0–30 0
—Spray White per doz. bun.	42 0–60 0	—Cypripediums per doz. ..	6 0– 9 0
— Coloured per doz. bun.	36 0–42 0	Pelargonium, double scarlet, per doz. bun. ..	12 0–18 0
—Single Varieties per doz. bun.	3 0– 6 0	Richardia (Arums). per doz. blms.	15 0–18 0
French Flowers— —Lilac white per doz. spray	6 0– 8 0	Roses per dozen blooms— — Liberty ..	9 0–12 0
—Marguerites yellow per doz. bun.	4 0– 5 6	— Melody ..	[illegible] 0–12 0
—Mimosa, per pad	18 0–20 0	— Mme. Abel Chatenay ..	8 0–10 0
—Narcissus, Paper White per pad	30 0–35 0	— Ophelia ..	9 0–15 0
Soleil d'Or, per doz. bun. ...	7 0 8 0	— Richmond ..	8 0–12 0
—Violets, Parma, per bun	9 0–10 0	— White Crawford	6 0– 8 0
Gardenias, per box special ..	12 0–15 0	Roman Hyacinth per doz. spikes	3 0– 3 6
ordinary ..	9 0–10 0	Violets Single large per doz. bun.	10 0–15 0
		—Ordinary ..	6 0– 9 0

REMARKS.—Supplies from home growers have been reduced in quantity during the past week. All Chrysanthemums are dearer, especially "bunch spray" white. Good disbudded blooms are scarce. Mrs. Wilcox (bronze) and Winter Cheer (pink) are the best of the coloured varieties. Baldock's Crimson is a very attractive variety for the Christmas season. Heston White and Western King are the leading varieties in "spray" white. These sorts will advance in prices during the next few days. The trade in Carnations remains as last week, but these flowers are expected to be dearer towards the week-end. Of Roses, pink blooms will be more plentiful. Blooms of Liberty and Richmond will be very limited supplies, and there is a shortage of best white blooms. The consignments of Lilium longiflorum are, so far, sufficient for the demand, as also are Richardias (Arums), but no doubt the demand for the Christmas trade will cause an advance in their prices. Small quantities of Lily of the Valley are arriving in good condition. Roman Hyacinth is dearer. In addition to a good supply of Lilac from Holland, a few white and coloured Tulips are being received from that country. A good supply of Smilax is being received from Guernsey, but all other foliage from home growers is gradually decreasing in quantity, and getting dearer. All French flowers are arriving in limited quantities, white and yellow Narcissi are coming in good condition, also Parma Violets, Ranunculus, Pink Anemones, Roses, and several baskets of Carnations.

GARDENING APPOINTMENTS.

Mr. R. J. Willis, for more than three years with His Majesty's Forces, as Gardener to E. G. MONRO, Esq, "Woodview," Watford, Hertfordshire.

Mr. W. Cooper, for 15½ years Gardener to Captain W. B. MARLING, at Clanna, Lydney, Glos., as Gardener to R. J. PRICE JENKINS, Esq., at the same place.

Mr. E. E. Bailey, as Gardener to the Hon. Lady DARWIN, "The Orchard," Huntingdon Road, Cambridge.

Mr. H. F. Wood, for the past 10 years as General Foreman in the Gardens at Esher Place, Esher, Surrey, and for 2½ years with H.M. Forces, as Gardener to Lady EDWARD CECIL, Great Wigsell, Bodieam, Sussex.

Mr. C. Tidbury, Gardener to JAMES PEECH, Esq., at Abbey Mead, Bourne End, Buckinghamshire, as Gardener to the same Gentleman, at Thornes Beach, Beaulieu, Hampshire. (Thanks for 2s. for R.G.O.F. box.—EDS.).

Mr. W. Jaundrell, for the past 2½ years Gardener to the late T. A. NEGUS, Esq., J.P., at Shenstone Lodge, Lichfield, as Gardener to A. V. NEGUS, Esq., Longdon Grange Rugeley, Staffordshire.

Mr. George Bogie, formerly Gardener to the Earl of KNARESBOROUGH, Kirby Hall, Ouseburn, York, as Gardener to LORD NEWTON, Lyme Park, Disley, Stockport, Cheshire.

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After the end of 1919.—*Twenty words* **4s.**, *and* **1s.** *for every succeeding eight words. Fee for replies to this office,* **1s.**

PRIVATE.

COUNTY BOROUGH OF BOURNEMOUTH.

APPOINTMENT OF HEAD OF THE DEPARTMENT OF THE PARKS AND PLEASURE GROUNDS.

THE COUNCIL INVITE applications from highly-qualified Landscape and General Horticulturists for the position of SUPERINTENDENT of the Parks and Pleasure Grounds of the Borough.

Full particulars may be obtained of the undersigned. Applications, stating salary required and copies of testimonials, on forms to be obtained from this Office, to be sent to me endorsed "Parks Superintendent," on or before Saturday, January 10 next.

HERBERT ASHLING,
Town Clerk.

DEVON COUNTY COUNCIL.

THE Agricultural Committee invite applications for the post of

HORTICULTURAL SUPERINTENDENT.

The salary offered is £350 per annum and travelling expenses.

Candidates should be able to offer evidence of a thorough knowledge of Fruit and Vegetable culture, including Market Gardening.

Applications are also invited for the post of ASSISTANT LECTURER IN HORTICULTURE.

The salary offered is £250 per annum and travelling expenses.

Forms of application, which must be returned before 7th January, 1920, and further particulars may be obtained from the Agricultural Organiser, F. V. DUTTON, 1, Richmond Road, Exeter.

WANTED, married man as HEAD WORKING GARDENER; man and boy kept; no Glass; three-roomed flat and electric light provided; no family; wife to assist in house when required; house three miles from Conway Station. State wages.—TATTERSALL, Glyn Isaf, Tal-y-Cafn, R.S.O., North Wales.

GARDENERS (SINGLE-HANDED). — Several places vacant on my register; Fruit and Flowers. Send copies (only) of references.—E. SCAPLEHORN, Lindfield, Hayward's Heath, Sussex.

SINGLE-HANDED.—Thoroughly experienced Herbaceous Plants, Vegetables; practically no Glass; no cottage; wages 45s.—Apply, WOOD, Flint Cottage, Box Hill, Dorking.

WANTED for December 27, for town garden (about 1½ acres), two experienced GARDENERS, one for Vegetables and Lawns, the other for Glasshouses, Cold Frames, Fruit Trees and Flower Beds; both must be single men; no cottage or bothy; wages 45s. per week.—Apply, stating experience and with copies of testimonials, CHARLES THOMAS, Esq., Plasyn, Uwyn, Wrexham, N. Wales.

WANTED, MAN to take WORKING LEAD in extensive Ornamental Grounds; experienced in lifting and replanting shrubs, etc.; married man, whose wife would undertake management of bothy, 4 or 5 young men; good cottage, and 42s. per week, extra for bothy. Also good GARDEN LABOURER, 36s. 6d. per week, and small cottage.—Particulars of experience, age, etc., to GEO. GURNEY, Bodnant Gardens, Taly-Cafn.

WANTED, FOREMAN, Inside and Out; £2 a week, bothy, etc.—Apply, stating age, experience, etc., to J. E. DAVIES, The Gardens, Talygarn, Pontyclun, Llantrisant, South Wales.

WANTED, FOREMAN for Pleasure Grounds, Rock Garden, Herbaceous Borders, Roses, Plant houses, etc.—Apply, stating experience, with copies of testimonials, and wages required, with bothy, D. HAZLEWOOD, Parlington Gardens, Aberford, Leeds.

WANTED, for small farm in Essex, MARRIED COUPLE, Man with general knowledge of Farm work and good knowledge of Gardening, especially Fruit and Vegetables; must also have experience of care of dairy cattle and be a good milker; wife capable butter-maker and experienced with poultry. First-class references required. Cottage provided.—Write stating ages, family, particulars of experience and wages asked, Box 127, Smith's Library, Earl's Court Road, S.W.

WANTED at once, strong, active MAN for Kitchen Garden (experienced); able to take turns, with duty; wages 32s. 6d. per week, bothy, vegetables, and attendance; 1 o'clock Saturdays.—Apply, stating age, experience, etc., to G. F. HALLETT, Netherby Gardens, Carlisle.

WANTED, MAN for Inside; bothy, coal, vegetables allowed; duty alternate weeks.—Apply, stating wages, GIBSON, Alfreton Park, Derbyshire.

WANTED, MAN, chiefly Kitchen Garden, and wife to attend bothy; also YOUNG MAN for Inside and Out.—Apply, stating wages expected, with cottage and bothy provided, to C. W. ABBOTT, Minterne Gardens, Dorchester.

WANTED, reliable MARRIED MAN for Inside, and help Outside when required; must be well up in his work, and used to growing Fruit, Flowers, and early Vegetables under glass; excellent cottage close to garden, rent £7 per year.—Reference, age and wages expected, to ALEXANDER REID, Cheswardine Hall Gardens, Market Drayton.

WANTED, JOURNEYMAN for Pleasure Grounds and Kitchen Garden; wages 30s. and comfortable bothy; take Sunday duty fourth or fifth week; duty paid.—Apply, with copies of references, to A. J. J. G., Box 9, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, good JOURNEYMAN for Fruit charge; must be thoroughly recommended; wages 35s. per week, bothy, milk, and vegetables; 1 o'clock Sat.—F. CAPP, Nostell Priory Gardens, Wakefield.

WANTED, IMPROVER (Inside); wages 25s. per week, bothy and vegetables; one o'clock Saturdays. — Apply, WM. PILGRIM, Bodorgan Gardens, Anglesey.

WANTED, experienced GARDENER-HANDYMAN; wages £2 per week and two rooms (one small).—Apply, with full particulars and references, A. A. KELSEY, Bourne Lodge, Boxmoor, Herts.

TRADE.

LANDSCAPE FOREMEN (WORKING) wanted; must be well up in Trees, Shrubs, and Herbaceous Plants.—Particulars as to experience, wages, to CLIBRANS, Altrincham.

WORKING FOREMAN or CHARGE HAND wanted for Market Nursery at Waltham Cross. (Cucumbers and Tomatos.) — State age, experience, wages required, when disengaged, R. B., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, SUB-FOREMAN; must be used to lifting Shrubs; single.—State qualifications and wages required, JOHN WATERER, SONS & CRISP, LTD., Bagshot, Surrey.

WANTED, good GROWER; Chrysanthemums, Tomatos, Palms, Bedding Stuff, etc.; steady; age 35 to 40.—State age, experience, with references and wages required, WILLIAM THOMPSON, Sheen Nurseries, Richmond, Surrey.

PALM GROWER required for Palm Houses, in London; thoroughly experienced.—Apply, ROBT. GREEN (1911), LTD., 28, Crawford Street, London, W.

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WANTED, smart young GROWER (single) as SECOND; must be experienced in Tomatos, Cucumbers, etc., and with a good general knowledge of Inside work.—State age, experience, wages required and copies of testimonials, WRIGHT, Nurseries, Pangbourne, Berks.

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PRIVATE.

THE EARL of DONOUGHMORE wishes to very highly recommend his present HEAD GARDENER, who has had considerable experience in all branches, including land, stock, and estate; he has given complete satisfaction, and leaves for no fault.—THURSTON, The Gardens, Chelwood Beacon, Uckfield.

MRS. McCALMONT wishes to highly recommend her HEAD GARDENER; thoroughly experienced in all branches Fruit, Flowers, Vegetables; choice Shrubs, and management of men; estate sold.—ROBERT HALE, Bushey House, Bushey, Herts.

MR. CONWAY highly recommends his late GARDENER, with five years' reference, as HEAD or SINGLE-HANDED with help; life experience; age 35; married.—FOSTER, High Beech, Hollington, St. Leonards-on-Sea.

GARDENER (HEAD or good SINGLE-HANDED); 28 years' experience, 11½ years as Head; good references.—REYNOLDS, Wyedene, Tintern, Chepstow, Mon.

GARDENER (HEAD or SINGLE-HANDED); life experience; age 29; married; good references; Army discharge; disengaged now; can be highly recommended by late employer.—C. ROBERTS, Titley, Herefordshire.

GARDENER (HEAD or otherwise); life experience Inside and Outside; Fruit, Vegetables, and Flowers, specialities; abstainer; highly recommended; age 29; married when suited; disengaged; S.E. England preferred; enclose stamp.—WESTON, "Mizpah," Congelow, Yalding, Kent.

GARDENER (HEAD) seeks re-engagement; 20 years' practical experience gained in good establishments, including Orchids; good organiser; married (no family); highest references; over 2½ years' service. —F. PERKINS, 101, Flax Road, Leicester.

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MR. A. J. KERRY, Springfield, Cotham Road, Bristol, recommends demobilised Sergeant as HEAD WORKING GARDENER; life experience in all branches; keen, energetic and skilful cultivator; married; age 31; of proved ability and integrity of character.

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HEAD WORKING GARDENER seeks situation; one or two under; life experience in all branches; would manage electric plant; seven years' excellent references; age 55; family grown up and away from home; wife would look after house or cook for small family; country preferred: Kent or Surrey.—H. W., 30, Vale Road, Southborough, Kent.

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HEAD WORKING GARDENER seeks situation where several are kept; life experience in all branches; can manage electric light plant, also stock, if required; excellent references, 9 and 8½ years; married (two children at home, 13, 15 years); age 45. —OSMAN, 2, Spring Gardens, Glynde, near Lewes, Sussex.

GARDENER (HEAD WORKING), practical experience in all branches; good references; demobilised; married.—A. TUCK, Stirltoe Gardens, Buckden, Hunts.

GARDENER (HEAD WORKING) seeks situation, with cottage; life experience all branches; good references; age 34; married (one child); demobilised.—F. HALES, 15, Bridge Street, Congleton, Cheshire.

GARDENER (HEAD WORKING of two or three); life experience in all branches, Inside and Out; South Hants preferred; age 45.—W. P., Box 15, 41, Wellington Street, Covent Garden, W.C.2.

SITUATION as HEAD WORKING GARDENER; over 30 years' experience in all branches; age 46; two sons (one good Working Gardener, age 17); expert bookkeeper. — Apply, H. ARNOLD, The Lodge, Highbrook House, Ardingly, Sussex.

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GARDENER (SINGLE-HANDED or with help); married (no family); age 35; experienced Inside and Out; good references; just demobilised.—L. TANDY, Toddington, near Winchcombe, Glos.

GARDENER (SINGLE-HANDED); good reference; age 29; married (no family); good experience, Inside and Out; near Cambridge preferred.—Apply, G. WEBB, Swaffham Prior, near Cambridge.

GARDENER (SINGLE-HANDED or otherwise); married (no family); good references; life experience, Inside and Outside; age 29.—DINNAGE, 20, Blakesley Avenue, Ealing, W.5.

GARDENER seeks situation, chiefly Kitchen Garden; age 32; married (one child); good references; just demobilised.—HARDY, Bachelor's House, Grey's Court, Henley-on-Thames, Oxon.

WANTED, situation as GARDENER or good SECOND in good establishment; married; nine years' experience; age 29; good references.—Apply, H. ALDWORTH, Prestwold Gardens, Loughborough, Leicestershire.

GARDENER (good SECOND); eleven years' general experience; age 28; married (no family); disengaged January 1.—W. WALKER, The Stables, Alderbourne Manor, Gerrards Cross, Bucks.

GENTLEMAN recommends UNDER-GARDENER, age 27, married (two children), good experience Flowers and Vegetables; just demobilised; situation near Exeter preferred.—Apply, E. LOVEGROVE, Hawker's Cottages, Ide, nr. Exeter.

FOREMAN or good SECOND; Inside or Inside and Out; 14 years' experience; good references; age 32; disengaged.—CROFT, Newton Valence, Alton, Hants.

FOREMAN (INSIDE) in good establishment.—Mr. Weston, Eastwell Park Gardens, Ashford, highly recommends A. J. COTTERELL as above; age 30; single.—Address, Shopwyke House Gardens, Chichester.

NOTICE TO ADVERTISERS.

Advertisements intended for insertion in the issue of December 27 MUST reach us not later than the first post on MONDAY MORNING, the 22nd inst. All advertisements received after that post will be held over until the following week. Gardeners' Chronicle, Ltd., 41, Wellington Street, W.C.2.

FOREMAN seeks re-engagement; eleven years' practical experience, gained in good establishments; first-class Carnation Grower; thoroughly experienced in Vines, Peaches, Tomatoes, Cucumbers, Melons, Chrysanthemums, House and Table Decoration; good Plantsman; two years Inside Foreman Tredegar Park, previously Foreman Bicton, Devon; excellent recommendation; abstainer; good bothy essential; disengaged early in January.—B. J. HEDGER, Tredegar Park Gardens, Newport, Mon.

JOURNEYMAN seeks situation as FIRST INSIDE; eight years' experience in Vines, Peaches and Plants houses; excellent reference.—F. FORREST, Willesley, Ashby de la Zouch, Leicestershire.

JOURNEYMAN seeks situation, Inside or Inside and Out; six years' experience in the Fruit and Plant houses; bothy preferred.—S. H., Box 13, 41, Wellington Street, Covent Garden, W.C.2.

JOURNEYMAN (ex-soldier) seeks situation in good establishment; Inside; good references; five years' experience; ambitious; age 23; height 5 ft. 9 in.; capable of looking after Vines, Figs, etc., and Pot Stuffs; knowledge of decorating; take duty.—State wages, bothy, etc.—S. HOPKINS, Greys Church, Henley-on-Thames.

JOURNEYMAN (FIRST, INSIDE); age 27; eight years' experience in good establishments; Carnations, decorations, etc.; excellent references; disengaged.—E. F. GOAD, Spennithorne House, Leyburn, Yorkshire.

EMPLOYMENT desired; experienced in Flowers and Vegetables.—H. M., c/o The Old Library, Sunbury.

MR. JAQUES, Bryanston Gardens, Blandford, will be pleased to recommend an experienced Young Woman, D. SADLER, as UNDER-GARDENER; left here owing to reductions through death.

TWO LADY GARDENERS wish post together.—W. E., Box 10, 41, Wellington Street, Covent Garden, W.C.2.

ELECTRICIAN, ex- N.C.O., seeks change of Country Estate Plant, etc.; used to all machinery, all repairs; excellent references; married (four children); disengaged.—A. DOVE, The Pastures, Derby.

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MANAGER (WORKING); thorough practical experience in management of all branches of General Nursery, Seed, Sundries, Bulb and Floral Business; good organiser; energetic; highest references.—MANAGER, Box 10, 41, Wellington Street, Covent Garden, W.C.2.

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ADVERTISER seeks opening in genuine Horticultural Business where there is scope for extension, with view to partnership; moderate capital; good book-keeper, and office experience; excellent references.—M. N., Box 1, 41, Wellington Street, W.C.2.

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CLERK requires situation; competent Bookkeeper, Ledger Clerk and good office experience in leading nursery and seed firms; or would act as Traveller.—W. B., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

The Gardeners' Chronicle

FOR ADVERTISEMENTS TO BE INSERTED ON AND AFTER JANUARY 3, 1920, THE SCALE OF CHARGES WILL BE AS BELOW.

Advertisements intended for insertion in the next issue MUST reach THE PUBLISHER not later than

TUESDAY, 5 p.m

	Ordinary Positions.	Facing matter or back cover.
Page	£12 0 0	£15 0 0
½-Page	6 0 0	7 10 0
¼-Page	3 0 0	3 15 0
Column	4 0 0	5 0 0
½-Column	2 0 0	2 10 0

Small Advertisements, ordinary positions:—

First 3 lines (not exceeding 20 words...	4 0
Per line (8 words), after	1 0
Per inch, single column	8 0
Per inch, across 2 columns	16 0
Per inch, across 3 columns	£1 4 0

Front page (no display allowed), 2/- per line space (headline counted as two lines).

SITUATIONS WANTED.

First 3 lines (not exceeding 20 words), 2/-, and 6d. for every additional 8 words or portion thereof.

(Advertisements at this Special rate are only accepted direct from Gardeners, &c.)

DISCOUNTS

On front page advertisements no discounts are allowed. On all other advertisements they are allowed as follows: For three insertions, 5%; thirteen, 10%; twenty-six, 15%; fifty-two, 20%.

All Advertisements should be addressed GARDENERS' CHRONICLE, Ltd., and must reach the office before 5 p.m. on TUESDAY for inclusion in the issue of the same week.

All series must be arranged to attain completion within twelve months.

Advertisers may have replies to their advertisements addressed to the GARDENERS' CHRONICLE Office A box fee of 1s. is charged for this service.

Cheques and Postal Orders are to be made payable to GARDENERS' CHRONICLE, LTD., and crossed "& Co."

41, Wellington Street, Covent Garden, W.C.2.

Telegrams, "Gardchron, Rand, London." Telephone: Gerrard 1543.

By Special Appointment to His Majesty the King

MACKENZIE & MONCUR, LTD.,

HOTHOUSE BUILDERS,

HEATING AND ELECTRICAL ENGINEERS, etc.

Most of our men have now returned from War Service, and we are in a position to give prompt attention to orders for all classes of Hothouses, Conservatories, etc. We have ample stocks of seasoned timber and are also supplied with all other materials required for work of this kind. Please allow us to submit plans and estimates for your requirements.

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Telegrams: "GLASSHOUSE. CAMROAD, LONDON," and "HOTHOUSE. EDINBURGH."

W. RICHARDSON & CO., DARLINGTON.

Erected at CHISWICK, LONDON

HORTICULTURAL BUILDERS and HEATING ENGINEERS.

PLANS and ESTIMATES prepared free of cost.

REPRESENTATIVES sent to any part of the Kingdom to advise and take particulars.

LARGE CATALOGUE of photographic views of Horticultural Buildings free on application.

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LONDON OFFICE: ALBERT MANSIONS, 92, VICTORIA STREET, S.W.1.

WM. DUNCAN TUCKER & SONS, LTD.

HORTICULTURAL BUILDERS & HOT-WATER ENGINEERS,

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AWARDED LARGE GOLD MEDAL AND DIPLOMA OF HONOUR AT THE ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION, CHELSEA, LONDON, 1912.

Highest Award for
CONSERVATORY, ORCHID HOUSE, PLANT HOUSE, GARDEN FRAMES, GARDEN SEAT.

PORTABLE BUILDINGS, **BUNGALOWS**, LODGES, GARDENERS' BOTHIES, Etc.

Printed for the Gardeners' Chronicle, Limited, by ODHAMS LIMITED, 83-95, Long Acre, London, W.C.2, and published weekly by the Gardeners' Chronicle, Ltd 41, Wellington Street, Covent Garden, City of Westminster, Saturday, December 20, 1919. Agent for Manchester, JOHN HEYWOOD

COLOURED PLATE: Apple Sir John Thornycroft.

THE GARDENERS' CHRONICLE

Established 1841. No. 4122.

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Postal Address—41, Wellington Street, Covent Garden, W.C.2. Telegraphic Address—"Gardchron, Rand, London." Telephone—Gerrard 1543.

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THE CELEBRATED XL ALL SPECIALITIES. BEEN ON TOP FOR 25 YEARS AND STILL THERE!—XL ALL CAUSTIC WINTER WASH (in powder). 1-lb. tin makes 8 to 12 gallons. It thoroughly cleanses Fruit Trees and Bushes, both buds and bark. Can be used any time before the buds begin to swell in the spring. XL ALL NICOTINE LIQUID INSECTICIDE. The gardeners' favourite Wash for the absolute destruction of Thrip, Scale, Mealy Bug, &c. If this wash is used occasionally, a total absence of insects, both on Fruit Trees and Plants, can be secured in any garden. XL ALL NICOTINE SHREDS. The most potent, safe and effectual Fumigant. Used without any apparatus; simply burn on the floor of the Greenhouse. XL NICOTINE FUMIGATING COMPOUND. Both in liquid and cake, these old favourites are still as popular as ever. Many other XL ALL Preparations are indispensable in the garden. Get a complete list from your N.S. or Florist, or send to me for one and name address of your nearest Agent.—G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E.1.

McDOUGALL'S WINTER WASH for Fruit Trees.—To clean Fruit Trees from Moss, Lichen, to destroy Fungoid Spores, Scab, Hibernating Insects, and to check the growth and spread of Canker. For use only while trees are dormant. One gallon drums to make 80 gallons wash, 10s. each; 1 quart tins, 3s. 8d.; 1 pint tins, 2s. From Nurserymen, Seedsmen, and Ironmongers.—McDOUGALL BROS., LTD., Port Street, Manchester.

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LAXTON'S FRUIT TREES, Strawberries and small Fruits. New List for 1919, containing our new Plum, "Early Laxton," A.M., R.H.S., and other new fruits. Post free. Cultural hints with full details how to plant and prune, for 1½d. postage.
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J. GRAY, LTD., Builder of Conservatories, Greenhouses, &c., and Heating Engineers, Danvers Street, Chelsea, London, S.W.3. Wire, 201, Western, London. Telephone: 201, Western.

VEGETABLE SEEDS are our great speciality. Selected stocks are available to the Trade.
HARRISON & SONS,
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FIDLER'S NEW ILLUSTRATED GARDEN SEED GUIDE and CATALOGUE for 1920 is NOW READY, and a copy will be sent post free to any address on receipt of postcard.
Write at once to
FIDLER & SONS,
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DICKSON & ROBINSON, MANCHESTER. The King's Seedsmen.

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BARR'S HARDY PLANT CATALOGUE for the best Hardy Perennials, Rock plants, Alpines and Aquatics; sent free on application.—BARR AND SONS, King Street, Covent Garden, W.C.2.

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WEBBS' VEGETABLES AND FLOWERS.

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GOLD MEDAL. National Potato Society.
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SILVER TROPHY. St. Dunstan's Show, Chelsea.
GOLD MEDAL. Royal Caledonian Society.
GOLD MEDAL. Birmingham Hort. Society.
GOLD MEDAL. Wolverhampton Floral Fête. and other Important Awards.

WEBBS' GARDEN CATALOGUE for 1920 (ready January 1st), post free.
Send name and full address, so that a copy may be posted to you.

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WATERER'S VEGETABLE AND FLOWER SEEDS. Sweet Peas. Scotch-grown Seed Potatos. Catalogues on application.—JOHN WATERER, SONS & CRISP, LTD., The Nurseries, Twyford, Berks.

[illegible] BIRCH BESOMS, Peasticks, Thatching H[illegible], Marsh Poles, Firewood, &c., Apply, JOHN APPLETON & SONS, Birches, Baughurst, Basingstoke.

JOHN BOTANY RECEIVED JAN 30 1920 GARDEN LIBRARY

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NOW IS THE TIME TO PLANT.
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Paeonies, Delphiniums, Phloxes and other beautiful flowers included in their Colour Schemes, which provide blooms from early spring to late autumn.
Write NOW to the Retail Plant Department.

McDOUGALL'S "FUMERS" and Insecticide "Sheets" for greenhouse fumigation. Safe, effectual, economical. Sold by all Seedsmen and Nurserymen.—McDOUGALL BROS., LTD., Port Street, Manchester.

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SALES BY AUCTION.

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MESSRS. PROTHEROE & MORRIS beg to announce that, owing to its proximity to the Christmas Holiday, they will not hold the usual Sale on Wednesday, Dec. 31st.

THEIR SALES FOR THE SPRING SEASON will commence on

FRIDAY, JANUARY 2ND, 1920,

and be continued every Wednesday and Friday during the season. On

WEDNESDAY, JANUARY 7TH.

they will offer a quantity of Bulbs and Plants, together with ENGLISH & DUTCH ROSES, many lotted specially for THE TRADE, together with several HUNDREDS OF CASES of

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NOTICE.

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OBJECTS:

To be a channel of communication between Government and the Trade; to link up all sections and harmonise separate interests, and generally to promote Trade Organisation and reform.

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Secretary, R. WYNNE.

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TO "'MUM" GROWERS.

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SAVES HALF THE COST AND DOUBLES THE QUALITY.

Put it to yourself this way. Fruit is getting dearer than ever to buy. If, then, you want, to have the best quality fruit you ever had, if you want to have double the quantity for half the cost, decide now to plant

TOOGOOD'S "BETTER CROPS" FRUIT TREES.

Propagated only from the most productive and desirable individual plants, they ensure MORE FRUIT AND BETTER FRUIT THAN EVER BEFORE.

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Extra Strong crowns for forcing
300 for **35/-** 100 for **12/6** 50 for **6/6** 25 for **3/6**

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40 tins - 2s. 8d. each.

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(LAWN SAND)

Completely destroys daisies, plantains, dandelions, moss and other weeds on lawns, croquet grounds, tennis-courts, bowling-greens, golf courses, etc.

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The Orchids of the Flower Garden. I. Armœa, Germanica, Neglecta, Pallida, Plicata, Squalens, Variegata, Intermedia, Japanese Flag I. (syn. Kaempheri), Single or Double, Pumila, Sibirica, from all groups; each section assorted, **5/-** per doz.; **30/-** per 100.

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Abies Excelsa (Spruce Fir) thrice transpd.	2½ to 3½ ft.	200s. per 1000
Ash, Common, twice transpd.	3 to 4 ft.	60s. per 1000
Beech, Common, twice transpd.	3 to 4 ft.	100s. per 1000
Beech, Common, thrice transpd.	4 to 5 ft.	20s. per 100
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Oak, English, twice transpd.	3 to 4 ft.	80s. per 1000
Oak, English, twice transpd.	4 to 5 ft.	100s. per 1000
Privet, Common, twice transpd.	3 to 4 ft.	80s. per 1000
Privet, Ovalleaf, twice transpd.	3 to 4 ft.	130s. per 1000

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Straight stems, good heads and well-rooted.

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Chestnut, Horse	14 to 16	36s.
Limes, Red twigged	12 to 14	24s.
Limes, Red twigged	14 to 16	36s.
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Poplar, Black Italian	13 to 15	24s.
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Sycamore	14 to 16	30s.

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	Each.
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Extra large	5/- 7/6
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" **Hidomanyo**—New bright single pink. A gem	5/-
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Cytisus—We offer a magnificent collection of these, all suitable for forcing or planting out; also half standards and standards. Particulars on application.	
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Extra strong	3/6
" **Andreana**—Yellow and brown	3/-
" **Andreana Firefly**—Crimson and yellow ...	3/-
" **Andreana Dragonfly**—Crimson and yellow ...	3/-
" **Andreana Daisy Hill**—Sulphur and crimson ...	3/6
" **Andreana Prostrata**—Very distinct, almost pendulous	4/6
" **Beanii**—Dwarf golden yellow. A gem ...	2/6
" **Dallimorei**—Crimson, magnificent plants ...	3/6
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Amygdalus Nana Rubra—Very strong bushes ...	3/-

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50 Seeds for **3/6**, 12 Seeds for **1/-**.

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Double Strength. Gallon Drum makes 60 Gallons.

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A NEW TOMATO OF REAL COMMERCIAL VALUE TO THE MARKET NURSERYMAN.

OF PROVED MERIT.

MANX MARVEL

Manx Marvel — Trade Mark.

A Marvellous Cropper.—Early.—Firm Fleshed.—An Excellent Carrier

What Growers say about the New Tomato :—

Greeba Castle, Isle of Man.

Mr. S. S. Adam, *29th July*, 1919.

Sir,—Your "Manx Marvel" is rightly named; in all my fifteen years of experience I have never seen its equal. From a commercial point of view it is extra. "Manx Marvel" is at least a fortnight earlier than other varieties grown on this island. On the 24th of this month I saw these Tomatoes, and each plant had four or five trusses on it, which were nearly all ripe, each truss bearing 16-20 Tomatoes, all a good colour, shape, and uniform in size. I do not doubt for a moment that trade growers will find this Tomato of great interest.

Yours truly, WM. LONG,
Head Gardener to Sir Hall Caine.

Peel Road Nursery, Douglas, I.O.M. *9th Sept.*, 1919.

I have visited Mr. Adam's Nursery several times during this summer, and have seen "Manx Marvel" growing. I consider it the best Habit and Cropping Tomato I have ever seen, many of the trusses having 20 to 30 fruit, all of best market size; it is sure to become a popular variety.

JAMES INGLIS,
President I.O.M. Nursery and Market Garden Association.

St. Trinians, Crosby, I.O.M.
1st Sept., 1919.

On 26th July, 1919, I inspected a crop of "Manx Marvel" Tomatoes, and consider their name is easily justified. The first truss just clear of the ground, and four within three feet. Each truss exceptionally large—3 to 5 lbs.—and perfectly set. Individual fruits of good size, uniform in shape, round and excellent colour; not a wrinkle or split in the whole crop.

A New Tomato of exceptional merit; and of especial interest to trade growers.

Yours faithfully,
ARTHUR R. ATHEY,
Late of London Gardeners' Guild, R.H.S., Wisley.
Gardener to Lt.-Col. Wood, D.S.O., The Towers, Marown, I.O.M.

Manx Marvel Tomato Seeds are selected from only the first four or five trusses, and the Stock is therefore limited—first come first served. £2 per 1,000 seeds. Below 1,000 seeds, 6s. per 100. Cash with Order to—

S. STANLEY ADAM, Greeba Nursery. CROSBY, ISLE-OF-MAN.

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Sold everywhere for Horticultural purposes in Packets at 10d. & 1/6 and in BRANDED and SEALED BAGS: 7 lbs., 3/9; 14 lbs., 6/6; 28 lbs., 11/6; 56 lbs., 20/-; 112 lbs., 37/-. Or direct from the works Carriage Paid in the United Kingdom for Cash with Order (except packets).

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The National Fertiliser.

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THE

Gardeners' Chronicle

No. 1722.—SATURDAY, DEC. 27, 1919.

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AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last fifty years at Greenwich, 38.6°.

ACTUAL TEMPERATURE:—
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, *Monday*, December 22, 10 a.m.: Bar. 39.7; temp. 46°. Weather—Overcast.

The Coco-nut. It is a common saying in the East that the Coco-nut lives only within the sound of the sea and of the human voice. The saying is, however, more picturesque than accurate, although the characteristic fringe of Coco-nut trees, which is often the first sign of tropical land, helps travellers, no doubt, to perpetuate the saying. No less interesting than exploring the basis of a legend is inquiry into the facts of life, and many interesting observations have been made and published by Mr. L. B. Copeland* in his work on "The Coco-nut." Certain of these observations relate to the means whereby this plant is able to withstand injury from the periodic flooding of its roots with salt water to which its position near to low-lying shores renders it peculiarly liable. Mr. Copeland points out in the first place that the Coco-nut is not to be numbered among the true halophytes, or salt-loving plants which require common salt for their growth. Nevertheless, after storms, the soil in which Coco-nuts are growing becomes charged with enough salt to kill ordinary plants. Yet the Coco-nut survives and its survival is due to peculiarities of its root system. Unlike the roots of most plants, those of the Coco-nut possess no root hairs. Absorption of water which is effected by the roots of normal plants by means of root hairs is carried out in the Coco-nut by means of a short length of the root immediately behind the root-cap. Behind this absorptive region the surface layer of the root consists of cells which are impermeable to water. As and when flooding of the root-system with salt water occurs the impermeable skin approaches closer to the root-cap, and thus the absorbent region is more and more reduced, with the result that absorption is also reduced. So long as the salt concentration is not too large, absorption of water and of salt goes on, but as the concentration reaches the danger limit, absorption decreases and the risk of salt-poisoning is prevented.

In the case of true halophytes, the means of protection against excessive absorption of salt, according to Hall*, lies in what may be called the absorptive elasticity of the root-hairs. These delicate organs, each consisting of a single cell, are able to increase the concentration of their cell sap in proportion as salts are concentrated in the water which bathes them. Since the absorption of salt by a root-hair depends on the concentration of the cell-sap, it follows that although the salt in the water surrounding a root-hair cell may become more concentrated, no more is absorbed, the increased concentration of the cell-sap acting as a bar to absorption. In this manner a true maritime plant is able to exist in spite of such fluctuations in the salt-content of the soil as would be fatal to ordinary plants which lack this delicate mode of adjustment.

Another fact of interest demonstrated by recent work on halophytes is that they exhibit surprisingly high rates of transpiration. It must therefore be assumed that the root-hair mechanism which prevents the absorption of an excess of salt offers no barrier to the absorption of water, for were it otherwise the maritime plant, whilst escaping death from poison, would meet it from lack of water.

* See *The Agricultural News*, Imp. Dept. of Agric., West Indies, Oct. 18th, 1919, for a summary of Mr. Copeland's work.

* "The Water Economy of Maritime Plants," *Science Progress*, July, 1919.

FIG. 149.—FRUIT OF CYDONIA JAPONICA.

Coloured Plate.—Apple Sir John Thornycroft, which forms the subject of our coloured supplementary illustration, is a comparatively new variety which received the R.H.S. Award of Merit on November 21, 1911. The fruit is exceedingly handsome in appearance and the flavour excellent—two qualities that growers look for in new Apples, and sufficient to render a variety popular for planting. This new Apple was raised by Mr. Collins, gardener to Sir John Thornycroft, Bembridge, Isle of Wight, and it has been introduced to cultivation by Messrs. G. Bunyard and Co. Mr. E. A. Bunyard, whose wide knowledge of and great interest in hardy fruits is well known, has obligingly furnished us with the characteristics of this new Apple. As the details are so interesting and complete as to serve as a model for a description of a fruit, we publish them in full:—Size—medium, $2\frac{3}{4}$ ins. broad by $2\frac{1}{4}$ ins. high; Form—roundish flattened, greatest diameter at centre, tapering evenly to eye, halves equal; Colour—pale yellow green with a light red flush and broad broken stripes showing through, on well-exposed fruits almost entirely flushed; Skin—smooth, slightly greasy; Dots—rather numerous, large, on the surface, grey russet, more noticeable at the base of fruit; Basin—moderately deep and wide, very slightly ribbed and at top one rib generally more prominent than the rest; Calyx—small, closed, segments very woolly; Cavity—wide but shallow, always with a little dark russet; Stem—rather short, about $\frac{1}{2}$ in., woody, considerably swollen at end; Core—medium, axile, nearly closed; Cells—elliptical; Tube—conical, very shallow; Stamens—basal; Seeds—rather small, sharply pointed, chestnut brown; Flesh—pale yellow, very crisp and juicy; Flavour—slight Cox's Orange suggestion but a little more acid; Quality—good; Season—November-January; Fertility—fair; Growth—moderately vigorous, making long slender shoots, rather upright; Wood moderately stout, geniculate, shining; Lenticels—rather large, conspicuous, oval; Leaf (shoot)—oval, tapering gradually to a blunt point, finely bi-crenate; Stipules—moderately long, very narrow; Wood Bud—moderately large, acute; Leaf (Spur) oval, dark, nearly flat, very finely crenate; General—this very handsome Apple resembles a fine specimen of Cox's Orange Pippin and has some of its flavour. Like many new Apples, it was apparently not quite settled in its season when first exhibited, as then it was at its best in November, whilst now it will keep until March, which greatly increases its utility.

Appointment of Professor of Botany, Oxford University.—The appointment is announced of Dr. F. W. Keeble, F.R.S., as Sherardian Professor of Botany in the University of Oxford. Dr. Keeble succeeds Professor Vines, F.R.S., who is retiring after many years' service in the University. In accepting his new post, Dr. Keeble resigns the position of Assistant Secretary of the Board of Agriculture and Fisheries.

Cydonia japonica.—The Japanese Quince is a popular plant in gardens, as it is one of the earliest shrubs to bloom; indeed, it is not unusual for specimens to flower at Christmas, especially when planted in a warm, sheltered situation. Several varieties have appeared, some with flowers much superior to those of the type, and these varieties may be perpetuated by layering. The flowers are frequently followed by fruits, and it will be remembered that early in the year several correspondents wrote in the pages of the *Gard. Chron.* as to the value of these fruits for the making of jelly. Mr. S. Walters obligingly sends us a photograph, reproduced in Fig. 149, of a fine fruit of Cydonia japonica which grew on a specimen in his garden at High Wycombe.

Prizes at the Royal National Eisteddfod of Wales.—To the average Englishman the Welsh Eisteddfod is merely a name, but to the Welshman it is an event of more than national importance. Its objects are primarily to encourage and foster the Welshman's love of music, literature and art. The Royal National Eisteddfod of 1920, which is to be held at Barry in August next, goes still further, and has introduced in the prospectus a "Science" section. Competitions, mostly in the form of essays, are invited on various subjects relating to geology, biology, chemistry, history of science, and agriculture. The competitions are not confined to Wales unless specially so stated in the schedule. Prizes are also offered for several subjects of interest to horticulturists and agriculturists. The committee responsible for this section had in mind the great impetus given to the production of fruit, vegetables and farm crops during the war, and the necessity for continuing and increasing the yield. Realising the desirability of obtaining the best means of controlling diseases and pests, a prize of £6 is offered for the best essay dealing with the prevention and destruction of insects injurious to vegetables. A prize of £6 is also offered for the best essay dealing with fungous diseases attacking Potatos, and one of £5 for a paper showing original research into the origin of the Isle of Wight disease in bees. On the subject of manures for agricultural crops essays are asked for giving experiments on the relative values of nitrogenous manures in connection with other manures. If reliable information can be obtained some of

the most useful essays should be those giving accounts of the cropping of a small holding of from two to three acres, with the initial capital required, annual expenditure, and possible returns for the first three years, supposing the holding was on (a) cultivated land, (b) old pasture. A prize of £10 is offered for the best essay on the subject. All particulars relating to the "science" subjects can be obtained from Mr. D. Walters, B.Sc., 15, Wenvoe Road, Barry, Glamorganshire. A stamped addressed envelope must be enclosed for reply.

Carnation Mrs. T. Ives.—The beautiful new variety of Carnation named Mrs. T. Ives, illustrated in Fig. 150, received the Award of Merit of the British Carnation Society, in November, 1919, when shown by the raisers, Messrs. Stuart Low and Co., Bush Hill Park, Enfield. It is the result of a cross between their strain of Perpetual Carnations and the celebrated Dorner (American) strain. The plant is very floriferous and promises to make a good commercial variety. In pointing this variety, the judges awarded high marks for habit. The colour is bright salmon pink, with a suggestion of rose suffusion, giving a pleasing effect. The flowers exhibited were of medium size and they are slightly fragrant.

FIG. 150.—PERPETUAL CARNATION MRS. T. IVES: COLOUR, BRIGHT SALMON PINK.

Shortage of Feeding-stuffs.—The Mangold crop of 1919 yielded 16 tons to the acre, nearly 3½ tons below the average, and the total production, 6,320,000 tons, is nearly 2,000,000 tons below the crop of last year. The total production of Turnips and Swedes is estimated to be 11.190.000 tons, or at the rate of 11.4 tons to the acre—some 800.000 tons below last year. As the yield of hay was also very light—about 5.200.000 tons—there is thus a shortage of all the three principal kinds of winter feeding-stuffs. Compared with the past ten years, there is a shortage in England and Wales of nearly 2.000.000 tons of Mangolds, over 2,000,000 tons of Turnips and Swedes, and nearly 2,500,000 tons of hay. Barley is also 300,000 quarters less than usual, but owing to the increased acreage, there are fully 800,000 more quarters of Oats.

ORCHID NOTES AND GLEANINGS.

LAELIO-CATTLEYA GOLDEN LIGHT.

MR. H. G. ALEXANDER, Orchid grower to Lieut.-Col. Sir George L. Holford, K.C.V.O., sends a flower of this new cross between L.-C. luminosa (C. Dowiana × L. tenebrosa) and L.-C. Golden Fleece (C. Dowiana × L.-C. Golden Gem; it is a remarkable instance of progressive hybridisation, and one of the best yellow Laelio-Cattleyas raised in the famous Westonbirt collection.

The sepals and petals are three-and-a-half inches long, the former one-inch, and the latter one-and-a-half inch in width, with slightly recurved margins; both sepals and petals are bright yellow. The lip, which is expanded in front, has a slightly fimbriated margin and is slightly darker yellow than the other segments, whilst the tube and side lobes are tinged with purplish rose. The flower is of fine substance and remarkably attractive.

ORCHIDS AT THE WARREN HOUSE, STANMORE.

IN the Orchid houses in Mrs. Bischoffsheim's gardens, at Stanmore, the value of imported species of Orchids is well exemplified by a fine show of Laelia anceps, chiefly white forms. The plants are commencing to flower, some three hundred and fifty fine spikes in bud ensuring a splendid display until the spring. Of Cattleya labiata there are many good forms in flower; Cypripedium insigne is represented by specimens with twenty or more blooms, whilst Vanda coerulea also has many spikes of its clear blue flowers; Oncidium flexuosum occupies one end of a house, the slender sprays bearing terminal heads of bright, yellow blooms, each inflorescence having ten to twenty branches. Where plants are required for decoration indoors or the flowers for use as cut spikes no other subject equals some of these elegant species, none of which has been imported for some years past.

THE BULB GARDEN.

MANURIAL REQUIREMENTS OF BULBS.

UNLIKE the majority of garden plants, bulbs appear to do best when manure is applied at the time of planting, *i.e.*, mixed with the soil during the final preparations. In the case of bulbs which have been in the ground all the summer, the manure should be pointed in during early winter. The dressing to be given will be practically the same whether the bulbs were lifted at the end of last season or not. Their chief peculiarities are the very large proportion of potash required, and phosphatic fertilisers of a mixed nature. The former is chiefly needed to aid in the formation of next season's corm or bulb as the case may be, and some experimenters affirm that true bulbs require the greatest amount. Phosphates are very necessary to hasten flowering, also to check that undue production of leaf which is so ruinous to the next season's results. Practical experiments have shown the advisability of applying at least two forms of phosphate, but the reason for this is still obscure. Nitrogen should be used sparingly, though a slight amount applied in autumn in the form of bone meal has a marked effect in the case of lighter soils. As regards the quantities of manure to be used, either in the preparation of the bed or for top-dressing, taking 40 square yards as the unit of area, apply bone meal, 2 to 3 lbs.; super-phosphate, 2 to 3 lbs.; sulphate of potash, 2 lbs. Where the manure is pointed in the bone meal may, with advantage, be increased to 4 lbs. When the bulbs begin to bud apply ½ to ¾ lb. of nitrate of soda or nitrate of lime; if, however, the ground has had a heavy dressing of dung recently nitrate will hardly be required. *J. W. Tayleur, Theale, Berks.*

MUSCARI HELDREICHII.

HELDREICH'S Grape Hyacinth is one of the prettiest of the Muscari, although the favour which "Heavenly Blue" has justly received has cast its claim somewhat in the shade. The flowers are bright blue with a conspicuous white ring around the mouth of each individual, which gives the spike a pretty appearance. The spike or raceme is shorter than that of M. botryoides but the individual flowers are larger. This Grape Hyacinth is one which should be noted by admirers of these flowers before the planting season is finished. A depth of two or three inches will suffice, and the bulbs may be planted in the grass, flower border or rock garden. *S. Arnott.*

FRUIT REGISTER.

PEACH CRIMSON GALANDE.

MR. ARNOLD does well to draw attention to this excellent Peach (see p. 303). I always consider it the most useful variety to select if only one sort can be grown; although not quite equal to Royal George and Noblesse in texture of flesh, the tree itself has a much stronger constitution than either of those excellent varieties and is far more reliable in cropping. At Ketton Hall, from 1884 to 1894, I grew all the best kinds of Peaches and Nectarines that could be obtained, and Crimson Galande was my favourite. Most growers train in too much young wood in their Peach and Nectarine trees, especially those grown under glass. When the winter pruning and training is completed the young growths should be six inches or more apart. I owed my success at Ketton Hall to thin training, strong, well-ripened growth, an abundance of sunlight—thanks to Rendle's system of glazing—generous manuring after the fruits had stoned, and a good alluvial loam that had been washed down from the oolite limestone hills. *T. A. Divers.*

At Rookesbury Park, in Hampshire, Peach Crimson Galande has long been a success in a cool house. The handsome appearance and superior flavour of the fruits render the variety a favourite among the many sorts which succeed well in the same house at Rookesbury Park. *E. Molyneux,*

The Week's Work.

THE ORCHID HOUSES.

By H. G. Alexander, Orchid Grower to Lt.-Col. G. L. Holford, K.C.V.O., C.I.E., Westonbirt, Gloucestershire.

Insect Pests that may be Trapped.—Slugs, snails, and woodlice are destructive pests to the tender roots and flower-spikes of Orchids, and especially those grown in the cooler houses. They may all be trapped by placing sliced Carrots, Potatos, saucers of bran, etc., among the plants. Examine the traps frequently, and especially at night, till the pests disappear. The small, brown ants, which are sometimes very troublesome in Orchid houses, may be destroyed, after attracting them to sugar or treacle placed in patches about their haunts, by spraying them with a strong solution of nicotine when they are feeding. Penyester Magic Paste, obtainable from horticultural sundriesmen, is very effective in the destruction of cockroaches and crickets.

Materials for Potting.—An ample supply of all rooting materials should be obtained in readiness for the work of repotting in the New Year. Sphagnum-moss should be picked over, stored, and spread thinly on a boarded floor. The moss should be kept turned until it is quite dry. If a good supply of clean pots and pans, crocks, and all materials connected with the work of potting is got ready, the work of the grower will be facilitated in the busy season which will soon arrive.

THE HARDY FRUIT GARDEN.

By James E. Hathaway, Gardener to John Brennand, Esq., Baldersby Park, Thirsk, Yorkshire.

Preparing Composts for Fruit Trees.—Material removed in straightening edgings of paths and roadsides should be put in a heap and mixed with decayed refuse from the garden, rotted manure, night soil, wood ash, and lime. The heap should be turned about twice in the year to mix the materials and afterwards allowed to remain for twelve months, when it will form valuable compost for top-dressing and planting fruit trees.

Birds and Fruit Trees.—From some years' experience of birds in the garden I have come to the conclusion that the majority of them do more good than harm, and that it is only in the case of severe weather, when they cannot obtain grubs, they attack fruit trees. Blackbirds and thrushes are most troublesome to fruit in dry seasons. Tits do much good by clearing insects from fruit trees, although they are very fond of green Peas. Sparrows are very troublesome in picking out the buds of Gooseberry bushes in hard weather, and the bushes should be protected by threads strung as high up on the branches as possible. A gun fired occasionally helps to frighten them away. The pruning of Gooseberries should be deferred until late in the season as the birds usually alight on the top branches and eat the upper buds first.

Strawberries.—When the ground is dry the soil should be made firm about recently planted Strawberries, as frosts have a tendency to lift them out of the ground.

A Retrospect.—The past season has been a peculiar one in some respects. The fruit crops, taking them all round, have been fairly satisfactory. There was a good display of blossom and an absence of early frosts; spring was followed by a long period of dry weather, during which caterpillars became very prevalent and these pests were favoured by the season being comparatively free from thunderstorms. Fruit trees were remarkably free from insect pests in the autumn. It was interesting to notice that certain trees which blossomed freely failed to crop, whilst others next to them produced heavy crops of fruit.

PLANTS UNDER GLASS.

By James Wettock, Gardener to the Duke of Buccleuch, Dalkeith Palace, Midlothian.

Spiraea astilboides floribunda.—Where clumps of this plant were potted and stood in cold frames, a small batch may be introduced now into a little warmth, but forcing must be done very gradually, as a long time will elapse before the plants flower. When started freely into growth, Spiraeas require a large amount of moisture and should be stood in saucers of water to keep the roots from getting too dry. They should also be given frequent waterings with liquid manure.

Violets in Frames.—At this season, Violets in frames require careful attention. If the weather is favourable, remove the lights in the day time and use fire-heat as little as possible. Protect the lights during severe frosty weather with thick covers, because excessive fire-heat favours the spread of red spider on Violets. Watering should be done only when really necessary, and in the early morning, allowing the lights to remain off for a time so that leaves and surface soil may dry quickly.

Coleus thyrsoideus.—This is a most useful flowering plant for association with others in the decorative houses requiring an intermediate temperature. At the present stage these plants should be kept well watered at the roots, but feeding the roots should be discontinued.

Cineraria.—Plants forming the earliest batch of Cinerarias now coming into flower are best grown in a light greenhouse on a damp layer of gravel or ashes spread over the stage. Fire heat should be used only as a protection against frost; admit plenty of air when the weather is favourable. When the pots are filled with roots, the latter may be given a little weak liquid manure or plant fertiliser; do not allow them to become dry. Fumigate the house if green fly makes its appearance.

Herbaceous Calceolaria.—Plants of greenhouse Calceolarias raised from seed sown in July or early August should be shifted into the pots in which they will flower, those of 7 or 8 inches diameter being suitable. The plants will grow best in a pit or low-roofed greenhouse, where the conditions are cool and damp and where a free circulation of air is possible. Occasional light fumigations even when green fly is not present will tend to keep the foliage of the plants clean and healthy. Fire heat should only be used to keep out frost.

FRUITS UNDER GLASS.

By W. Messenger, Gardener to Major J. A. Berners. Woolverstone Park Gardens, Ipswich.

Early Pot Vines.—Provided the vines have broken well, the night temperature should range from 55° to 60°. Let the day temperature be 65°, and when the leaves appear, afford a rise of 5° by night and day. Whenever the weather permits, admit a little air through the top ventilators during the morning in order to prevent stagnation of the atmosphere, closing the house again at mid-day. Vines which have been bent down to ensure the buds breaking evenly should be tied in position soon after the shoots have commenced to grow. Disbud all weak and crowded growths at an early stage of forcing. Discontinue syringing the vines as soon as the leaves commence to expand, but maintain a humid atmosphere by damping the vinery several times daily. Loosen the surface of the fermenting material occasionally. Keep the soil moist without saturating it; an excess of water to the roots in the early period of forcing must be rigorously prevented. Later, when the roots are more active, vines in good health may be watered liberally.

Early Vines. When the buds of the vines in the earliest house are starting into growth it will be necessary to increase the temperature as advised for pot vines. Lightly syringe the rods with tepid water on fine days, at closing time, but do not spray if there is any likelihood of frost. The borders will not require water at the present time if they were thoroughly well soaked before forcing was started. If the rods were drawn down, they should now be tied up in their proper places. As soon as this has been accomplished, commence to disbud, first of all by rubbing off the small growths, reducing them to two shorts on each spur. At a later stage it can be seen which will produce the best bunch.

THE KITCHEN GARDEN.

By G. Ellwood, Gardener to W. H. Myers, Esq., Swanmore Park, Bishops Waltham, Hampshire.

Early Potatos.—Provided the seed tubers have been set up in boxes to sprout, as advised in a previous calendar, Potatos may be planted in frost-proof pits. Slight bottom heat is an advantage, and this may be provided by a layer one foot in depth of Oak or Beech leaves. Cover the leaves with turfy loam and leaf-mould to a depth of one foot and add burnt garden refuse to the soil in sufficient quantity to render it porous. Plant in rows at 18 inches apart, and allow one foot between the "sets." Ventilate the pit as soon as top growth appears, on all favourable occasions, if only for an hour a day. The varieties Harbinger, May Queen and Express are all suitable for forcing.

Cauliflowers.—If Cauliflower seed was not sown in September, make a sowing in a box now. Prick the seedlings off into other boxes at 2 inches apart previous to planting them on a mild hotbed. Choose the varieties First Crop and Early London, with Magnum Bonum for successional cropping.

Root Stores.—All stored vegetable roots should be examined in bad weather, and when this is done add extra covering for protection, as severe frosts may be expected with the turn of the year.

Lettuce.—Seeds of two or three varieties should now be sown thinly in sandy soil in boxes; place them in a vinery which is closed for starting the vines. The seedlings will develop into fine Lettuces during the early spring, if once pricked off into boxes and then planted out, some in heated pits and others in cold frames.

Peas.—Where unheated houses are available and contain sufficient room, prepare the border, and sow Peas in rows 3 feet apart, choosing such varieties as World's Record and Early Giant.

THE FLOWER GARDEN.

By H. Markham, Gardener to the Earl of Strafford, Wrotham Park, Barnet, Hertfordshire.

Evergreen Hedges.—The planting of Holly, Laurel, Hornbeam and Yew hedges should be done whenever the weather is favourable. Mark out the site for the rows and afterwards thoroughly trench the ground, breaking up the subsoil to a good depth. In low localities where moisture accumulates drain the land and employ manure if the soil is of poor quality.

Golden Elder.—If, owing to neglect, clumps or beds of Sambucus nigra var. foliis aureis (Golden Elder) have become drawn and thin at the base, cut the plants to within a few inches of the ground level, or thin them and notch or layer some of the best shoots. Previous to layering them give the plants a good dressing of manure and fork it well in the soil.

Echeveria secunda glauca.—Plants of this succulent wintered in cold frames should be examined at intervals, and leaves that show signs of decay removed. Keep the plants clear from dripping moisture and let them have ample air whenever the weather is dry and suitable; remove the lights entirely on all favourable occasions. In wet weather tilt the lights at the back and take care to protect the plants from severe frosts.

Mice and Bulbs.—Keep a careful watch on all bulbs in danger of being attacked by rats and mice. Water Lilies, golden stemmed Willows and other plants growing by the side of lakes are sometimes attacked by water rats, and this fact should not be overlooked.

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HARD WOODED PLANTS.

IN looking over a catalogue published 40 years ago by the then prominent firm of William Rollisson and Sons, of Tooting, I could not fail to be impressed with the position occupied by hard-wooded plants then compared with the present time.

For instance, in the case of greenhouse Heaths, no fewer than 220 kinds or thereabouts are listed. Now-a-days there are very few in general cultivation, though occasionally some of the older sorts may be met with in out-of-the-way gardens.

The propagation and cultivation of these Heaths are for the most part carried out by specialists, who grow large quantities of very few sorts, and dispose of them, either by means of autumn sales or, when in bloom, at the different flower markets.

What may be regarded as the commencement of the Heath season occurs at the end of August or early part of September, when it is necessary to take under glass the immense numbers of plants that have, up to then, been stood in beds in the open. The watering of the plants during the summer entails considerable work, and as their potting must be done very carefully, it is a matter for surprise that they can be sold so cheaply as they are. Profit can only be possible by cultivating these Ericas wholesale while the grower brings the experience of a lifetime to bear upon the subject.

The first to flower in the autumn is the bushy-growing Erica gracilis, which is, when at its best, a mass of tiny blossoms of a rosy purple tint. There is a certain amount of variation in the colour of the flowers of this Heath, apart from recognised varieties, for full exposure to sun and air tends to deepen the tint of the blossom. In the autumn of 1903 a white-flowered variety was, under the name of nivalis, given an Award of Merit by the Royal Horticultural Society. It rapidly became popular, and splendidly-grown plants are now sold in Covent Garden Market. Another white-flowered Heath which is not now grown so extensively at it was formerly is Erica caffra, the blossoms of which are sweetly scented.

Before Christmas we have the delightful Erica hyemalis, with rosy pink and white blossoms which are always much admired. Of this species there is a pure white variety, which has been in cultivation for over 30 years.

By the end of December, or thereabouts, Erica melanthera presents a mass of its pretty mauve-coloured flowers, with their conspicuous blackish anthers. They also have a pleasing perfume. This Heath is one of the least particular in its cultural requirements of all the greenhouse species

Erica Willmorei, which comes in when E. hyemalis is past its best, is somewhat like that species, but the flowers are longer and the habit of the plant more robust.

Next come what may be described as the spring-flowering kinds, the more generally grown being Erica candidissima, of upright habit with long-tubed blossoms of the purest white; E. hybrida, bright red; E. persoluta alba, white; E. persoluta rubra, reddish; E. propendens, lilac; and E. spenceriana, purplish lilac, tipped with white. Besides these there is a spring-

FIG. 151.—MISTLETO GROWING ON A ROSE BUSH.

flowering form of E. gracilis known as vernalis. One that, from its distinct and striking character, merits a note to itself is E. cavendishiana, with flowers of a golden yellow tint. This Heath blooms in late spring and early summer. In the days when specimen plants were freely shown no collection of Heaths was considered complete without a good specimen of this kind.

The purplish red E. ventricosa, represented by several varieties, is more of a summer than a spring-flowering species. It is of a short, sturdy habit of growth, and finely-flowered examples are much appreciated.

The growing of Heaths in tiny pots has become an extensive business during recent years and several kinds are now cultivated in this way.

It is not, however, Heaths alone that have fallen from the high position they formerly occupied, for many other hard-wooded plants have practically disappeared. A few that may be mentioned are Acrophyllum venosum, Boronia serrulata, Chorizema Henchmannii, Dracophyllum gracile, Hovea Celsii (elliptica), Phoenocoma prolifera Barnesii, Pleroma elegans, and Pultenaeas of sorts.

The scarlet-flowered Leschenaultia formosa, which was formerly considered a good test of the cultivator's skill, is now never met with, and the charming blue Leschenaultia biloba major, which Messrs. Balchin used to grow so well at Hassocks until the nursery was disposed of, is rarely seen.

Other hard-wooded plants which are not yet discarded by the grower for the market are Boronia megastigma, the delicious fragrance of the blossoms giving an additional charm to the plant; Boronia heterophylla, with a profusion of rosy carmine coloured blossoms, and Epacris of sorts. These last are, however, not cultivated to anything like the extent that they formerly were, a remark which is also true of Camellias. Indian Azaleas, however, still hold their own. When the old-time structures and their heating arrangements are taken into consideration, it says much for the skill and perseverance of the gardeners of those days that they were able to grow such handsome specimens. *W. T.*

MISTLETO GROWING ON A ROSE BUSH.

On coming here a few months since, I found a plant of Mistleto growing on a Rose in my garden. In the district Mistleto grows on Apple, Thorn and Poplar, and I am informed it is found also on other plants. This is the only instance I know of the parasite growing on a Rose. The Mistleto plant is of considerable size, and the Rose is now so weak above it that I fear it will not survive long. The illustration (see Fig. 151) clearly shows the thickening of the stem whence the Mistleto springs, but does not, unfortunately, clearly show how the Rose above it is weakened. *P. Murray Thomson, Downshill House, Bridge Sollers, Hereford.*

WINTER-FLOWERING GREENHOUSE PLANTS.

FROM the middle of December until the New Year is well advanced the demand for flowers usually exceeds the supply. This is unavoidable in many gardens, as the cultivation of plants to flower during winter entails much labour and requires a fair amount of glass.

Late-flowering Chrysanthemums are most important, but in order to obtain results worthy of the room occupied the best of culture must be afforded from the commencement, as these plants are more impatient of extremes in any form than are many of those which bloom earlier. It not infrequently happens that well grown plants fail to open their buds properly at the end of the year; other things being equal it is generally safe to attribute this failure to undue exposure previous to housing. Exposure to very little frost is sufficient to check the development of the buds, and no amount of after care will afford a remedy. If a frost-proof house cannot be provided at the usual time for housing, the plants should be grouped together and covered up at night, but this practice should not be persisted in for long, as the best results are only obtained when the buds are allowed to develop gradually in a cool, airy structure, where a little artificial heat is provided in cold and wet weather. For obvious reasons varieties of late Chrysanthemums do not decline in vigour so rapidly as do those grown for the production of large blooms. The following varieties are worthy of cultivation:—W. Turner, Lady E. Collins and Maud Jefferies among the whites; Pastonville, Yellow Cheer and Golden Age, yellows; and for pink flowers Winter Cheer, Lady Stanley and Bertha Lachaux.

Carnations are, perhaps, more important than Chrysanthemums for table decoration. At this dull period the blooms are naturally slow in opening, but no useful purpose is served by forcing the plants, as it results in weakened growth, besides tending to make the flower stems weaker. Scarlet and pink-flowered varieties always appear to advantage under artificial light and in these colours the following are as good as

the conditions in winter will allow :—Aviator, Peerless, Mary Allwood, Red Sensation and Wivelsfield Claret, while the old scarlet Britannia is still worthy of cultivation.

Primula sinensis, P. stellata, and P. malacoides, are indispensable for conservatory decoration, but in good forms of P. obconica and the newer P. Eureka strain there are welcome additions to the list of flowers suitable for cutting. Richardias, and especially the variety Little Gem, are helpful in maintaining the supply of white flowers. An attractive greenhouse plant is Erlangea tomentosa, which produces lilac flowers in branched heads, on stout, erect stems. Chorizema ilicifolium is also of considerable decorative value, and when planted out in a greenhouse border the Pea-shaped flowers are produced freely. Centropogon Lucyanus, grown in small pots, is also useful; the flowers are a rose-red colour, tubular in shape, with dark anthers protruding from the throat. The earliest varieties of Azalea indica respond readily to gentle heat and are among the most beautiful of winter-flowering subjects. The best for the purpose are Deutsche Perle, Edmond Vervaene, and Mme. E. Eckhaut. Epacris are no less showy, and in mixed collections of plants they are preferable to Ericas, which they much resemble.

Other subjects requiring no higher temperature than 50° to enable them to yield a fair amount of bloom at a time when flowers are most appreciated include Eupatoriums, Jasminums, Rhododendrons, and the beautiful Pleroma (Lasiandra) macrantha. Berry-bearing plants are bright in effect and contribute to the winter display. Solanum Capsicastrum is well known, and dwarf Capsicums are not out of place. Asparagus Sprengeri, in baskets, produces scarlet berries in a pleasing manner. Neat specimens from outdoors of Aucubas, Skimmias, and the distinct Berberis Wilsonii, if well set with fruit may be potted in advance of winter and will prove acceptable at that season. Christmas Roses (Hellebores) also lift well, and the resultant flowers are much superior to those developed in the open.

In the warm house the winter-flowering Begonias are the main feature at this season, and in the newer hybrids the colours range from pale pink to orange-scarlet. Winter Cheer, Optima, Fascinator, Miss Clibran, and Elatior are excellent, and the old B. Gloire de Lorraine and its white variety, Turnford Hall, are still indispensable. The scarlet bracts of Euphorbia pulcherrima (Poinsettia) are perhaps the most brilliant floral items produced in winter. When about fully developed a drier atmosphere enables them to last longer. When required for indoor decoration the heads of bracts should be cut a few hours in advance and have the ends of their stems placed in hot water for a little while in order to check bleeding, otherwise the bracts will flag and the foliage drop. Coleus thyrsoideus is a well-known blue flowered plant that does well in a root-bound state. It may be raised from seed sown in spring. Plumbago rosea with long spikes of rosy-red flowers is well worth growing. When first cut the spikes droop considerably, but in a few hours they regain their beauty and last well. This plant, with its variety superba, does best in an intermediate house. *F. T.*

PLUMBAGO ROSEA.

Plumbago rosea, with its spikes of delicate rose, provides one of the most graceful and attractive plants for table decorations during November and December. Associated with spikes of Roman Hyacinth and relieved with suitable greenery there is nothing to equal the effect on dinner tables, and in comparison with a table decorated with Carnations, Chrysanthemums, Cypripidiums or other seasonable flowers, is a distinct relief to view.

When the plants have finished flowering they should be cut back to within a foot of their pots early in January and rested in a house having an intermediate temperature, thus making their flowering quarters available for the forcing of other plants. They will produce sturdy shoots which, when about four or five inches in length, should be cut and inserted three in a 2½ inch pot, and the latter plunged in a warm propagating case.

The cuttings root readily and flourish in similar conditions to those applied to the propagation of Crotons, except that the foliage is more easily injured by an excess of moisture. When the cuttings have rooted the pots should be taken from the case and stood in another part of the propagating house. Later, the plants should be transferred, without division, to 4-inch pots, using a compost of three parts fibrous loam, one part peat, one part leaf-mould, one part silver sand, with a little mortar rubble and a sprinkling of soot. They may then be grown in the stove house, and stopped twice before the final potting into 6-inch and 7-inch pots about the end of June, in a similar compost to that advised above, with the addition of a 6-inch potful of bone meal to each barrow load of soil.

The plants are not exacting as to temperature, and may attain to a height of 5 or 6 feet, and even 7 feet at the flowering period in a high temperature. They require a little stimulant when they have filled their pots with roots, which is soon accomplished, and they unfailingly commence flowering in October.

At this stage the amount of atmospheric moisture should be reduced. The taller the plant, the more adaptable is the flower spike for the purpose indicated, and, when the leading spike is removed, the plant continues to develop shorter ones from below.

The flowers do not travel well when grown in the conditions described, but they are valuable for home table decorations.

The old stools, if shaken out and repotted immediately the roots become active, provide useful plants. *Wm. Macdonald.*

CHRYSANTHEMUMS.

LARGE EXHIBITS.

Few of the large exhibits staged at floral gatherings at various seasons of the year exceed in effect and beauty the bold displays of Chrysanthemums made by the leading specialists in this class of plants. When considerable numbers of well grown blooms are massed in distinct varieties, and when the varieties represent practically all the sections into which florists have divided Chrysanthemums, it is possible to produce an effective and elegant display, full of interest, and with sufficient variety of form and colour to arrest the attention of all who are fond of flowers. Messrs. W. Wells and Co. are masters of the art of massing exhibition blooms of Japanese varieties, but they do not forget that the effect of these giant flowers is enhanced by a setting of smaller Japanese sorts such as are of value for table decoration and for small vases. This firm—as is the case of the group arranged at the Royal Horticultural Hall, Westminster, on Nov. 18, and illustrated in Fig. 152, usually show incurved and pompon varieties in the foreground, thus indicating the decorative value of these forms. Further, they generally set up large vases of single flowers in positions where they contrast with the bolder beauty of the modern and massive Japanese varieties.

The actual cost of large exhibits is surprisingly high, and one can only hope the results obtained in business and advertisement are equally as satisfactory to the exhibitor as the displays themselves are to those who visit exhibitions at Westminster and elsewhere.

Fig. 152.—Messrs. W. Wells and Co.'s fine exhibit of Chrysanthemums at the R.H.S. meeting on the 18th ult.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Elaeagnus multiflora.—The description of this beautiful shrub on p. 301, hardly does justice to the beauty of the fruits, for when ripe, the little peltate scales on them get separated, so that the orange-coloured berries seem studded with little bright golden flecks. It may be of interest to mention that the fruits, though somewhat " austere " to eat fresh, make nevertheless a delicious jelly. *J. S. Gamble, East Liss.*

Campanula Allionii (see page 297).—Mr. S. Arnott repeats the old fable that Campanula Allionii is calcifuge. In *Gard. Chron.*, October, 1915, p. 209, I recorded the results of a trip I made especially to gather it in its native habitat and obtained the soil upon which it luxuriates in nature. The analysis showed that the stones in which it grew were highly calcareous, in fact, the figure of nearly 12 per cent. carbonate of lime may be taken as a minimum: for many of the larger stones were pervaded with veins of fairly pure carbonate of lime. What the plant needs is plenty of flakey stones to provide drainage and soils aëration. In the article referred to is included a photograph of a plant

flowering on a soil consisting of white marble chips. There are many varieties of the plant, some of which are poor in colour. *H. E. Durham.*

October Dessert Apples.—I do not think my remarks on page 241 concerning the list of Apples given by Mr. Jardine on page 216 "as being at their best during October" merit the tone of Mr. Jardine's reply on page 280. If he will carefully read my remarks on page 241 he will see I am seeking information. When I see names of Apples that I fail to find in any authoritative list I am anxious to know of them. Surely a discussion such as Mr. Jardine deprecates is designed to bring out knowledge we are all anxious to obtain. Mr. Jardine's closing sentence about September Beauty is not at all encouraging, as he merely refers me to Wisley as the place where such information can be obtained. Why is he loth to give particulars about this Apple, and why does he take up this peculiar attitude? Mr. Jardine quotes his twenty years' experience among Apples before going to Wisley; I can easily double that and am still seeking information although I grow many sorts. The assertion that numerous varieties of Apples are infertile to their own pollen does not influence me. The cultural conditions of the trees, such as commonsense methods of pruning, manuring and keeping them free from insect pests, canker and other diseases, have much more to do with the assurance of a crop than cross fertilisation. I paid a visit to Wisley last June, and was much interested, especially in the Apple plantation. Mr. Jardine will need to advance further proof that the raising of the soil six inches to a foot above the ordinary ground level will alter the ripening stage of various Apples, before his theory is universally accepted. *E. Molyneux.*

——The old Apple named Yellow Ingestrie, as *J.P., Carlisle,* states, is an excellent October variety; Nanny is a good predecessor to Cox's Orange Pippin; Sussex Forge is an admirable variety; Beauty of Waltham excellent in Surrey; King of the Pippins, grown on light soils, is a good October variety; White Transparent, though in use earlier, with proper storage is useful in October. In Sussex, Waltham Abbey Seedling is very good. There are other varieties which are not all reliable croppers, but any gardener having the seven foregoing sorts should have no shortage of good October dessert Apples. *Magister Palae.*

TRADE NOTE.

AT a recent meeting of the Agricultural Wages Committee for the Lothians and Peebles, held in Edinburgh, Mr. Andrew Ramsay, market garden employee, Rosehill Farm, Inveresk, was appointed one of the employees' representatives, subject to the approval of the Board of Agriculture, in room of the late Mr. John Gibson. In considering the rates of wages for agricultural workers, including foresters, market garden and nursery employees to take effect at Whit-Sunday, two proposals were put forward. That of the employees' representatives was as follows:—Men, 18 years of age and upwards, 50s. per week; boys, 16 to 18, 30s.; boys under 16, 18s.; women, 16 years of age and upwards, 30s.; girls under 16, 18s. On behalf of the employers the following proposals were submitted:—Male workers, 21 years of age and upwards, 39s.; do. between 18 and 21, 33s.; boys between 16 and 18, 23s.; boys under 16, 12s.; women of 18 and upwards, 22s.; girls between 16 and 18, 18s.; girls under 16s, 12s. The chairman said he thought some of the rates proposed by the employers' representatives were rather high, but as they had all assented to them he decided to adopt them, with the exception of granting an addition of 1s. to boys and girls under 16 years. This decision became the finding of the meeting and will come into force at Whit-Sunday, subject to consideration of any objections which may be lodged.

CROPS AND STOCK ON THE HOME FARM.

HIGH FARMING PAYS.

WHEN purchasing cattle for various purposes, especially for milk production, fattening beasts for the butcher, or even for the more common use, known as running the strawyard, the main object of which is to provide manure, I would emphasise the wisdom of buying a good type of animal, especially of the Shorthorn breed, which is valuable for milk production. Some persons purchase a batch of cross-bred, weedy looking animals simply because they are cheap. Such animals usually never present a good apearance, and are never profitable, especially if they are intended to be sold at calving time. As an example of buying good quality cattle of the Shorthorn type, the following figures will illustrate the object and the result.

In October, 1918, twelve specially selected 2-year-old animals were bought in the Carlisle market for £28 each. The freight to this county, commission, etc., cost another £1 per head.

Until the middle of December they had the run of good grass, when they were drafted into the strawyard, where their chief food was good Oat straw and an ample supply of water. In due time they were mated in batches to fit the local sales to be sold springing to calve. The last two sold on December 4th realised £49 10s. and £49 respectively, which must be considered a good return.

I prefer the first cross of any animal and especially pigs; the more repeated the crossing the more weakly and ill-sized are the progeny. The quality of and breed of the boar should make a difference in the growth and future development of the young ones. If the object of the pig keeper is to sell his pigs as pork, the nearer he keeps to Berkshire or Middle White breeds the better, as the progeny of both quickly put on flesh, whereas the several crosses make for leg and greater length of body without the compact flesh obtainable in these two breeds.

In the case of sheep, there is need for a much closer adherence to purity of breed, such as Hampshire Down, Southdown, Suffolk, Oxford, and Shropshire. Except where early lambs are required, a first cross between Hampshire Down and Southdown is often bred.

A good type of the particular breed is desirable. For instance, in Hampshire Downs the legs should not be unduly long, for long-legged animals require more food and time to fatten.

In poultry keeping where the best prices are expected for eggs or table birds, absolute purity of breed is necessary. Birds representing the results of many mixed crossings may produce eggs in quantity, but they only sell for ordinary prices, whereas those of a pure strain command the highest returns in birds and eggs for sitting.

More eggs will be obtained during October and the three following months from ten hens fed carefully and kept in warm, sanitary conditions than from double the number kept and fed in a haphazard manner.

Care is equally necessary in the management of farm land. Those who expect to take yearly crops of hay without providing stimulative food to the grass are sure to experience disappointment.

The same is true of root crops, especially Mangolds, Potatos, Cabbages and cereals of all kinds. The addition of 2 cwt. per acre of sulphate of ammonia costing £2, may easily add 2 qrs. or 3 qrs. of Oats to the acre, which means an increased profit of £4 to £6 in the Oats, not taking into account the value of the extra straw.

In the case of cereals generally, it is false economy to sow inferior seed simply because it is cheap. The worst type of seed is that which has not been sufficiently cleaned and freed from weeds, especially Docks.

In places where Charlock abounds I cannot understand the neglect of farmers to spray the plant with sulphate of copper directly the first rough leaf is visible. *E. Molyneux.*

ANSWERS TO CORRESPONDENTS.

CULTIVATION OF VIOLETS: *A. G. H.* Select stout, healthy runners, if possible those rooted last autumn, and plant them in the open in April. During the summer keep the foliage free from red spider and encourage the plants to grow freely by syringing them with soft water on summer evenings. Stir the soil frequently with the hoe in dry weather, and dust the plants with soot. Suitable varieties for your purpose are Wellsiana, which commences to flower in August, Victoria Regina, California Luxonne, Admiral Avellan, La France, and Princess of Wales. The two latter sorts are rather tender and would repay planting in beds of suitable size to allow of hand-lights being placed over them in severe weather.

GARDENERS' WAGES: *A. G. E.* An employer is not entitled to stop a servant's wages during temporary illness. His proper remedy is to give notice of dismissal, if he so wishes, but he must pay wages until the notice expires.

NAMES OF FRUITS: *W. J. H.* Bess Pool.—*A. W. S.* Decayed.—*E. M. S.* 1, Mère de Ménage; 2, Autumn Bergamot; 3, decayed.—*A. F.* 1, Cheshunt Pippin; 2, Stirling Castle; 3, Golden Noble; 4, Bramley's Seedling; 5, 6, 7, decayed; 8, Tower of Glamis; 9, Lord Derby; 10, Calville St. Sauveur.—*C. C. C.* 1, Cullen; 2, Annie Elizabeth; 3, Golden Russet; 4, Prince Arthur; 5, Wyken Pippin; 6, Zépherin Grégoire.—*G. J.* 1, Hambledon Deux Ans; 2, Radford Beauty; 3, King of the Pippins.—*A. W. T.* 1, Cornish Aromatic; 2, Keswick Codlin; 3, Woodcock; 4, King of the Pippins; 5, Barnack Beauty; 6, Hollandbury.—*H. C. M.* 1, Queen Caroline; 2, Mère de Ménage; 3, Wealthy; 4, Waltham Abbey Seedling; 5, Reinette Franche; 6, Lane's Prince Albert; 7, Yorkshire Beauty; 8, Tower of Glamis.—*A. G.* 1, Missing; 2, Lemon Pippin; 3, Colonell Vaughan.—*Y. M.* —1, Marie Benoist; 2, Iris Grégoire; 3, Fondante du Panisel; 4, Winter Broading; 5, Northern Greening.—*A. P.* 1, decayed; 2, Magnate.—*H. McC.* 1, Gravenstein; 2, Queen; 3, Gascoyne's Scarlet; 4, Blenheim Pippin.—*H. T. H.* 1, American Mother; 2, Round Winter Nonsuch; 3, French Crab.—*J. J. S.* 1, Tower of Glamis; 2, American Mother; 3, Flower of Kent; 4, Jolly Beggar; 5, Duchesse of Oldenburgh; 6, Sturmer Pippin; 7, Reinette du Caux; 8, Cox's Orange Pippin; 9, Mannington's Pearmain; 10, Golden Nonpareil; 11, Glou Morceau; 12, Beurré Diel; 13, Beurré Hardy; 14, decayed; 15, Bergamot Esperen; 16, decayed; 17, Souvenir du Congrés; 18, Beurré Bosc.—*Adam.* 1, Bismarck; 2, Annie Elizabeth; 3, Alfriston; 4, Glou Morceau; 5, Beurré Rance; 6, Beurré Clairgeau; 7, Claygate Pearmain; 8, decayed; 9, Nonsuch; 10, Durondeau; 11, Cox's Orange Pippin.—*G. F. B.* Benwell's Pearmain.—*C. P. and Co.* Winter Greening.—*Motgar.* 1, King Edward; 2, Beurré Clairgeau; 3, Doyenné Boussoch; 4, Passe Colmar; 5, Beurré d'Amanlis; 6, Columbia; 7, White Doyenné; 8, Brockworth Park; 9, Soldat Laboureur; 10, Pitmaston Duchesse; 11, Winter Nelis; 12, British Queen.—*E. B.* 1, Vicar of Beighton; 2, Annie Elizabeth; 3, Lord Lennox; 4, Blenheim Pippin; 5, Hormead's Pearmain.—*G. T.* 1, Cullen; 2, Roundway Magnum Bonum; 3, Landsberger Reinette; 4, Twenty Ounce; 5, Swedish Reinette.—*A. C.* 1, Northern Spy; 2, Fearn's Pippin; 3, Blenheim Pippin; 4, Baxter's Pearmain; 5, Castle Major; 6, Sam Young.—*O. R. D.* 1, The Queen; 2, Welford Park Nonsuch; 3, Warner's King; 4, Melon Apple; 5, Claygate Pearmain.—*C. E.* 1, Baronne de Mello; 2, Beurré Bachelier; 3, decayed; 4, decayed; 5, Radford Beauty.—*P. B.* 1, Blenheim Pippin; 2, Round White Nonsuch; 3, Prince Bismarck; 4, Lady Lennox; 5, Prince Bismarck; 6, Marie Louise.

SILVER LEAF DISEASE. *E. G. E.* The variety Pershore Egg Plum is strongly resistant to Silver Leaf. Others moderately resistant are River's Early, Transparent Gage, and Pond's Seedling.

Supplement to the "Gardeners' Chronicle,"

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this winter with

SULFINETTE

LIME-SULPHUR WASH.

and produce clean fruit, free from
SCAB and SPOT, next season.

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Very Fibrous Yellow Turf Loam

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Quotations Carriage Paid to any Station.

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(Award of Merit British Carnation Society)

A delightful salmon shade. One of the most free flowering Carnations ever introduced. Makes a fine plant. Sturdy young stock, in spring, **3/6** each, **36/-** per dozen.

In 1920, as in 1897, we specialise in flowering plants of Carnations, and can supply them in 5-inch pots, from **24/-** per dozen; extra size in 6-inch pots, from **33/-** per dozen. Also Young Plants for Spring delivery.

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Vine, Plant and Vegetable Manure, 112 lbs., 30/-; 56lbs., 16/-; 28lbs. 9/-; 14lbs., 5/-; 7lbs., 3/-; tins, 1/3. Carriage Paid on 56 lbs. and up anywhere in United Kingdom.

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In Studying these Prices you study your own interest.

PEAS. Pint.

The Pilot, re-selected; 3 ft. **2/-**
The Sphinx — hardy round variety that succeeds Pilot .. 2½ ft. **1/10**
Gradus, best 3 ft. early and wrinkled Pea **1/10**
English Wonder, 1 ft. **1/3**
Little Marvel, a good Cropper, 18 in. .. **1/9** (Stock limited.)
Elsom's Early Gem, heaviest - cropping Dwarf, Pods numerous, and packed with large Peas of delicious flavour, 1½ to 2 ft. **1/8**
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Dwarf Excelsior, a real good Second-early, 18 in. **1/4**
Gladstone, a tip-top quality maincrop, or late Pea, 3 ft. .. **1/8**
Autocrat, best late, 4 ft. **1/6**
The Lincoln, a 2-ft. Maincrop **1/6**
Victory.—The best Mid-Season Wrinkled variety. Both Pods and Peas are large and plentiful—flavour excellent, 3 ft. **1/8**

BROAD BEANS.

Exhibition Long Pod **10d.**
Elsom's Leviathan .. **1/-**
Taylor's Windsor .. **9d.**
Giant Windsor—four-seeded .. .. **10d.**

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Champion Scarlet .. **1/4**
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Canadian Wonder .. **1/3**
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Immune
SCOTCH and ENGLISH.
Prices on Request.

SHALLOTS.

English, hand-picked, 1lb., **10d.,** 3½ lbs., **2/-**

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Covent Garden .. **6d.**
Crimson Globe .... **6d.**
Dobbie's Purple .. **6d.**
Cheltenham Green .. **7d.**

BROCCOLI.

Adam's Early ..
Self-Protecting (Veitch's)

BRUSSELS SPROUTS.

Aigburth .. .. **6d.**
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Covent Garden .. **8d.**
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CABBAGE.

Ellam's Early .. **7d.**
Mein's No. 1 .. **8d.**
Flower of Spring .. **8d.**

CAULIFLOWER.

Autumn Giant .. **1/3**
Early London .. **1/6**

CARROT.

Stump-Rooted .. **5d.**
Scarlet Intermediate .. **5d.**
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CELERY.

Selected Pink .. **1/6**
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LETTUCE.

All the Year .. .. **8d.**
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Ailsa Craig **2/6**
Bedfordshire Champion—
Foreign Seed .. **9d.**
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Long Scarlet .. .. **4d.**
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Model and White Stone **4d.**

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AILSA CRAIG **1/6** **2/6** (Raiser's Stock).
Fillbasket .. **1/-** **2/6** (Raiser's Stock.)

GEORGE ELSOM, SPALDING

MARKETS.

COVENT GARDEN, December 24th.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (English)		—Ribston Pippin	25 0–35 0
—Allington Pippin	3 6– 5 0	Bananas, singles	20 0–25 0
—King of the Pippins per ½ bus.	3 6– 5 0	Chestnuts	
—Cox's Orange Pippin per ½ bus. best	6 0–10 6	—French	17 0–25 0
—Blenheim Pippin per bus. ..	8 0–10 6	—Naples	40 0–45 0
—Newton Wonder	5 0– 9 0	Grapes Alicante	1 6– 2 0
—Lane's Prince Albert, per bus.	6 0– 7 0	—Special per lb.	2 6– 3 0
—Bramley's Seedling per bus. ..	6 0– 7 6	—Gros Colmar ..	1 6– 2 0
—Brit. Columbian—		—Special ..	2 6– 4 6
Cox's Orange Pippin	20 10– —	—Canon Hall ..	4 0– 6 0
Jonathan	20 10– —	—Muscat, per lb.	4 0– 6 0
Grime's Golden / Nonesuch	19 0–20 0	Special	7 0– 8 0
McIntosh Red	18 6– —	—Almeria per barrel	15 0–35 0
Orégon New Town	19 0–20 0	Lemons 300's	18 0–25 0
—Nova Scotian— Blenheim Pippin Nos. 1 and 2 ..	25 0–35 0	Oranges 504,714etc.	20 0–45 0
—G.Russets ..	40 0–50 0	Nuts—Brazils(new) per cwt.	125 0–130 0
—Wagners ..	16 0 case.	Cob Nuts, per lb.	1 2– 1 4
		Walnuts 25 kilo.	55 0– —
		Pears, English Comice selected per doz.	10 0–18 0
		—Beurre D'Anjou	35 0–40 0
		—Californian—	
		Winter Nelis case	40 0–43 0
		Pineapples each ..	3 6–10 6

Vegetables: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Beans Guernsey, per lb.	5 0– 5 6	Parsnips, per bag	6 0– 8 0
Beets, per bag ..	10 0–11 0	Parsley, per doz. bunches ..	3 0– 4 0
Cabbage, per doz.	1 6– 2 0	Potatos, per cwt.	11 6–13 6
Carrots, per bag	5 0– 7 0	Radishes, per doz. bunches ..	1 6– 2 0
Cauliflower, per doz.	2 6– 3 6	Spanish Onions 5 tier	20 0–25 0
Celery, per fan, (12 heads) ..	3 6– 4 6	Spring Onions, per doz. bunches ..	4 0– —
Cucumbers, per doz	36 0–48 0	Sprouts, per bag 28 lb.	5 0– 7 0
Garlic, per lb. ..	1 6– —	Tomatos, English, per doz. lbs. ..	3 0– 7 0
French Lutture per doz.	3 6– 4 0	—Teneriffe,	
Herbs, per doz. bun.	4 0– 6 0	Best, per bundle	25 0–28 0
Mint, per doz bun.	9 0–12 0	ordinary ,,	15 0–18 0
Mustard and Cress, per doz. punnets	1 3– 1 6	Turnips, per bag	7 0– 8 0
Mushrooms, per lb.	2 0– 3 6	Watercress, per doz	0 9– —
Onions, per cwt.	12 0–14 0		

REMARKS.—Business has been brisk all-round, and supplies of all fruits have been plentiful. As anticipated, the usual Christmas demand for Hothouse Grapes has caused slight hardening in price. A timely shipment of Pineapples to hand in excellent condition, is meeting a ready market. English cooking Apples are ample for the demand, and show little variation in price. Although the supplies of Cox's Orange Pippin continue to be exceptionally heavy, prices for the best fruits remain satisfactorily steady. Colonial and American Apples in good condition also sell well. Teneriffe Tomatos continue to arrive in indifferent condition, and sound reliable marks obtain firm prices. Hothouse Beans, Peas, and Potatos, are in good request, and quantities are much below requirements. Outdoor Vegetables are comparatively cheap and in good supply. Madeira Beans are expected and will sell well. Potato prices are slightly firmer.

Plants in Pots, &c.: Average Wholesale Prices.

(All 48's, per doz. except where otherwise stated.)

	s. d. s. d.		s. d. s. d.
Aralia Sieboldii 48's per doz. ..	10 0–12 0	Erica gracilis (contd.)	
Asparagus plumosus	12 0–15 0	60's	9 0–12 0
—Sprengeri ..	12 0–18 0	72's	7 0– 9 0
Aspidistra, green	48 0–72 0	Ericra hyemalis— 48's per doz ..	24 0–36 0
Begonia Gloire de Lorraine 48's per doz.	24 0–36 0	Erica nivalis—	
Cacti per tray 12's, 15's ..	5 0– 6 0	48's	36 0–48 0
Chrysanthemums 48's per doz. ..	24 0–30 0	60's	15 0–18 0
Cyclamen 48's per doz.	24 0–30 0	72's	7 0–10 0
Erica gracilis— 48's per doz. ..	18 0–30 0	Marguerites white	18 0–24 0
		Palms Kentia ..	24 0–36 0
		—— 60's	15 0–18 0
		— Cocos	24 0–36 0
		Poinsettia 48's per doz.	24 0–30 0
		Roman Hyacinths on bulbs,	7 0– 8 0
		Solanums, 48's per doz.	15 0–18 0

Ferns and Palms: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cuneatum 48's per doz. ..	12 0–15 0	Nephrolepis, in variety. 48's	12 0–18 0
— elegans ..	15 0–18 0	— 32's	24 0–36 0
Asplenium 48's per doz.	12 0–18 0	Pteris, in variety 48's	12 0–21 0
— 32's	24 0–30 0	— large 60's ..	5 0– 6 0
— nidus 48's ..	12 0–15 0	— small 60's ..	4 0– 4–6
Cyrtomium 48's	10 0–15 0	— 72's per tray of 15's	3 6 4 0

Cut Flowers, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Azalea white, per doz. bun. ..	18 0–21 0	Lapagerias, per doz. blooms ..	5 0– 6 0
Camellias per doz.	6 0– 7 0	Lilium longiflorum, per bunch ..	25 0–35 0
Carnations per doz. blooms, best American var.	9 0–12 0	Lilium speciosum album per bunch	9 0–10 0
Chrysanthemums—		– rubrum per bun	9 0–10 0
— White, per doz. blooms ..	8 0–15 0	Lily of the Valley per bunch ...	6 0– 8 0
— Yellow ,, ..	6 0–12 0	Orchids per doz.:	
—Pink ..	8 0–15 0	– Cattleyas ..	24 0–30 0
—Bronze ,, ...	9 0–15 0	—Cypripediums per doz. ..	7 0–10 0
—Spray White per doz. bun.	54 0–78 0	Pelargonium, double scarlet, per doz. bun. ..	15 0–24 0
— Coloured per doz. bun.	54 0–72 0	Richardia (Arums), per doz. blms.	21 0–30 0
—Single Varieties per doz. bun.		Roses per dozen blooms—	
French Flowers—		— Liberty ..	9 0–12 0
—Lilac white per doz. spray	6 0– 8 0	— Melody ..	10 0–15 0
—Marguerites yellow per doz. bun.	5 0– 6 0	— Mme. Abel Chatenay ..	9 0–12 0
—Mimosa, per pad	20 0–25 0	— Ophelia ..	12 0–18 0
—Narcissus, Paper White per pad	35 0–40 0	— Richmond ..	10 0–15 0
Soleil d'Or, per doz. bun. ...	9 0 10 0	Roman Hyacinth per doz. spikes	3 6– 4 0
—Violets, Parma, per bun	10 0–12 0	Violets Single large per doz. bun.	10 0–15 0
Heather, white per doz. bun.	10 0–12 0	—Ordinary ..	6 0– 9 0

REMARKS.—All cut flowers are in great demand, and prices for white and scarlet blooms showed a further increase before the market closed on Christmas Eve. Chrysanthemums are a very limited supply, as are Carnations and red Roses; pink Roses are the most plentiful. Liliums are scarce and dear, but there is a good supply of Lily of the Valley and Roman Hyacinths. Poinsettias, which are always a great attraction at this festive season, are exceptionally scarce. Only limited supplies arrive from France, and very little is expected during the next two or three weeks. Paper white Narcissi have advanced in price between Thursday and Saturday of last week, from 28s. to 40s. per pad of 48 bunches. Narcissus Soleil d'Or also incerased in price. Dutch Lilac is arriving in excellent condition. A limited quantity of red and white Tulips are being received from home growers, but all good foliage from home growers is scarce.

WOOD ASH

A quantity of fine Wood Ash for sale.

Samples and prices from:—

A. G. MOUSLEY,

COLE GREEN WORKS, HERTFORD.

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Heaton Mersey Pottery,
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Clean, well-grown and cheap; also
Many Rare and Choice Varieties.
STOVE AND GREENHOUSE PLANTS OF ALL KINDS
Kindly send for Catalogue

JAMES CYPHER & SONS,
Exotic Nurseries, CHELTENHAM.

CYANIDING MACHINE.
(Edwards' Patent Safety.)
Now is the best time to use Cyanide for the destruction of
MEALY BUG
on Vines, etc. The only certain remedy.
MACHINES, 9/6 each.
Phosphoric Acid, 2/6 lb. Glass Measures, 2/6 each
Sodium Cyanide, 5/6 per lb.
F. C. EDWARDS & SONS, Nurserymen, LEEDS.

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Established R 1883
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REV. JOHN CROMBLEHOLME,
ST. MARY'S, CLAYTON-LE-MOORS,

Cypripedium Specialist and breeder of many F.C.C. and A.M. varieties,

will send you (on application) a catalogue of special low-priced Cypripediums of well-known varieties and new seedlings.

N.B.—This price list will hold good till he has disposed of his duplicates, and will then cease.

CHARCOAL. Quality Guaranteed.

14 lbs., 4/-; 28 lbs., 6/6; 56 lbs., 12/8; 1 cwt., 24/6. Carriage paid to your nearest goods station, which please mention when ordering. Samples 3d.

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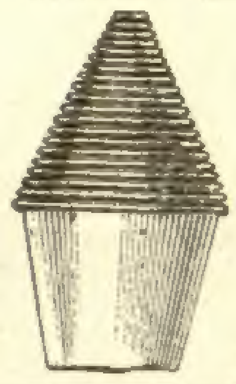
"Nature has put the best clay in the world in Somerset."



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FLOWER POTS.
Best and Cheapest in Market.
ROYAL POTTERIES,
WESTON-SUPER-MARE.
IMMEDIATE DELIVERY.

Greenhouses, Garden Frames, etc.

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ROYAL HORTICULTURAL WORKS,
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CATALOGUES SENT FREE ON APPLICATION.

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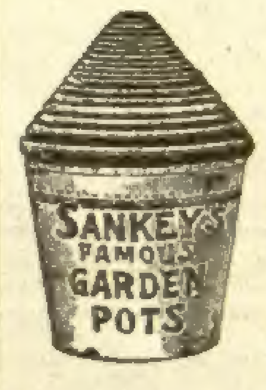

ALL HAND MADE.
ARTISTIC FERN PANS AND BULB BOWLS.
State quantities and sizes required, and have "Carriage Paid" quotation, or write for Price List—FREE.
RICHARD SANKEY & SON, Ltd.,
Royal Potteries, Bulwell, Nottingham.

The Gardeners' Chronicle

FOR ADVERTISEMENTS TO BE INSERTED ON AND AFTER JANUARY 3, 1920, THE SCALE OF CHARGES WILL BE AS BELOW.

Advertisements intended for insertion in the next issue MUST reach THE PUBLISHER not later than

TUESDAY, 5 p.m

	Ordinary Positions.		Facing matter or back cover.
Page	£12 0 0	......	£15 0 0
½-Page	6 0 0	......	7 10 0
¼-Page	3 0 0	......	3 15 0
Column	4 0 0	......	5 0 0
½-Column	2 0 0	......	2 10 0

Small Advertisements, ordinary positions:—

First 3 lines (not exceeding 20 words...	4 0
Per line (8 words), after	1 0
Per inch, single column	8 0
Per inch, across 2 columns	16 0
Per inch, across 3 columns	£1 4 0

Front page (no display allowed), 2/- per line space (headline counted as two lines).

SITUATIONS WANTED.

First 3 lines (not exceeding 20 words), 2/-, and 6d. for every additional 8 words or portion thereof.

(Advertisements at this Special rate are only accepted direct from Gardeners, &c.)

DISCOUNTS

On front page advertisements no discounts are allowed. On all other advertisements they are allowed as follows: For three insertions, 5%; thirteen, 10%; twenty-six, 15%; fifty-two, 20%.

All Advertisements should be addressed GARDENERS' CHRONICLE, Ltd., and must reach the office before 5 p.m. on TUESDAY for inclusion in the issue of the same week.

All series must be arranged to attain completion within twelve months.

Advertisers may have replies to their advertisements addressed to the GARDENERS' CHRONICLE Office. A box fee of 1s. is charged for this service.

Cheques and Postal Orders are to be made payable to GARDENERS' CHRONICLE, LTD., and crossed "& Co."

41, Wellington Street, Covent Garden, W.C.2.

Telegrams, "Gardchron, Rand, London." Telephone: Gerrard 1543.

SITUATIONS VACANT.

Twenty words (or three lines including headline), **3s.** *and* **6d.** *for every succeeding eight words (or line or portion thereof). Fee for having replies addressed to this office,* **6d.**

After the end of 1919.—*Twenty words* **4s.**, *and* **1s.** *for every succeeding eight words. Fee for replies to this office,* **1s.**

PRIVATE.

DEVON COUNTY COUNCIL.

THE Agricultural Committee invite applications for the post of

HORTICULTURAL SUPERINTENDENT.

The salary offered is £350 per annum and travelling expenses.

Candidates should be able to offer evidence of a thorough knowledge of Fruit and Vegetable culture, including Market Gardening.

Applications are also invited for the post of ASSISTANT LECTURER IN HORTICULTURE.

The salary offered is £250 per annum and travelling expenses.

Forms of application, which must be returned before 7th January, 1920, and further particulars may be obtained from the Agricultural Organiser, F. V. DUTTON, 1, Richmond Road, Exeter.

WILTS COUNTY COUNCIL.
AGRICULTURAL EDUCATION COMMITTEE.
EXPERT IN ORCHARD MANAGEMENT.

REQUIRED, an EXPERT in ORCHARD MANAGEMENT, who would also act as COUNTY INSTRUCTOR in FRUIT CULTURE.

Applications, stating qualifications, experience, and salary desired, to be made to

C. H. CORBETT, Secretary and Organiser.
Agricultural Education Department.
County Offices, Trowbridge.

CUMBERLAND AND WESTMORLAND
JOINT AGRICULTURAL COMMITTEE.

THE Committee requires the services of a CHIEF ORGANISER and INSTRUCTOR in HORTICULTURE. Duties will include: (1) the organisation and supervision of School Gardens and experimental Fruit Plots; (2) Classes for Teachers; (3) Lectures and demonstrations to Allotment holders and others; and (4) generally advise Committee as to Horticultural Instruction in both Counties. Salary £250 to £300 according to qualifications and experience, with travelling expenses.

Forms of application will be supplied by the undersigned, to whom they must be returned not later than 6th January, 1920.

C. COURTENAY HODGSON,
CHARLES J. R. TIPPER.
Joint Secretaries.

County Offices,
The Courts, Carlisle.
20th December, 1919.

WANTED, HEAD WORKING GARDENER, age about 30 or 35, where one or two more are kept; to take charge of gentleman's establishment in Lincolnshire, consisting of Fruit, Vegetable, and Ornamental Gardens, Herbaceous Borders, Rock and Alpine plants, Conservatory and Vinery; comfortable modern cottage provided, with electric light; applicant would be taught the management of electric lighting plant; thoroughly capable man will find this a desirable situation.—State particulars and terms, to R. W., Box 2, 41, Wellington Street, Covent Garden, W.C.2.

WANTED, married man as HEAD WORKING GARDENER; man and boy kept; no Glass; three-roomed flat and electric light provided; no family; wife to assist in house when required; house three miles from Conway Station. State wages.—TATTERSALL, Glyn Isaf, Tal-y-Cafn, R.S.O., North Wales.

WANTED, good SINGLE-HANDED GARDENER, able milk, 28-30, for Sunningdale; wife dairy; good cottage, and boy kept.—P. MARTINEAU, Esq., 12, Upper Berkeley Street, London, W.1.

WANTED, single man as GARDENER, to live over Stables; ex-Service man preferred.—Apply, in writing, with copy of testimonials, to W. BROWN AND CO., Shardeloes Estate Office, Amersham.

THE Duchess of Wellington requires an experienced SINGLE MAN to look after Poultry and Aviaries, with knowledge of Gardening preferred; wages 30s. per week, bothy, etc.—Apply, to Ewhurst Park, Basingstoke.

TRADE.

WANTED, two young, energetic GARDENERS, for commercial and experimental gardening; must possess trade experience.—Apply, stating experience and salary required, to the PRINCIPAL, Monmouthshire Agricultural Institution, Usk.

LANDSCAPE FOREMEN (WORKING) wanted; must be well up in Trees, Shrubs, and Herbaceous Plants.—Particulars as to experience, wages, to CLIBRANS, Altrincham.

WANTED, SUB-FOREMAN; must be used to lifting Shrubs; single.—State qualifications and wages required, JOHN WATERER, SONS & CRISP, LTD., Bagshot, Surrey.

TWO KNIFESMEN of good experience, single, wanted at once; send copies of references, particulars of experience and wages asked.—W. SEABROOK AND SONS, LTD., The Nurseries, Chelmsford, Essex.

WANTED, TWO SINGLE MEN, one as GROWER of Chrysanthemums, Tomatos, Bedding Plants, etc., the other SECOND HAND in Cucumber Houses; constant work.—State age, experience, references, and wages, NURTON, Eastbrook Nurseries, Dinas Powis, near Cardiff

WANTED, YOUNG MAN for Herbaceous Growing; one with a fair knowledge of Propagating and Growing preferred.—Apply, stating age, wages, and experience, to MACK AND MILN, Catterick, Yorks.

WANTED, energetic YOUNG MAN; must be successful propagator of Hardy Trees, Shrubs, American and Climbing Plants.—Apply, with particulars of experience and wages expected, to G. C., Dickson's Nurseries, Chester.

WANTED, YOUNG SINGLE MEN with experience of growing Tomatos, Cucumbers, Chrysanthemums, and general work under Glass.—State wages, age, and when at liberty, BAKER'S, Codsall, Wolverhampton.

CANADIAN FLORIST ESTATE requires GROWERS and LABOURERS; good wages, steady work. Spring sailing (own fare).—Apply, UNION TRANSIT CO., Glasgow.

SEED TRADE ASSISTANTS wanted for about six months temporary position; one acquainted with vegetable seed counter, making up vegetable seed orders, etc.; the other experienced in executing farm seed orders and general warehouse work.—D. W., Box 6. 41, Wellington Street, Covent Garden, W.C.2.

SITUATIONS WANTED.

Twenty-six words **1s. 6d.**, *and* **6d.** *for every succeeding eight words or portion thereof. (Advertisements at this special rate are only accepted direct from gardeners and nursery employees.) Fee for having replies addressed to this office,* **6d.**

After the end of 1919.—*Twenty words* **2s.**, *and* **6d.** *for every succeeding eight words. Fee for replies to this office,* **1s.**

PRIVATE.

THE EARL of DONOUGHMORE wishes to very highly recommend his present HEAD GARDENER, who has had considerable experience in all branches, including land, stock, and estate; he has given complete satisfaction, and leaves for no fault.—THURSTON, The Gardens, Chelwood Beacon, Uckfield.

MRS. McCALMONT wishes to highly recommend her HEAD GARDENER; thoroughly experienced in all branches Fruit, Flowers, Vegetables; choice Shrubs, and management of men; estate sold.—ROBERT HALE, Bushey House, Bushey, Herts.

DR. D. H. SCOTT highly recommends BERNARD MULLINS as Head Gardener; accustomed to Fruit, Vegetables, Flowers, and Glass; married; 37; just home from active service.—Apply, East Oakley House, Basingstoke.

GARDENER (HEAD); life experience in all branches; highest references, including Waddesdon Manor, Chatsworth, Elvaston Castle, Bretby Park; demobilised; age 36.—R. S., Box 3, 41, Wellington Street, Covent Garden, W.C.2.

GARDENER (HEAD or good SINGLE-HANDED); 28 years' experience, 11½ years as Head; good references.—REYNOLDS, Wyedene, Tintern, Chepstow, Mon.

GARDENER (HEAD OR SINGLE-HANDED); life experience; age 29; married; good references; Army discharge; disengaged now; can be highly recommended by late employer.—C. ROBERTS, Titley, Herefordshire.

MR. A. J. KERRY, Springfield, Cotham Road, Bristol, recommends demobilised Sergeant as HEAD WORKING GARDENER; life experience in all branches; keen, energetic and skilful cultivator; married; age 31; of proved ability and integrity of character.

LADY TOLLEMACHE recommends G. SINCLAIR as Head-Working Gardener; age 42; married; would undertake management of small home farm; sister-in-law Dairy Woman if desired; leaving owing to reducing the garden.—Apply, G. SINCLAIR, The Gardens, Peckforton Castle, Tarporley, Cheshire.

GARDENER (HEAD WORKING); practical experience in all branches; good references; demobilised; married; age 34.—A. TUCK, Stirtloe Gardens, Buckden, Hunts.

GARDENER (HEAD WORKING of two or three); life experience in all branches, Inside and Out; South Hants preferred; age 45.—W. P., Box 15, 41, Wellington Street, Covent Garden, W.C.2.

SITUATION as HEAD WORKING GARDENER; over 30 years' experience in all branches; age 46; two sons (one good Working Gardener, age 17); expert beekeeper.—Apply, H. ARNOLD, The Lodge, Highbrook House, Ardingly, Sussex.

GARDENER (SINGLE-HANDED or otherwise); married (no family); good references; life experience, Inside and Outside; age 29.—DINNAGE, 20, Blakesley Avenue, Ealing, W.5.

GARDENER SEEKS SITUATION, single-Handed or good Second; life experience Inside and Out; good references; married; age 30 (one child, age 2 years).—Apply, W. J. COOK, 35, The Green, Cholsey, near Wallingford, Bucks.

GARDENER seeks situation as SINGLE-HANDED, or with help; life experience Inside and Out; married (two boys in family, ages 17 and 12); age 44; state wages given.—Apply, MATTHEWS, Sutton, Woodbridge, Suffolk.

GARDENER (SINGLE-HANDED); good reference; age 29; married (no family); good experience, Inside and Out; near Cambridge preferred.—Apply, G. WEBB, Swaffham Prior, near Cambridge.

GARDENER (SINGLE-HANDED or with help); married (two children); age 30; experienced Inside and Out; good references; just demobilised.—MR. T. GIRLING, Hall Cottages, Brampton, Wangford, Suffolk.

GENTLEMAN recommends UNDER-GARDENER, age 27, married (two children), good experience Flowers and Vegetables; just demobilised; situation near Exeter preferred.—Apply, E. LOVEGROVE, Hawker's Cottages, Ide, nr. Exeter.

FOREMAN seeks re-engagement; eleven years' practical experience gained in good establishments; first-class Carnation Grower; thoroughly experienced in Vines, Peaches, Tomatos, Cucumbers, Melons, Chrysanthemums, House and Table Decoration; good Plantsman; two years' Inside Foreman, Tredegar Park, previously Foreman Bicton, Devon; excellent recommendation; abstainer; good bothy essential; disengaged early in January.—B. J. HEDGER, Tredegar Park Gardens, Newport, Mon.

STRONG LAD seeks situation to assist in Garden, and make himself generally useful.—C. ATKINS, Walberton, Arundle.

MR. JAQUES, Bryanston Gardens, Blandford, will be pleased to recommend an experienced Young Woman, D. SADLER, as UNDER-GARDENER; left here owing to reductions through death.

LADY GARDENER, trained, 2½ years last post as Second, desires post, sole charge or with other Lady Gardeners; drive car and running repairs if necessary.—Miss WOODCOCK, 12, Stourcliffe Avenue, West Southbourne, Hants.

TRADE.

WANTED, situation as FOREMAN, Alpines or Herbaceous and Alpines; 19 years' experience with good firms; expert Propagator; excellent refs.—Apply, ENERGETIC, Box 6, 41, Wellington Street, Covent Garden, W.C.2.

ADVERTISER requires position (charge); Alpines and Herbaceous; first-class Propagator; life experience in above; age 32; excellent refs. from leading firms.—Apply, INDUSTRIOUS, Box 3, 41, Wellington Street, Covent Garden, W.C.2.

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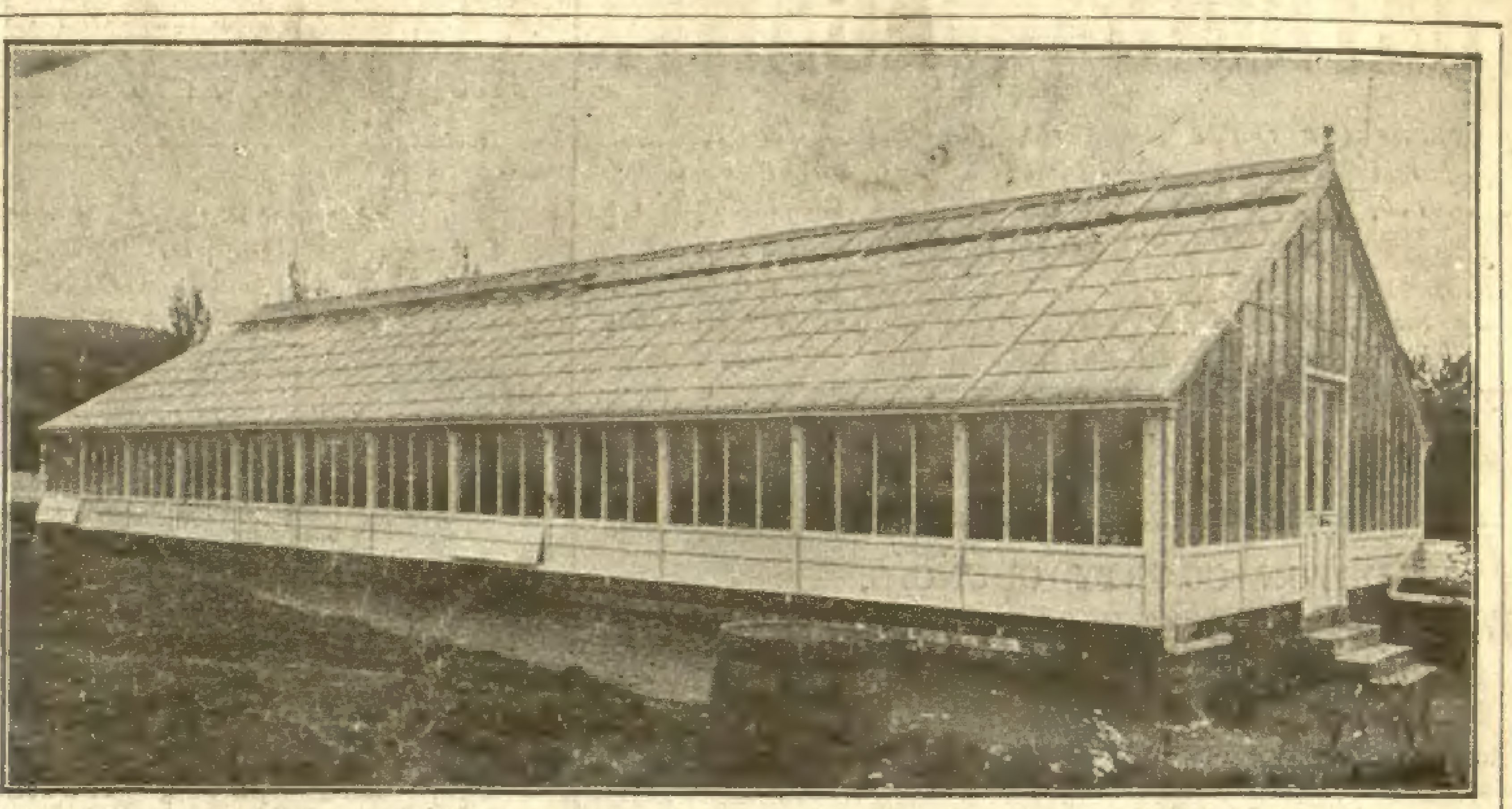
OF ALL DESCRIPTIONS
SUPPLIED BY THE OLDEST ESTABLISHED FIRM IN THE TRADE;

ALSO **HEATING APPARATUS**
FOR GLASSHOUSES, PRIVATE HOUSES & PUBLIC BUILDINGS.

Catalogues free. *Please Address all Enquiries to Head Office:*

J. WEEKS & Co. (CHELSEA),
92, VICTORIA STREET, WESTMINSTER, S.W.1.



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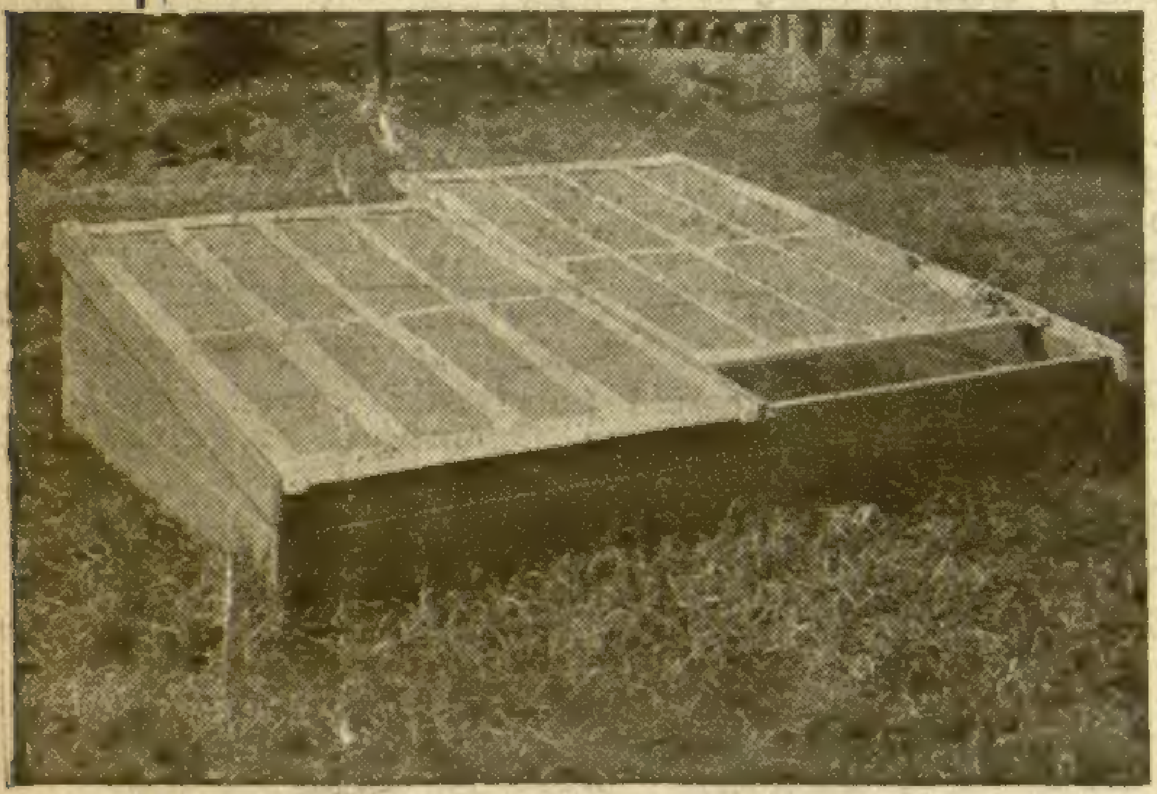
Plans and Estimates Free. *Surveys by arrangement.*

Have the Best of Garden Frames

Built to last—soundly constructed of selected and seasoned materials, of the latest designs—these Garden Frames are, like all products of Bolton & Paul, the best available at the lowest possible prices—consistent with sound workmanship. The great resources of this century-old firm are fully utilised in making these frames, just as in great Conservatories and Horticultural Buildings of their Construction. As the stock is limited and the demand large, early orders are advised.



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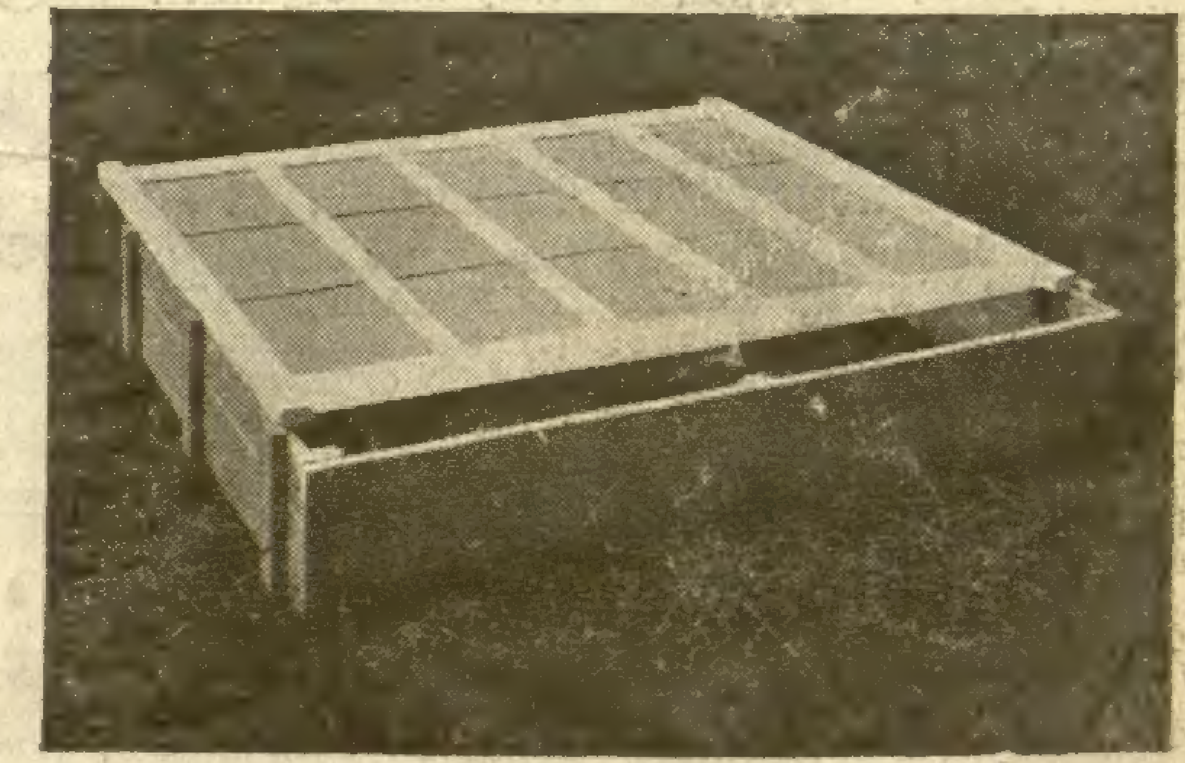
Carriage Paid to any station in England and Wales.

Write for our List of Garden Frames and Small Greenhouses.



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The fronts are 11 in. high, backs 22 in. high. The frame is 1 in. thick, and the lights 1½ in., glazed with 15 oz. glass, and painted two coats.
1 Light Frame, 4 ft. by 6 ft.... £4 4 0
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3 Light Frame, 12 ft. by 6 ft.... £8 4 0

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This is an Ideal Frame for Allotment Holders and Smallholders. Size, 4 ft. 9 in. by 3 ft. 9 in. Sides, 9 in. high.
Price 44/-
Painted two coats and glazed with 15 oz. glass. Frames also supplied in other styles and sizes.

Telegrams:— "Boulton, Norwich."

Boulton & Paul Ltd.
NORWICH

Telephone:— Norwich 851.

London Address: 135-7, Queen Victoria Street, E.C. 4.

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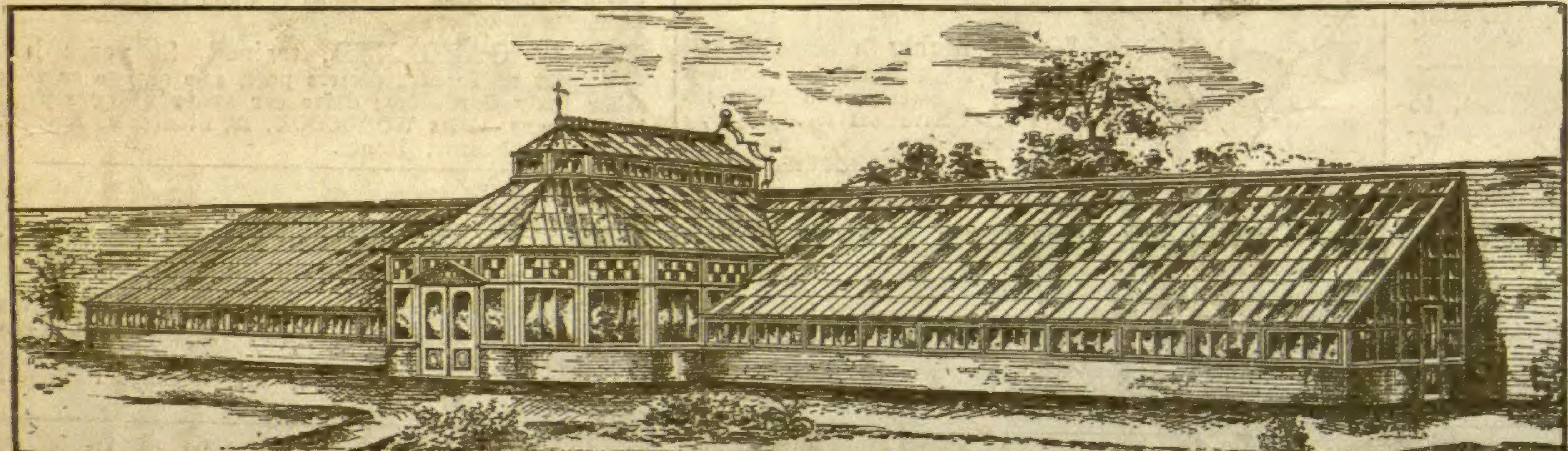

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